

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 888.74 4	0.0167 14	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
888.8 3	1.40 21	<sup>154</sup> Tb(22.7 h)	247.925(79), 346.643(69), 1419.81(46)
888.80 5	2.29 9	<sup>240</sup> Np(61.9 m)	566.34(25.3), 973.9(23.8), 600.57(18.4)
• 888.80 5	25.1 4	<sup>240</sup> Am(50.8 h)	987.76(73.2), 98.860(1.5), 42.824(0.09)
888.86 11	1.91 10	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
888.91 7	0.054 3	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
888.97 5	3.3 3	<sup>108</sup> Sn(10.30 m)	396.44(64.3), 272.75(45.5), 669.08(22.6)
889.00 6	0.102 5	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
889.0 4	0.35 4	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
889.0 15	0.0016 8	<sup>219</sup> Rn(3.96 s)	271.23(10.8), 401.81(6.37), 130.59(0.119)
889.05 80	0.05 3	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
889.07 15	0.44 8	<sup>190</sup> Re(3.2 h)	186.718(27.8), 605.24(14.9), 557.972(14.3)
889.099 12	2.11 16	<sup>78</sup> As(90.7 m)	613.725(54), 694.916(16.7), 1308.59(13.0)
889.1 2	0.39 5	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
889.1 3	0.05 1	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
889.13 8	0.253 9	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
889.2 5	0.14 3	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
889.2 3	0.051 10	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
889.2 5	†6.0 7	<sup>201</sup> Po(15.3 m)	890.1(†100), 240.1(†71.0), 904.2(†54.8)
889.23 19	0.0140 5	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
889.23 19	3.1 6	<sup>80</sup> Zn(0.545 s)	712.53(45.1), 715.40(33.8), 964.93(15.6)
• 889.277 3	99.984 1	<sup>46</sup> Sc(83.79 d)	1120.545(99.987), 2010(0.000013)
889.3 5	3.2 3	<sup>70</sup> As(52.6 m)	1039.20(81), 1114.1(21.8), 668.3(21.8)
889.3 5	0.142 24	<sup>227</sup> Fr(2.47 m)	90.035(39), 585.804(29.5), 64.267(14.5)
889.38 19	0.118 22	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
• 889.44 15	0.58 17	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
889.5 5	0.18 5	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
889.522 22	0.0036 8	<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
889.56 4	0.023	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
889.6 5	0.43 3	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
889.6 2	1.0	<sup>145</sup> La(24.8 s)	70.0(11), 355.8(3.8), 118.2(3.6)
889.6 4	0.12 4	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
889.6 5	0.33 8	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
889.7		<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
889.73 16	0.26 9	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
• 889.753 21	5.36 14	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
889.8 1	1.06 7	<sup>142</sup> Eu(2.34 s)	768.1(10), 1658.1(1.75), 1754.1(1.49)
889.9 7	0.06 3	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
889.9 3	0.28 6	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
889.9 2	0.0198 17	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
889.9 5	†1.9 4	<sup>183</sup> Hg(9.4 s)	60.5(†100), 159.91(†21), 172.70(†17)
889.9 5	>2.9	<sup>195</sup> Pb(15.0 m)	383.64(106.9), 394.21(44), 878.40(24.2)
889.91 21	0.070 14	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
889.96 2	1.530 23	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
889.96 2	0.44 7	<sup>250</sup> Es(2.22 h)	989.12(13.3), 1031.85(10.6), 828.82(5.5)
889.97 4	0.0506 17	<sup>194</sup> Ir(19.15 h)	328.455(13.1), 293.545(2.55), 645.157(1.17)
• 889.97 4	0.132 18	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
889.980 16	0.950 11	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
• 890.0 2	0.0025 8	<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
890.0 2	0.38 3	<sup>96</sup> Rh(9.90 m)	832.57(100), 685.49(95.7), 631.71(74.5)
890.0 10	0.0042 17	<sup>111</sup> Pd(23.4 m)	580.00(0.8), 70.44(0.78), 1459.0(0.56)
890.0 6	0.058 13	<sup>111</sup> Sn(35.3 m)	1152.98(2.7), 1914.70(1.99), 761.97(1.48)
890.0 3	6.8 8	<sup>114</sup> Rh(1.85 s)	332.9(87), 519.8(48.4), 618.7(31)

•  $t_{1/2} > 1$  d

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$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
890.0 1	0.139 13	<sup>143</sup> Cs(1.78 s)	195.554(13), 232.421(8.32), 306.424(6.80)
890.0	0.24	<sup>148</sup> Dy(3.1 m)	620.24(96), 1247.2(1.4), 178.3(0.5)
890.0 4	†22 6	<sup>195</sup> Bi(183 s)	807.6(†100), 831.7(†100), 776.2(†95)
890.0 10	0.15 3	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
890.01 15	†9.9 8	<sup>83</sup> Ge(1.85 s)	306.51(†100.0), 1193.77(†20.5), 1525.50(†13.6)
890.1 3	0.33 8	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
890.10 20	0.26 6	<sup>121</sup> Ag(0.78 s)	314.55(32.1), 353.43(19.9), 500.61(9.3)
• 890.1 2	0.040 10	<sup>144</sup> Pm(363 d)	696.510(99), 618.01(98.6), 476.8(42.0)
890.1 2	†100 4	<sup>201</sup> Po(15.3 m)	240.1(†71.0), 904.2(†54.8), 1186.7(†20.8)
890.1 5	0.14	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
890.1 4	0.027 7	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
• 890.13 3	0.678 9	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
890.2 2	22	<sup>170</sup> Ho(2.76 m)	258.2(37.0), 931.3(36.1), 181.6(23.8)
890.2 2	†0.9 3	<sup>172</sup> Ir(2.0 s)	227.8(†100.0), 378.4(†62.0), 448.4(†40.5)
890.2 5	0.09 3	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
890.3 2	1.1 4	<sup>98</sup> Y(0.548 s)	1223.0(36.0), 2941.3(16.7), 1590.9(14.7)
890.3 2	2.57 20	<sup>100</sup> Ag(2.01 m)	665.54(99), 750.67(78), 773.20(24.2)
890.3 3	2.11 22	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
890.4 10	0.3 1	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
890.4 4	1.26 10	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
890.5 2	10.9 18	<sup>110</sup> Rh(28.5 s)	373.80(91), 546.90(42.4), 687.70(25.8)
• 890.5 5	0.0087 19	<sup>125</sup> Sn(9.64 d)	1067.10(10), 1089.15(4.59), 822.48(4.28)
890.5 3	†0.68 14	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
890.52 9	1.77 17	<sup>143</sup> Gd(112 s)	271.94(84), 588.00(15.7), 798.89(10.7)
890.54 8	0.085 6	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
890.6 4	0.052 12	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
890.6 1	0.71 23	<sup>206</sup> Fr(15.9 s)	575.3(12), 559.0(8.19), 628.6(3.6)
890.6 2	0.0170 20	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
890.64 5	1.80 4	<sup>90</sup> Nb(14.60 h)	1129.224(92.7), 2318.968(82.03), 141.178(66.8)
890.65 25	0.27 7	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
890.70 30	0.95 8	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
890.7 3	0.8 3	<sup>152</sup> Ho(49.5 s)	647.2(92), 613.8(88.4), 683.3(88)
890.7 1	†0.7 1	<sup>160</sup> Lu(36.1 s)	243.2(†100), 395.4(†21.0), 577.2(†10.7)
890.7 5	0.078 14	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
• 890.8 3	0.138 15	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
890.8 4	0.27 5	<sup>109</sup> In(4.2 h)	203.5(74), 623.7(5.5), 1148.9(4.3)
• 890.8 6	0.016 12	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
890.82 22	†13.1 10	<sup>182</sup> Ir(15 m)	273.23(†100), 126.79(†77), 236.3(†21.0)
890.87 18	2.66 4	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
890.95 58	0.057 9	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
891.0	4	<sup>43</sup> Ar(5.37 m)	975.0(34), 738.1(15), 1439.5(13)
891.0 5	0.12 3	<sup>76</sup> Kr(14.8 h)	315.7(39), 270.2(21.1), 45.48(19.5)
891	>0.06	<sup>90</sup> Nb(14.60 h)	1129.224(92.7), 2318.968(82.03), 141.178(66.8)
891 1	0.18 9	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
891.0 5	0.16 7	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
891.0	†1.5 2	<sup>178</sup> Ir(12 s)	266.1(†100.0), 131.6(†79), 363.1(†39.9)
891.0 3	9.5 6	<sup>180</sup> Ir(1.5 m)	276.4(56), 132.2(38.1), 699.0(13.4)
• 891 1	†0.0012 4	<sup>227</sup> Th(18.72 d)	235.971(†813), 50.13(†528), 256.25(†463)
891.08	0.09 4	<sup>44</sup> K(22.13 m)	1157.031(58), 2150.76(22.7), 2518.95(9.69)
891.1 3	†2.4 5	<sup>185</sup> Pt(33.0 m)	229.60(†100), 135.3(†80), 197.4(†74)
891.13 3	0.588 21	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
891.21 14	0.10 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
891.28 4	5.62	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)

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891.3 4	0.6 4	$^{45}\text{K}(17.3 \text{ m})$	174.276(74.4), 1705.6(53), 2353.6(14.12)
891.3 16	0.34 19	$^{78}\text{Ga}(5.09 \text{ s})$	619.40(77), 1186.42(20.1), 567.06(18.2)
891.3 2	0.025 3	$^{199}\text{Pt}(30.80 \text{ m})$	542.993(15), 493.772(5.59), 317.056(4.95)
891.31 12	0.021 4	$^{88}\text{Rb}(17.78 \text{ m})$	1836.063(21.40), 898.042(14.04), 2677.892(1.96)
891.31 27	$\dagger 1.0 2$	$^{165}\text{Lu}(10.74 \text{ m})$	132.49( $\dagger 100$ ), 120.60( $\dagger 100$ ), 174.25( $\dagger 47.0$ )
• 891.37 8	0.0028 4	$^{193}\text{Os}(30.5 \text{ h})$	139.03(4.27), 460.50(3.95), 73.039(3.2)
891.4 2	$\dagger 48$	$^{101}\text{In}(16 \text{ s})$	252( $\dagger 100$ ), 750.3( $\dagger 61$ ), 420.7( $\dagger 54$ )
891.4 3	4.1 4	$^{102}\text{Ag}(12.9 \text{ m})$	556.52(91), 719.40(58), 1744.99(17.3)
891.4 1	1.05 17	$^{133}\text{Te}(55.4 \text{ m})$	912.671(55.28), 647.51(19.4), 863.955(15.6)
891.40 13	$\dagger 11.2 9$	$^{142}\text{Xe}(1.22 \text{ s})$	571.83( $\dagger 100$ ), 657.05( $\dagger 79$ ), 538.24( $\dagger 77$ )
891.462 15	0.25 3	$^{75}\text{Br}(96.7 \text{ m})$	286.572(88), 141.3147(6.6), 427.883(4.4)
• 891.47 7	0.0081 9	$^{143}\text{Ce}(33.039 \text{ h})$	293.266(42.80), 57.356(11.7), 664.571(5.69)
891.5 6	0.031 10	$^{93}\text{Kr}(1.286 \text{ s})$	253.42(41.2), 323.89(24.1), 266.83(20.6)
891.5 3	$\dagger 0.8$	$^{111}\text{Rh}(11 \text{ s})$	275.4( $\dagger 100.0$ ), 411.8( $\dagger 9.42$ ), 230.0( $\dagger 8.9$ )
891.5 3	1.05 13	$^{118}\text{Cs}(14 \text{ s})$	337.4(100), 472.8(37.4), 586.6(15.4)
891.5 3	0.0022 5	$^{179}\text{Lu}(4.59 \text{ h})$	214.335(11.3), 214.930(0.46), 123.3790(0.45)
891.5 10	$\dagger 100 11$	$^{244}\text{Bk}(4.35 \text{ h})$	217.6( $\dagger 88$ ), 921.5( $\dagger 19$ ), 490.5( $\dagger 15.8$ )
891.6 3	0.23 7	$^{121}\text{Cs}(155 \text{ s})$	153.9(15.2), 239.6(7.7), 427.1(3.63)
891.6 3	0.18 5	$^{121}\text{Cs}(122 \text{ s})$	179.4(30.2), 196.0(24.1), 459.7(12.0)
891.60 5	0.73 4	$^{180}\text{Lu}(5.7 \text{ m})$	407.94(43.0), 1199.7(24.3), 1106.00(22.7)
891.66 10	$\dagger 2.64 14$	$^{158}\text{Ho}(11.3 \text{ m})$	218.21( $\dagger 100.0$ ), 98.91( $\dagger 70$ ), 945.7( $\dagger 37$ )
891.68 10	25 5	$^{94}\text{Ru}(51.8 \text{ m})$	366.94(75), 524.70(1.80), 75.5( $> 0.08$ )
891.7 4	0.10 4	$^{181}\text{Re}(19.9 \text{ h})$	365.57(56), 360.70(20), 639.30(6.4)
891.76 18	0.174 11	$^{139}\text{Xe}(39.68 \text{ s})$	218.59(56), 296.53(21.7), 174.97(11.3)
891.8 3	0.66 18	$^{187}\text{Pt}(2.35 \text{ h})$	106.46(9), 201.52(6.4), 110.04(5.7)
891.9		$^{108}\text{Rh}(16.8 \text{ s})$	433.937(43), 618.84(15.0), 497.22(5.2)
891.9 2	$\dagger 5.1 15$	$^{155}\text{Nd}(8.9 \text{ s})$	180.574( $\dagger 100$ ), 418.99( $\dagger 75$ ), 955.08( $\dagger 50$ )
891.92 20	0.70 6	$^{151}\text{Dy}(17.9 \text{ m})$	386.10(19.4), 49.46(18.0), 546.31(14.3)
• 891.9800 6	0.057 4	$^{182}\text{Ta}(114.43 \text{ d})$	67.75001(41.2), 1121.3007(34.9), 1221.4066(26.98)
891.9800 6	0.052 4	$^{182}\text{Re}(12.7 \text{ h})$	67.75001(38.2), 1121.3007(32), 1221.4066(24.8)
• 891.9800 6	0.033 5	$^{182}\text{Re}(64.0 \text{ h})$	229.3220(26), 67.75001(22.2), 1121.3007(22.0)
892.0 4	0.37 9	$^{157}\text{Tm}(3.63 \text{ m})$	455.00(9.3), 385.5(8.8), 348.40(8.4)
892.0 2	0.29 4	$^{183}\text{Ir}(58 \text{ m})$	392.52(10.4), 228.70(6.9), 87.67(5.6)
892.06 20	0.06 3	$^{66}\text{Ge}(2.26 \text{ h})$	43.89(28.7), 381.85(28), 272.97(10.4)
892.1 3	0.30 4	$^{184}\text{Au}(53.0 \text{ s})$	162.97(50), 272.98(40), 362.47(17.5)
892.11 4	0.028 7	$^{183}\text{Os}(13.0 \text{ h})$	381.768(89.6), 114.463(20.63), 167.844(8.81)
892.15 20	0.22 6	$^{121}\text{Ag}(0.78 \text{ s})$	314.55(32.1), 353.43(19.9), 500.61(9.3)
892.2 3	4.4 5	$^{97}\text{Sr}(426 \text{ ms})$	1905.0(25), 953.8(21.4), 652.2(11.4)
892.2 2	0.54 6	$^{155}\text{Ho}(48 \text{ m})$	240.19(12.5), 136.30(5.00), 45.38(5)
892.21 8	0.18 4	$^{105}\text{Cd}(55.5 \text{ m})$	961.84(4.69), 346.870(4.20), 1302.459(3.98)
892.21	$> 0.028$	$^{105}\text{Cd}(55.5 \text{ m})$	961.84(4.69), 346.870(4.20), 1302.459(3.98)
892.288 23	0.091 3	$^{159}\text{Ho}(33.05 \text{ m})$	121.012(36.2), 131.973(23.6), 309.594(17.2)
892.3 2	0.011 3	$^{119}\text{I}(19.1 \text{ m})$	257.52(87), 635.86(2.69), 320.53(2.17)
892.3 2	0.0035 15	$^{133}\text{La}(3.912 \text{ h})$	278.835(2.50), 302.353(1.648), 290.06(1.413)
892.31 11	0.75 10	$^{186}\text{Ta}(10.5 \text{ m})$	197.93(50), 214.87(42.3), 510.82(37.5)
892.33 17	0.371 19	$^{207}\text{Po}(5.80 \text{ h})$	992.33(59.3), 742.64(28.2), 911.79(16.95)
892.4 2	0.0110 17	$^{121}\text{I}(2.12 \text{ h})$	212.189(84), 532.08(6.07), 598.74(1.47)
892.47 10	1.14 8	$^{197}\text{Tl}(2.84 \text{ h})$	425.84(12.9), 152.22(7.2), 1411.34(4.5)
892.5 7	0.018 9	$^{79}\text{Rb}(22.9 \text{ m})$	688.1(23), 182.77(19.2), 143.41(13.9)
892.5 7	0.020 8	$^{90}\text{Rb}(158 \text{ s})$	831.69(28), 1060.70(6.69), 4365.90(5.6)
892.5 3	0.88 10	$^{127}\text{In}(1.09 \text{ s})$	1597.7(49), 646.1(6.2), 805.1(5.6)
892.50 20	0.039 6	$^{189}\text{Pt}(10.87 \text{ h})$	721.41(9.3), 94.33(7.6), 568.84(7.1)
892.6 3	0.46 9	$^{104}\text{Ag}(69.2 \text{ m})$	555.796(92.6), 767.72(65.7), 941.7(25.0)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
892.6 1	$\dagger 21.2 8$	$^{129}\text{Ba}(2.17 \text{ h})$	182.30( $\dagger 100$ ), 1459.1( $\dagger 50.0$ ), 202.38( $\dagger 33.7$ )
892.6 4	0.017 5	$^{173}\text{Ta}(3.14 \text{ h})$	172.2(18), 69.70(5.9), 90.3(5.0)
892.68 2	0.080 15	$^{92}\text{Sr}(2.71 \text{ h})$	1383.93(90), 953.31(3.52), 430.49(3.28)
892.7 3	$\dagger 8.0$	$^{149}\text{Ce}(5.3 \text{ s})$	57.7( $\dagger 100$ ), 380.0( $\dagger 33.7$ ), 86.4( $\dagger 20.2$ )
892.7 2	0.073 13	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
892.7 7	1.01 18	$^{207}\text{Rn}(9.25 \text{ m})$	344.53(46), 747.15(14.2), 402.68(11.9)
892.7 1	0.69 3	$^{230}\text{Ac}(122 \text{ s})$	454.95(8), 508.20(5.15), 1243.9(3.50)
• 892.780 7	0.518 4	$^{154}\text{Eu}(8.593 \text{ y})$	123.071(40.79), 1274.436(35.19), 723.304(20.22)
892.780 7	3.15 22	$^{154}\text{Tb}(9.4 \text{ h})$	123.071(30), 247.925(22.1), 540.18(20)
892.780 7	4.6 4	$^{154}\text{Tb}(22.7 \text{ h})$	247.925(79), 346.643(69), 1419.81(46)
• 892.79 7	0.028 4	$^{165}\text{Tm}(30.06 \text{ h})$	242.917(35.5), 47.155(16.9), 297.369(12.71)
892.8 5	0.50 5	$^{88}\text{Nb}(7.8 \text{ m})$	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
892.8 2	$\dagger 15 3$	$^{91}\text{Ru}(7.6 \text{ s})$	393.7( $\dagger 100$ ), 1096.9( $\dagger 24$ ), 204.0( $\dagger 6$ )
892.8 2	0.121 24	$^{163}\text{Tm}(1.810 \text{ h})$	104.320(18.6), 69.229(11.6), 241.305(10.9)
892.9 1	0.070 3	$^{91}\text{Sr}(9.63 \text{ h})$	1024.3(33), 749.8(23.61), 652.9(8.0)
892.9 6	0.06 3	$^{165}\text{Yb}(9.9 \text{ m})$	80.11(49), 68.86(9.1), 1090.28(4.4)
893 1	37.0 19	$^{97}\text{Y}(1.17 \text{ s})$	1103.0(92.6), 161.4(71.8), 1091(56)
893.0 4	0.045 9	$^{120}\text{Xe}(40 \text{ m})$	25.1(30), 72.6(9), 178.1(6.8)
893.0 2	0.198 18	$^{167}\text{Lu}(51.5 \text{ m})$	29.66(14.4), 239.22(8.6), 213.19(3.6)
893.0 2	$\dagger 3.8 8$	$^{171}\text{Hf}(12.1 \text{ h})$	122.0( $\dagger 100$ ), 662.2( $\dagger 83$ ), 347.18( $\dagger 47$ )
893.0 5	$\dagger 0.208 21$	$^{196}\text{Ir}(1.40 \text{ h})$	393.346( $\dagger 105.2$ ), 521.175( $\dagger 104$ ), 447.1( $\dagger 102.1$ )
893 1	0.0027 6	$^{223}\text{Fr}(21.8 \text{ m})$	50.13(36.0), 79.72(9.1), 234.81(3.0)
• 893 1	$\dagger 0.00081 27$	$^{227}\text{Th}(18.72 \text{ d})$	235.971( $\dagger 813$ ), 50.13( $\dagger 528$ ), 256.25( $\dagger 463$ )
893.05 19	$\dagger 7.1 8$	$^{159}\text{Yb}(1.58 \text{ m})$	166.16( $\dagger 500$ ), 177.12( $\dagger 159$ ), 390.20( $\dagger 113$ )
893.06 10	0.89 6	$^{195}\text{Tl}(1.16 \text{ h})$	563.52(10.5), 884.47(10.0), 1363.88(8.4)
893.1 5	2.02 17	$^{70}\text{As}(52.6 \text{ m})$	1039.20(81), 1114.1(21.8), 668.3(21.8)
893.1 1	10.2 11	$^{104}\text{Tc}(18.3 \text{ m})$	358.0(89), 530.5(15.6), 535.1(14.7)
893.2 2	1.13 11	$^{101}\text{Ag}(11.1 \text{ m})$	261.0(53), 588.0(10.0), 667.3(9.8)
893.2 10	0.25 4	$^{196}\text{Tl}(1.84 \text{ h})$	426.0(84), 610.5(11.9), 635.5(9.8)
893.28 10	2.13 25	$^{197}\text{Pb}(43 \text{ m})$	385.85(74), 387.72(25.1), 222.45(24.6)
893.3	0.0044 10	$^{149}\text{Nd}(1.728 \text{ h})$	211.309(25.9), 114.314(19.2), 270.166(10.7)
893.3 2	$\dagger 15.8 12$	$^{152}\text{Tb}(17.5 \text{ h})$	344.281( $\dagger 1500$ ), 586.294( $\dagger 223$ ), 271.135( $\dagger 203$ )
893.3 2	0.026 7	$^{176}\text{Ta}(8.09 \text{ h})$	1159.28(25), 88.34(12), 1224.93(6)
893.34 23	0.35 4	$^{207}\text{At}(1.80 \text{ h})$	814.41(44.5), 588.33(19.2), 300.654(12.8)
• 893.40 5	0.291 19	$^{125}\text{Sn}(9.64 \text{ d})$	1067.10(10), 1089.15(4.59), 822.48(4.28)
893.4 5	0.05 3	$^{140}\text{Cs}(63.7 \text{ s})$	602.345(71.1), 908.25(11.6), 1200.25(6.39)
893.408 5	0.378 19	$^{212}\text{Bi}(60.55 \text{ m})$	727.330(6.58), 1620.50(1.49), 785.37(1.102)
893.41 31	1.37 6	$^{146}\text{Cs}(0.343 \text{ s})$	181.02(57.0), 557.76(9.18), 332.38(6.44)
893.42 9	0.40 3	$^{87}\text{Br}(55.60 \text{ s})$	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
893.42 7	0.34	$^{137}\text{I}(24.5 \text{ s})$	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
893.49 8	18.7 11	$^{203}\text{Po}(36.7 \text{ m})$	908.64(55), 1090.95(19.2), 214.78(14.3)
• 893.5 1	8.1 4	$^{147}\text{Gd}(38.06 \text{ h})$	229.32(63), 396.00(34.3), 929.01(20.2)
893.5 7	0.15 5	$^{175}\text{Ta}(10.5 \text{ h})$	207.4(14.0), 348.5(12.0), 266.9(10.8)
893.6 4	0.17 4	$^{91}\text{Kr}(8.57 \text{ s})$	108.788(43.5), 506.592(19.1), 612.87(7.7)
893.6 3	0.16 7	$^{95}\text{Ru}(1.643 \text{ h})$	336.43(70.2), 1096.76(21.0), 626.77(17.8)
893.6 5	0.081 18	$^{141}\text{Eu}(40.0 \text{ s})$	394.0(9), 384.5(5.6), 382.9(2.97)
893.7 4	0.126 13	$^{121}\text{Xe}(40.1 \text{ m})$	252.7(13), 132.8(10.9), 445.2(7.7)
• 893.73 3	66 3	$^{145}\text{Eu}(5.93 \text{ d})$	653.512(15.0), 1658.53(14.9), 1997.00(7.2)
893.8 5	0.18 4	$^{63}\text{Fe}(6.1 \text{ s})$	994.8(14.0), 1427.2(4.6), 1299.0(1.23)
893.8 3	0.30 8	$^{105}\text{Mo}(35.6 \text{ s})$	85.4(25.0), 76.50(19.3), 147.8(14.8)
893.8 2	$\dagger 0.43 9$	$^{158}\text{Ho}(11.3 \text{ m})$	218.21( $\dagger 100.0$ ), 98.91( $\dagger 70$ ), 945.7( $\dagger 37$ )
• 893.86 7	0.0072 14	$^{171}\text{Lu}(8.24 \text{ d})$	739.78(47.8), 19.394(13.7), 667.404(11.04)
893.9 4	0.113 25	$^{83}\text{Y}(7.08 \text{ m})$	35.50(0.44), 882.1(6.30), 489.90(5.53)
893.9 2	0.159 24	$^{124}\text{Cs}(30.8 \text{ s})$	353.9(40), 914.8(4.0), 492.6(3.6)

•  $t_{1/2} > 1 \text{ d}$



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
893.9 5	0.20 7	<sup>153</sup> Ho(2.0 m)	295.8(67), 637.0(5.36), 688.5(3.7)
894 2	0.06	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
894	0.0046	<sup>136</sup> La(9.87 m)	818.514(2.3), 760.50(0.289), 1322.76(0.264)
894.0 5	0.0028 14	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
• 894	0.0013	<sup>172</sup> Er(49.3 h)	610.062(44.2), 407.338(42.1), 68.107(3.29)
894.02 13	0.045 3	<sup>87</sup> Kr(76.3 m)	402.586(49.6), 2554.8(9.2), 845.43(7.34)
894.07 16	0.078 6	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
894.1	0.7	<sup>44</sup> Ar(11.87 m)	182.6(66), 1703.4(57), 1886.0(31)
894.1 5	0.26 18	<sup>112</sup> Sb(51.4 s)	1257.05(96), 990.70(14.3), 670.0(3.7)
• 894.1 7	0.0027 9	<sup>151</sup> Pm(28.40 h)	340.08(23), 167.75(8.3), 275.21(6.8)
894.1 2	†31 3	<sup>195</sup> Bi(183 s)	807.6(†100), 831.7(†100), 776.2(†95)
894.26 4	9.88 16	<sup>72</sup> Ga(14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)
• 894.26 4	0.775 12	<sup>72</sup> As(26.0 h)	834.01(80), 629.95(7.92), 1463.95(1.107)
894.26 11	0.26 13	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
894.26 11	0.13 13	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
894.3 5	0.25 9	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
894.31 5	0.0188 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
894.35 10	8.4 4	<sup>156</sup> Pm(26.70 s)	173.75(52.0), 1147.84(20.5), 117.42(13.8)
• 894.351 12	19.8 3	<sup>232</sup> Pa(1.31 d)	969.315(41.6), 150.059(10.8), 453.655(8.61)
894.351 12	0.83 10	<sup>232</sup> Np(14.7 m)	327.3(52), 819.187(33.3), 866.760(24.4)
894.4 16	0.058 24	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
894.42 25	0.016 5	<sup>125</sup> Xe(16.9 h)	188.418(54), 243.378(30.1), 54.968(6.81)
894.48 4	7.7 4	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
894.5 2	0.39 4	<sup>130</sup> Cs(29.21 m)	536.09(3.8), 586.05(0.47), 1614.10(0.26)
• 894.50 12	0.030 12	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
• 894.51 4	0.622 9	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
894.60 20	2.7 3	<sup>112</sup> Sb(51.4 s)	1257.05(96), 990.70(14.3), 670.0(3.7)
894.6 1	1.28 21	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
894.6	0.49	<sup>148</sup> Pr(2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
894.6 2		<sup>223</sup> Rn(23.2 m)	591.8(†100), 635.2(†76), 416.0(†55)
894.63 5	0.040 4	<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
894.65 15	0.78 8	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
894.7 2	0.023 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
894.7 4	0.030 3	<sup>162</sup> Tb(7.60 m)	260.070(37.2), 807.53(42.8), 888.20(38.7)
894.7 4	†0.52 14	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
894.757 6	10.7 3	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
• 894.757 6	15.6 3	<sup>184</sup> Re(38.0 d)	903.279(37.9), 792.071(37.5), 111.208(17.1)
• 894.757 6	2.75 10	<sup>184</sup> Re(169 d)	252.848(10.7), 216.548(9.43), 920.932(8.14)
894.8		<sup>110</sup> Te(18.6 s)	605.9, 219.1, 107.5
894.8 2	0.00092 25	<sup>123</sup> I(13.27 h)	158.97(83), 528.96(1.39), 440.02(0.428)
894.8 4	0.35 6	<sup>139</sup> Nd(5.50 h)	113.94(40), 737.96(35), 982.2(26.4)
894.88 4	2.10 16	<sup>182</sup> Re(12.7 h)	67.75001(38.2), 1121.3007(32), 1221.4066(24.8)
894.9 3	0.105 16	<sup>77</sup> Kr(74.4 m)	129.64(81), 146.59(37.3), 312.0(3.7)
894.9 4	8.4 11	<sup>104</sup> Sn(20.8 s)	132.7(56), 912.6(42), 401.2(16.2)
894.9 4	8.34 14	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
895.0 11	0.78 22	<sup>31</sup> Na(17.0 ms)	2243.9(10.4), 171.1(4.8), 2022.2(3.8)
895.0 11	2.6 6	<sup>32</sup> Na(13.2 ms)	171.1(5.4), 221.6(2.6)
895.0 5	0.29 7	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
895.0 3	1.72 14	<sup>95</sup> Rh(5.02 m)	941.6(72), 1352.0(20.8), 677.6(5.80)
895.0 3	†1.0	<sup>111</sup> Rh(11 s)	275.4(†100.0), 411.8(†9.42), 230.0(†8.9)
895 1	>0.35	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
• 895.00 25	0.0242 13	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
895.05 13	0.174 14	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
895.10 25	0.145 17	<sup>81</sup> Sr(22.3 m)	153.54(33.8), 147.76(30.1), 443.34(17.5)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
895.1 5	0.30 6	$^{154}\text{Pr}$ (2.3 s)	162.4(15), 932.1(11.7), 70.8(11.22)
• 895.12 5	15.66 16	$^{206}\text{Bi}$ (6.243 d)	803.10(99), 881.01(66.2), 516.18(40.7)
895.18 3	4.084 25	$^{143}\text{Ba}$ (14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
895.2 1	13.9 4	$^{142}\text{Ba}$ (10.6 m)	255.300(20.5), 1204.3(14.23), 231.611(12.12)
895.2 4	54 4	$^{173}\text{Er}$ (1.4 m)	199.2(48), 192.8(47), 122.40(20.6)
895.2 3	†6.6 10	$^{185}\text{Pt}$ (33.0 m)	229.60(†100), 135.3(†80), 197.4(†74)
895.21 20	0.14 3	$^{165}\text{Yb}$ (9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
895.3 2	0.50	$^{145}\text{La}$ (24.8 s)	70.0(11), 355.8(3.8), 118.2(3.6)
895.3 1	0.061 10	$^{240}\text{Np}$ (7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
• 895.3 1	$1.7 \times 10^{-6}$ 5	$^{244}\text{Cm}$ (18.10 y)	42.824(.0044100), 98.860(.0001470), 152.63(< $4.9 \times 10^{-7}$ )
895.31 5	0.0018	$^{239}\text{U}$ (23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
• 895.35 8	0.140 15	$^{188}\text{Ir}$ (41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
895.4 3	1.5 3	$^{98}\text{Pd}$ (17.7 m)	112.0(58), 662.2(19.7), 106.75(13.9)
895.4 3	1.8 3	$^{187}\text{Pt}$ (2.35 h)	106.46(9), 201.52(6.4), 110.04(5.7)
• 895.4 3	$7.5 \times 10^{-9}$ 25	$^{239}\text{Pu}$ (24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
• 895.5 4	0.0112 20	$^{79}\text{Kr}$ (35.04 h)	261.29(13), 397.54(9.3), 606.09(8.12)
895.5 3	0.111 7	$^{153}\text{Dy}$ (6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
895.7 2	0.43 15	$^{105}\text{Mo}$ (35.6 s)	85.4(25.0), 76.50(19.3), 147.8(14.8)
895.7 2	0.7	$^{161}\text{Er}$ (3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
895.7 2	0.13	$^{161}\text{Er}$ (3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
895.8 2	0.34 14	$^{117}\text{Ag}$ (5.34 s)	135.4(48), 386.8(39.9), 298.1(21.1)
895.8 10	† $8 \times 10^{04}$ 3	$^{123}\text{In}$ (47.8 s)	125.76(† $4.2 \times 10^7$ ), 3234(†130000), 1169.8(†100000)
895.8 1	13.6 6	$^{240}\text{Np}$ (61.9 m)	566.34(25.3), 973.9(23.8), 600.57(18.4)
• 895.82 11	0.14 5	$^{169}\text{Lu}$ (34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
• 895.847 10	0.647 14	$^{148}\text{Eu}$ (54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
895.9 3	0.22 4	$^{150}\text{Tb}$ (3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
895.9 4	0.05 3	$^{185}\text{Au}$ (4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
895.9 1	1.46 10	$^{200}\text{Po}$ (11.5 m)	671.0(34.0), 617.7(19.7), 434.4(9.3)
• 895.99 20	0.036 5	$^{153}\text{Tb}$ (2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
896.0 4	0.13 3	$^{87}\text{Br}$ (55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
896.0 5	1.6 8	$^{105}\text{Tc}$ (7.6 m)	143.26(16), 107.945(14.1), 321.50(11.1)
896.0 5	†9.7 10	$^{113}\text{I}$ (6.6 s)	462.5(†100), 622.4(†74), 351.5(†43)
896.0 3	0.9 3	$^{152}\text{Ho}$ (49.5 s)	647.2(92), 613.8(88.4), 683.3(88)
896.0 3	†2.8 9	$^{171}\text{Hf}$ (12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
896.02 10	0.43 12	$^{134}\text{Te}$ (41.8 m)	767.20(29.0), 210.465(22.3), 277.951(20.9)
896.04 28	1.1 7	$^{105}\text{In}$ (5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
896.09 10	5.0 13	$^{197}\text{Pb}$ (8 m)	385.85(50), 761.14(13.3), 375.48(12.8)
896.09 10	0.80 18	$^{197}\text{Pb}$ (43 m)	385.85(74), 387.72(25.1), 222.45(24.6)
896.10 20	0.61 11	$^{106}\text{Tc}$ (35.6 s)	270.07(56), 2239.30(13.6), 1969.40(8.9)
896.1 1	0.058 10	$^{113}\text{Ag}$ (5.37 h)	298.58(10), 258.8(1.64), 316.3(1.343)
896.1 4		$^{199}\text{Pb}$ (12.2 m)	366.90(7), 382.8, 2751.9
896.1 5	0.0171 24	$^{223}\text{Fr}$ (21.8 m)	50.13(36.0), 79.72(9.1), 234.81(3.0)
• 896.1 5	†0.0069 19	$^{227}\text{Th}$ (18.72 d)	235.971(†813), 50.13(†528), 256.25(†463)
896.12 5	†2.7 1	$^{158}\text{Ho}$ (11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
896.12 5		$^{168}\text{Lu}$ (5.5 m)	1483.65(†100), 228.58(†97), 111.8(†68)
896.12 5	15	$^{168}\text{Lu}$ (6.7 m)	198.82(28), 979.22(20), 884.64(13.9)
896.2 3	†12.7 20	$^{137}\text{Te}$ (2.49 s)	243.3(†100), 554.0(†34), 469.1(†21)
896.20 17	†2.1 3	$^{165}\text{Lu}$ (10.74 m)	132.49(†100), 120.60(†100), 174.25(†47.0)
896.22 12	0.215 6	$^{192}\text{Au}$ (4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
• 896.28 6	0.47	$^{209}\text{Po}$ (102 y)	
896.3 5	0.13 5	$^{60}\text{Cu}$ (23.7 m)	1332.501(88), 1791.6(45.4), 826.06(21.7)
896.3 4	0.21 3	$^{101}\text{Mo}$ (14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
896.3 3	0.15 7	$^{139}\text{Xe}$ (39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
896.33 18	†0.26 3	$^{184}\text{Ir}$ (3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
896.37 10	0.109 9	<sup>89</sup> Br(4.40 s)	1097.82(6.00), 997.93(4.26), 953.53(4.26)
896.4 2	0.14 7	<sup>163</sup> Tb(19.5 m)	351.138(26), 389.734(24.3), 494.534(23)
• 896.42 3	0.981 9	<sup>148</sup> Pm(5.370 d)	1465.12(22), 550.284(22.00), 914.85(11.46)
896.5 2	0.36 12	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
896.5 1	1.45 16	<sup>141</sup> Sm(22.6 m)	196.88(74), 431.6(40.4), 777.6(20.3)
• 896.5 9	>0.21	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
896.51 5	0.122 3	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
• 896.531 12	0.070 5	<sup>56</sup> Co(77.27 d)	846.771(100), 1238.282(67.6), 2598.459(17.28)
896.6 5	0.63 8	<sup>97</sup> Pd(3.10 m)	265.26(56), 475.2(26.7), 792.70(13.8)
896.6 2	$\dagger 3.2 \times 10^3$	<sup>119</sup> In(18.0 m)	1065.55( $\dagger 80000$ ), 1249.71( $\dagger 44000$ ), 1163.85( $\dagger 32000$ )
896.6 1	$\dagger 8.4 \times 10^3$	<sup>157</sup> Ho(12.6 m)	279.97( $\dagger 47600$ ), 341.16( $\dagger 37000$ ), 193.41( $\dagger 15200$ )
896.61 9	0.084 9	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
896.65 14	0.0039 13	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
896.66 4	5.37 22	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
896.7 2	0.050 12	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
896.7 2	0.31 3	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
896.7 1	0.136 17	<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
896.73 13	1.56 24	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
896.87 12	0.132 13	<sup>138</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
• 896.90 15	0.69 10	<sup>99</sup> Rh(16.1 d)	528.24(33), 353.05(30.0), 89.65(29.0)
896.9 5	$\dagger 9$	<sup>106</sup> Nb(1.02 s)	171.548( $\dagger 100$ ), 350.70( $\dagger 39$ ), 714.00( $\dagger 30$ )
896.9 5	$\dagger 2.0$	<sup>110</sup> Tc(0.92 s)	240.67( $\dagger 100$ ), 372.1( $\dagger 17.0$ ), 613.0( $\dagger 16.0$ )
896.9 3	13	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 1847.4(11.4)
897 1	0.170 22	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
897.0 6	0.48 10	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
897 1	>0.35	<sup>113</sup> Ag(68.7 s)	316.3(18), 392.3(11), 298.58(10)
897 1	0.005 3	<sup>128</sup> Cs(3.66 m)	442.901(26.8), 526.557(2.41), 1140.079(1.168)
897.0 15	0.0028 18	<sup>157</sup> Dy(8.14 h)	326.16(92), 182.20(1.84), 83.01(0.62)
897.0 10	0.57 17	<sup>191</sup> Hg(50.8 m)	252.5(57), 420.1(18.6), 578.6(17.6)
897.0 3	$\dagger 0.62$	<sup>194</sup> Bi(92 s)	965.4( $\dagger 100.0$ ), 575.1( $\dagger 98.0$ ), 280.1( $\dagger 73.7$ )
897.04 16	0.021 5	<sup>130</sup> I(12.36 h)	536.09(99), 668.54(96), 739.48(82)
897.05 30	0.32 7	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
897.1 4	$\dagger 0.60$	<sup>144</sup> Cs(1.01 s)	199.326( $\dagger 100.0$ ), 639.00( $\dagger 21.2$ ), 758.96( $\dagger 20.6$ )
• 897.13 4	0.0134 14	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
897.14 7	1.00 5	<sup>155</sup> Ho(48 m)	240.19(12.5), 136.30(5.00), 45.38(5)
897.2 5	0.09 4	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
897.2 3	0.137 8	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
897.3 4	0.091 14	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
• 897.3 4	0.010 3	<sup>195</sup> Hg(41.6 h)	261.75(30.9), 560.27(7), 387.87(2.15)
• 897.33 10	0.008 1	<sup>238</sup> Np(2.117 d)	984.45(27.8), 1028.54(20.3), 1025.87(9.6)
897.33 10	0.56 6	<sup>238</sup> Am(98 m)	962.77(28), 918.69(23.0), 561.11(10.9)
• 897.33 10	0.000022	<sup>242</sup> Cm(162.8 d)	44.08(0.0325), 101.90(0.0025), 157.42(0.0014)
897.4	2	<sup>111</sup> Sb(75 s)	154.48(71), 489.1(42), 1032.6(10.0)
897.45 21	3.1	<sup>67</sup> As(42.5 s)	122.7(19.2), 120.8(9.3), 243.6(7.8)
897.45 14	0.065 12	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
897.5 4	0.96 12	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
897.5 5	0.38 16	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
897.5 2	$\dagger 7.7 \times 10^3$	<sup>231</sup> In(18.0 m)	1065.55( $\dagger 80000$ ), 1249.71( $\dagger 44000$ ), 1163.85( $\dagger 32000$ )
• 897.59 5	0.097 9	<sup>158</sup> Tb(180 y)	944.09(44), 962.06(20.3), 79.5104(11.6)
897.60 4	10.3 5	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
• 897.60 4	0.145 9	<sup>158</sup> Tb(180 y)	944.09(44), 962.06(20.3), 79.5104(11.6)
897.6 5	0.15 4	<sup>170</sup> Ta(6.76 m)	100.8(21.0), 221.2(15.7), 860.4(7.39)
897.603 11	0.50 5	<sup>75</sup> Br(96.7 m)	286.572(88), 141.3147(6.6), 427.883(4.4)
897.65 9	0.311 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
897.7 4	0.8 7	$^{129}\text{Sn}(2.23 \text{ m})$	645.13(100), 80.5(6.6), 913.2(5.0)
897.80 5	0.260 9	$^{207}\text{Tl}(4.77 \text{ m})$	569.702(0.00159), 328.12(0.00140)
• 897.80 5	0.121 8	$^{207}\text{Bi}(31.55 \text{ y})$	569.702(97.74), 1063.662(74.5), 1770.237(6.87)
897.80 5	1.65 11	$^{211}\text{Po}(25.2 \text{ s})$	1063.662, 569.702
897.80 5	0.561 11	$^{211}\text{Po}(0.516 \text{ s})$	569.702(0.5), 328.12(0.0033)
897.83 18	0.031 3	$^{151}\text{Tb}(17.609 \text{ h})$	287.357(28.3), 251.863(26.3), 108.088(24.3)
897.848 7	28 8	$^{244}\text{Am}(10.1 \text{ h})$	743.971(66), 153.863(16), 99.383(4.6)
897.9 1	0.74 4	$^{107}\text{Ru}(3.75 \text{ m})$	194.05(9.9), 847.93(5.3), 462.61(3.66)
897.9 6	0.27 17	$^{204}\text{Au}(39.8 \text{ s})$	436.551(91), 1511.10(25.2), 691.80(24.0)
898.00 15	0.96 10	$^{67}\text{Ge}(18.9 \text{ m})$	167.01(84), 1472.48(4.9), 910.92(3.1)
898.0 5	0.043 10	$^{93}\text{Kr}(1.286 \text{ s})$	253.42(41.2), 323.89(24.1), 266.83(20.6)
898.0 4	0.036 9	$^{120}\text{Xe}(40 \text{ m})$	25.1(30), 72.6(9), 178.1(6.8)
898.0	0.18	$^{133}\text{Pr}(6.5 \text{ m})$	134.3(14), 74.0(10), 315.6(10)
898.042 3	14.04 9	$^{88}\text{Rb}(17.78 \text{ m})$	1836.063(21.40), 2677.892(1.96), 1382.406(0.74)
• 898.042 3	93.7 3	$^{88}\text{Y}(106.65 \text{ d})$	1836.063(99.2), 2734.086(0.71), 850.647(0.065)
• 898.06 16	0.00018 5	$^{97}\text{Ru}(2.9 \text{ d})$	215.718(86), 324.48(10.79), 569.31(0.873)
898.1 3	0.159 8	$^{143}\text{Ba}(14.33 \text{ s})$	211.475(25), 798.79(15.6), 980.45(11.55)
898.10 12	4.25 19	$^{164}\text{Tm}(5.1 \text{ m})$	208.08(14.6), 314.97(10), 240.49(7.5)
• 898.1 3	$1.8 \times 10^{-8}$ 4	$^{239}\text{Pu}(24110 \text{ y})$	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
898.167 25	0.0489 11	$^{159}\text{Ho}(33.05 \text{ m})$	121.012(36.2), 131.973(23.6), 309.594(17.2)
898.17 6	0.0099 4	$^{107}\text{Cd}(6.50 \text{ h})$	93.124(1.45), 828.93(0.17), 796.462(0.0665)
898.2 3	0.66 5	$^{69}\text{Cu}(2.85 \text{ m})$	1007.5(23.4), 834.4(13.1), 531.2(6.0)
898.2 2	0.0006 3	$^{123}\text{I}(13.27 \text{ h})$	158.97(83), 528.96(1.39), 440.02(0.428)
898.2 6	0.05 4	$^{161}\text{Er}(3.21 \text{ h})$	826.6(3.0), 211.15(12.2), 592.6(3.7)
898.2 2	$\dagger 6.3$ 6	$^{185}\text{Hg}(21.6 \text{ s})$	222.8( $\dagger 100.0$ ), 258.7( $\dagger 98$ ), 212.5( $\dagger 58$ )
• 898.37	0.0020 5	$^{154}\text{Eu}(8.593 \text{ y})$	123.071(40.79), 1274.436(35.19), 723.304(20.22)
898.4 20	0.0007 3	$^{57}\text{Mn}(87.2 \text{ s})$	122.0614(13.9), 14.41300(10.56), 692.03(5.50)
898.4 3	0.27 8	$^{142}\text{Tb}(597 \text{ ms})$	515.0(25), 465.0(2.7), 853.1(2.42)
898.4 8	0.0033	$^{233}\text{Th}(22.3 \text{ m})$	86.477(2.7), 29.374(2.5), 459.222(1.4)
• 898.4	$\dagger 7 \times 10^{02}$ 3	$^{241}\text{Am}(432.2 \text{ y})$	59.537( $\dagger 60$ ), 26.345( $\dagger 1000 \times 10^5$ ), 33.195( $\dagger 6000 \times 10^8$ )
898.5 5	0.16 4	$^{76}\text{Kr}(14.8 \text{ h})$	315.7(39), 270.2(21.1), 45.48(19.5)
898.5 3	12.5 23	$^{98}\text{Cd}(9.2 \text{ s})$	347.18(78), 1176.1(66.3), 107.28(43.7)
898.50 4	18.9 9	$^{100}\text{Sr}(202 \text{ ms})$	963.85(22.0), 65.46(15.2), 10.68(9.7)
898.5 4	$\dagger 1.4$ 5	$^{131}\text{Sn}(56.0 \text{ s})$	1226.03( $\dagger 100$ ), 450.03( $\dagger 90$ ), 798.50( $\dagger 86$ )
898.5 2	1.28 12	$^{156}\text{Tm}(83.8 \text{ s})$	344.55(86), 452.85(17.2), 585.93(14.6)
898.5 4	0.07 3	$^{198}\text{Tl}(5.3 \text{ h})$	411.8044(82), 675.8874(11), 636.4(10.1)
898.5 4	$\dagger 3.0$ 5	$^{198}\text{Tl}(1.87 \text{ h})$	636.4( $\dagger 202$ ), 411.8044( $\dagger 202$ ), 587.2( $\dagger 185$ )
• 898.533 11	0.62 4	$^{200}\text{Tl}(26.1 \text{ h})$	367.943(87), 1205.717(29.9), 579.298(13.8)
898.54 3	0.138 7	$^{131}\text{Te}(25.0 \text{ m})$	149.716(69), 452.323(18.18), 1146.96(4.95)
• 898.58 12	0.0248 22	$^{151}\text{Pm}(28.40 \text{ h})$	340.08(23), 167.75(8.3), 275.21(6.8)
898.67 5	3.24 21	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
898.68 10	0.254 25	$^{230}\text{Ac}(122 \text{ s})$	454.95(8), 508.20(5.15), 1243.9(3.50)
• 898.68 10	5.8 3	$^{230}\text{Pa}(17.4 \text{ d})$	951.95(1.65), 918.48(8.2), 454.95(6.27)
898.7 3	0.086 5	$^{85}\text{Y}(4.86 \text{ h})$	231.67(22.8), 2123.8(5.0), 767.40(3.6)
898.7 2	0.82 4	$^{228}\text{Fr}(39 \text{ s})$	473.7(10.2), 474.0(7.6), 410.40(6.3)
898.7 2	0.89 9	$^{230}\text{Fr}(19.1 \text{ s})$	711.0(13.6), 129.1(11.0), 728.4(7.3)
898.8 7	0.19 4	$^{127}\text{Sn}(2.10 \text{ h})$	1114.3(39), 1095.6(20), 823.1(10.9)
898.8 2	0.162 18	$^{167}\text{Lu}(51.5 \text{ m})$	29.66(14.4), 239.22(8.6), 213.19(3.6)
• 898.83 10	0.028 12	$^{156}\text{Tb}(5.35 \text{ d})$	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
898.92 2	0.24 8	$^{145}\text{Cs}(0.594 \text{ s})$	175.36(20), 198.93(10.9), 112.46(10.71)
898.97 4	0.34 5	$^{202}\text{Bi}(1.72 \text{ h})$	960.67(99), 422.18(83.7), 657.49(60.6)
899.0 4	0.0123 25	$^{63}\text{Zn}(38.47 \text{ m})$	669.62(8), 962.06(6.5), 1412.08(0.75)
899.0 3	0.99 15	$^{121}\text{Cd}(13.5 \text{ s})$	324.976(49.5), 1040.26(16.8), 349.937(12.9)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
899.0 1	†1.60 16	<sup>171</sup> Ta(23.3 m)	49.6(†100), 506.4(†54), 501.8(†22.6)
899.0 3	0.35 5	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
899.04 5	44.8 25	<sup>132</sup> Sn(39.7 s)	340.53(49), 85.58(48.2), 246.87(42.3)
• 899.071 15	0.941 10	<sup>150</sup> Eu(35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
899.10 8	0.678 22	<sup>177</sup> Yb(1.911 h)	150.392(20.3), 1080.21(5.6), 1241.2(3.47)
899.124 11	0.99 4	<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
899.132 13	0.0108 25	<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
899.15 3	98 8	<sup>204</sup> Bi(11.22 h)	374.72(82), 984.02(59), 911.78(13.5)
899.2	0.18	<sup>95</sup> Sr(23.90 s)	685.6(23), 2717.3(4.6), 2933.1(4.1)
899.2 5	0.20 8	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
899.2 2	†49 5	<sup>130</sup> Sn(1.7 m)	144.9(†100), 84.7(†42), 311.3(†41)
899.3 5	0.050 13	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
• 899.3 6	0.009 5	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
899.3 10	0.034 17	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
899.32 3	4.6 3	<sup>132</sup> La(4.8 h)	464.55(76), 567.14(15.7), 1909.91(9.0)
899.32 3	6.7 9	<sup>132</sup> La(24.3 m)	464.55(22), 663.07(11.6), 285.6(7)
899.38 5	0.0075 5	<sup>133</sup> La(3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
899.39 6	2.48 15	<sup>204</sup> At(9.2 m)	684.341(95), 516.318(90), 426.253(67.5)
899.4 2	0.48 6	<sup>101</sup> Ag(11.1 m)	261.0(53), 588.0(10.0), 667.3(9.8)
899.4 2	†1	<sup>139</sup> I(2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
899.43	0.0515 25	<sup>42</sup> K(12.360 h)	1524.70(18), 312.6(0.336), 1922.18(0.041)
899.43	0.70 30	<sup>42</sup> Sc(61.7 s)	436.92(100), 1524.70(99.70), 1227.66(99.0)
899.47 15	0.20 3	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
899.5 3	0.14 10	<sup>117</sup> Ag(5.34 s)	135.4(48), 386.8(39.9), 298.1(21.1)
899.5 2	0.125 21	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
• 899.5 3	0.039 7	<sup>195</sup> Hg(41.6 h)	261.75(30.9), 560.27(7), 387.87(2.15)
899.5 4	0.034 16	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
• 899.57 19	2.06 15	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
899.6 4	2.44 24	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
899.6 3	†2.6 3	<sup>182</sup> Au(21 s)	154.76(†100), 264.33(†40.0), 855.41(†14.5)
899.7	†6	<sup>99</sup> Cd(16 s)	342.6(†100), 671.8(†31), 1583.3(†28)
899.7	†16.9 4	<sup>178</sup> Ir(12 s)	266.1(†100.0), 131.6(†79), 363.1(†39.9)
899.79 8	0.133 13	<sup>187</sup> Ir(10.5 h)	912.95(4.79), 427.12(4.12), 400.89(3.94)
• 899.8 4	0.0137 20	<sup>124</sup> Sb(60.20 d)	602.730(97.8), 1690.980(47.3), 722.786(10.76)
• 899.8 4	0.030 16	<sup>124</sup> I(4.18 d)	602.730(60), 1690.980(10.41), 722.786(9.98)
899.8 5	0.025 8	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
899.80 18	0.0038 8	<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
899.9 10	0.18 6	<sup>99</sup> Rh(4.7 h)	340.71(70), 617.8(12.0), 1261.2(11)
899.9 4	5.6 4	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
899.9 4	2.7 6	<sup>162</sup> Tm(24.3 s)	811.52(6.5), 798.68(5.2), 227.52(5)
• 899.90 10	0.109 12	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
900.0 10	0.22 6	<sup>74</sup> Kr(11.50 m)	89.65(31), 203.0(18.0), 296.67(9.9)
900.00 5	0.221 25	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
900.0 4	0.062 12	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
900 1	3.0 15	<sup>174</sup> Re(2.40 m)	243.4(37), 113.0(19.8), 1002.9(5.62)
900.0 4	†4.6 7	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
900.04 5	0.327 19	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
900.1 4	0.045 9	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
900.1 3	0.29 6	<sup>121</sup> Ag(0.78 s)	314.55(32.1), 353.43(19.9), 500.61(9.3)
900.1 6	0.27 3	<sup>136</sup> Pr(13.1 m)	552.16(76), 539.75(52), 1092.3(18.5)
900.15 5	0.48 6	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
900.16 8	0.39 7	<sup>139</sup> Nd(5.50 h)	113.94(40), 737.96(35), 982.2(26.4)
900.2 3	0.27 7	<sup>121</sup> Cs(155 s)	153.9(15.2), 239.6(7.7), 427.1(3.63)
900.2 3	0.21 5	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
900.2 1	0.163 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
900.2 4	0.68 10	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
• 900.2	$8.0 \times 10^{-6}$	<sup>253</sup> Es(20.47 d)	41.79(0.050), 389.11(0.0264), 387.1(0.00810)
900.3 5	0.35 6	<sup>136</sup> Nd(50.65 m)	108.90(32), 40.2(18.9), 574.8(10.4)
900.3 1	0.037 4	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
900.37 10	0.160 20	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
• 900.37 10	0.001	<sup>240</sup> Am(50.8 h)	987.76(73.2), 888.80(25.1), 98.860(1.5)
• 900.37 10	$1.2 \times 10^{-6}$	<sup>244</sup> Cm(18.10 y)	42.824(.0044100), 98.860(.0001470), 152.63(< $4.9 \times 10^{-7}$ )
900.4 1	0.09 1	<sup>107</sup> Tc(21.2 s)	102.70(21.0), 177.00(9.2), 106.31(7.6)
900.4 5	2.52 24	<sup>176</sup> Tm(1.9 m)	189.57(44.5), 1069.3(34), 381.8(21.8)
900.41 5	0.00252	<sup>165</sup> Dy(2.334 h)	94.700(3.58), 361.68(0.84), 633.415(0.568)
900.5 4	0.16 4	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
900.5 4	0.15 8	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
900.5 3	†1.9 5	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
900.7 6	0.44 7	<sup>109</sup> In(4.2 h)	203.5(74), 623.7(5.5), 1148.9(4.3)
900.7 5	0.20 6	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
900.7 2	†0.14 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
900.7 4	6.5 3	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
900.7 4	4.0 8	<sup>162</sup> Tm(24.3 s)	811.52(6.5), 798.68(5.2), 227.52(5)
900.7 10		<sup>196</sup> Tl(1.41 h)	426.0(†540), 635.5(†304), 695.6(†243)
• 900.724 20	29.8 4	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 181.528(20.6), 810.064(16.63)
900.73 10	0.1504 22	<sup>73</sup> Se(7.15 h)	360.80(108), 67.03(78), 865.09(0.584)
900.79 4	0.35 6	<sup>182</sup> Re(12.7 h)	67.75001(38.2), 1121.3007(32), 1221.4066(24.8)
900.8 5	0.15 5	<sup>112</sup> Sb(51.4 s)	1257.05(96), 990.70(14.3), 670.0(3.7)
900.8 5	0.28 5	<sup>112</sup> Sb(51.4 s)	1257.05(96), 990.70(14.3), 670.0(3.7)
900.8 3	†3.2 6	<sup>185</sup> Pt(33.0 m)	229.60(†100), 135.3(†80), 197.4(†74)
• 900.93 19	2.25 21	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
900.97 11	0.121 3	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
900.97 10	0.103 19	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
900.98 7	0.68 4	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
901.0 7	0.155 15	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
901.0 4	0.46 6	<sup>118</sup> Cs(14 s)	337.4(100), 472.8(37.4), 586.6(15.4)
901.0 3	0.28 5	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
901.08 18	0.110 14	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
901.1 1	0.057 5	<sup>141</sup> Pm(20.90 m)	1223.26(4.74), 886.22(2.44), 193.68(1.61)
901.186 11	1.81 14	<sup>152</sup> Pm(7.52 m)	244.6989(78), 121.7824(45), 340.48(31.3)
• 901.186 11	0.092 6	<sup>152</sup> Eu(13.542 y)	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
901.23 15	0.017 4	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
901.3 1	2.3 3	<sup>75</sup> Zn(10.2 s)	228.67(28.9), 432.29(20.2), 155.94(17.2)
901.3 2	0.094 3	<sup>91</sup> Sr(9.63 h)	1024.3(33), 749.8(23.61), 652.9(8.0)
901.3 2	0.016 4	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
901.3 4	0.074 25	<sup>129</sup> La(11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
901.3 1	†30 3	<sup>210</sup> Fr(3.18 m)	643.8(†100), 817.6(†60), 203.1(†35)
901.31 10	28 3	<sup>108</sup> Rh(6.0 m)	433.937(88), 581.1(60), 947.27(49)
• 901.40 20	0.067 3	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
901.5 1	0.58 14	<sup>75</sup> Zn(10.2 s)	228.67(28.9), 432.29(20.2), 155.94(17.2)
901.5 3	0.23 3	<sup>75</sup> Kr(4.3 m)	132.43(67), 154.66(20.8), 153.15(8.0)
901.5 3	0.026 5	<sup>87</sup> Kr(76.3 m)	402.586(49.6), 2554.8(9.2), 845.43(7.34)
901.5 6	0.41 16	<sup>166</sup> Lu(2.65 m)	228.12(77.3), 337.50(41), 367.95(31.4)
901.505 32	0.580 13	<sup>125</sup> Xe(16.9 h)	188.418(54), 243.378(30.1), 54.968(6.81)
901.53 5	1.97 10	<sup>110</sup> In(4.9 h)	657.7622(98.3), 884.685(92.9), 937.493(68.4)
901.6 1	0.128 10	<sup>251</sup> Fm(5.30 h)	880.8(2.19), 453.1(1.45), 405.6(0.99)
901.61 10	0.37 3	<sup>197</sup> Tl(2.84 h)	425.84(12.9), 152.22(7.2), 1411.34(4.5)
901.68 11	3.2 4	<sup>197</sup> Pb(8 m)	385.85(50), 761.14(13.3), 375.48(12.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
901.7 1	87	<sup>70</sup> Cu(47 s)	884.9(100), 1251.7(57), 1107.9(7.8)
901.7 5	>0.41	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
901.76 5	0.60 4	<sup>79</sup> Ga(2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
901.79 15	0.20 3	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
901.8	70.4 20	<sup>36</sup> P(5.6 s)	3290.7(100), 1638.2(35.3), 2539.9(17.4)
901.8 2	0.114 21	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
901.8 3	0.029 3	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
• 901.89 18	†0.044 4	<sup>52</sup> Mn(5.591 d)	1434.068(†100.0), 935.538(†94.9), 744.233(†90.6)
901.9 5	1.43 17	<sup>70</sup> As(52.6 m)	1039.20(81), 1114.1(21.8), 668.3(21.8)
901.9 3	0.38	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
901.9 3	1.45	<sup>154</sup> Pm(2.68 m)	184.810(32), 81.99(15.4), 546.66(14.5)
• 901.90 4	0.129 5	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
901.9 8	0.051 25	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
901.95 19	0.084 21	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
902 2	†10 3	<sup>189</sup> Au(28.7 m)	713.17(†100), 812.68(†63), 447.65(†55)
902.0 6	0.010 3	<sup>199</sup> Pt(30.80 m)	542.993(15), 493.772(5.59), 317.056(4.95)
902.0 5	8.4 4	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
902.03 11	0.325 25	<sup>155</sup> Ho(48 m)	240.19(12.5), 136.30(5.00), 45.38(5)
902.1 5	0.113 25	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
902.15 17	†6.2 13	<sup>183</sup> Hg(9.4 s)	60.5(†100), 159.91(†21), 172.70(†17)
902.16 15	†0.40 3	<sup>153</sup> Pm(5.4 m)	35.842(†100), 127.298(†75), 28.309(†34.6)
902.18 14	0.102 24	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
902.18 22	1.2 3	<sup>168</sup> Lu(6.7 m)	198.82(28), 979.22(20), 896.12(15)
902.2 15	0.68 9	<sup>212</sup> Fr(20.0 m)	1273.8(46), 227.72(43), 1185.6(14.1)
902.22 10	0.435 21	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
• 902.24 4	0.147 3	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
902.25 10	0.248 15	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
902.294 20	0.083 5	<sup>61</sup> Cu(3.333 h)	282.956(12.2), 656.008(10.77), 67.412(4.23)
902.3 1	5.0 11	<sup>129</sup> Sn(6.9 m)	1161.31(56.0), 1128.44(50), 760.8(16.8)
902.3 3	0.044 13	<sup>138</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
902.3 3	0.32 9	<sup>159</sup> Tm(9.13 m)	38.35(5.8), 84.8(5.8), 271.30(5.1)
902.32 12	3.7 3	<sup>79</sup> Ge(39.0 s)	230.62(61), 542.27(32.6), 755(18)
902.4 3	0.61 5	<sup>103</sup> Tc(54.2 s)	346.380(17.5), 136.079(16.6), 562.90(7.0)
902.4 2	†3.5 3	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
902.5 1	0.19 3	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
• 902.5	†3.0×10 <sup>3</sup> 5	<sup>241</sup> Am(432.2 y)	59.537(†60), 26.345(†1000×10 <sup>9</sup> ), 33.195(†6000×10 <sup>8</sup> )
• 902.53 9	0.247 9	<sup>206</sup> Po(8.8 d)	1032.26(32.9), 511.36(24.1), 286.410(23.8)
902.6 1	0.49 4	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
902.6 5	0.23 7	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
902.6	1	<sup>200</sup> Bi(36.4 m)	1026.5(100), 462.34(98), 419.70(91)
902.6 3	0.130 10	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
902.6 4	0.0180 24	<sup>235</sup> Pu(25.3 m)	49.10(2.36), 756.4(0.479), 34.23(0.23)
902.6 3	0.018 6	<sup>249</sup> Es(102.2 m)	379.5(40.4), 813.2(9.2), 375.1(3.3)
902.62 4	3.52 20	<sup>122</sup> In(10.3 s)	1140.55(98), 1001.58(50.7), 1190.58(20.5)
902.64 7	0.032 7	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
902.7 3	0.9 3	<sup>119</sup> Cd(2.69 m)	292.9(36.8), 343.0(16.9), 1609.7(10.9)
902.7 3	1.12 25	<sup>119</sup> Cd(2.20 m)	1025.0(24.8), 2021.3(22.6), 720.7(17.9)
902.795 7	90 3	<sup>180</sup> Re(2.44 m)	103.557(22.2), 825.357(9.9), 749.345(1.12)
902.8 6	0.80 14	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
902.8 2	1.59 8	<sup>91</sup> Tc(3.14 m)	2450.90(13.5), 1639.90(9.2), 1605.20(7.77)
• 902.9 3	0.072 9	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
902.9 3	0.40 6	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
902.99 7	0.295 15	<sup>187</sup> Ir(10.5 h)	912.95(4.79), 427.12(4.12), 400.89(3.94)
903		<sup>55</sup> V(6.54 s)	517.71(73), 880.70(18.1), 921.10(4.6)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
903.0 5	2.9	<sup>82</sup> As(13.6 s)	654.6(72), 343.5(58), 1895.4(39)
903.0 10	0.13 4	<sup>100</sup> Rh(20.8 h)	539.59(78.4), 2376.1(35.3), 1553.4(21)
903.0 5	0.32 11	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
903 1	3.7 15	<sup>174</sup> Re(2.40 m)	243.4(37), 113.0(19.8), 1002.9(5.62)
903.0 1	3.65 10	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
903.01 13	0.0055 10	<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
903.1	†0.56 19	<sup>178</sup> Ir(12 s)	266.1(†100.0), 131.6(†79), 363.1(†39.9)
903.1 10	0.50 17	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
903.1 5	†0.71 19	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
903.2 6	0.0046 23	<sup>81</sup> Rb(4.576 h)	190.38(64.0), 446.15(23.2), 510.31(5.3)
903.2 3	2.2 9	<sup>140</sup> Gd(15.8 s)	174.8(76), 749.9(70), 379.0(38)
903.2 3	0.122 14	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
903.279 7	15.0 4	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
• 903.279 7	37.9 6	<sup>184</sup> Re(38.0 d)	792.071(37.5), 111.208(17.1), 894.757(15.6)
• 903.279 7	3.74 8	<sup>184</sup> Re(169 d)	252.848(10.7), 216.548(9.43), 920.932(8.14)
903.3 4	0.47 6	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
903.3 3	1.40 12	<sup>148</sup> Pr(2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
903.3 2	0.0068 18	<sup>167</sup> Yb(17.5 m)	113.34(55.3), 106.18(22.5), 176.25(21)
903.3 4	†100 6	<sup>171</sup> Ho(53 s)	198.6(†88), 279.2(†60), 532.2(†58)
903.4 19	0.22 10	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
• 903.42 23	0.040 16	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
903.5 2	4.7 23	<sup>103</sup> Zr(1.3 s)	248(100), 164.05(94), 126.30(84)
903.5 6	>0.13	<sup>108</sup> Sn(10.30 m)	396.44(64.3), 272.75(45.5), 669.08(22.6)
• 903.5 5	0.013 3	<sup>125</sup> Sn(9.64 d)	1067.10(10), 1089.15(4.59), 822.48(4.28)
903.5 5	0.24 8	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
• 903.5 5	0.0032 9	<sup>151</sup> Pm(28.40 h)	340.08(23), 167.75(8.3), 275.21(6.8)
903.5 3	0.39 5	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
903.5 4	0.06 3	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
903.6 11	2.3 4	<sup>31</sup> Mg(230 ms)	1613.0(36), 946.8(31.5), 1626.1(24.8)
903.6 4	0.08 3	<sup>78</sup> As(90.7 m)	613.725(54), 694.916(16.7), 1308.59(13.0)
903.6 1	0.79 5	<sup>92</sup> Ru(3.65 m)	213.81(96), 259.32(92), 134.57(65.5)
• 903.60 8	0.57 4	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
• 903.62 10	0.040 5	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
903.64 12	0.201 15	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
903.7 8	3.3 7	<sup>116</sup> Cs(3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
903.7	0.041 23	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
903.76 9	0.61 3	<sup>147</sup> Pr(13.4 m)	77.9921(15), 314.675(13.2), 641.380(10.0)
903.8 10	†7	<sup>99</sup> Rb(59 ms)	90.8(†100), 125.2(†40), 1071.6(†26)
• 903.831 15	0.0422 22	<sup>148</sup> Pm(5.370 d)	1465.12(22), 550.284(22.00), 914.85(11.46)
• 903.831 15	0.370 8	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
• 903.9	0.04	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
904.0 3	†1.21 24	<sup>131</sup> Ce(5.0 m)	230.43(†100), 436.85(†7.3), 462.9(†6.9)
• 904.076 6	0.898 5	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
904.1 4	0.036 9	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
904.1 2	0.24 4	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
904.13	0.21	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
904.2 2	0.30 6	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
904.2 2	†54.8 22	<sup>201</sup> Po(15.3 m)	890.1(†100), 240.1(†71.0), 1186.7(†20.8)
904.20 5	0.78 3	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
904.20 5	3.00 25	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
904.23 10	†13.0 13	<sup>200</sup> Au(18.7 h)	497.77(†123), 367.943(†123), 579.298(†121)
904.25 25	0.089 23	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
904.27 7	7.2 4	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 1472.76(6.9)
904.29 10	3.0 3	<sup>128</sup> In(0.72 s)	831.54(100), 1168.80(100), 120.54(11.1)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
904.3 3	0.091 25	$^{152}\text{Pm}(4.1 \text{ m})$	121.7824(15.7), 841.586(2.17), 961.06(1.92)
• 904.306 55	0.0083 6	$^{129}\text{Cs}(32.06 \text{ h})$	371.918(30.60), 411.490(22.31), 548.945(3.40)
904.34 25	0.28 3	$^{163}\text{Yb}(11.05 \text{ m})$	860.28(10.1), 63.62(6.5), 123.21(1.98)
904.37 6	0.30 5	$^{202}\text{Bi}(1.72 \text{ h})$	960.67(99), 422.18(83.7), 657.49(60.6)
904.37 15	0.340 21	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
• 904.37 15	$6.5 \times 10^{-8}$	$^{238}\text{Pu}(87.74 \text{ y})$	43.498(0.0395), 99.853(0.00735), 152.720(0.000937)
904.4 5	0.013 4	$^{132}\text{I}(2.295 \text{ h})$	667.718(99), 772.60(75.6), 954.55(17.6)
904.4 9	0.029 17	$^{161}\text{Er}(3.21 \text{ h})$	826.6(3.0), 211.15(12.2), 592.6(3.7)
904.4 2	1.04 5	$^{228}\text{Fr}(39 \text{ s})$	473.7(10.2), 474.0(7.6), 410.40(6.3)
904.42 5	0.0571 22	$^{246}\text{Am}(25.0 \text{ m})$	1078.86(27.7), 798.80(25), 1062.04(17.1)
904.46 8	0.91 6	$^{150}\text{Pm}(2.68 \text{ h})$	333.971(68), 1324.51(17.5), 1165.739(15.8)
904.5 2	21.0 18	$^{110}\text{Rh}(28.5 \text{ s})$	373.80(91), 546.90(42.4), 687.70(25.8)
904.5 2	6.2 9	$^{132}\text{Pm}(6.3 \text{ s})$	212.5(88), 397.2(23), 610.4(12.3)
904.6 2	0.381 15	$^{109}\text{Ru}(34.5 \text{ s})$	206.29(22.0), 225.98(19.6), 1929.05(13.7)
904.6 7		$^{131}\text{Sn}(56.0 \text{ s})$	3267.5, 2470.5, 2039.25
904.6 7	$\dagger 1.0 3$	$^{131}\text{Sn}(56.0 \text{ s})$	1226.03( $\dagger 100$ ), 450.03( $\dagger 90$ ), 798.50( $\dagger 86$ )
904.6 5	$\dagger 0.104 21$	$^{196}\text{Ir}(1.40 \text{ h})$	393.346( $\dagger 105.2$ ), 521.175( $\dagger 104$ ), 447.1( $\dagger 102.1$ )
904.7 2	0.10 3	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
904.7 2	0.12 3	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
904.8 3	0.078 17	$^{153}\text{Dy}(6.4 \text{ h})$	80.723(11.10), 213.754(10.90), 99.659(10.51)
904.8 1	10.8 6	$^{188}\text{Tl}(71 \text{ s})$	412.7(88), 592.0(61), 504.2(23.3)
904.95 18	0.016 3	$^{168}\text{Ho}(2.99 \text{ m})$	741.356(36.6), 821.164(34.5), 815.990(18.6)
904.95 2	1.24 8	$^{204}\text{Po}(3.53 \text{ h})$	883.984(29.9), 270.068(27.8), 1016.31(24.1)
905.0 4	0.15 5	$^{97}\text{Sr}(426 \text{ ms})$	1905.0(25), 953.8(21.4), 652.2(11.4)
905.03 23	0.37 6	$^{186}\text{Au}(10.7 \text{ m})$	191.56(62), 298.67(25.4), 764.89(10.5)
905.1 2	$\dagger 25 8$	$^{108}\text{Sb}(7.0 \text{ s})$	1206.4( $\dagger 100$ )
905.1 2	$\dagger 0.55 14$	$^{160}\text{Ho}(5.02 \text{ h})$	728.18( $\dagger 100$ ), 879.383( $\dagger 65.9$ ), 962.317( $\dagger 59.1$ )
905.1 4	$\dagger 0.34 3$	$^{184}\text{Ir}(3.09 \text{ h})$	263.97( $\dagger 100$ ), 119.80( $\dagger 45$ ), 390.38( $\dagger 38$ )
905.2 3	0.35 5	$^{103}\text{Tc}(54.2 \text{ s})$	346.380(17.5), 136.079(16.6), 562.90(7.0)
905.2 2	1.7 3	$^{154}\text{Ho}(3.10 \text{ m})$	334.6(94), 412.4(79), 477.1(55)
905.2 2	2.19 20	$^{154}\text{Ho}(11.76 \text{ m})$	334.6(84), 412.4(15.0), 873.4(12.5)
• 905.22 22	0.029 6	$^{72}\text{As}(26.0 \text{ h})$	834.01(80), 629.95(7.92), 1463.95(1.107)
905.3	3.5 11	$^{39}\text{S}(11.5 \text{ s})$	1301.7(52), 1696.5(44), 394.8(37)
905.3 5	0.044 15	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
905.3 6	0.40 6	$^{170}\text{Ta}(6.76 \text{ m})$	100.8(21.0), 221.2(15.7), 860.4(7.39)
905.4 4	0.13 7	$^{121}\text{Cs}(155 \text{ s})$	153.9(15.2), 239.6(7.7), 427.1(3.63)
905.4 4	0.10 5	$^{121}\text{Cs}(122 \text{ s})$	179.4(30.2), 196.0(24.1), 459.7(12.0)
905.5 3	0.14 4	$^{88}\text{Br}(16.5 \text{ s})$	775.28(63), 802.14(13.13), 1440.69(4.72)
• 905.5 3	$7.5 \times 10^{-9}$	$^{239}\text{Pu}(24110 \text{ y})$	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
905.515 21	2.45 6	$^{155}\text{Dy}(9.9 \text{ h})$	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
905.53 26	0.66 5	$^{99}\text{Nb}(2.6 \text{ m})$	97.785(7), 253.50(3.64), 2641.3(3.64)
905.6 3	0.066 14	$^{93}\text{Rb}(5.84 \text{ s})$	432.61(17.4), 986.05(6.8), 213.429(6.7)
905.6 5	0.51 11	$^{151}\text{Tb}(17.609 \text{ h})$	287.357(28.3), 251.863(26.3), 108.088(24.3)
905.6 2	0.22 3	$^{163}\text{Tm}(1.810 \text{ h})$	104.320(18.6), 69.229(11.6), 241.305(10.9)
905.6 6	$\dagger 23$	$^{238}\text{Pa}(2.3 \text{ m})$	1015.3( $\dagger < 100$ ), 1014.6( $\dagger < 100$ ), 635.18( $\dagger 88$ )
905.7 3	0.26 3	$^{118}\text{I}(13.7 \text{ m})$	605.71(86.0), 545.12(10.9), 600.71(10.2)
905.7 2	0.070 17	$^{173}\text{Ta}(3.14 \text{ h})$	172.2(18), 69.70(5.9), 90.3(5.0)
905.75 7	$\dagger 76 8$	$^{164}\text{Tm}(2.0 \text{ m})$	91.40( $\dagger 1500$ ), 1154.66( $\dagger 366$ ), 768.91( $\dagger 279$ )
905.75 16	1.31 14	$^{190}\text{Re}(3.2 \text{ h})$	186.718(27.8), 605.24(14.9), 557.972(14.3)
905.78 5	11.4 10	$^{126}\text{In}(1.64 \text{ s})$	1141.11(100), 908.58(99), 111.79(88)
905.8 3	0.008 4	$^{101}\text{Pd}(8.47 \text{ h})$	296.29(19), 590.44(12.06), 269.67(6.43)
905.81 20	0.0018 5	$^{173}\text{Hf}(23.6 \text{ h})$	123.672(83), 296.974(33.9), 139.634(12.7)
905.81 14	$\dagger 42 6$	$^{181}\text{Pt}(51 \text{ s})$	289.29( $\dagger 100$ ), 111.97( $\dagger 100$ ), 230.15( $\dagger 92$ )
905.87 2	1.61 5	$^{135}\text{Ce}(17.7 \text{ h})$	265.56(41.8), 300.07(23.5), 606.76(18.8)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 905.89 9	0.45 3	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
905.9 3	12.5 13	<sup>70</sup> As(52.6 m)	1039.20(81), 1114.1(21.8), 668.3(21.8)
905.9 8	2.4 5	<sup>116</sup> Cs(3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
905.9 5	0.37 8	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
905.9 5	0.54 11	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
• 905.9		<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
• 905.99 6	0.0119 6	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
• 906.02 6	0.0150 13	<sup>152</sup> Eu(13.542 y)	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
906.1 4	0.18 6	<sup>159</sup> Tm(9.13 m)	38.35(5.8), 84.8(5.8), 271.30(5.1)
906.10 17	0.07 3	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
906.13 11	0.44 3	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
906.2	20	<sup>96</sup> Y(9.6 s)	1750.42(89), 915.0(60), 617.1(56)
906.2 6	6.0 8	<sup>166</sup> Ta(34.4 s)	158.5(53), 311.8(28.2), 810.1(9.8)
906.2 3	†2.1 4	<sup>183</sup> Hg(9.4 s)	60.5(†100), 159.91(†21), 172.70(†17)
906.26 8	0.287 19	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
906.36	0.054 7	<sup>37</sup> S(5.05 m)	3103.36(94), 3741.02(0.26), 3086.00(0.062)
906.4 9	0.13 6	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
906.4 7	0.19 5	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
906.4 4	0.151 25	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
906.4 3	0.50 12	<sup>142</sup> Eu(1.22 m)	768.1(100), 1023.3(92.0), 556.6(86.6)
• 906.425 6	0.2200 15	<sup>129</sup> Cs(32.06 h)	371.918(30.60), 411.490(22.31), 548.945(3.40)
906.46 5	1.52 10	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
906.49 17	0.88 11	<sup>157</sup> Pm(10.56 s)	160.61(35), 188.052(13.5), 571.27(5.39)
906.5 4	0.33 12	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
906.5 3	0.103 24	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
906.6 3	†0.31 10	<sup>194</sup> Bi(92 s)	965.4(†100.0), 575.1(†98.0), 280.1(†73.7)
• 906.696 11	0.0443 16	<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
906.7 3	0.009 3	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
906.7 3	†1.6 2	<sup>129</sup> In(1.23 s)	315.3(†28), 1222.0(†2.5), 1288.5(†1.00)
906.7 1	†2.0 2	<sup>171</sup> Ta(23.3 m)	49.6(†100), 506.4(†54), 501.8(†22.6)
906.7 2	0.20 3	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
906.70	0.25	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
906.8 2	>0.0012	<sup>136</sup> La(9.87 m)	818.514(2.3), 760.50(0.289), 1322.76(0.264)
906.8	†6 1	<sup>152</sup> Tm(8.0 s)	807.9(†100), 715.9(†13), 672.5(†9.5)
906.8	0.075 23	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
906.8 4	†48 13	<sup>234</sup> Ac(44 s)	1847(†100), 1912(†91), 688.5(†87)
• 906.84 16	0.0028 5	<sup>137</sup> Ce(34.4 h)	824.82(0.44), 169.26(0.44), 762.3(0.192)
906.86 10	0.560 19	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
• 906.87 3	0.208 5	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
906.9 1	0.39 6	<sup>94</sup> Sr(75.3 s)	1427.7(94), 723.8(2.40), 703.9(2.13)
906.9 3	0.61 6	<sup>95</sup> Rh(5.02 m)	941.6(72), 1352.0(20.8), 677.6(5.80)
906.96 6	2.11 25	<sup>143</sup> Gd(112 s)	271.94(84), 588.00(15.7), 798.89(10.7)
• 906.98 5	0.0613 16	<sup>57</sup> Ni(35.60 h)	1377.63(81.7), 127.164(16.7), 1919.52(12.26)
906.99 3	0.949 22	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
907.0 8	†8.3 2	<sup>114</sup> Te(15.2 m)	90.28(†100), 83.8(†67), 1417.6(†32)
907 10	5.0 7	<sup>168</sup> Ta(2.0 m)	124.0(35.6), 261.6(22.7), 751.4(7.3)
907.08 3	6.6 4	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
• 907.1 1	0.0013 4	<sup>143</sup> Ce(33.039 h)	293.266(42.80), 57.356(11.7), 664.571(5.69)
907.2 4	9.3 3	<sup>51</sup> Sc(12.4 s)	1437.3(52), 2144.1(31.8), 1567.5(14.9)
907.2 4	0.041 14	<sup>142</sup> Ba(10.6 m)	255.300(20.5), 1204.3(14.23), 895.2(13.9)
907.2 2	†57 6	<sup>171</sup> Ho(53 s)	903.3(†100), 198.6(†88), 279.2(†60)
907.3 2	0.083 9	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
907.3 5	0.59 9	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
907.3 3	8	<sup>149</sup> Tm(0.9 s)	796.2(18), 158.8(12.3), 416.7(11)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
907.3 4	$\dagger 0.18$ 5	$^{160}\text{Ho}$ (5.02 h)	728.18( $\dagger 100$ ), 879.383( $\dagger 65.9$ ), 962.317( $\dagger 59.1$ )
907.3 1	0.048 5	$^{176}\text{Ta}$ (8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
907.3 3	0.58 19	$^{186}\text{Ir}$ (16.64 h)	296.911(64.0), 137.155(42), 434.849(34.4)
907.30 9	1.46 4	$^{190}\text{Au}$ (42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
907.4 2		$^{66}\text{Ga}$ (9.49 h)	1039.30(37), 2752.01(23.38), 833.50(5.89)
• 907.5 4	0.0018 14	$^{76}\text{As}$ (26.32 h)	559.101(45), 657.041(6.2), 1216.104(3.42)
907.5	$\dagger 6$	$^{148}\text{Cs}$ (158 ms)	141.7( $\dagger 100$ ), 687.2( $\dagger 23$ ), 545.5( $\dagger 20$ )
907.56 11	5.7 3	$^{201}\text{Pb}$ (9.33 h)	331.19(79), 361.27(9.9), 945.96(7.4)
907.6 2	1.32 20	$^{95}\text{Rb}$ (377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
907.6 2	$\dagger 4.3$	$^{96}\text{Rb}$ (0.199 s)	352.02( $\dagger 700$ ), 204.02( $\dagger 200$ ), 680.7( $\dagger 121$ )
907.6 3	0.15 3	$^{156}\text{Ho}$ (56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
907.64 10	0.53 6	$^{105}\text{Ru}$ (4.44 h)	724.21(47), 469.37(17.5), 676.36(15.7)
• 907.67 10	0.303 12	$^{83}\text{Sr}$ (32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
907.69 7	0.0044 8	$^{149}\text{Nd}$ (1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
907.7 4	0.31 6	$^{186}\text{Au}$ (10.7 m)	191.56(62), 298.67(25.4), 764.89(10.5)
907.73 15	1.0 3	$^{181}\text{Re}$ (19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
907.84 5	0.00013 7	$^{128}\text{I}$ (24.99 m)	442.901(17), 526.557(1.58), 969.458(0.404)
907.86 20	0.066 10	$^{87}\text{Br}$ (55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
907.89 6	0.036 22	$^{66}\text{Ge}$ (2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
907.9	$\dagger 6.4$	$^{144}\text{Gd}$ (4.5 m)	333.3( $\dagger 100$ ), 2432.6( $\dagger 94.8$ ), 629.5( $\dagger 32.4$ )
907.9 3	0.635 13	$^{171}\text{Er}$ (7.516 h)	308.31(64.4), 295.901(28.9), 111.621(20.5)
908.0 3	4.4 6	$^{104}\text{Ag}$ (69.2 m)	555.796(92.6), 767.72(65.7), 941.7(25.0)
908.0 1	17.0 16	$^{130}\text{La}$ (8.7 m)	357.4(81.0), 550.7(25.9), 544.5(16.2)
908.09 12	0.45 5	$^{100}\text{Y}$ (735 ms)	212.531(73), 118.59(15.4), 665.98(7.7)
908.10 10	0.261 21	$^{224}\text{Fr}$ (3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
• 908.10 10	$1.8 \times 10^{-6}$	$^{228}\text{Th}$ (1.9131 y)	84.373(1.266), 215.985(0.263), 131.613(0.1355)
908.12 20	0.50	$^{186}\text{Ta}$ (10.5 m)	197.93(50), 214.87(42.3), 510.82(37.5)
908.18 18	0.20 4	$^{163}\text{Tm}$ (1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
908.2 2	0.0147 9	$^{223}\text{Fr}$ (21.8 m)	50.13(36.0), 79.72(9.1), 234.81(3.0)
• 908.2 2	$\dagger 0.131$ 19	$^{227}\text{Th}$ (18.72 d)	235.971( $\dagger 813$ ), 50.13( $\dagger 528$ ), 256.25( $\dagger 463$ )
908.25 5	11.6 3	$^{140}\text{Cs}$ (63.7 s)	602.345(71.1), 1200.25(6.39), 2330.50(4.99)
• 908.26 11	0.021 5	$^{165}\text{Tm}$ (30.06 h)	242.917(35.5), 47.155(16.9), 297.369(12.71)
908.3 10	0.74 23	$^{191}\text{Hg}$ (50.8 m)	252.5(57), 420.1(18.6), 578.6(17.6)
908.32 8	1 1	$^{128}\text{Sb}$ (9.01 h)	753.82(100), 743.22(100), 314.12(61)
908.32 8	2.3 3	$^{128}\text{Sb}$ (10.4 m)	753.82(96.4), 743.22(96), 314.12(89)
908.35 8	2.32 17	$^{97}\text{Rh}$ (46.2 m)	189.21(49), 2245.6(14), 421.55(12.7)
908.39 8	1.85 9	$^{202}\text{Au}$ (28.8 s)	439.59(10.0), 1125.20(2.30), 1306.38(2.25)
908.4 4	0.32 7	$^{99}\text{Ag}$ (124 s)	264.41(65), 832.29(13.5), 805.07(12.5)
908.46 19	0.0207 7	$^{73}\text{Se}$ (39.8 m)	67.03(2.59), 253.70(2.356), 84.0(2.03)
908.5 5	$\dagger 0.52$ 11	$^{120}\text{I}$ (81.0 m)	560.44( $\dagger 137$ ), 1523.0( $\dagger 21.1$ ), 640.85( $\dagger 17.1$ )
908.5 10	0.40 24	$^{181}\text{Os}$ (105 m)	238.75(44), 826.77(20), 118.03(12.9)
908.5 5	0.055 16	$^{227}\text{Fr}$ (2.47 m)	90.035(39), 585.804(29.5), 64.267(14.5)
908.51 7	0.93 10	$^{204}\text{At}$ (9.2 m)	684.341(95), 516.318(90), 426.253(67.5)
908.58 5	4.3 5	$^{126}\text{In}$ (1.60 s)	1141.11(55.9), 3344.61(21.6), 969.61(14.9)
908.58 5	99 7	$^{126}\text{In}$ (1.64 s)	1141.11(100), 111.79(88), 1636.50(29.6)
908.6 10	0.148 11	$^{167}\text{Lu}$ (51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
908.6 1	1.4 7	$^{207}\text{Rn}$ (9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
908.631 17	3.6 3	$^{61}\text{Co}$ (1.650 h)	67.412(85), 841.211(0.79)
908.631 17	1.102 21	$^{61}\text{Cu}$ (3.333 h)	282.956(12.2), 656.008(10.77), 67.412(4.23)
• 908.64 7	0.122 16	$^{169}\text{Lu}$ (34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
908.64 7	55	$^{203}\text{Po}$ (36.7 m)	1090.95(19.2), 893.49(18.7), 214.78(14.3)
908.65 18	0.084 13	$^{118}\text{In}$ (4.45 m)	1229.68(96), 1050.69(81.0), 683.08(54.3)
908.7 4	0.161 21	$^{187}\text{Au}$ (8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
908.78 12	$\dagger 108$	$^{154}\text{Nd}$ (25.9 s)	151.703( $\dagger 800$ ), 799.55( $\dagger 600$ ), 180.693( $\dagger 510$ )

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
908.8 2	$\dagger 25 2$	$^{153}\text{Yb}(4.2 \text{ s})$	547.4( $\dagger 100$ ), 674.1( $\dagger 61$ ), 369.6( $\dagger 32$ )
908.8 3	$\dagger 4.0 20$	$^{155}\text{Nd}(8.9 \text{ s})$	180.574( $\dagger 100$ ), 418.99( $\dagger 75$ ), 955.08( $\dagger 50$ )
908.8 2	$\dagger 0.44 10$	$^{158}\text{Ho}(11.3 \text{ m})$	218.21( $\dagger 100.0$ ), 98.91( $\dagger 70$ ), 945.7( $\dagger 37$ )
908.8 4	0.05 3	$^{185}\text{Au}(4.25 \text{ m})$	310.6(13), 243.1(6.6), 77.7(6)
908.8 2	2.60 15	$^{237}\text{Am}(73.0 \text{ m})$	280.23(47.3), 438.4(8.3), 473.5(4.3)
908.8 2	0.218 20	$^{238}\text{Am}(98 \text{ m})$	962.77(28), 918.69(23.0), 561.11(10.9)
908.9 3	7.8 6	$^{110}\text{Sb}(23.0 \text{ s})$	1211.87(92), 985.03(31.2), 1243.6(13.4)
908.9 5	0.33 15	$^{121}\text{In}(3.88 \text{ m})$	60.34(20), 1041.1(1.12), 1100.7(0.92)
908.9 1	0.218 11	$^{139}\text{Xe}(39.68 \text{ s})$	218.59(56), 296.53(21.7), 174.97(11.3)
908.9	7.3 8	$^{145}\text{Tb}(29.5 \text{ s})$	257.8(39), 987.8(37), 537.0(23)
• 908.96 4	$\dagger 1.0 \times 10^6$	$^{89}\text{Sr}(50.53 \text{ d})$	
• 908.96 4	100	$^{89}\text{Zr}(78.41 \text{ h})$	1713.06(0.763), 1744.52(0.129), 1657.28(0.107)
909.0 4	0.040 7	$^{97}\text{Nb}(72.1 \text{ m})$	658.08(98), 1024.49(1.09), 1268.68(0.148)
909.0 4	0.088 10	$^{123}\text{Xe}(2.08 \text{ h})$	148.9(49), 178.1(14.9), 330.2(8.6)
909.00 8	0.09 3	$^{210}\text{At}(8.1 \text{ h})$	1181.39(99.3), 245.31(79), 1483.39(46.5)
909.03 3	2.71 9	$^{81}\text{Sr}(22.3 \text{ m})$	153.54(33.8), 147.76(30.1), 443.34(17.5)
909.05 24	2.2 4	$^{78}\text{Zn}(1.47 \text{ s})$	224.75(43.9), 181.68(28.1), 860.30(24.5)
909.09 6	0.122 6	$^{24}\text{Al}(2.053 \text{ s})$	1368.633(96.0), 7069.50(43.0), 2754.028(41.2)
909.10 8	1.36 15	$^{125}\text{Cd}(0.57 \text{ s})$	1027.53(25.8), 1173.16(25.1), 736.65(12.6)
909.1 2	$\dagger 2.9 3$	$^{152}\text{Tb}(17.5 \text{ h})$	344.281( $\dagger 1500$ ), 586.294( $\dagger 223$ ), 271.135( $\dagger 203$ )
909.1 5	0.38	$^{167}\text{Dy}(6.20 \text{ m})$	569.7(48), 259.33(27.9), 310.26(25.0)
909.12 12	0.00133 25	$^{123}\text{I}(13.27 \text{ h})$	158.97(83), 528.96(1.39), 440.02(0.428)
909.2 2	2.02 9	$^{60}\text{Cu}(23.7 \text{ m})$	1332.501(88), 1791.6(45.4), 826.06(21.7)
909.2 4	0.22 4	$^{100}\text{Cd}(49.1 \text{ s})$	936.55(66), 139.71(6.7), 582.5(6.3)
909.23 5	24.0 17	$^{141}\text{Xe}(1.73 \text{ s})$	118.705(16.1), 105.937(9.8), 459.30(5.5)
909.27 8	0.0095 5	$^{133}\text{La}(3.912 \text{ h})$	278.835(2.50), 302.353(1.648), 290.06(1.413)
909.3	$\dagger 3.8$	$^{107}\text{Mo}(3.5 \text{ s})$	400.3( $\dagger 100$ ), 65.7( $\dagger > 92$ ), 384.4( $\dagger 57.6$ )
909.3	0.115 18	$^{141}\text{Ba}(18.27 \text{ m})$	190.328(46.0), 304.194(25.4), 276.948(23.4)
909.3 3	0.29 7	$^{157}\text{Sm}(482 \text{ s})$	197.870(56.00), 196.461(16.8), 394.351(11.93)
909.3 4	$\dagger 1.7 4$	$^{185}\text{Pt}(33.0 \text{ m})$	229.60( $\dagger 100$ ), 135.3( $\dagger 80$ ), 197.4( $\dagger 74$ )
909.33 15	0.11	$^{137}\text{I}(24.5 \text{ s})$	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
909.40 20	0.35 4	$^{162}\text{Tm}(21.70 \text{ m})$	102.00(17.5), 798.68(8.4), 227.52(7)
909.6 2	0.29 5	$^{183}\text{Au}(42.0 \text{ s})$	161.18(9.4), 214.13(5.9), 313.08(5.0)
909.63 4	1.28 3	$^{98}\text{Nb}(51.3 \text{ m})$	787.374(93), 722.645(73.8), 1168.830(17.8)
909.67 3	0.214 8	$^{133}\text{I}(20.8 \text{ h})$	529.872(87.0), 875.329(4.51), 1298.223(2.35)
• 909.68 15	0.034 9	$^{188}\text{Ir}(41.5 \text{ h})$	155.032(29.7), 2214.62(18.7), 632.99(18)
909.7 2	0.51 5	$^{65}\text{Ga}(15.2 \text{ m})$	115.09(54), 61.20(11.4), 153.0(8.9)
909.7 3	0.39 5	$^{127}\text{In}(1.09 \text{ s})$	1597.7(49), 646.1(6.2), 805.1(5.6)
909.7 3	0.93	$^{154}\text{Pm}(2.68 \text{ m})$	184.810(32), 81.99(15.4), 546.66(14.5)
• 909.70 6	0.65 5	$^{172}\text{Lu}(6.70 \text{ d})$	1093.657(62.5), 900.724(29.8), 181.528(20.6)
909.8 3	$\dagger 6.6 16$	$^{105}\text{Nb}(2.95 \text{ s})$	94.8( $\dagger 100$ ), 246.9( $\dagger 79$ ), 309.9( $\dagger 41.9$ )
909.82 15	2.03 20	$^{121}\text{Cd}(13.5 \text{ s})$	324.976(49.5), 1040.26(16.8), 349.937(12.9)
• 909.847 18	0.0703 15	$^{121}\text{Te}(154 \text{ d})$	1102.149(2.54), 37.138(0.94), 998.291(0.0796)
910.0 3	0.200 16	$^{85}\text{Y}(4.86 \text{ h})$	231.67(22.8), 2123.8(5.0), 767.40(3.6)
910.0 5	0.12 4	$^{126}\text{Ba}(100 \text{ m})$	233.6(19.6), 257.6(7.6), 241.0(6.0)
• 910.00 3	4.30 10	$^{131}\text{Te}(30 \text{ h})$	773.67(49.9), 852.21(27.0), 793.75(18.10)
910.0 7	0.12 6	$^{133}\text{Te}(12.5 \text{ m})$	312.072(62), 407.63(27.1), 1333.21(10.67)
910.0 1	0.27 6	$^{142}\text{Gd}(70.2 \text{ s})$	750.2(11.2), 178.90(11.20), 284.4(6.16)
910 1	0.32 11	$^{164}\text{Tb}(3.0 \text{ m})$	168.838(25.4), 754.80(23.3), 215.07(21)
910	0.029 17	$^{192}\text{Au}(4.94 \text{ h})$	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
910 30	3.0 20	$^{210}\text{Tl}(1.30 \text{ m})$	799.7(99), 298(79), 1316(21)
910 1	0.00081 18	$^{223}\text{Fr}(21.8 \text{ m})$	50.13(36.0), 79.72(9.1), 234.81(3.0)
• 910 1	$\dagger 0.0010 4$	$^{227}\text{Th}(18.72 \text{ d})$	235.971( $\dagger 813$ ), 50.13( $\dagger 528$ ), 256.25( $\dagger 463$ )
910 1	$\dagger 2.6 4$	$^{244}\text{Bk}(4.35 \text{ h})$	891.5( $\dagger 100$ ), 217.6( $\dagger 88$ ), 921.5( $\dagger 19$ )

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
910.1 4	0.081 9	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
910.1 3	0.44 8	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
910.1 2	0.93 3	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
910.1 3	7.6 4	<sup>139</sup> Nd(5.50 h)	113.94(40), 737.96(35), 982.2(26.4)
910.1 2	1.8 3	<sup>139</sup> Sm(2.57 m)	273.7(37), 306.7(28.5), 596.3(8.0)
910.1 3	0.164 5	<sup>235</sup> Pu(25.3 m)	49.10(2.36), 756.4(0.479), 34.23(0.23)
910.1 1	0.140 20	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
910.12 10	0.184 15	<sup>79</sup> Ga(2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
910.18 8	0.81 5	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
910.2 1	0.581 23	<sup>77</sup> Rb(3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
910.2 1	3.24 12	<sup>92</sup> Ru(3.65 m)	213.81(96), 259.32(92), 134.57(65.5)
910.27 8	7.8 6	<sup>71</sup> Zn(2.45 m)	511.56(32), 389.88(3.8), 121.51(3.0)
910.27 8	0.31 3	<sup>71</sup> Zn(3.96 h)	386.28(93), 487.38(62), 620.18(57)
910.3 5	0.42 4	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
910.3 5	0.23 7	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
910.35 5	0.00023 6	<sup>135</sup> La(19.5 h)	480.51(1.5), 874.51(0.164), 587.83(0.1108)
• 910.4 2	0.56 3	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
910.4 4	0.94 13	<sup>153</sup> Ho(2.0 m)	295.8(67), 637.0(5.36), 688.5(3.7)
910.4 10	0.0028	<sup>157</sup> Dy(8.14 h)	326.16(92), 182.20(1.84), 83.01(0.62)
910.46 20	1.39 14	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
• 910.47 11	0.068 4	<sup>145</sup> Eu(5.93 d)	893.73(66), 653.512(15.0), 1658.53(14.9)
910.5 9	0.034	<sup>43</sup> Ar(5.37 m)	975.0(34), 738.1(15), 1439.5(13)
910.5 4	1.91 8	<sup>73</sup> Zn(23.5 s)	218.1(6.00), 495.6(1.48), 1612.9(0.92)
910.6 3	0.26 7	<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
910.63 15	0.063 12	<sup>195</sup> Hg(9.9 h)	779.80(7), 61.46(6.2), 585.13(1.99)
910.7 8	0.05 3	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
910.7 4	†1.7 3	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
910.7 5	0.07 1	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
• 910.8 10	0.043	<sup>99</sup> Rh(16.1 d)	528.24(33), 353.05(30.0), 89.65(29.0)
910.8 5	0.06 3	<sup>101</sup> Ag(11.1 m)	261.0(53), 588.0(10.0), 667.3(9.8)
• 910.8 3	0.0412 22	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
910.87 10	0.40 4	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
• 910.87 3	0.087 3	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
910.88 4	0.068 14	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
• 910.88 4	0.086 10	<sup>150</sup> Eu(35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
910.9 3	0.28 7	<sup>99</sup> Pd(21.4 m)	136.00(73), 263.60(15.2), 673.38(6.9)
910.9 2	0.16 3	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
910.91 14	0.143 16	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
910.92 2	3.1 3	<sup>67</sup> Ge(18.9 m)	167.01(84), 1472.48(4.9), 914.68(3.0)
910.93 6	3.1	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
910.93 6	0.31	<sup>154</sup> Pm(2.68 m)	184.810(32), 81.99(15.4), 546.66(14.5)
911.0 10	0.12 3	<sup>76</sup> Kr(14.8 h)	315.7(39), 270.2(21.1), 45.48(19.5)
911.0 5	0.70 8	<sup>131</sup> Sb(23.03 m)	943.4(47), 933.1(26.1), 642.30(23)
911.0	†3.0	<sup>139</sup> Eu(12.1 s)	346.6(†100), 544.2(†55), 685.4(†41)
911	0.00093 19	<sup>155</sup> Sm(22.3 m)	104.3346(74.6), 245.771(3.7), 141.4428(1.98)
911.0 1	0.215 11	<sup>194</sup> Pb(12.0 m)	581.82(18.8), 1519.45(16.4), 203.82(16.2)
911.0 7	1.90 17	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
911.1 2	0.15	<sup>44</sup> Ar(11.87 m)	182.6(66), 1703.4(57), 1886.0(31)
911.1 5	0.19 4	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
911.1 5	†0.30 8	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
911.1	†19	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
911.2 4	1.7 3	<sup>69</sup> Se(27.4 s)	97.98(66), 66.4(24.8), 691.8(16.6)
911.2 2	0.18 6	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
911.2 4	3.6 5	<sup>116</sup> Cs(3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
911.205 4	26.6 7	<sup>228</sup> Ac(6.15 h)	968.971(16.2), 338.322(11.3), 964.770(5.11)
911.205 4	4.19 7	<sup>228</sup> Pa(22 h)	463.005(1.250), 964.770(4.25), 968.971(3.88)
• 911.25 15	0.0257 25	<sup>151</sup> Pm(28.40 h)	340.08(23), 167.75(8.3), 275.21(6.8)
911.3 5	†4.9 12	<sup>131</sup> Ce(10.3 m)	169.42(†100), 414.25(†68), 119.18(†44)
911.3 3	9.21 24	<sup>141</sup> Sm(22.6 m)	196.88(74), 431.6(40.4), 777.6(20.3)
911.3	0.016	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
911.40 10	1.00 7	<sup>76</sup> Ga(32.6 s)	562.93(66), 545.51(26.0), 1108.41(15.8)
911.4 1	0.20 7	<sup>99</sup> Ag(124 s)	264.41(65), 832.29(13.5), 805.07(12.5)
911.4 4	0.58 12	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
• 911.4 1	0.0116 10	<sup>232</sup> Pa(1.31 d)	969.315(41.6), 894.351(19.8), 150.059(10.8)
911.49 6	0.046 6	<sup>133</sup> I(20.8 h)	529.872(87.0), 875.329(4.51), 1298.223(2.35)
911.53 12	0.00188 20	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
911.57 12	0.09 3	<sup>101</sup> Tc(14.22 m)	306.85(88), 545.06(6.0), 127.23(2.86)
• 911.58 3	0.0025 5	<sup>77</sup> Br(57.036 h)	238.996(23), 520.639(22.4), 297.215(4.16)
911.6 3	0.33 3	<sup>118</sup> I(13.7 m)	605.71(86.0), 545.12(10.9), 600.71(10.2)
911.647 13	0.0970 12	<sup>133</sup> La(3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
911.7 4	0.028 5	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
911.70 21	0.068 17	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
911.7 5	0.09 3	<sup>198</sup> Tl(5.3 h)	411.8044(82), 675.8874(11), 636.4(10.1)
911.70	0.22	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
• 911.7 3	$1.4 \times 10^{-8}$ 4	<sup>239</sup> Pu(24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
911.78 7	13.5 16	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
911.79 9	16.95 24	<sup>207</sup> Po(5.80 h)	992.33(59.3), 742.64(28.2), 405.75(9.7)
911.8 4	0.021 6	<sup>101</sup> Pd(8.47 h)	296.29(19), 590.44(12.06), 269.67(6.43)
911.80 15	0.37 6	<sup>199</sup> Pb(90 m)	366.90(44.2), 353.39(9.5), 1135.04(7.8)
• 911.89 17	0.060 5	<sup>72</sup> As(26.0 h)	834.01(80), 629.95(7.92), 1463.95(1.107)
911.9 2	0.114 21	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
911.9 1	0.059 7	<sup>210</sup> Rn(2.4 h)	458.25(1.7), 648.70(0.843), 570.95(0.840)
911.9 4		<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
911.91 8	0.153 6	<sup>145</sup> Ce(3.01 m)	724.33(59), 62.54(13.33), 1148.03(9.15)
911.953 14	1.01 11	<sup>75</sup> Br(96.7 m)	286.572(88), 141.3147(6.6), 427.883(4.4)
912.0 10	0.93 20	<sup>77</sup> Zn(2.08 s)	189.49(28.1), 473.94(19.7), 1832.0(12.4)
912.0 3	0.08 3	<sup>88</sup> Br(16.5 s)	775.28(63), 802.14(13.13), 1440.69(4.72)
912.0 1	1.55 5	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
912.0 4	0.083 10	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
• 912.0 5	0.0068 19	<sup>125</sup> Sn(9.64 d)	1067.10(10), 1089.15(4.59), 822.48(4.28)
912.02 20	†20.3 10	<sup>182</sup> Ir(15 m)	273.23(†100), 126.79(†77), 236.3(†21.0)
• 912.125 25	1.42 4	<sup>172</sup> Tm(63.6 h)	78.7435(6.5), 1093.657(6.0), 1387.093(5.6)
• 912.125 25	15.25 25	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
912.2 5	0.25 2	<sup>96</sup> Rh(9.90 m)	832.57(100), 685.49(95.7), 631.71(74.5)
912.2 2	3.48 24	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 2009.5(3.4)
912.2 2	†3.4 10	<sup>132</sup> Pr(1.6 m)	325.5(†100), 496.9(†25), 822.4(†17.3)
912.2 5	0.16 4	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
912.2 3	0.092 14	<sup>190</sup> Au(42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
912.22 5	11.1 16	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
912.25 6	0.041 8	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
912.3 6	0.062 19	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
912.3 4	†0.18 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
912.4 4	0.12 4	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
912.4 4	0.104 7	<sup>135</sup> Te(19.0 s)	603.5(37.0), 266.8(10.36), 870.3(7.73)
• 912.4 3	0.021 6	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
• 912.4	$\dagger 2.5 \times 10^3$ 5	<sup>241</sup> Am(432.2 y)	59.537(†60), 26.345(†1000 $\times 10^9$ ), 33.195(†6000 $\times 10^8$ )
912.47 6	0.219 21	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
912.5 6	0.0046 23	<sup>81</sup> Rb(4.576 h)	190.38(64.0), 446.15(23.2), 510.31(5.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
912.50 14	0.055 11	<sup>132</sup> La(4.8 h)	464.55(76), 567.14(15.7), 1909.91(9.0)
912.5 2	0.12 3	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
912.5 4	0.102 20	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
912.51 7	0.328 19	<sup>138</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
912.6 4	42 5	<sup>104</sup> Sn(20.8 s)	132.7(56), 401.2(16.2), 1407.3(15.1)
• 912.60 5	6.25 8	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
912.6 5	†8 2	<sup>130</sup> Sn(1.7 m)	144.9(†100), 899.2(†49), 84.7(†42)
912.6 5	0.077 5	<sup>171</sup> Er(7.516 h)	308.31(64.4), 295.901(28.9), 111.621(20.5)
912.6 3	†0.95 24	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
912.671 4	0.06 4	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
912.671 4	55.28 17	<sup>133</sup> Te(55.4 m)	647.51(19.4), 863.955(15.6), 914.774(10.94)
912.7 7	0.07 5	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
912.7 3	1.8 3	<sup>187</sup> Pt(2.35 h)	106.46(9), 201.52(6.4), 110.04(5.7)
912.73 9	0.63 6	<sup>92</sup> Y(3.54 h)	934.46(13.9), 1405.28(4.8), 561.03(2.40)
• 912.73 9	1.78 10	<sup>92</sup> Nb(10.15 d)	934.46(99), 1847.27(0.85), 1132.24(0.005)
912.74 17	1.55 11	<sup>195</sup> Pb(15.0 m)	383.64(106.9), 394.21(44), 878.40(24.2)
912.8 4	0.071 24	<sup>91</sup> Rb(58.4 s)	93.628(33.7), 2564.19(12.5), 3599.67(10.4)
912.8 4	0.037 19	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
912.8 2	0.88 8	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
912.8 3	0.86 13	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
912.9 2	0.58 5	<sup>101</sup> Ag(11.1 m)	261.0(53), 588.0(10.0), 667.3(9.8)
912.9 5	†4.0 12	<sup>131</sup> Ce(10.3 m)	169.42(†100), 414.25(†68), 119.18(†44)
912.95 4	4.79 18	<sup>187</sup> Ir(10.5 h)	427.12(4.12), 400.89(3.94), 610.68(3.93)
913.0 7	0.034 11	<sup>177</sup> Yb(1.911 h)	150.392(20.3), 1080.21(5.6), 1241.2(3.47)
913 3	0.12 4	<sup>185</sup> Ta(49.4 m)	177.59(25.7), 173.68(22.6), 65.86(3.9)
913.06 15	1.08 23	<sup>193</sup> Hg(11.8 h)	257.97(61), 407.63(25), 573.25(14.2)
913.1 5	0.023 6	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
913.119 20	0.268 5	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
913.2 1	†13.6 4	<sup>95</sup> Pd(13.3 s)	1350.9(†105), 716.6(†70.63), 381.8(†50.8)
913.2 2	5.0 10	<sup>129</sup> Sn(2.23 m)	645.13(100), 80.5(6.6), 66.4(5.0)
913.2 3	0.53 8	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
913.2 10	†2.5	<sup>177</sup> Os(2.8 m)	84.7(†100), 125.4(†63), 195.8(†61)
913.2 1	0.26 9	<sup>188</sup> Tl(71 s)	412.7(88), 592.0(61), 504.2(23.3)
913.3 2	0.73 6	<sup>143</sup> Gd(39 s)	258.81(75), 204.77(19.4), 463.7(9.9)
913.3 9	0.022 22	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
913.31 9	0.134 8	<sup>85</sup> Br(2.90 m)	802.41(2.56), 924.63(1.63), 919.06(0.65)
913.38 20	0.26 3	<sup>90</sup> Br(1.92 s)	707.05(38.0), 1362.32(11.2), 655.17(7.7)
913.4 3	0.48	<sup>117</sup> Ag(5.34 s)	135.4(48), 386.8(39.9), 298.1(21.1)
913.4 3	0.51 11	<sup>117</sup> Ag(72.8 s)	135.4(23), 337.7(10.3), 157.1(7.9)
913.4 5	0.101 25	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
913.4 5	0.58 22	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
913.41 15	2.0 4	<sup>123</sup> Cd(2.10 s)	371.32(51), 1052.28(24.8), 1438.13(8.3)
913.45 14	2.2 3	<sup>197</sup> Pb(8 m)	385.85(50), 761.14(13.3), 375.48(12.8)
913.5 5	0.45 8	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
913.5	0.135 18	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
913.6 5	0.53 6	<sup>63</sup> Co(27.4 s)	87.13(48.7), 981.7(2.11), 155.6(1.60)
913.6 5	0.14 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
913.6 3	0.00045 6	<sup>223</sup> Fr(21.8 m)	50.13(36.0), 79.72(9.1), 234.81(3.0)
913.65 25	0.105 21	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
913.7 6	0.101 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
913.7 2	0.088 12	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
913.7 2	0.098 25	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
913.72 9	0.19 9	<sup>100</sup> Nb(1.5 s)	535.60(45.7), 528.24(9.1), 159.547(8.8)
• 913.79 9	0.061 14	<sup>69</sup> Ge(39.05 h)	1107.01(36), 574.17(13.3), 872.14(11.9)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
913.8 5	0.0028 14	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
913.81 3	0.365 8	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
913.85 9	1.1 2	<sup>59</sup> Zn(182.0 ms)	491.13(4.8), 422.6(<0.2)
913.9 4		<sup>66</sup> Ga(9.49 h)	1039.30(37), 2752.01(23.38), 833.50(5.89)
913.9	0.7	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
913.91 10	0.014 5	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
913.93 11	9.0 5	<sup>85</sup> Y(2.68 h)	231.67(84), 504.45(60), 409.5(0.84)
914.0 5	0.011 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
914.0 2	0.28 7	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
914.0 4	0.11 6	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
• 914.07 2	0.0463 9	<sup>131</sup> Ba(11.50 d)	496.326(47), 123.805(28.97), 216.078(19.66)
914.1 2	0.36 6	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
914.1 2	3.5 2	<sup>136</sup> I(46.9 s)	1313.02(100), 381.359(100), 197.316(78)
914.1 5	1.51 8	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
914.15 7	0.296 10	<sup>210</sup> Rn(2.4 h)	458.25(1.7), 648.70(0.843), 570.95(0.840)
914.2 3	†0.23 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
914.28 4	1.02 9	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
914.3 1	5.14 19	<sup>73</sup> Br(3.4 m)	64.9(37.0), 336.0(10.4), 699.8(9.1)
914.3 3	0.33 7	<sup>121</sup> Cs(155 s)	153.9(15.2), 239.6(7.7), 427.1(3.63)
914.3 3	0.26 5	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
• 914.4 2	0.583 21	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
914.47 5	4.13 16	<sup>80</sup> Ga(1.697 s)	659.14(78.0), 1083.47(48.4), 1109.36(18.6)
914.47 5	>0.15	<sup>81</sup> Ga(1.222 s)	659.14(5), 1573.57(>0.15)
914.5 10	0.13 4	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
914.5 4	3.8 16	<sup>105</sup> Tc(7.6 m)	143.26(16), 107.945(14.1), 321.50(11.1)
914.5 2	†7.0 21	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 955.08(†50)
914.6 5	20.0 11	<sup>129</sup> Sb(4.40 h)	812.8(43), 544.7(17.9), 1030.1(12.6)
914.6 3	†0.31 5	<sup>196</sup> Ir(1.40 h)	393.346(†105.2), 521.175(†104), 447.1(†102.1)
914.68 4	3.0 3	<sup>67</sup> Ge(18.9 m)	167.01(84), 1472.48(4.9), 910.92(3.1)
914.7 5	†0.8 3	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
• 914.7 6	0.015 6	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
914.7 1	1.16 7	<sup>200</sup> Po(11.5 m)	671.0(34.0), 617.7(19.7), 434.4(9.3)
914.73 13	3.02 12	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 1266.50(2.41)
914.774 12	0.69 6	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
914.774 12	10.94 22	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
• 914.8 5	0.007 3	<sup>79</sup> Kr(35.04 h)	261.29(13), 397.54(9.3), 606.09(8.12)
914.8 5	0.075 8	<sup>101</sup> Pd(8.47 h)	296.29(19), 590.44(12.06), 269.67(6.43)
914.8 2	4.0 4	<sup>124</sup> Cs(30.8 s)	353.9(40), 492.6(3.6), 846.9(1.19)
914.8 3	0.13 3	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
914.81 5	78.1 17	<sup>86</sup> Nb(88 s)	751.74(97.8), 1003.24(37.4), 670.01(14.9)
• 914.85 3	11.46 9	<sup>148</sup> Pm(5.370 d)	1465.12(22), 550.284(22.00), 611.293(1.021)
914.9 3	0.42 6	<sup>118</sup> Cs(14 s)	337.4(100), 472.8(37.4), 586.6(15.4)
914.9 4	1.8 4	<sup>130</sup> Sb(39.5 m)	793.53(100), 839.49(100), 331.05(78)
914.9 7	†5.0 9	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
914.944 6	0.91 4	<sup>168</sup> Ho(2.99 m)	741.356(36.6), 821.164(34.5), 815.990(18.6)
• 914.944 6	2.997 16	<sup>168</sup> Tm(93.1 d)	198.241(52.39), 815.990(48.99), 447.515(23.05)
914.97 19	†5.8 13	<sup>183</sup> Hg(9.4 s)	60.5(†100), 159.91(†21), 172.70(†17)
915.0	60	<sup>96</sup> Y(9.6 s)	1750.42(89), 617.1(56), 1106.88(49)
915.0 3	†2.8 4	<sup>104</sup> Nb(0.92 s)	192.2(†100), 368.4(†20), 620.2(†19.2)
915.0 4	1.4 4	<sup>113</sup> Te(1.7 m)	814.4(22), 1018.1(13.0), 1181.0(12.3)
915.0 3	3.5 3	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
• 915.0 1	0.031 3	<sup>206</sup> Bi(6.243 d)	803.10(99), 881.01(66.2), 516.18(40.7)
915.04 19	0.102 20	<sup>81</sup> As(33.3 s)	467.72(20), 491.20(8.5), 521.10(1.40)
915.10 12	1.12 6	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
915.1 2	0.083 19	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
915.2 2	1.03 6	<sup>96</sup> Rh(9.90 m)	832.57(100), 685.49(95.7), 631.71(74.5)
915.2 3	0.149 20	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
• 915.28 12	0.016 7	<sup>150</sup> Eu(35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
915.30 12	†0.43 5	<sup>148</sup> Tb(60 m)	784.430(†119.0), 489.049(†28.0), 1079.025(†16.2)
915.3	7.8 11	<sup>179</sup> Pt(21.2 s)	171.7(16), 193.1(14.2), 99.8(13.2)
• 915.331 8	17.10 18	<sup>148</sup> Pm(41.29 d)	550.284(94.5), 629.987(89), 725.673(32.7)
• 915.331 8	2.60 6	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
915.35 20	2.7 3	<sup>124</sup> In(2.4 s)	1131.64(100), 969.94(52), 1072.85(47)
915.35 9	0.0021 10	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
915.44 16	0.0153 10	<sup>62</sup> Zn(9.186 h)	596.56(26), 40.84(25.5), 548.35(15.3)
915.5 2	0.23 3	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
• 915.5 3	9.0×10 <sup>-6</sup> 3	<sup>149</sup> Pm(53.08 h)	285.95(3.1), 859.46(0.109), 590.88(0.069)
915.5 3	0.057 13	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
• 915.55 5	4.13 16	<sup>125</sup> Sn(9.64 d)	1067.10(10), 1089.15(4.59), 822.48(4.28)
915.6 5	0.05 5	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
915.6 2	0.25 4	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
• 915.7 5	0.17 5	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
915.7 4	0.0102 15	<sup>152</sup> Eu(9.274 h)	841.586(14.6), 963.37(12.01), 121.7824(7.21)
915.7 6	0.16 3	<sup>159</sup> Eu(18.1 m)	67.8(19), 78.6(9.1), 95.7(7.0)
915.8 1	0.601 12	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
915.80 13	0.0514 18	<sup>137</sup> Ce(9.0 h)	447.15(1.8), 10.6(0.8), 436.59(0.265)
915.8 7	0.07 4	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
915.8 4	0.022 6	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
915.93	0.005 4	<sup>39</sup> Cl(55.6 m)	1267.185(54), 250.332(46.3), 1517.508(39.2)
915.98 9	1.22 10	<sup>240</sup> Np(61.9 m)	566.34(25.3), 973.9(23.8), 600.57(18.4)
915.98 9	1.02 3	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
• 915.98 9	0.087 6	<sup>240</sup> Am(50.8 h)	987.76(73.2), 888.80(25.1), 98.860(1.5)
916.0 2	6.5 25	<sup>103</sup> Zr(1.3 s)	248(100), 164.05(94), 126.30(84)
916.10 15	7.6 4	<sup>94</sup> Tc(293 m)	871.082(100), 702.626(99.6), 849.74(95.7)
916.2 7	0.10 6	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
916.3 3	0.28 3	<sup>75</sup> Kr(4.3 m)	132.43(67), 154.66(20.8), 153.15(8.0)
916.3 4	0.11 5	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
• 916.4	0.032 6	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
916.5 5	0.082 19	<sup>83</sup> Y(7.08 m)	35.50(0.44), 882.1(6.30), 489.90(5.53)
916.5 4	1.20 12	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
• 916.5 5	0.022 12	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
916.5 5	0.18 4	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
916.5 2	0.024 6	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
916.53 5	4.3 3	<sup>143</sup> Gd(112 s)	271.94(84), 588.00(15.7), 798.89(10.7)
• 916.65	0.099 9	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
916.69 22	7.3 11	<sup>103</sup> In(65 s)	187.97(55), 720.32(13.9), 739.95(10.1)
• 916.710 29	0.87 3	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
• 916.75 25	0.125 14	<sup>190</sup> Ir(11.78 d)	186.718(52.4), 605.24(39.9), 518.55(34.0)
916.8 3	0.6 5	<sup>196</sup> Bi(308 s)	1049.21(87), 689.00(35.5), 776.6(9.1)
916.81 9	0.205 20	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
916.9 3	1.52 15	<sup>139</sup> Nd(29.7 m)	405.12(7), 1074.2(2.5), 669.0(1.52)
916.9 3	0.055 15	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
• 916.90	0.067 7	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
916.9 3		<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
916.9 10	0.23 5	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
• 916.91 10	0.132 4	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
917.0 4	0.16 5	<sup>97</sup> Rb(169.9 ms)	167.1(26), 585.2(21.0), 600.5(10.6)
917 2	†2.7	<sup>107</sup> Sn(2.90 m)	1129.2(†100), 678.5(†100), 1540.6(†30)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 917.0 5	0.052 21	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
917.00 10	0.87 10	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
917.0 5	0.14	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
917.0 3	1.37 8	<sup>236</sup> Pa(9.1 m)	642.35(37.0), 687.59(9.9), 1762.7(6.0)
917.0 5	0.08 3	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
917.05 13	0.065 19	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
917.1 2	0.18 3	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
917.13 6	0.92 4	<sup>138</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
917.13 20	0.59 6	<sup>162</sup> Ho(67.0 m)	185.005(28.6), 1220.0(22.5), 282.864(11.3)
917.15 27	1.14 6	<sup>146</sup> Cs(0.343 s)	181.02(57.0), 557.76(9.18), 332.38(6.44)
917.16 6	4.4 5	<sup>123</sup> Cd(2.10 s)	371.32(51), 1052.28(24.8), 1438.13(8.3)
917.3 4	0.32 11	<sup>148</sup> Ho(9.59 s)	1687.5(82.47), 660.8(58.94), 504.3(18.62)
917.3 5	†5.5 9	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
917.3	†5.5	<sup>198</sup> Bi(693 s)	1063.5(†100), 197.6(†80), 562.4(†79)
917.3 5	0.067 13	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
917.4	0.055 9	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
917.4 3	0.14 3	<sup>164</sup> Lu(3.14 m)	123.3(34.0), 740.52(12.2), 262.22(10.8)
917.4 2	0.035 9	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
917.41 7	0.0031	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
917.44 16	0.48 7	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
917.44 16	0.044 8	<sup>150</sup> Eu(12.8 h)	333.971(4.0), 406.52(2.81), 1165.739(0.257)
• 917.45 17	0.0128 22	<sup>137</sup> Ce(34.4 h)	824.82(0.44), 169.26(0.44), 762.3(0.192)
917.47 5	0.23 3	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
917.5 2	1.2 11	<sup>103</sup> Zr(1.3 s)	248(100), 164.05(94), 126.30(84)
917.5 1	0.68 5	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
917.51 16	0.43 6	<sup>186</sup> Au(10.7 m)	191.56(62), 298.67(25.4), 764.89(10.5)
917.59 22	0.19 3	<sup>91</sup> Rb(58.4 s)	93.628(33.7), 2564.19(12.5), 3599.67(10.4)
917.6 2	5.3 5	<sup>76</sup> Rb(39.1 s)	2571.3(47), 424.0(43.4), 355.6(8.2)
• 917.6 3	0.09 4	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
917.6 3	†3.0 6	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
917.7 5	0.149 21	<sup>116</sup> Te(2.49 h)	93.70(31.4), 628.63(3.22), 102.97(1.95)
917.7 3	†0.22 6	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
917.78 20	0.074 12	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
917.79 15	†19 3	<sup>181</sup> Pt(51 s)	289.29(†100), 111.97(†100), 230.15(†92)
917.8 5	0.034 9	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
• 917.90 20	0.087 16	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
917.9 3	0.052 11	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
918 1	6 3	<sup>140</sup> Gd(15.8 s)	174.8(76), 749.9(70), 379.0(38)
918.0 5	0.034 6	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
918.1 3	0.25 3	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
918.15 7	10.8 8	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
918.18 7	0.82 11	<sup>203</sup> Po(36.7 m)	908.64(55), 1090.95(19.2), 893.49(18.7)
• 918.2		<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
918.2 2	†5.0 5	<sup>168</sup> Re(4.4 s)	199.3(†100), 363.2(†95), 479.8(†62.8)
918.29 15	0.00062 15	<sup>129</sup> Te(69.6 m)	27.81(16.3), 459.60(7.70), 487.39(1.42)
918.3 2	0.583 14	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
918.3 3	†6.1 15	<sup>147</sup> Ho(5.8 s)	189.1(†100), 883.9(†100), 486.7(†61)
• 918.3	0.022	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
918.3 1	11 1	<sup>211</sup> Fr(3.10 m)	539.9(20), 281(6.8), 983(4.0)
918.39 5	1.06 7	<sup>79</sup> Ga(2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
918.4	0.43	<sup>148</sup> Pr(2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
918.4 1	0.099 10	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
918.48 10	0.287 25	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
• 918.48 10	8.2 4	<sup>230</sup> Pa(17.4 d)	951.95(1.65), 454.95(6.27), 898.68(5.8)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
918.50 10	6.9 4	$^{86}\text{Nb}$ (7.8 m)	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
918.6 1	0.075 5	$^{96}\text{Y}$ (5.34 s)	1750.42(2.350), 2225.93(0.322), 475.33(0.188)
918.6 3	$\dagger$ 1.9 4	$^{189}\text{Hg}$ (7.6 m)	320.99( $\dagger$ 100), 78.21( $\dagger$ 63), 565.42( $\dagger$ 48)
918.68 10	0.198 23	$^{132}\text{La}$ (4.8 h)	464.55(76), 567.14(15.7), 1909.91(9.0)
• 918.69 4	0.59 2	$^{238}\text{Np}$ (2.117 d)	984.45(27.8), 1028.54(20.3), 1025.87(9.6)
918.69 4	23.0 14	$^{238}\text{Am}$ (98 m)	962.77(28), 561.11(10.9), 605.13(7.6)
• 918.69 4	$5.4 \times 10^{-7}$	$^{242}\text{Cm}$ (162.8 d)	44.08(0.0325), 101.90(0.0025), 157.42(0.0014)
918.7 3	0.069 9	$^{112}\text{Ag}$ (3.130 h)	617.27(43), 1387.67(5.4), 606.49(3.1)
918.7 4	0.101 19	$^{121}\text{Xe}$ (40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
918.7 3	$\dagger$ 1.59 23	$^{201}\text{Po}$ (15.3 m)	890.1( $\dagger$ 100), 240.1( $\dagger$ 71.0), 904.2( $\dagger$ 54.8)
• 918.7 3	$8.0 \times 10^{-9}$	$^{239}\text{Pu}$ (24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
918.74 5	56	$^{94}\text{Y}$ (18.7 m)	1138.88(6.0), 550.88(4.9), 1671.41(2.46)
918.76 4	8.08 17	$^{64}\text{Ga}$ (2.630 m)	991.52(43), 807.86(13.65), 3365.86(13.1)
918.8 2	0.270 18	$^{147}\text{Pr}$ (13.4 m)	77.9921(15), 314.675(13.2), 641.380(10.0)
918.9 5	0.7 4	$^{125}\text{Cd}$ (0.65 s)	436.29(37), 1099.48(22.3), 2147.19(19.1)
918.9 2	$\dagger$ 4.1 4	$^{185}\text{Hg}$ (21.6 s)	222.8( $\dagger$ 100.0), 258.7( $\dagger$ 98), 212.5( $\dagger$ 58)
918.9 5	<0.007	$^{233}\text{Th}$ (22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
918.97 10	0.028 3	$^{228}\text{Ac}$ (6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
919.0 10	0.79 17	$^{77}\text{Zn}$ (2.08 s)	189.49(28.1), 473.94(19.7), 1832.0(12.4)
919.0 2	0.12 5	$^{104}\text{Tc}$ (18.3 m)	358.0(89), 530.5(15.6), 535.1(14.7)
919	$\dagger$ 0.10 1	$^{136}\text{Pm}$ (107 s)	373.8( $\dagger$ 100), 602.7( $\dagger$ 38.4), 857.2( $\dagger$ 23.4)
919.0 2	0.27 3	$^{200}\text{Po}$ (11.5 m)	671.0(34.0), 617.7(19.7), 434.4(9.3)
919.06 8	0.65 3	$^{85}\text{Br}$ (2.90 m)	802.41(2.56), 924.63(1.63), 1727.02(0.381)
919.1 2	0.094 16	$^{61}\text{Zn}$ (89.1 s)	475.0(16.85), 1660.5(7.80), 970.0(2.57)
919.18 10	0.29 2	$^{143}\text{La}$ (14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)
919.2 5	0.11 3	$^{159}\text{Er}$ (36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
919.23 20	0.29	$^{154}\text{Pm}$ (1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
• 919.24	0.0123 6	$^{154}\text{Eu}$ (8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
919.28 7	4.2 3	$^{121}\text{In}$ (23.1 s)	925.57(87), 261.96(7.9), 657.32(7.1)
919.3 3	0.86 3	$^{45}\text{K}$ (17.3 m)	174.276(74.4), 1705.6(53), 2353.6(14.12)
919.3 4	0.14 4	$^{100}\text{Y}$ (735 ms)	212.531(73), 118.59(15.4), 665.98(7.7)
• 919.3 7	0.0018 9	$^{151}\text{Pm}$ (28.40 h)	340.08(23), 167.75(8.3), 275.21(6.8)
919.3 2	0.141 24	$^{183}\text{Au}$ (42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
919.3 2	$\dagger$ 0.77 11	$^{192}\text{Tl}$ (9.6 m)	422.8( $\dagger$ 100), 634.8( $\dagger$ 75.9), 786.3( $\dagger$ 31.7)
919.38 24	0.14 6	$^{66}\text{Ge}$ (2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
919.401 8	0.35 3	$^{152}\text{Pm}$ (4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
919.401 8	1.29 11	$^{152}\text{Pm}$ (7.52 m)	244.6989(78), 121.7824(45), 340.48(31.3)
• 919.401 8	0.436 10	$^{152}\text{Eu}$ (13.542 y)	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
919.41 62	0.06 4	$^{141}\text{Xe}$ (1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
919.5 3	0.34 3	$^{228}\text{Fr}$ (39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
• 919.550 23	2.66 3	$^{140}\text{La}$ (1.6781 d)	1596.210(95), 487.021(45.5), 815.772(23.28)
919.6 8	0.33 9	$^{107}\text{In}$ (32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
• 919.60 9	0.0089 5	$^{131}\text{Ba}$ (11.50 d)	496.326(47), 123.805(28.97), 216.078(19.66)
919.71 10	0.012	$^{115}\text{Sb}$ (32.1 m)	497.358(98), 489.27(1.3), 1236.52(0.58)
919.8 9	$\dagger$ 0.010 5	$^{85}\text{Sr}$ (67.63 m)	151.159( $\dagger$ 1272), 129.820( $\dagger$ 15), 731.812( $\dagger$ 1.45)
919.8 3	0.27 14	$^{207}\text{Rn}$ (9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
919.93 12	0.102 15	$^{151}\text{Nd}$ (12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
919.97 15	0.25 4	$^{167}\text{Lu}$ (51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
920.0 4	0.76 4	$^{99}\text{Rh}$ (4.7 h)	340.71(70), 617.8(12.0), 1261.2(11)
920.0 3		$^{146}\text{Dy}$ (29 s)	2156.8, 1915.7, 1876.7
920		$^{190}\text{Ir}$ (3.25 h)	616.08(93.10), 502.53(92.31), 361.136(89.57)
920.0 4	$\dagger$ 6.1 17	$^{193}\text{Hg}$ (3.80 h)	861.11( $\dagger$ 100), 1118.84( $\dagger$ 64), 789.21( $\dagger$ 36)
• 920.0 5	$\dagger$ 0.00075	$^{227}\text{Th}$ (18.72 d)	235.971( $\dagger$ 813), 50.13( $\dagger$ 528), 256.25( $\dagger$ 463)
• 920.0 10		$^{233}\text{U}$ ( $1.592 \times 10^5$ y)	2.44(0.0862), 97.134(0.020), 54.699(0.0182)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
920.1 7	0.105 23	$^{103}\text{Cd}(7.3 \text{ m})$	1461.81(12), 1448.70(5.55), 1079.90(5.44)
920.1 1	$\dagger$ 1.20 12	$^{171}\text{Ta}(23.3 \text{ m})$	49.6( $\dagger$ 100), 506.4( $\dagger$ 54), 501.8( $\dagger$ 22.6)
920.13 17	0.61 6	$^{209}\text{Tl}(2.20 \text{ m})$	1567.09(99.8), 465.130(96.9), 117.211(84.3)
920.2 3	0.07 3	$^{98}\text{Nb}(51.3 \text{ m})$	787.374(93), 722.645(73.8), 1168.830(17.8)
920.2 9	$\dagger$ 1.10 17	$^{102}\text{Tc}(4.35 \text{ m})$	475.070( $\dagger$ 115), 628.05( $\dagger$ 35.3), 631.28( $\dagger$ 21.3)
• 920.24 8	0.040 4	$^{165}\text{Tm}(30.06 \text{ h})$	242.917(35.5), 47.155(16.9), 297.369(12.71)
920.25 2	0.178 20	$^{145}\text{Cs}(0.594 \text{ s})$	175.36(20), 198.93(10.9), 112.46(10.71)
920.25 10	1.16 10	$^{197}\text{Pb}(43 \text{ m})$	385.85(74), 387.72(25.1), 222.45(24.6)
920.26 4	0.55 3	$^{208}\text{Rn}(24.35 \text{ m})$	426.78(7.07), 251.05(5.02), 350.026(3.34)
920.28 20	0.28 3	$^{163}\text{Yb}(11.05 \text{ m})$	860.28(10.1), 63.62(6.5), 123.21(1.98)
920.29 11	0.163 20	$^{153}\text{Dy}(6.4 \text{ h})$	80.723(11.10), 213.754(10.90), 99.659(10.51)
920.3 2	0.0039 16	$^{149}\text{Nd}(1.728 \text{ h})$	211.309(25.9), 114.314(19.2), 270.166(10.7)
920.32 8	0.117 18	$^{167}\text{Yb}(17.5 \text{ m})$	113.34(55.3), 106.18(22.5), 176.25(21)
920.347 24	0.0179 9	$^{134}\text{La}(6.45 \text{ m})$	604.699(5.05), 1554.934(0.414), 563.227(0.359)
920.4 1	0.0019 6	$^{127}\text{Cs}(6.25 \text{ h})$	411.95(62.8), 124.70(11.37), 462.31(5.07)
920.4 2		$^{142}\text{Eu}(2.34 \text{ s})$	768.1(10), 1658.1(1.75), 1754.1(1.49)
• 920.41 21	0.051 12	$^{169}\text{Lu}(34.06 \text{ h})$	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
920.5 3	0.21 4	$^{103}\text{Cd}(7.3 \text{ m})$	1461.81(12), 1448.70(5.55), 1079.90(5.44)
920.5 2	$\dagger$ 8 $\times$ 10 <sup>03</sup> 3	$^{119}\text{In}(18.0 \text{ m})$	1065.55( $\dagger$ 80000), 1249.71( $\dagger$ 44000), 1163.85( $\dagger$ 32000)
920.5	$\dagger$ 100	$^{130}\text{Ce}(25 \text{ m})$	1072.6( $\dagger$ 100), 997.7( $\dagger$ 100), 851.5( $\dagger$ 80)
920.5	0.026 9	$^{149}\text{Tb}(4.118 \text{ h})$	352.24(29.43), 164.98(26.4), 388.57(18.37)
920.5 5	0.24	$^{167}\text{Dy}(6.20 \text{ m})$	569.7(48), 259.33(27.9), 310.26(25.0)
920.5 5	1.3 3	$^{181}\text{Os}(105 \text{ m})$	238.75(44), 826.77(20), 118.03(12.9)
920.5 3	0.60 8	$^{181}\text{Au}(11.4 \text{ s})$	198.60(4.4), 2022.4(4.2), 79.40(4.2)
920.5 2	0.029 7	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
• 920.553 7	0.303 8	$^{71}\text{As}(65.28 \text{ h})$	174.954(82.00), 1095.490(4.08), 499.876(3.624)
920.57 4	0.486 20	$^{118}\text{In}(4.45 \text{ m})$	1229.68(96), 1050.69(81.0), 683.08(54.3)
• 920.62 5	1.57 10	$^{131}\text{Te}(30 \text{ h})$	773.67(49.9), 852.21(27.0), 793.75(18.10)
920.63 3	0.0193 5	$^{133}\text{La}(3.912 \text{ h})$	278.835(2.50), 302.353(1.648), 290.06(1.413)
920.63 8	0.44 9	$^{204}\text{At}(9.2 \text{ m})$	684.341(95), 516.318(90), 426.253(67.5)
920.7 3	0.11 4	$^{81}\text{Ga}(1.221 \text{ s})$	216.47(37.4), 828.26(22.1), 711.18(17.6)
920.7 4	1.39 14	$^{89}\text{Nb}(1.9 \text{ h})$	1627.20(3.4), 1833.46(3.16), 3092.7(3.0)
920.7 2	0.66 6	$^{101}\text{Zr}(2.1 \text{ s})$	119.3(10.8), 205.6(6.0), 912.2(3.48)
920.7 1	0.085 17	$^{191}\text{Au}(3.18 \text{ h})$	586.45(17), 277.88(7.2), 674.19(6.8)
920.710 5	0.146 3	$^{145}\text{Pr}(5.984 \text{ h})$	748.278(0.5250), 675.795(0.514), 72.500(0.261)
920.8 5	0.068 20	$^{115}\text{Ag}(20.0 \text{ m})$	229.08(18), 212.80(4.4), 472.70(4.0)
920.8 8	0.07 3	$^{156}\text{Ho}(56 \text{ m})$	266.35(54.7), 137.83(51), 366.25(10.73)
920.85 3	0.094 11	$^{57}\text{Mn}(87.2 \text{ s})$	122.0614(13.9), 14.41300(10.56), 692.03(5.50)
920.87 8	0.0028	$^{239}\text{U}(23.45 \text{ m})$	74.664(48), 43.533(4.14), 662.24(0.18)
920.9 4	0.6 3	$^{102}\text{Cd}(5.5 \text{ m})$	481.0(63), 1036.6(12.8), 505.1(9.6)
920.932 9	32.0 8	$^{184}\text{Ta}(8.7 \text{ h})$	414.03(72), 252.848(43), 111.208(23.7)
• 920.932 9	8.14 12	$^{184}\text{Re}(169 \text{ d})$	252.848(10.7), 216.548(9.43), 161.269(6.49)
920.94 4	0.108 6	$^{155}\text{Dy}(9.9 \text{ h})$	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
920.98 7	0.52 4	$^{87}\text{Br}(55.60 \text{ s})$	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
921.0 2	0.28 4	$^{92}\text{Kr}(1.840 \text{ s})$	142.307(64), 1218.6(60), 812.6(14.6)
921.01 5	4.0 4	$^{130}\text{Sb}(6.3 \text{ m})$	839.49(100), 793.53(86), 182.36(41)
921.04 9	0.0711 16	$^{77}\text{Ge}(11.30 \text{ h})$	264.44(54), 211.03(30.8), 215.50(28.6)
• 921.04 22	0.023 5	$^{105}\text{Ag}(41.29 \text{ d})$	344.520(41), 280.41(30.2), 644.55(11.1)
921.10 12	4.6 5	$^{55}\text{V}(6.54 \text{ s})$	517.71(73), 880.70(18.1), 565.88(4.50)
• 921.1 2	0.016 8	$^{71}\text{As}(65.28 \text{ h})$	174.954(82.00), 1095.490(4.08), 499.876(3.624)
921.1 3	0.29 4	$^{120}\text{Xe}(40 \text{ m})$	25.1(30), 72.6(9), 178.1(6.8)
921.1 1	0.075 10	$^{157}\text{Er}(18.65 \text{ m})$	53.05(24), 391.32(14.2), 121.57(10.1)
921.1 4	0.26 7	$^{208}\text{At}(1.63 \text{ h})$	686.527(98), 660.040(89), 177.595(48.6)
921.17 30	0.85 7	$^{150}\text{Pm}(2.68 \text{ h})$	333.971(68), 1324.51(17.5), 1165.739(15.8)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
921.17 30	0.210 16	<sup>150</sup> Eu(12.8 h)	333.971(4.0), 406.52(2.81), 1165.739(0.257)
921.19 10	0.227 17	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
921.20 24	0.30 7	<sup>90</sup> Rb(258 s)	831.69(94), 1375.36(16.7), 3317.00(14.4)
921.2 1	0.169 11	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
921.2 6	0.66 4	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
921.20 8	0.20 4	<sup>143</sup> Cs(1.78 s)	195.554(13), 232.421(8.32), 306.424(6.80)
921.2 2	0.4 1	<sup>236</sup> Pa(9.1 m)	642.35(37.0), 687.59(9.9), 1762.7(6.0)
921.3 3	0.42 10	<sup>115</sup> Te(5.8 m)	723.569(30), 1380.58(23.0), 1326.83(22.7)
921.3 4	†1.30 14	<sup>120</sup> I(81.0 m)	560.44(†137), 1523.0(†21.1), 640.85(†17.1)
921.3 4	4.3 5	<sup>120</sup> I(53 m)	560.44(100), 601.11(87), 614.62(67)
921.31 13	0.56 11	<sup>148</sup> La(1.05 s)	158.468(55.6), 989.85(9.3), 760.30(8.6)
921.36 6	6.1	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
921.36 6	2.8	<sup>154</sup> Pm(2.68 m)	184.810(32), 81.99(15.4), 546.66(14.5)
921.4	12.9 20	<sup>36</sup> Si(0.45 s)	175.0(68), 249.9(68), 878.2(44)
921.4 6	0.024 5	<sup>111</sup> Pd(23.4 m)	580.00(0.8), 70.44(0.78), 1459.0(0.56)
921.4 6	0.9 3	<sup>116</sup> Cs(3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
921.4 2	†2.6×10 <sup>3</sup>	<sup>119</sup> In(18.0 m)	1065.55(†80000), 1249.71(†44000), 1163.85(†32000)
• 921.43 5	0.0825 19	<sup>125</sup> Sn(9.64 d)	1067.10(10), 1089.15(4.59), 822.48(4.28)
921.44 6	0.147 6	<sup>145</sup> Ce(3.01 m)	724.33(59), 62.54(13.33), 1148.03(9.15)
921.5 3	0.070 9	<sup>112</sup> Sb(51.4 s)	1257.05(96), 990.70(14.3), 670.0(3.7)
921.5 7	0.48 10	<sup>176</sup> Tm(1.9 m)	189.57(44.5), 1069.3(34), 381.8(21.8)
• 921.5 3	†1.9×10 <sup>3</sup>	<sup>241</sup> Am(432.2 y)	59.537(†60), 26.345(†1000×10 <sup>9</sup> ), 33.195(†6000×10 <sup>8</sup> )
921.5 10	†19 3	<sup>244</sup> Bk(4.35 h)	891.5(†100), 217.6(†88), 490.5(†15.8)
921.59 5	2.25 13	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
• 921.6 4	0.0009 5	<sup>76</sup> As(26.32 h)	559.101(45), 657.041(6.2), 1216.104(3.42)
921.6 1	0.444 12	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
921.6 4	0.11	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
921.62 5	0.478 9	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
921.7 1	†0.18 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
921.70 10	†0.269×10 <sup>6</sup>	<sup>234</sup> Pa(1.17 m)	1001.03(†837000), 766.38(†294000), 742.81(†80000)
921.74 17	0.54 10	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
921.8 3	1.23 14	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
921.80 20	0.32 7	<sup>159</sup> Tm(9.13 m)	38.35(5.8), 84.8(5.8), 271.30(5.1)
921.90 30	0.11 3	<sup>114</sup> Sb(3.49 m)	1299.90(99), 887.60(17.4), 327.18(7.0)
921.9 4	0.7 3	<sup>122</sup> Cs(4.5 m)	331.1(94), 497.1(79), 638.5(63)
921.9 5	0.25 6	<sup>136</sup> Nd(50.65 m)	108.90(32), 40.2(18.9), 574.8(10.4)
• 921.94 4	0.0172 10	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
921.96 6	6.1 5	<sup>86</sup> Nb(88 s)	751.74(97.8), 914.81(78.1), 1003.24(37.4)
921.98 10	0.0152 21	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
921.98 10	>0.6	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
922.0 3	0.14 5	<sup>99</sup> Sr(0.269 s)	125.118(16.1), 536.12(14.0), 1198.12(9.2)
922	0.8	<sup>125</sup> Cs(45 m)	526(24), 111.8(9), 412(5)
922 1	0.12 6	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
922.0 3	0.079 17	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
• 922.1 7	0.0014 7	<sup>151</sup> Pm(28.40 h)	340.08(23), 167.75(8.3), 275.21(6.8)
922.1 9	0.39 12	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
922.1 9	0.51 12	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
922.2 2	0.070 9	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
922.23 18	†0.87 13	<sup>188</sup> Au(8.84 m)	265.63(†100), 340.04(†23.9), 605.5(†16.3)
• 922.26 7	0.053 3	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
922.3 4	0.07 3	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
922.3 1	1.3 5	<sup>100</sup> Ag(2.01 m)	665.54(99), 750.67(78), 773.20(24.2)
922.3 1	7.2 22	<sup>100</sup> Ag(2.24 m)	665.54(86), 750.67(>26), 1693.9(14.7)
922.3 3	0.57 3	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 922.33 8	0.121 12	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
• 922.36 12	0.0027 5	<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
922.4 1	0.063 14	<sup>144</sup> Ba(11.5 s)	103.855(23.30), 430.48(18.3), 172.828(15.4)
922.4 3	0.25 3	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
922.5 5	0.06	<sup>43</sup> Ar(5.37 m)	975.0(34), 738.1(15), 1439.5(13)
922.50 5	1.35 15	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
922.50 20	0.186 25	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
922.6 3	0.23 13	<sup>121</sup> Cs(155 s)	153.9(15.2), 239.6(7.7), 427.1(3.63)
922.6 3	0.18 10	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
922.6 3	0.14 3	<sup>134</sup> I(52.6 m)	847.025(95.4), 884.090(64.9), 1072.547(15.0)
922.70 11	0.33 3	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
922.7 6	0.20 3	<sup>198</sup> Tl(5.3 h)	411.8044(82), 675.8874(11), 636.4(10.1)
922.7 2	0.0012	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
922.75 9	1.15 25	<sup>186</sup> Ta(10.5 m)	197.93(50), 214.87(42.3), 510.82(37.5)
922.92 8	2.33 12	<sup>146</sup> Pr(24.15 m)	453.88(48.0), 1523.7(15.6), 735.72(7.5)
923		<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
923 1	†25 4	<sup>116</sup> Xe(56 s)	104.5(†100), 310.7(†42), 247.7(†40)
923.0 5	2.38 7	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
923.0 7	0.029 15	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
923.0 4	0.09 5	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
• 923.0 2	0.041 3	<sup>232</sup> Pa(1.31 d)	969.315(41.6), 894.351(19.8), 150.059(10.8)
923.0 2	0.94 10	<sup>232</sup> Np(14.7 m)	327.3(52), 819.187(33.3), 866.760(24.4)
923.0 6	0.051 17	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
923.05 8	0.308 19	<sup>81</sup> Sr(22.3 m)	153.54(33.8), 147.76(30.1), 443.34(17.5)
923.08 3	0.00093 19	<sup>155</sup> Sm(22.3 m)	104.3346(74.6), 245.771(3.7), 141.4428(1.98)
923.1 3	0.084 22	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
923.1 3	0.014	<sup>170</sup> Hf(16.01 h)	164.78(33), 620.7(23), 120.17(19)
923.12 6	5.6 6	<sup>206</sup> At(30.0 m)	700.66(98), 477.10(86), 395.54(48)
923.14 3	0.690 16	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
• 923.15 19	0.0059 13	<sup>145</sup> Eu(5.93 d)	893.73(66), 653.512(15.0), 1658.53(14.9)
923.2 1	6.9 4	<sup>119</sup> Cd(2.20 m)	1025.0(24.8), 2021.3(22.6), 720.7(17.9)
923.2 6	0.13 6	<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
• 923.267 19	0.307 10	<sup>150</sup> Eu(35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
• 923.267 19	>0.31	<sup>150</sup> Eu(35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
923.29 20	8.1 8	<sup>54</sup> V(49.8 s)	834.848(97.1), 989.01(80.1), 2259.35(45.6)
923.3 5	0.00018 3	<sup>104</sup> Rh(4.34 m)	555.796(0.13), 767.72(0.0065), 1237.2(0.0042)
923.3 5	6.9 9	<sup>104</sup> Ag(69.2 m)	555.796(92.6), 767.72(65.7), 941.7(25.0)
923.3 1	0.04 1	<sup>107</sup> Tc(21.2 s)	102.70(21.0), 177.00(9.2), 106.31(7.6)
923.37 13	0.020 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
923.39 22	0.95 10	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
• 923.4 2	0.15 3	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
923.4 3	1.33 13	<sup>139</sup> Nd(29.7 m)	405.12(7), 1074.2(2.5), 669.0(1.52)
923.4 3	1.3 3	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
923.5 2	10	<sup>102</sup> In(24 s)	776.6(100), 861.1(96), 593.1(30)
923.59 5	0.013 6	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
923.7 4	0.0062 25	<sup>167</sup> Yb(17.5 m)	113.34(55.3), 106.18(22.5), 176.25(21)
923.8		<sup>130</sup> Pr(40.0 s)	951.9, 499.0, 1405
• 923.87 2	0.721 9	<sup>131</sup> Ba(11.50 d)	496.326(47), 123.805(28.97), 216.078(19.66)
923.874 23	0.101 8	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
923.9 7	6.2 7	<sup>117</sup> Te(62 m)	719.7(65), 1716.4(15.9), 2300.0(11.2)
923.9 1	0.0075 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
923.9 2	0.0225 12	<sup>133</sup> La(3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
923.94 8	0.7	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
923.96 20	0.43 3	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 923.98 2	2.86 9	<sup>238</sup> Np(2.117 d)	984.45(27.8), 1028.54(20.3), 1025.87(9.6)
924 1		<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
924.0 5	0.037 16	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
924.0 3	0.41 6	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
924.0 4	1.21 20	<sup>153</sup> Ho(2.0 m)	295.8(67), 637.0(5.36), 688.5(3.7)
924.0 10	0.27 5	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
• 924	0.05	<sup>238</sup> Np(2.117 d)	984.45(27.8), 1028.54(20.3), 1025.87(9.6)
924.04 30		<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
924.07 9	0.071 16	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
924.1 2	†0.7 2	<sup>172</sup> Ir(2.0 s)	227.8(†100.0), 378.4(†62.0), 448.4(†40.5)
924.12 16	0.73 6	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
• 924.12 5	2.41 16	<sup>252</sup> Es(471.7 d)	785.09(18.3), 139.03(13.9), 102.32(1.88)
924.21 11	0.0119 17	<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
924.22 18	0.142 4	<sup>72</sup> Ga(14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)
924.3 5	0.0098 20	<sup>63</sup> Zn(38.47 m)	669.62(8), 962.06(6.5), 1412.08(0.75)
• 924.4 9	0.51 7	<sup>127</sup> Sb(3.85 d)	685.7(37), 473.0(25.7), 783.7(15.0)
924.4	0.015 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
924.4 4	0.34 4	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
• 924.5 20	>6.0×10 <sup>-5</sup>	<sup>129</sup> Te(33.6 d)	695.88(2.988), 729.57(0.70), 556.65(0.118)
924.5 6	0.162 11	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
924.5 4	3.5 17	<sup>152</sup> Ho(161.8 s)	613.8(73), 613.8(14), 1098.0(12)
924.54 8	†4.02 11	<sup>71</sup> Se(4.74 m)	147.50(†211), 1095.26(†43.6), 830.33(†43.2)
• 924.55 3	0.0623 21	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
924.55 3	1.41 14	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
924.55 3	>0.07	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
924.55 3	0.35	<sup>154</sup> Tb(22.7 h)	247.925(79), 346.643(69), 1419.81(46)
924.55 12	0.00188 20	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
924.58 4	7.45 25	<sup>146</sup> La(6.27 s)	258.47(64), 702.28(6.43), 666.07(6.18)
924.6 5	0.2	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
924.63 8	1.63 8	<sup>85</sup> Br(2.90 m)	802.41(2.56), 919.06(0.65), 1727.02(0.381)
924.7 3	7	<sup>101</sup> Cd(1.2 m)	98.0(47), 1722.5(11), 1259.3(8)
924.7 7	0.12 6	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
924.7 1	2.3 3	<sup>141</sup> Sm(22.6 m)	196.88(74), 431.6(40.4), 777.6(20.3)
• 924.75 3	0.315 8	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
924.76 7	0.279 22	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
924.8 6	†11 5	<sup>112</sup> Te(2.0 m)	372.70(†100), 296.20(†86), 418.9(†57)
924.8		<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
924.9 1	0.33 4	<sup>107</sup> Tc(21.2 s)	102.70(21.0), 177.00(9.2), 106.31(7.6)
924.9 4	2.3 5	<sup>148</sup> Er(4.6 s)	1311.8(8.9), 244.0(7.1), 315.3(6.9)
924.96 8	0.076 6	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
925.0 1	0.226 17	<sup>94</sup> Rb(2.702 s)	1309.1(87), 836.9(87.10), 1577.5(31.8)
925.0 3	9	<sup>128</sup> Cd(0.34 s)	247.92(75), 857.05(71), 68.02(29)
925	†19 3	<sup>160</sup> Eu(38 s)	173.19(†100), 513.6(†60), 412.56(†56)
925.0	0.31	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
925.0 1	7.8 5	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
925.0 3	0.009 3	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
925.04 15	1.44 12	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
925.04 3	4.98 5	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
925.1 5	0.24 4	<sup>124</sup> Cs(30.8 s)	353.9(40), 914.8(4.0), 492.6(3.6)
925.1	0.51	<sup>147</sup> Ba(0.893 s)	167.4(11), 105.2(4.8), 196.1(4.8)
• 925.189 21	6.90 7	<sup>140</sup> La(1.6781 d)	1596.210(95), 487.021(45.5), 815.772(23.28)
925.189 21	0.0260 25	<sup>140</sup> Pr(3.39 m)	1596.210(0.50), 306.9(0.151), 751.637(0.032)
925.2 3	†2.3 6	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
925.2 7	0.12 4	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
925.22 5	0.0127 8	<sup>194</sup> Ir(19.15 h)	328.455(13.1), 293.545(2.55), 645.157(1.17)
• 925.22 5	0.288 24	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
925.24 5	4.56 8	<sup>126</sup> Cs(1.64 m)	388.633(41), 491.243(5.0), 879.876(1.29)
925.29 23	0.090 18	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
925.3 3	69 14	<sup>146</sup> Ho(3.6 s)	682.9(100), 673.7(55), 237.2(52)
925.4 3	32	<sup>109</sup> Sb(17.0 s)	1062.8(23.9), 664.5(20.1), 1495.8(9.6)
925.4 4	0.014 5	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
925.4 10	0.017 9	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
925.47 20	0.72 8	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
925.47 20	0.064 7	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
925.49 9	0.222 16	<sup>90</sup> Kr(32.32 s)	1118.69(39.0), 121.82(35.5), 539.49(30.8)
925.5 2	†2.2 6	<sup>103</sup> Nb(1.5 s)	102.64(†100), 641.1(†55), 538.5(†34.0)
925.5 4	0.045 9	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
925.5 1	0.030 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
925.5 1	0.1184 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 925.51 6	0.121 6	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
925.55 7	1.45 17	<sup>134</sup> Te(41.8 m)	767.20(29.0), 210.465(22.3), 277.951(20.9)
925.57 7	87 6	<sup>121</sup> In(23.1 s)	261.96(7.9), 657.32(7.1), 919.28(4.2)
925.6 3	0.34 4	<sup>61</sup> Fe(5.98 m)	1205.07(44), 1027.42(42.7), 297.90(22.2)
925.62 7	0.10 3	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
• 925.62 7	0.044 5	<sup>158</sup> Tb(180 y)	944.09(44), 962.06(20.3), 79.5104(11.6)
925.68 5	1.68 6	<sup>58</sup> Mn(65.3 s)	810.764(<0.026), 1323.09(6.44), 459.160(21.4)
925.7 4	†10.4 20	<sup>137</sup> Te(2.49 s)	243.3(†100), 554.0(†34), 469.1(†21)
925.74 39	0.10 3	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
• 925.78 3	0.0378 10	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
925.8 2	3.84 3	<sup>91</sup> Sr(9.63 h)	1024.3(33), 749.8(23.61), 652.9(8.0)
925.8 4	0.74 15	<sup>109</sup> In(4.2 h)	203.5(74), 623.7(5.5), 1148.9(4.3)
925.8 2	†36	<sup>120</sup> Ag(0.32 s)	697.8(†51), 505.9(†51), 830.0(†15)
925.8 4	1.2 3	<sup>120</sup> In(46.2 s)	1171.3(96), 1023.1(55), 863.7(32.5)
925.8 10	†2.1 7	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
925.8 2	1.08 5	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
925.90 15	7.3 8	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
925.9 2	1.8 12	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
926.0 5	0.4 2	<sup>130</sup> Sb(39.5 m)	793.53(100), 839.49(100), 331.05(78)
926 1	0.19 6	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
926.0 6	0.034 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
926.0 5	0.46 6	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
926.0 5	†0.073 21	<sup>196</sup> Ir(1.40 h)	393.346(†105.2), 521.175(†104), 447.1(†102.1)
• 926.1 5	0.0040 7	<sup>151</sup> Pm(28.40 h)	340.08(23), 167.75(8.3), 275.21(6.8)
926.2 1	12.5 15	<sup>104</sup> Ag(69.2 m)	555.796(92.6), 767.72(65.7), 941.7(25.0)
926.2	3.0 15	<sup>132</sup> Sb(4.10 m)	696.8(100), 973.9(100), 150.6(66)
• 926.26 13	3.41 3	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
926.28 9	0.13 3	<sup>183</sup> Os(9.9 h)	1101.94(49.0), 1107.92(22.36), 1034.85(6.02)
926.3 2	0.09	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
926.3 2	1.33 11	<sup>204</sup> At(9.2 m)	684.341(95), 516.318(90), 426.253(67.5)
926.31 25	0.105 21	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
926.324 15	0.28 3	<sup>152</sup> Pm(4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
• 926.324 15	0.265 8	<sup>152</sup> Eu(13.542 y)	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
926.35 13	0.0338 12	<sup>137</sup> Ce(9.0 h)	447.15(1.8), 10.6(0.8), 436.59(0.265)
926.39 17	†2.6 4	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
• 926.40 15	0.260 8	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
926.5 1	†1.26 10	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
926.5 3	0.021 7	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
926.5 3	†1.89 20	<sup>201</sup> Po(15.3 m)	890.1(†100), 240.1(†71.0), 904.2(†54.8)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
926.5 1	0.94 23	<sup>206</sup> Fr(15.9 s)	575.3(12), 559.0(8.19), 628.6(3.6)
926.5 2	0.090 21	<sup>224</sup> Fr(3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
926.53 10		<sup>118</sup> Ag(2.0 s)	487.77(57), 677.13(53), 1058.39(14.8)
926.6 2	0.55 8	<sup>143</sup> Gd(112 s)	271.94(84), 588.00(15.7), 798.89(10.7)
• 926.6 5	0.023 12	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
926.6 3	†2.3 10	<sup>192</sup> Bi(37 s)	853.8(†100.0), 501.8(†80), 504.3(†39)
926.70 10	0.0043 11	<sup>73</sup> Se(7.15 h)	360.80(108), 67.03(78), 865.09(0.584)
926.7 2	0.60 11	<sup>160</sup> Tm(74.5 s)	264.1(9), 125.8(6.5), 375.8(2.4)
926.72 10	7.2 9	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
926.72 10	†1.23×10 <sup>3</sup>	<sup>234</sup> Pa(1.17 m)	1001.03(†837000), 766.38(†294000), 742.81(†80000)
• 926.72 10	0.068 7	<sup>234</sup> Np(4.4 d)	1558.31(18.72), 1527.21(11.2), 1601.80(9.1)
• 926.72 10	5.8×10 <sup>-7</sup>	<sup>238</sup> Pu(87.74 y)	43.498(0.0395), 99.853(0.00735), 152.720(0.000937)
926.8 3	0.25 3	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
926.84 5	7.6 8	<sup>77</sup> Zn(2.08 s)	189.49(28.1), 473.94(19.7), 1832.0(12.4)
926.9 3	0.39 10	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
926.97 9	1.23 3	<sup>194</sup> Pb(12.0 m)	581.82(18.8), 1519.45(16.4), 203.82(16.2)
• 926.98 10	0.47 3	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
927 1	0.00165 12	<sup>223</sup> Fr(21.8 m)	50.13(36.0), 79.72(9.1), 234.81(3.0)
• 927 1	†0.00044	<sup>227</sup> Th(18.72 d)	235.971(†813), 50.13(†528), 256.25(†463)
927.05 10	0.92 5	<sup>76</sup> Ga(32.6 s)	562.93(66), 545.51(26.0), 1108.41(15.8)
927.09 14	0.98 10	<sup>206</sup> At(30.0 m)	700.66(98), 477.10(86), 395.54(48)
927.1 8	0.0041 18	<sup>167</sup> Yb(17.5 m)	113.34(55.3), 106.18(22.5), 176.25(21)
927.13 30	0.17	<sup>137</sup> I(24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
927.18 6	0.076 11	<sup>69</sup> As(15.2 m)	232.69(11), 145.95(4.96), 86.78(3.44)
927.2 2	†6.6 5	<sup>75</sup> Ga(126 s)	253.0(†100), 574.8(†31.6), 885.6(†11.1)
927.2 3	1.00 23	<sup>78</sup> Ga(5.09 s)	619.40(77), 1186.42(20.1), 567.06(18.2)
927.2 2	0.011 3	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
927.2 15	0.039 11	<sup>177</sup> Yb(1.911 h)	150.392(20.3), 1080.21(5.6), 1241.2(3.47)
927.29 4	7.1 4	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
927.30 10	0.88 4	<sup>83</sup> Y(7.08 m)	35.50(0.44), 882.1(6.30), 489.90(5.53)
927.40 13	0.032 4	<sup>131</sup> La(59 m)	108.081(25.0), 417.783(18.0), 365.162(16.9)
927.4 3	0.41 4	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
927.5 4	0.35 12	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
927.5 4	0.26 10	<sup>154</sup> Tb(22.7 h)	247.925(79), 346.643(69), 1419.81(46)
927.58 20	0.25 6	<sup>186</sup> Au(10.7 m)	191.56(62), 298.67(25.4), 764.89(10.5)
927.60 10	3.79 22	<sup>91</sup> Tc(3.3 m)	502.90(51.4), 1328.40(2.55), 1362.00(2.5)
927.6 3	2.0 3	<sup>104</sup> In(1.8 m)	658.0(100), 834.1(99), 878.1(29.4)
927.60 20	0.701 19	<sup>112</sup> Sb(51.4 s)	1257.05(96), 990.70(14.3), 670.0(3.7)
927.6 2	0.166 25	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
927.6 2	0.131 9	<sup>208</sup> Tl(3.053 m)	2614.533(99), 583.191(84.5), 510.77(22.6)
927.67 8	1.16 22	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
927.69 8	0.63 5	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
927.75 3	0.50 6	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
927.8 7	0.20	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
927.9 8	0.38 19	<sup>116</sup> Cs(3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
927.90 20	0.37 4	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
• 927.9920 7	0.619 7	<sup>182</sup> Ta(114.43 d)	67.75001(41.2), 1121.3007(34.9), 1221.4066(26.98)
927.9920 7	0.52 5	<sup>182</sup> Re(12.7 h)	67.75001(38.2), 1121.3007(32), 1221.4066(24.8)
• 927.9920 7	0.37 4	<sup>182</sup> Re(64.0 h)	229.3220(26), 67.75001(22.2), 1121.3007(22.0)
928.0 10	0.22 8	<sup>83</sup> Se(22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
928.0 4	0.13 4	<sup>92</sup> Kr(1.840 s)	142.307(64), 1218.6(60), 812.6(14.6)
• 928.0 4	0.0021 9	<sup>124</sup> I(4.18 d)	602.730(60), 1690.980(10.41), 722.786(9.98)
928 1	0.12 6	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
• 928.0	0.022	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
928.02 16	3.9 6	<sup>195</sup> Pb(15.0 m)	383.64(106.9), 394.21(44), 878.40(24.2)
928.06 11	0.138 20	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
928.10 28	1.00 6	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
928.1 3	0.25 5	<sup>118</sup> Cs(14 s)	337.4(100), 472.8(37.4), 586.6(15.4)
928.1 4	0.168 11	<sup>146</sup> Pr(24.15 m)	453.88(48.0), 1523.7(15.6), 735.72(7.5)
928.18 4	0.006	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
• 928.290 11	0.77 5	<sup>48</sup> V(15.9735 d)	983.517(99.98), 1312.096(97.5), 944.104(7.76)
928.3 2	1.66 15	<sup>93</sup> Ru(10.8 s)	1396.2(39), 1111.2(26.2), 2039.1(9.2)
928.30 6	1.3 3	<sup>126</sup> Sb(19.15 m)	414.81(86), 666.331(86), 695.03(82)
928.34 3	2.5 1	<sup>100</sup> Nb(1.5 s)	535.60(45.7), 528.24(9.1), 159.547(8.8)
928.34 3	7.1 19	<sup>100</sup> Nb(2.99 s)	535.60(97.0), 600.5(65.0), 1280.6(23.8)
928.4 4	†11 5	<sup>112</sup> Te(2.0 m)	372.70(†100), 296.20(†86), 418.9(†57)
928.40 10	1.07 16	<sup>125</sup> Cd(0.57 s)	1027.53(25.8), 1173.16(25.1), 736.65(12.6)
928.4 2	2.9 8	<sup>129</sup> Sn(6.9 m)	1161.31(56.0), 1128.44(50), 760.8(16.8)
• 928.4	0.0046 21	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
928.42 14	0.00129 20	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
928.5 3	0.044 11	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
928.5 10	†3.1	<sup>177</sup> Os(2.8 m)	84.7(†100), 125.4(†63), 195.8(†61)
928.5 3	0.32 5	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
928.5 1	1.41 9	<sup>188</sup> Tl(71 s)	412.7(88), 592.0(61), 504.2(23.3)
928.535 21	0.718 21	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
928.55 10	0.150 20	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
928.6 1	6.9 4	<sup>51</sup> Ti(5.76 m)	320.0842(93), 608.6(1.18)
928.6 2	0.127 11	<sup>101</sup> Tc(14.22 m)	306.85(88), 545.06(6.0), 127.23(2.86)
928.6 1	0.272 25	<sup>129</sup> La(11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
928.6 4	0.10 5	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
928.7 6	0.29 5	<sup>117</sup> Cs(8.4 s)	204.8(15.0), 29.7(9.9), 205.6(6.8)
928.7 2	†10.8 17	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
928.7 4	0.07 3	<sup>164</sup> Yb(75.8 m)	40.928(1.147), 675.41(0.38), 390.6(0.31)
928.7 3	†2.8 10	<sup>192</sup> Bi(37 s)	853.8(†100.0), 501.8(†80), 504.3(†39)
928.80 20	0.033 19	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
928.8 6	0.77 4	<sup>119</sup> Cd(2.69 m)	292.9(36.8), 343.0(16.9), 1609.7(10.9)
• 928.8 4	0.028 5	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
• 928.8	†6×10 <sup>02</sup> 3	<sup>241</sup> Am(432.2 y)	59.537(†60), 26.345(†1000×10 <sup>9</sup> ), 33.195(†6000×10 <sup>8</sup> )
928.85 3	1.046 22	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
928.86 9	7.5 7	<sup>80</sup> Zn(0.545 s)	712.53(45.1), 715.40(33.8), 964.93(15.6)
928.9 1	†1.24×10 <sup>-3</sup>	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
928.9 2	0.37 6	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
928.935 5	0.036 5	<sup>168</sup> Ho(2.99 m)	741.356(36.6), 821.164(34.5), 815.990(18.6)
• 928.935 5	0.0613 16	<sup>168</sup> Tm(93.1 d)	198.241(52.39), 815.990(48.99), 447.515(23.05)
• 929.01 7	20.2 8	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 370.0(17.2)
929.04 9	0.42 3	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
929.04 9	†2.6×10 <sup>2</sup>	<sup>94</sup> Rb(2.702 s)	432.61(†9000), 213.429(†6000), 986.05(†4100)
929.08 5	0.138 8	<sup>126</sup> Cs(1.64 m)	388.633(41), 491.243(5.0), 925.24(4.56)
929.08 87	0.028 11	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
929.1 3	†8.0 10	<sup>113</sup> I(6.6 s)	462.5(†100), 622.4(†74), 351.5(†43)
929.1 3	0.083 25	<sup>152</sup> Pm(4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
929.1 2	†0.7 2	<sup>160</sup> Lu(36.1 s)	243.2(†100), 395.4(†21.0), 577.2(†10.7)
• 929.106 20	3.04 7	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
• 929.12 21	0.016 4	<sup>105</sup> Ag(41.29 d)	344.520(41), 280.41(30.2), 644.55(11.1)
929.12 21	4000 18	<sup>105</sup> Ag(7.23 m)	319.14(†63000), 306.25(†12800), 442.37(†5900)
929.16 30		<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
929.18 6	0.266 14	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
929.20 15	2.9 4	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
929.2	>0.010	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
929.25 20	0.18 4	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
929.3 1	0.79 13	<sup>117</sup> Cd(3.36 h)	1997.33(26), 1065.98(23.1), 564.397(14.7)
929.3 3	9.5 10	<sup>118</sup> I(8.5 m)	605.71(99), 600.71(92), 614.42(65)
929.36 6	0.0051 6	<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
• 929.38 32	0.0028 9	<sup>77</sup> Br(57.036 h)	238.996(23), 520.639(22.4), 297.215(4.16)
929.4 3	0.10 7	<sup>250</sup> Es(2.22 h)	989.12(13.3), 1031.85(10.6), 828.82(5.5)
929.42 20	0.135 17	<sup>103</sup> Tc(54.2 s)	346.380(17.5), 136.079(16.6), 562.90(7.0)
• 929.45 4	0.0119 10	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
929.47 2	1.233 18	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
929.47 2	0.136 19	<sup>250</sup> Es(8.6 h)	828.82(72), 303.41(21.6), 349.4(19.8)
929.5 2	100	<sup>52</sup> Fe(45.9 s)	869.9(93), 621.7(51), 2037.6(50)
929.5	0.75 4	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
929.6	56 5	<sup>34</sup> Al(60 ms)	3327.5(60), 125.4(25.8), 4257.0(12.0)
929.6 5	0.61 12	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
929.61 14	0.54 4	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
929.68 5	0.198 15	<sup>132</sup> La(4.8 h)	464.55(76), 567.14(15.7), 1909.91(9.0)
929.7 4	0.35 4	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
929.7 2	0.08 2	<sup>241</sup> Np(13.9 m)	174.94(3.1), 132.99(0.86), 518.8(0.40)
929.73 8	0.038 11	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
929.8 4	0.0109 13	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
• 929.8 5	0.012 6	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
929.83 11	0.031 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
• 929.85 3	1.22 22	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
929.93 2	0.75 3	<sup>210</sup> At(8.1 h)	1181.39(99.3), 245.31(79), 1483.39(46.5)
• 930.0 2	0.050 4	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
• 930.0 4	0.025 15	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
930.0 3	†2.3 6	<sup>131</sup> Pr(1.53 m)	266.13(†100), 72.82(†64), 387.56(†38)
930.0 2	0.99 20	<sup>132</sup> Sb(2.79 m)	973.9(99), 696.8(86), 989.6(14.9)
930.0 3	1.34 10	<sup>148</sup> Ho(9.59 s)	1687.5(82.47), 660.8(58.94), 504.3(18.62)
930.0 5	0.083 12	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
930.09 15	0.0054 11	<sup>73</sup> Se(7.15 h)	360.80(108), 67.03(78), 865.09(0.584)
930.1 4	3.3 10	<sup>99</sup> Y(1.470 s)	121.761(33), 724.30(14.9), 536.2(6.6)
930.1 3	0.91 15	<sup>139</sup> Sm(2.57 m)	273.7(37), 306.7(28.5), 596.3(8.0)
930.2 15	0.19 13	<sup>117</sup> Te(62 m)	719.7(65), 1716.4(15.9), 2300.0(11.2)
930.2 2	†3.6 10	<sup>131</sup> Ce(10.3 m)	169.42(†100), 414.25(†68), 119.18(†44)
• 930.2 2	0.00059 9	<sup>149</sup> Pm(53.08 h)	285.95(3.1), 859.46(0.109), 590.88(0.069)
930.26 20	0.028 11	<sup>66</sup> Ge(2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
930.3 1	0.26 4	<sup>109</sup> In(4.2 h)	203.5(74), 623.7(5.5), 1148.9(4.3)
930.3 3	†2.4 5	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
930.3 6	0.051 25	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
930.38 8	0.51	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
930.38 8	5.4	<sup>154</sup> Pm(2.68 m)	184.810(32), 81.99(15.4), 546.66(14.5)
• 930.39 11	0.020 5	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
930.4	0.015 4	<sup>35</sup> Ar(1.775 s)	1219.42(1.35), 1763.10(0.312), 2693.5(0.1480)
930.4 4	0.22 3	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
930.4 5	0.022 5	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
930.4 5	0.044 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
930.42 9	5.1 3	<sup>156</sup> Tm(83.8 s)	344.55(86), 452.85(17.2), 585.93(14.6)
930.5 2	0.046 5	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
930.5 3	0.32 5	<sup>101</sup> Ag(11.1 m)	261.0(53), 588.0(10.0), 667.3(9.8)
• 930.5 3	†0.031 21	<sup>102</sup> Rh(207 d)	475.070(†47), 628.05(†4.6), 1103.16(†2.99)
930.5 5	0.019 5	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
• 930.584 15	0.0730 21	<sup>152</sup> Eu(13.542 y)	344.281(26.58), 778.91(12.96), 411.115(2.231)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
930.584 15	†43 3	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
930.584 15	0.284 25	<sup>152</sup> Tb(4.2 m)	344.281(20.8), 411.115(18.8), 471.9(12.2)
930.6 3	0.025 15	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
930.6 2	†5.1 3	<sup>138</sup> Pm(3.24 m)	520.9(†100), 729.0(†37.8), 493.1(†21.6)
930.67 25	†2.0 4	<sup>165</sup> Lu(10.74 m)	132.49(†100), 120.60(†100), 174.25(†47.0)
930.7 5	0.15 6	<sup>140</sup> Pm(5.95 m)	1028.19(100), 773.74(100), 419.57(92)
930.71 1	3.81 12	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
930.8 1	0.027 3	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
930.8 1	0.019 4	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
930.8 4	0.125 10	<sup>164</sup> Tm(5.1 m)	208.08(14.6), 314.97(10), 240.49(7.5)
930.8 2	2.9 10	<sup>176</sup> Re(5.3 m)	240.17(48), 109.08(25.0), 848.7(4.0)
• 930.807 19	1.4 3	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
930.86 10	0.079 22	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
930.87 12	0.17 4	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
930.90 7	0.42 3	<sup>195</sup> Hg(9.9 h)	779.80(7), 61.46(6.2), 585.13(1.99)
930.91 10	0.40 3	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
930.93 10	0.0128 19	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
930.93 10	0.24 4	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
930.95 10	0.62 4	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
931.0 3	1.34 19	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
931.0 3	1.1 4	<sup>152</sup> Ho(49.5 s)	647.2(92), 613.8(88.4), 683.3(88)
931 1	1.00 9	<sup>190</sup> Tl(3.7 m)	416.4(91), 625.4(82), 731.1(37)
• 931.06 2	0.0484 16	<sup>185</sup> Os(93.6 d)	646.116(78.0), 874.813(6.29), 880.523(5.17)
931.1 3	5 1	<sup>64</sup> Co(0.30 s)	1345.77(10)
931.10 5	0.414 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
931.15 10	1.46 21	<sup>108</sup> Rh(16.8 s)	433.937(43), 618.84(15.0), 497.22(5.2)
931.15 10	12.3 18	<sup>108</sup> Rh(6.0 m)	433.937(88), 581.1(60), 947.27(49)
931.15 10	0.00055 5	<sup>108</sup> Ag(2.37 m)	433.937(0.50), 618.84(0.261), 1007.22(0.0139)
931.20 10	1.06 6	<sup>88</sup> Nb(7.8 m)	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
931.2 4	4.3	<sup>116</sup> Ag(10.4 s)	513.39(92), 705.82(61), 1028.90(30.4)
931.2 8	0.3 1	<sup>123</sup> In(5.98 s)	1130.5(63), 1019.7(32), 618.8(2.6)
931.2 7	0.5 3	<sup>129</sup> Sn(6.9 m)	1161.31(56.0), 1128.44(50), 760.8(16.8)
931.3 2	75	<sup>55</sup> Co(17.53 h)	477.2(20.2), 1408.4(16.88), 1316.4(7.09)
931.3 5	36.1 20	<sup>170</sup> Ho(2.76 m)	258.2(37.0), 181.6(23.8), 890.2(22)
931.34 2	0.545 20	<sup>188</sup> Re(16.98 h)	155.032(14.9), 632.99(1.25), 477.99(1.0)
• 931.34 2	0.263 25	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
931.37 4	3.64 24	<sup>117</sup> Cd(3.36 h)	1997.33(26), 1065.98(23.1), 564.397(14.7)
931.4 1	5.8 3	<sup>73</sup> Br(3.4 m)	64.9(37.0), 336.0(10.4), 699.8(9.1)
931.5 5	0.095 25	<sup>83</sup> Y(7.08 m)	35.50(0.44), 882.1(6.30), 489.90(5.53)
931.5 15	0.49 5	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
931.5	0.37	<sup>148</sup> Pr(2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
931.5 3	2.69 10	<sup>150</sup> Pr(6.19 s)	130.2(32), 722.5(7.0), 852.7(6.1)
931.5 3	0.83 22	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
• 931.50 15	0.039 5	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
931.5 6	†<6	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
931.51 11	2.98 3	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
• 931.56 20	0.022 9	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
931.57 25	0.00021 9	<sup>129</sup> Te(69.6 m)	27.81(16.3), 459.60(7.70), 487.39(1.42)
931.6 1	0.279 17	<sup>94</sup> Rb(2.702 s)	1309.1(87), 836.9(87.10), 1577.5(31.8)
931.6 4	0.08 6	<sup>142</sup> Ba(10.6 m)	255.300(20.5), 1204.3(14.23), 895.2(13.9)
931.6 2	0.053 14	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
931.6 5	2.6 4	<sup>200</sup> Bi(36.4 m)	1026.5(100), 462.34(98), 419.70(91)
931.6 7	0.84 14	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
931.61 7	0.0047	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
931.7 1	11.8 8	<sup>96</sup> Sr(1.07 s)	122.297(76.50), 809.401(71.9), 530.0(9.0)
931.7 2	0.08 4	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
931.7 8	0.009 3	<sup>157</sup> Dy(8.14 h)	326.16(92), 182.20(1.84), 83.01(0.62)
931.7 2	1.8	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
931.7 2	0.13	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
931.8 3	†0.8	<sup>111</sup> Rh(11 s)	275.4(†100.0), 411.8(†9.42), 230.0(†8.9)
931.8 5	0.173 18	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
931.800 29	0.013	<sup>116</sup> In(14.10 s)	1293.54(1.3), 463.16(0.25), 1252.5(0.031)
931.800 29	0.076 16	<sup>116</sup> In(54.41 m)	1293.54(84.4), 1097.3(56.2), 416.86(28.9)
931.800 29	24.7 13	<sup>116</sup> Sb(15.8 m)	1293.54(85), 2225.33(14.2), 2843.5(1.1)
931.9	0.045	<sup>95</sup> Sr(23.90 s)	685.6(23), 2717.3(4.6), 2933.1(4.1)
931.9 2	†5.0	<sup>138</sup> Eu(12.1 s)	346.6(†100), 544.2(†55), 685.4(†41)
• 931.9 3	$1.3 \times 10^{-8}$ 4	<sup>239</sup> Pu(24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
931.92 14	0.62 9	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
932.00 14	0.0385 16	<sup>81</sup> Rb(30.5 m)	49.56(0.78), 643.6(0.115), 1194.9(0.112)
932.0 5	0.59 10	<sup>84</sup> Y(40 m)	793.3(99), 974.6(75), 1040.2(56)
932	>0.11	<sup>90</sup> Nb(14.60 h)	1129.224(92.7), 2318.968(82.03), 141.178(66.8)
932.0 2	>2.8	<sup>145</sup> La(24.8 s)	70.0(11), 355.8(3.8), 118.2(3.6)
932.0 2	2.8	<sup>145</sup> La(24.8 s)	70.0(11), 355.8(3.8), 118.2(3.6)
932.0 3	0.29 9	<sup>152</sup> Pm(7.52 m)	244.6989(78), 121.7824(45), 340.48(31.3)
932.0 1	0.78 7	<sup>200</sup> Po(11.5 m)	671.0(34.0), 617.7(19.7), 434.4(9.3)
932.0 10	0.174 24	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
932.1 1	0.69 5	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
932.1 3	11.7 3	<sup>154</sup> Pr(2.3 s)	162.4(15), 70.8(11.22), 956.9(6.8)
932.13 20	0.38 3	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
932.2 2	1.79 13	<sup>65</sup> Ga(15.2 m)	115.09(54), 61.20(11.4), 153.0(8.9)
• 932.3	$4.6 \times 10^{-5}$ 5	<sup>253</sup> Es(20.47 d)	41.79(0.050), 389.11(0.0264), 387.1(0.00810)
932.35 7		<sup>166</sup> Lu(2.65 m)	228.12(77.3), 337.50(41), 367.95(31.4)
932.35 7	8.0 6	<sup>166</sup> Lu(1.41 m)	228.12(15), 102.38(13), 285.07(11.0)
932.37 15	6.7 10	<sup>193</sup> Hg(11.8 h)	257.97(61), 407.63(25), 573.25(14.2)
• 932.4 13	0.036 18	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
932.42 19	0.52 5	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
932.50 20	0.24 5	<sup>114</sup> Sb(3.49 m)	1299.90(99), 887.60(17.4), 327.18(7.0)
932.5 10	0.28 6	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
• 932.56 4	0.069 12	<sup>165</sup> Tm(30.06 h)	242.917(35.5), 47.155(16.9), 297.369(12.71)
932.6 9	0.08 6	<sup>142</sup> Ba(10.6 m)	255.300(20.5), 1204.3(14.23), 895.2(13.9)
932.6 4	†5.6 17	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 955.08(†50)
932.6 4	0.020 6	<sup>157</sup> Eu(15.18 h)	63.929(23.0), 410.723(17.5), 370.509(11.0)
932.6 5	0.37 10	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
932.624 16	0.0093 19	<sup>155</sup> Sm(22.3 m)	104.3346(74.6), 245.771(3.7), 141.4428(1.98)
932.7 4	1.43 19	<sup>113</sup> Rh(2.72 s)	189.7(17.0), 409.3(15.9), 219.6(3.88)
932.7 5	1.92 19	<sup>178</sup> Re(13.2 m)	237.3(45), 105.9(23.0), 939.1(8.9)
932.7 3	†<6	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
932.8 2	0.42 3	<sup>235</sup> Th(7.1 m)	417.0(2), 727.2(0.87), 696.1(0.64)
932.82 20	0.54 8	<sup>142</sup> Cs(1.70 s)	359.598(27.2), 1326.46(12.92), 966.89(9.0)
932.85 10	0.00287 20	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
932.9	0.14	<sup>83</sup> As(13.4 s)	734.60(43), 1113.10(14.7), 2076.70(11.9)
• 932.96 5	0.621 5	<sup>149</sup> Gd(9.28 d)	149.735(48.2), 298.634(28.6), 346.651(23.9)
932.98 7	0.0127 10	<sup>133</sup> La(3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
933	5.8 6	<sup>21</sup> O(3.42 s)	1730.3(45.6), 3517(15.4), 279.9(14.8)
933	0.19	<sup>81</sup> Ga(1.221 s)	216.47(37.4), 828.26(22.1), 711.18(17.6)
933.0 2	†11 2	<sup>114</sup> Te(15.2 m)	90.28(†100), 83.8(†67), 1417.6(†32)
933 1	3.2	<sup>124</sup> Ba(11.9 m)	169.3(20), 1216(12), 188.98(10)
933.0 3	0.015 4	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
933 1	0.10 10	$^{141}\text{Xe}(1.73 \text{ s})$	909.23(24.0), 118.705(16.1), 105.937(9.8)
933 1	0.47 11	$^{164}\text{Tb}(3.0 \text{ m})$	168.838(25.4), 754.80(23.3), 215.07(21)
933.0 2	0.44 14	$^{190}\text{Tl}(3.7 \text{ m})$	416.4(91), 625.4(82), 731.1(37)
933.0 2	0.38 12	$^{190}\text{Tl}(2.6 \text{ m})$	416.4(79), 625.4(11.1), 683.5(8.7)
• 933.005 8	3.45 11	$^{147}\text{Eu}(24.1 \text{ d})$	197.299(27), 121.220(22.9), 677.516(9.8)
933.03 8	0.044 7	$^{131}\text{La}(59 \text{ m})$	108.081(25.0), 417.783(18.0), 365.162(16.9)
933.08 4	0.036	$^{239}\text{U}(23.45 \text{ m})$	74.664(48), 43.533(4.14), 662.24(0.18)
933.1 3	†4.51 18	$^{129}\text{Ba}(2.17 \text{ h})$	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
933.1 1	26.1 14	$^{131}\text{Sb}(23.03 \text{ m})$	943.4(47), 642.30(23), 1123.6(9.2)
933.10 25	0.14 4	$^{159}\text{Tm}(9.13 \text{ m})$	38.35(5.8), 84.8(5.8), 271.30(5.1)
933.1 5	†1.05 24	$^{189}\text{Hg}(7.6 \text{ m})$	320.99(†100), 78.21(†63), 565.42(†48)
933.13 3	0.448 22	$^{69}\text{As}(15.2 \text{ m})$	232.69(11), 145.95(4.96), 86.78(3.44)
• 933.2 4	†0.021 10	$^{102}\text{Rh}(207 \text{ d})$	475.070(†47), 628.05(†4.6), 1103.16(†2.99)
933.298 14	5.3 3	$^{186}\text{Ir}(16.64 \text{ h})$	296.911(64.0), 137.155(42), 434.849(34.4)
933.298 14	1.97 25	$^{186}\text{Ir}(2.0 \text{ h})$	137.155(27), 767.508(21.2), 630.354(18.0)
933.3 3	0.75 23	$^{101}\text{Mo}(14.61 \text{ m})$	191.92(19), 590.91(16.4), 1012.47(12.8)
933.3 4	1.4	$^{203}\text{Bi}(11.76 \text{ h})$	820.3(30), 825.2(14.6), 896.9(13)
933.4 4	0.045 9	$^{120}\text{Xe}(40 \text{ m})$	25.1(30), 72.6(9), 178.1(6.8)
933.5 2	0.062 7	$^{137}\text{Pr}(1.28 \text{ h})$	836.7(1.8), 433.9(1.28), 514.0(1.08)
933.5 4	0.16	$^{154}\text{Pm}(1.73 \text{ m})$	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
933.5 4	<0.77	$^{154}\text{Pm}(2.68 \text{ m})$	184.810(32), 81.99(15.4), 546.66(14.5)
933.6 4	0.44 11	$^{139}\text{Sm}(2.57 \text{ m})$	273.7(37), 306.7(28.5), 596.3(8.0)
933.6 4	†2.3 12	$^{155}\text{Nd}(8.9 \text{ s})$	180.574(†100), 418.99(†75), 955.08(†50)
933.62 92	0.024 10	$^{174}\text{Ta}(1.05 \text{ h})$	206.50(58), 91.00(16.0), 1205.92(4.9)
933.62 14	0.014 6	$^{187}\text{W}(23.72 \text{ h})$	685.774(27.3), 479.531(21.8), 72.001(11.14)
933.7 4	2.47 22	$^{97}\text{Pd}(3.10 \text{ m})$	265.26(56), 475.2(26.7), 792.70(13.8)
933.7 20	0.013 3	$^{145}\text{Gd}(23.0 \text{ m})$	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
933.7 2	0.28 4	$^{183}\text{Au}(42.0 \text{ s})$	161.18(9.4), 214.13(5.9), 313.08(5.0)
933.73 19	0.71 4	$^{83}\text{Se}(2.23 \text{ m})$	356.687(70), 510.17(43), 224.8(32.7)
933.75 8	0.189 13	$^{143}\text{Cs}(1.78 \text{ s})$	195.554(13), 232.421(8.32), 306.424(6.80)
933.76 6	0.033 8	$^{135}\text{Ce}(17.7 \text{ h})$	265.56(41.8), 300.07(23.5), 606.76(18.8)
• 933.8 7	2.000 6	$^{115}\text{Cd}(44.6 \text{ d})$	1290.580(0.890), 484.470(0.290), 1132.570(0.0856)
933.8 3	0.0053 21	$^{167}\text{Yb}(17.5 \text{ m})$	113.34(55.3), 106.18(22.5), 176.25(21)
933.8 11	<0.14	$^{175}\text{Ta}(10.5 \text{ h})$	207.4(14.0), 348.5(12.0), 266.9(10.8)
933.8	0.53 17	$^{192}\text{Au}(4.94 \text{ h})$	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
933.82 6	0.084 6	$^{137}\text{Xe}(3.818 \text{ m})$	455.490(31), 848.95(0.62), 1783.43(0.415)
933.9 5	0.07 3	$^{119}\text{Cd}(2.69 \text{ m})$	292.9(36.8), 343.0(16.9), 1609.7(10.9)
933.9 2	†4	$^{139}\text{I}(2.29 \text{ s})$	527.7(†100), 571.2(†98), 536.6(†67)
• 933.9 5	0.0038 7	$^{151}\text{Pm}(28.40 \text{ h})$	340.08(23), 167.75(8.3), 275.21(6.8)
933.9 3	1.6 3	$^{171}\text{Re}(15.2 \text{ s})$	568.4(16.1), 102.0(9.7), 1066.0(8.1)
933.9 4	†0.40 13	$^{188}\text{Au}(8.84 \text{ m})$	265.63(†100), 340.04(†23.9), 605.5(†16.3)
933.9 3	0.028 6	$^{189}\text{Pt}(10.87 \text{ h})$	721.41(9.3), 94.33(7.6), 568.84(7.1)
933.94 4	0.0012 6	$^{173}\text{Hf}(23.6 \text{ h})$	123.672(83), 296.974(33.9), 139.634(12.7)
• 933.95 20	0.15 3	$^{188}\text{Ir}(41.5 \text{ h})$	155.032(29.7), 2214.62(18.7), 632.99(18)
934.0 4	$7.5 \times 10^{-5}$ 17	$^{107}\text{Cd}(6.50 \text{ h})$	93.124(1.45), 828.93(0.17), 796.462(0.0665)
934 1	0.12 6	$^{133}\text{Te}(12.5 \text{ m})$	312.072(62), 407.63(27.1), 1333.21(10.67)
934	0.031 16	$^{142}\text{Ba}(10.6 \text{ m})$	255.300(20.5), 1204.3(14.23), 895.2(13.9)
934 1		$^{142}\text{Tb}(597 \text{ ms})$	515.0(25), 465.0(2.7), 853.1(2.42)
934.00 10	12.3 6	$^{156}\text{Pm}(26.70 \text{ s})$	173.75(52.0), 1147.84(20.5), 117.42(13.8)
934.0 2	†0.30 7	$^{158}\text{Ho}(11.3 \text{ m})$	218.21(†100.0), 98.91(†70), 945.7(†37)
934.0 5	0.47 11	$^{164}\text{Tb}(3.0 \text{ m})$	168.838(25.4), 754.80(23.3), 215.07(21)
934.0 8	3.7 9	$^{170}\text{Ho}(2.76 \text{ m})$	258.2(37.0), 931.3(36.1), 181.6(23.8)
934.0 5	0.050 10	$^{214}\text{Bi}(19.9 \text{ m})$	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
934.03 26	1.77 6	$^{146}\text{Cs}(0.343 \text{ s})$	181.02(57.0), 557.76(9.18), 332.38(6.44)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
934.04 9	0.130 21	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
934.05 15	0.96 5	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
934.061 12	3.03 5	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
934.1 2	0.09 4	<sup>61</sup> Zn(89.1 s)	475.0(16.85), 1660.5(7.80), 970.0(2.57)
934.1 2	0.78 13	<sup>135</sup> Pr(24 m)	296.12(24), 82.64(13.7), 213.45(13.0)
• 934.1 6	0.008 6	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
934.1 12	1.7 5	<sup>168</sup> Ta(2.0 m)	124.0(35.6), 261.6(22.7), 751.4(7.3)
934.13 15	0.29 4	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
934.14 4	1.271 14	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
934.2 10	0.074 15	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
934.208 28	3.4 3	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
934.24 8	0.039 10	<sup>157</sup> Eu(15.18 h)	63.929(23.0), 410.723(17.5), 370.509(11.0)
934.3 2	0.343 22	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
934.33 15	0.522 17	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
• 934.39 7	0.0046 4	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
934.46 5	13.9 8	<sup>92</sup> Y(3.54 h)	1405.28(4.8), 561.03(2.40), 448.34(2.34)
• 934.46 5	99	<sup>92</sup> Nb(10.15 d)	912.73(1.78), 1847.27(0.85), 1132.24(0.005)
• 934.46 5	100	<sup>92</sup> Nb(3.47×10 <sup>7</sup> y)	561.03(100)
934.483 5	0.873 14	<sup>131</sup> Te(25.0 m)	149.716(69), 452.323(18.18), 1146.96(4.95)
934.5 10	0.10 8	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
• 934.5 5	0.07 4	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
934.5 5	0.010 3	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
934.5 1	0.33 4	<sup>240</sup> Np(61.9 m)	566.34(25.3), 973.9(23.8), 600.57(18.4)
• 934.5 1	0.025 3	<sup>240</sup> Am(50.8 h)	987.76(73.2), 888.80(25.1), 98.860(1.5)
934.6 5	0.038 12	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
934.6 2	0.45 5	<sup>104</sup> Ag(33.5 m)	555.796(91), 1238.0(3.87), 2276.7(2.46)
934.6 3	0.09	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
• 934.63 5	0.209 8	<sup>125</sup> Sn(9.64 d)	1067.10(10), 1089.15(4.59), 822.48(4.28)
934.7	12.9 20	<sup>36</sup> Si(0.45 s)	175.0(68), 249.9(68), 878.2(44)
934.70 10	0.320 24	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
934.70 10	†86	<sup>94</sup> Rb(2.702 s)	432.61(†9000), 213.429(†6000), 986.05(†4100)
934.7 5	0.23 7	<sup>123</sup> Cs(5.94 m)	97.3(23), 596.7(10.1), 83.3(4.1)
934.7 1	3.65 18	<sup>211</sup> Rn(14.6 h)	674.1(45), 1362.9(32.5), 678.4(28.9)
• 934.84 15	0.121 8	<sup>79</sup> Kr(35.04 h)	261.29(13), 397.54(9.3), 606.09(8.12)
934.90 15	0.0224 7	<sup>73</sup> Se(39.8 m)	67.03(2.59), 253.70(2.356), 84.0(2.03)
934.9 1	0.328 7	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
934.9 3	0.31 3	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
934.9 2	19 1	<sup>130</sup> Sb(39.5 m)	793.53(100), 839.49(100), 331.05(78)
934.9 3	0.06 3	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
934.9 5	†10 3	<sup>164</sup> Tm(2.0 m)	91.40(†1500), 1154.66(†366), 768.91(†279)
934.91 50	0.15 3	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
935.0 3	†4.51 18	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
935 1	0.0021 16	<sup>136</sup> La(9.87 m)	818.514(2.3), 760.50(0.289), 1322.76(0.264)
935.0 10	0.65 25	<sup>186</sup> Ta(10.5 m)	197.93(50), 214.87(42.3), 510.82(37.5)
935.02 7	0.08 3	<sup>187</sup> Ir(10.5 h)	912.95(4.79), 427.12(4.12), 400.89(3.94)
935.03 12	0.181 16	<sup>138</sup> Cs(33.41 m)	1435.795(76.3), 462.796(30.7), 1009.78(29.8)
935.10 3	10.6 6	<sup>123</sup> Cd(1.82 s)	1165.86(25.7), 1027.45(22.6), 2102.81(12.5)
935.1	5.3 6	<sup>145</sup> Tb(29.5 s)	257.8(39), 987.8(37), 537.0(23)
935.1	0.015 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
935.1 7	1.4 3	<sup>200</sup> Bi(36.4 m)	1026.5(100), 462.34(98), 419.70(91)
935.17 8	0.42 3	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
• 935.175 14	0.028 3	<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
935.19 18	0.34 3	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
935.20 5	6.5 4	<sup>128</sup> In(0.84 s)	1168.80(40), 1089.53(6.0), 2104.07(5.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 935.20 14	0.053 5	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
935.2 7	0.049	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
935.2 3	0.08	<sup>238</sup> Am(98 m)	962.77(28), 918.69(23.0), 561.11(10.9)
• 935.26 20	0.17 3	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
935.32 4	0.032 8	<sup>180</sup> Re(2.44 m)	902.795(90), 103.557(22.2), 825.357(9.9)
935.5 5	0.45 8	<sup>117</sup> I(2.22 m)	325.9(75), 274.4(20.4), 661.5(5.1)
935.5 15	0.14 4	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
• 935.5 2	0.0120 16	<sup>191</sup> Pt(2.9 d)	538.90(13.7), 409.44(8.0), 359.90(6.0)
935.50 25	0.35 10	<sup>204</sup> At(9.2 m)	684.341(95), 516.318(90), 426.253(67.5)
935.538 11	0.061 3	<sup>52</sup> V(3.75 m)	1434.068(100), 1333.649(0.588), 1530.67(0.116)
• 935.538 11	†94.9 3	<sup>52</sup> Mn(5.591 d)	1434.068(†100.0), 744.233(†90.6), 1333.649(†5.07)
935.538 11	†0.02 1	<sup>52</sup> Mn(21.1 m)	1434.068(†101.7), 1727.53(†0.224), 1530.67(†0.0478)
935.6 9	0.36 18	<sup>74</sup> Br(46 m)	634.78(91), 728.37(35.6), 634.26(16.4)
935.6 1	0.49 6	<sup>142</sup> Gd(70.2 s)	750.2(11.2), 178.90(11.20), 284.4(6.16)
935.6 6	0.09 3	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
• 935.614 10	0.06 4	<sup>200</sup> Tl(26.1 h)	367.943(87), 1205.717(29.9), 579.298(13.8)
935.68 20	0.042 8	<sup>66</sup> Ge(2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
935.7 3	†0.55 14	<sup>95</sup> Pd(13.3 s)	1350.9(†105), 716.6(†70.63), 381.8(†50.8)
935.7 3	0.13 3	<sup>141</sup> Eu(40.0 s)	394.0(9), 384.5(5.6), 382.9(2.97)
• 935.7 5	0.022 12	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
935.7 4	0.05 3	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
935.77 6	1.71 9	<sup>113</sup> Sb(6.67 m)	497.96(80), 332.41(14.8), 88.25(2.7)
• 935.8 4	0.029 6	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
935.8 5	0.22 5	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
935.8 6	0.7	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
935.8 2	0.066 7	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
935.83 10	1.6 1	<sup>148</sup> Pr(2.0 m)	301.702(95), 450.58(50), 697.61(40)
935.9 2	0.209 19	<sup>91</sup> Tc(3.14 m)	2450.90(13.5), 1639.90(9.2), 1605.20(7.77)
935.9 2	0.51 12	<sup>108</sup> Tc(5.17 s)	242.25(82), 465.6(14.3), 707.81(11.4)
935.9 3	0.084 20	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
935.90 6	0.0047 8	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
936.0	0.044 9	<sup>43</sup> Ti(509 ms)	2288.2(4.40), 845.2(2.77), 2458.5(0.91)
936.0 10	0.109 23	<sup>76</sup> Kr(14.8 h)	315.7(39), 270.2(21.1), 45.48(19.5)
936.0 10	†13	<sup>99</sup> Rb(59 ms)	90.8(†100), 125.2(†40), 1071.6(†26)
936.0 3	0.19 6	<sup>108</sup> In(39.6 m)	632.96(76), 1986.8(12.4), 3452.2(9.2)
936.0 2	†0.32 9	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
936.0 6	0.08 4	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
936.01 16	0.302 17	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
936.03 15	0.39	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
936.1 5	0.29 7	<sup>159</sup> Eu(18.1 m)	67.8(19), 78.6(9.1), 95.7(7.0)
936.2 5	11.3 6	<sup>201</sup> Bi(108 m)	629.1(24.0), 1014.1(10.7), 786.4(9.5)
936.27 10	1.07 7	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
936.3 5	0.18 4	<sup>98</sup> Y(0.548 s)	1223.0(36.0), 2941.3(16.7), 1590.9(14.7)
936.3 10	†1.8×10 <sup>3</sup> 5	<sup>234</sup> Pa(1.17 m)	1001.03(†837000), 766.38(†294000), 742.81(†80000)
936.34 8	0.86 22	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
936.36 11	0.135 13	<sup>138</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
936.4 2	0.77 13	<sup>74</sup> Br(25.4 m)	634.78(64), 219.05(18.1), 634.26(14.1)
936.4 3	†333 48	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
936.41 8	0.000220	<sup>176</sup> Lu(3.635 h)	88.34(0.55640), 1159.28(0.00139), 1061.61(0.000762)
936.41 8	0.6	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
936.44 5	0.270 8	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
936.50 10	2.79 19	<sup>125</sup> In(2.36 s)	1335.04(71), 1031.75(9.6), 617.88(7.4)
936.5 10	0.25	<sup>186</sup> Ta(10.5 m)	197.93(50), 214.87(42.3), 510.82(37.5)
936.5 3	†2.6 5	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
936.55 15	66 4	$^{100}\text{Cd}(49.1 \text{ s})$	139.71(6.7), 582.5(6.3), 507.25(5.5)
936.6 3	0.40 7	$^{121}\text{Cs}(155 \text{ s})$	153.9(15.2), 239.6(7.7), 427.1(3.63)
936.6 3	0.31 5	$^{121}\text{Cs}(122 \text{ s})$	179.4(30.2), 196.0(24.1), 459.7(12.0)
936.6 2	0.81 16	$^{130}\text{La}(8.7 \text{ m})$	357.4(81.0), 550.7(25.9), 908.0(17.0)
936.6 2	0.104 21	$^{183}\text{Ir}(58 \text{ m})$	392.52(10.4), 228.70(6.9), 87.67(5.6)
• 936.61 6	0.40 1	$^{238}\text{Np}(2.117 \text{ d})$	984.45(27.8), 1028.54(20.3), 1025.87(9.6)
936.62 4	9.6 4	$^{81}\text{Ga}(1.221 \text{ s})$	216.47(37.4), 828.26(22.1), 711.18(17.6)
936.7 4	2.20 6	$^{99}\text{Rh}(4.7 \text{ h})$	340.71(70), 617.8(12.0), 1261.2(11)
936.7	16	$^{140}\text{I}(0.86 \text{ s})$	376.657(91), 457.630(59), 564.4(11)
936.7 3	0.0072 23	$^{167}\text{Yb}(17.5 \text{ m})$	113.34(55.3), 106.18(22.5), 176.25(21)
936.7 4	0.011 4	$^{235}\text{Pu}(25.3 \text{ m})$	49.10(2.36), 756.4(0.479), 34.23(0.23)
936.79 7	5.74 25	$^{166}\text{Lu}(2.65 \text{ m})$	228.12(77.3), 337.50(41), 367.95(31.4)
936.79 7	8.3 6	$^{166}\text{Lu}(1.41 \text{ m})$	228.12(15), 102.38(13), 285.07(11.0)
936.8 1	0.62 8	$^{96}\text{Rb}(0.199 \text{ s})$	815.0(78.00), 692.0(8.0), 813.2(7.0)
• 936.8 10	0.017 4	$^{147}\text{Gd}(38.06 \text{ h})$	229.32(63), 396.00(34.3), 929.01(20.2)
936.8 3	0.049 21	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
936.8 2	†37 3	$^{191}\text{Pb}(2.18 \text{ m})$	387.1(†100), 712.2(†46), 613.5(†40)
936.91 7	†3.96 6	$^{71}\text{Se}(4.74 \text{ m})$	147.50(†211), 1095.26(†43.6), 830.33(†43.2)
936.93 11	0.45 5	$^{99}\text{Sr}(0.269 \text{ s})$	125.118(16.1), 536.12(14.0), 1198.12(9.2)
936.97 8	4.05 24	$^{80}\text{Ge}(29.5 \text{ s})$	265.36(27.0), 110.4(6.5), 1564.3(4.9)
937 2	1.2 6	$^{76}\text{Rb}(39.1 \text{ s})$	2571.3(47), 424.0(43.4), 355.6(8.2)
937.0 3	0.22 5	$^{129}\text{In}(0.61 \text{ s})$	2118.0(45), 1865.0(32), 769.3(9.1)
• 937.0 2	0.0031 10	$^{152}\text{Eu}(13.542 \text{ y})$	344.281(26.58), 778.91(12.96), 411.115(2.231)
937.0 2	†4.5 5	$^{152}\text{Tb}(17.5 \text{ h})$	344.281(†1500), 586.294(†223), 271.135(†203)
937.0 3	0.7 4	$^{152}\text{Ho}(49.5 \text{ s})$	647.2(92), 613.8(88.4), 683.3(88)
937.0 5	0.095 16	$^{227}\text{Fr}(2.47 \text{ m})$	90.035(39), 585.804(29.5), 64.267(14.5)
937.03 4	0.0020 4	$^{205}\text{Hg}(5.2 \text{ m})$	203.750(2.2), 415.70(0.0130), 1218.96(0.0062)
937.05 5	0.0026 5	$^{145}\text{Pr}(5.984 \text{ h})$	748.278(0.5250), 675.795(0.514), 72.500(0.261)
937.19 20	0.18	$^{137}\text{I}(24.5 \text{ s})$	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
937.2 2	10.8 4	$^{162}\text{Ho}(67.0 \text{ m})$	185.005(28.6), 1220.0(22.5), 282.864(11.3)
937.3 10	0.007 3	$^{111}\text{Pd}(23.4 \text{ m})$	580.00(0.8), 70.44(0.78), 1459.0(0.56)
937.3 1	†43 4	$^{123}\text{La}(17 \text{ s})$	92.5(†100), 153.6(†43), 120.9(†31)
937.30 12	0.37	$^{154}\text{Pm}(1.73 \text{ m})$	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
937.3 6	0.056 24	$^{161}\text{Er}(3.21 \text{ h})$	826.6(3.0), 211.15(12.2), 592.6(3.7)
937.33 6	1.71 9	$^{75}\text{Zn}(10.2 \text{ s})$	228.67(28.9), 432.29(20.2), 155.94(17.2)
• 937.38	0.08	$^{146}\text{Eu}(4.59 \text{ d})$	747.2(98), 633.03(43), 634.07(37)
• 937.39 10	0.0192 21	$^{165}\text{Tm}(30.06 \text{ h})$	242.917(35.5), 47.155(16.9), 297.369(12.71)
937.4 4	1.1 3	$^{102}\text{Ag}(12.9 \text{ m})$	556.52(91), 719.40(58), 1744.99(17.3)
• 937.41 5	0.127 9	$^{153}\text{Tb}(2.34 \text{ d})$	212.038(31.0), 170.504(6.8), 109.758(6.4)
• 937.47 12	0.0033 5	$^{171}\text{Lu}(8.24 \text{ d})$	739.78(47.8), 19.394(13.7), 667.404(11.04)
• 937.493 4	34.13 11	$^{110}\text{Ag}(249.79 \text{ d})$	657.7622(94.0), 884.685(72.2), 1384.300(24.12)
937.493 4	68.4 14	$^{110}\text{In}(4.9 \text{ h})$	657.7622(98.3), 884.685(92.9), 707.40(29.5)
937.494 23	0.151 3	$^{125}\text{Xe}(16.9 \text{ h})$	188.418(54), 243.378(30.1), 54.968(6.81)
937.53 9	0.0091 5	$^{161}\text{Gd}(3.66 \text{ m})$	360.94(0.59), 314.92(22.7), 102.315(13.9)
937.56 7	0.95 17	$^{164}\text{Lu}(3.14 \text{ m})$	123.3(34.0), 740.52(12.2), 262.22(10.8)
937.6 5	0.147 16	$^{228}\text{Fr}(39 \text{ s})$	473.7(10.2), 474.0(7.6), 410.40(6.3)
937.7 5	†15 3	$^{130}\text{Sn}(1.7 \text{ m})$	144.9(†100), 899.2(†49), 84.7(†42)
937.71 17	0.51 5	$^{103}\text{Tc}(54.2 \text{ s})$	346.380(17.5), 136.079(16.6), 562.90(7.0)
937.8 13	0.050 9	$^{18}\text{N}(624 \text{ ms})$	1981.95(83.2), 821.76(49.0), 1651.61(48.9)
937.8 3	0.33 3	$^{187}\text{Au}(8.4 \text{ m})$	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
• 937.82 1	0.0261 13	$^{143}\text{Ce}(33.039 \text{ h})$	293.266(42.80), 57.356(11.7), 664.571(5.69)
937.86 19	0.85 13	$^{195}\text{Pb}(15.0 \text{ m})$	383.64(106.9), 394.21(44), 878.40(24.2)
937.89 8	2.11 11	$^{199}\text{Pb}(90 \text{ m})$	366.90(44.2), 353.39(9.5), 1135.04(7.8)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 937.9 8	0.006	<sup>124</sup> Sb(60.20 d)	602.730(97.8), 1690.980(47.3), 722.786(10.76)
937.9 4	0.067 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
937.9 6	0.15 7	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
937.96 25	0.092 10	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
937.96 8	2.26 14	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
• 938	0.0008 5	<sup>48</sup> V(15.9735 d)	983.517(99.98), 1312.096(97.5), 944.104(7.76)
938.0 3	0.11 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
• 938.0 8	†0.00065	<sup>227</sup> Th(18.72 d)	235.971(†813), 50.13(†528), 256.25(†463)
938.02 10	1.21 5	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
• 938.02 10	>6.0×10 <sup>-7</sup>	<sup>244</sup> Cm(18.10 y)	42.824(.0044100), 98.860(.0001470), 152.63(<4.9×10 <sup>-7</sup> )
938.1 4	0.24 10	<sup>92</sup> Ru(3.65 m)	213.81(96), 259.32(92), 134.57(65.5)
• 938.10 9	0.116 5	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
938.19 4	0.118 4	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
938.2		<sup>130</sup> Pr(40.0 s)	951.9, 499.0, 1405
938.2 1	0.17 3	<sup>240</sup> Np(61.9 m)	566.34(25.3), 973.9(23.8), 600.57(18.4)
• 938.2 1	0.007 3	<sup>240</sup> Am(50.8 h)	987.76(73.2), 888.80(25.1), 98.860(1.5)
938.3 2	†5.7 7	<sup>82</sup> Ga(0.602 s)	1348.07(†100), 2215.0(†22.0), 867.46(†13.4)
938.3 2	1.37 11	<sup>101</sup> Ag(11.1 m)	261.0(53), 588.0(10.0), 667.3(9.8)
938.3 10	1.1 3	<sup>191</sup> Hg(50.8 m)	252.5(57), 420.1(18.6), 578.6(17.6)
938.34 16	0.150 16	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
938.4 3	0.087 9	<sup>101</sup> Tc(14.22 m)	306.85(88), 545.06(6.0), 127.23(2.86)
938.4 3	4.8 5	<sup>118</sup> I(8.5 m)	605.71(99), 600.71(92), 614.42(65)
938.4 5	0.24 5	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
938.4 2	1.01 17	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
938.45 3	2.96 9	<sup>81</sup> Sr(22.3 m)	153.54(33.8), 147.76(30.1), 443.34(17.5)
938.50 14	0.077 3	<sup>72</sup> Ga(14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)
• 938.50 14	0.056 12	<sup>72</sup> As(26.0 h)	834.01(80), 629.95(7.92), 1463.95(1.107)
938.5 2	0.015 4	<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
• 938.610 9	2.39 3	<sup>149</sup> Gd(9.28 d)	149.735(48.2), 298.634(28.6), 346.651(23.9)
938.7 5	0.093 20	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
938.7 2	0.11 3	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
938.70 2	0.599 18	<sup>194</sup> Ir(19.15 h)	328.455(13.1), 293.545(2.55), 645.157(1.17)
• 938.70 2	1.09 6	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
• 938.75 8	1.58 4	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
938.79 5	0.0060 8	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
938.9 2	0.34 6	<sup>81</sup> As(33.3 s)	467.72(20), 491.20(8.5), 521.10(1.40)
938.90 7	0.63 3	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
938.9 3	0.99 25	<sup>121</sup> Cd(13.5 s)	324.976(49.5), 1040.26(16.8), 349.937(12.9)
938.9 3	2.6 3	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
938.9 2	†3.5 4	<sup>182</sup> Ir(15 m)	273.23(†100), 126.79(†77), 236.3(†21.0)
• 938.95 10	0.026 3	<sup>238</sup> Np(2.117 d)	984.45(27.8), 1028.54(20.3), 1025.87(9.6)
938.95 10	0.0034	<sup>238</sup> Am(98 m)	962.77(28), 918.69(23.0), 561.11(10.9)
• 938.95 10	1.8×10 <sup>-7</sup> 8	<sup>242</sup> Cm(162.8 d)	44.08(0.0325), 101.90(0.0025), 157.42(0.0014)
939.00 20	1.0 5	<sup>114</sup> Sb(3.49 m)	1299.90(99), 887.60(17.4), 327.18(7.0)
939 1	>0.35	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
939.0 5	0.028 21	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
939.0 3	0.75 8	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
939.0 3	0.00038	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
939.1 5	0.045 9	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
939.1 5	8.9 8	<sup>178</sup> Re(13.2 m)	237.3(45), 105.9(23.0), 777.9(3.8)
939.15 5	0.077 5	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
939.18 14	0.071 16	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
939.2 5	0.031 6	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
939.2 3	0.77 5	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
939.2 3	0.063 6	<sup>186</sup> Hg(1.38 m)	112.1(63), 251.5(55), 191.6(3.7)
939.2 2	0.08 3	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
939.25 7	1.95 20	<sup>206</sup> At(30.0 m)	700.66(98), 477.10(86), 395.54(48)
939.3 5	0.23 5	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
939.30 3	1.76 4	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
939.35 3	0.285 7	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
939.36 7	0.259 7	<sup>72</sup> Ga(14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)
• 939.36 7	0.0064 8	<sup>72</sup> As(26.0 h)	834.01(80), 629.95(7.92), 1463.95(1.107)
939.4 3	0.066 14	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
939.4 3	0.35 11	<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
939.41 8	†21	<sup>197</sup> Ir(5.8 m)	469.72(†100), 430.56(†61), 815.92(†45)
939.453 28	0.0496 14	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
939.5 3	0.045 9	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
• 939.57 6	0.66 6	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
939.6 3	0.30 17	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
939.6 5	0.017 6	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
939.64 6	0.140 7	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
939.7 7	0.73 17	<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
• 939.7 5	0.12 6	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
939.8 5	0.39 8	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
• 939.8 5	0.0038 9	<sup>151</sup> Pm(28.40 h)	340.08(23), 167.75(8.3), 275.21(6.8)
939.87 15	0.009 3	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
939.9 2	0.43 5	<sup>90</sup> Br(1.92 s)	707.05(38.0), 1362.32(11.2), 655.17(7.7)
• 940.0 5	$1.0 \times 10^{-4}$ 4	<sup>99</sup> Mo(65.94 h)	739.50(12.1), 181.063(6.08), 140.511(4.52)
940.0 15	0.50 15	<sup>138</sup> Pr(2.12 h)	1037.8(101), 788.742(100), 302.7(80)
940.0 3	†6.6 10	<sup>159</sup> Yb(1.58 m)	166.16(†500), 177.12(†159), 390.20(†113)
940.07 29	0.09 3	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
940.1 15	†4.1	<sup>256</sup> Es(7.6 h)	861.8(†100), 231.1(†61), 172.6(†49)
940.2	†0.7	<sup>131</sup> Pr(1.53 m)	266.13(†100), 72.82(†64), 387.56(†38)
940.28 14	0.28 8	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
940.3 3	3.75 22	<sup>97</sup> Pd(3.10 m)	265.26(56), 475.2(26.7), 792.70(13.8)
940.3 5	0.54 6	<sup>136</sup> Nd(50.65 m)	108.90(32), 40.2(18.9), 574.8(10.4)
940.3 3	0.11 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
• 940.3 3	$5.0 \times 10^{-8}$ 5	<sup>239</sup> Pu(24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
940.4 4	0.30 3	<sup>75</sup> Kr(4.3 m)	132.43(67), 154.66(20.8), 153.15(8.0)
• 940.40 20	1.12 10	<sup>99</sup> Rh(16.1 d)	528.24(33), 353.05(30.0), 89.65(29.0)
940.4 3	0.046 16	<sup>103</sup> Tc(54.2 s)	346.380(17.5), 136.079(16.6), 562.90(7.0)
940.4 5	0.35 7	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
940.5 3	0.34 5	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
940.51 10		<sup>72</sup> Ga(14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)
• 940.51 10	0.0207 24	<sup>72</sup> As(26.0 h)	834.01(80), 629.95(7.92), 1463.95(1.107)
940.516 25	0.304 9	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
940.62 3	0.506 17	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
940.63 6	2.62 13	<sup>113</sup> Sb(6.67 m)	497.96(80), 332.41(14.8), 88.25(2.7)
940.7 3	0.114 5	<sup>235</sup> Pu(25.3 m)	49.10(2.36), 756.4(0.479), 34.23(0.23)
940.8 6	0.15 5	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
940.8 3	0.7 3	<sup>102</sup> Zr(2.9 s)	599.60(13.9), 535.30(10.6), 64.50(8.9)
940.87 5	0.266 23	<sup>132</sup> La(4.8 h)	464.55(76), 567.14(15.7), 1909.91(9.0)
940.9 3	1.12 20	<sup>100</sup> Cd(49.1 s)	936.55(66), 139.71(6.7), 582.5(6.3)
940.9 2	0.100 15	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
941.0 3	0.086 9	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
941.0 2	†1.23 14	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
941.0 2	0.58 6	<sup>160</sup> Ho(25.6 m)	728.18(46.9), 879.383(26.6), 962.317(25.6)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
941.0 3	0.134 18	$^{161}\text{Er}$ (3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
941.0 5	†3.4 5	$^{180}\text{Au}$ (8.1 s)	153.3(†100), 524.3(†29), 257.6(†26)
941.0 5	0.10 5	$^{204}\text{Bi}$ (11.22 h)	899.15(98), 374.72(82), 984.02(59)
941.0 10	0.25 17	$^{245}\text{Pu}$ (10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
941.05 13	†6.7 10	$^{189}\text{Hg}$ (7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
941.09 11		$^{204}\text{Bi}$ (11.22 h)	899.15(98), 374.72(82), 984.02(59)
941.1 4	2.5 4	$^{85}\text{Se}$ (31.7 s)	345.2(<0.23), 3396.6(7.4), 1427.2(7.0)
941.2 1	0.173 14	$^{79}\text{Rb}$ (22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
941.2 1	3.2 3	$^{119}\text{Cd}$ (2.69 m)	292.9(36.8), 343.0(16.9), 1609.7(10.9)
941.2 1	0.56 5	$^{119}\text{Cd}$ (2.20 m)	1025.0(24.8), 2021.3(22.6), 720.7(17.9)
941.23 4	15	$^{175}\text{Tm}$ (15.2 m)	514.868(65), 363.942(12.7), 982.45(10.2)
941.25 8	0.230 16	$^{138}\text{Xe}$ (14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
• 941.26	0.16	$^{146}\text{Eu}$ (4.59 d)	747.2(98), 633.03(43), 634.07(37)
• 941.27 5	1.02 4	$^{131}\text{Te}$ (30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
• 941.38 5	0.54 2	$^{238}\text{Np}$ (2.117 d)	984.45(27.8), 1028.54(20.3), 1025.87(9.6)
941.38 5	2.24 14	$^{238}\text{Am}$ (98 m)	962.77(28), 918.69(23.0), 561.11(10.9)
941.4 2	20.7 4	$^{170}\text{Ho}$ (2.76 m)	258.2(37.0), 931.3(36.1), 181.6(23.8)
941.4 3	0.62 5	$^{198}\text{Tl}$ (5.3 h)	411.8044(82), 675.8874(11), 636.4(10.1)
941.41 7	0.67	$^{137}\text{I}$ (24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
• 941.420 7	$7.0 \times 10^{-5}$ 1	$^{115}\text{Cd}$ (53.46 h)	336.240(45.9), 527.900(27.45), 492.3(8.03)
• 941.420 7	0.00024 2	$^{115}\text{Cd}$ (44.6 d)	933.8(2.000), 1290.580(0.890), 484.470(0.290)
941.5 4	5.5 6	$^{90}\text{Mo}$ (5.67 h)	257.34(78), 122.370(64.2), 203.13(6.4)
941.6 3	72	$^{95}\text{Rh}$ (5.02 m)	1352.0(20.8), 677.6(5.80), 1494.7(5.0)
941.6 11	0.061 9	$^{105}\text{Cd}$ (55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
941.6 5	0.55 16	$^{117}\text{Ag}$ (72.8 s)	135.4(23), 337.7(10.3), 157.1(7.9)
941.6 3	0.0033 3	$^{223}\text{Fr}$ (21.8 m)	50.13(36.0), 79.72(9.1), 234.81(3.0)
• 941.6 3	†0.0045 7	$^{227}\text{Th}$ (18.72 d)	235.971(†813), 50.13(†528), 256.25(†463)
941.6 4	1.6 3	$^{232}\text{Np}$ (14.7 m)	327.3(52), 819.187(33.3), 866.760(24.4)
941.7 1	0.00068 4	$^{104}\text{Rh}$ (4.34 m)	555.796(0.13), 767.72(0.0065), 1237.2(0.0042)
941.7 1	25.0 23	$^{104}\text{Ag}$ (69.2 m)	555.796(92.6), 767.72(65.7), 926.2(12.5)
941.72 5	38.3 10	$^{28}\text{Mg}$ (20.91 h)	30.6383(95), 1342.27(52.6), 400.56(36.6)
941.8 2	0.06 6	$^{101}\text{Zr}$ (2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
941.8 2	0.050 8	$^{143}\text{Ba}$ (14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
941.8 3	0.974 22	$^{177}\text{Yb}$ (1.911 h)	150.392(20.3), 1080.21(5.6), 1241.2(3.47)
941.8 4	1.0 3	$^{181}\text{Os}$ (105 m)	238.75(44), 826.77(20), 118.03(12.9)
941.86 5	1.34 4	$^{90}\text{Kr}$ (32.32 s)	1118.69(39.0), 121.82(35.5), 539.49(30.8)
941.9 8	0.0078	$^{233}\text{Th}$ (22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
941.94 20	0.42 5	$^{205}\text{At}$ (26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
941.94 10	0.045 7	$^{234}\text{Pa}$ (6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
941.94 10	†2.49×10 <sup>3</sup>	$^{234}\text{Pa}$ (1.17 m)	1001.03(†837000), 766.38(†294000), 742.81(†80000)
• 941.94 10	0.248 15	$^{234}\text{Np}$ (4.4 d)	1558.31(18.72), 1527.21(11.2), 1601.80(9.1)
• 941.94 10	$4.7 \times 10^{-7}$ 5	$^{238}\text{Pu}$ (87.74 y)	43.498(0.0395), 99.853(0.00735), 152.720(0.000937)
941.95 2	0.36 12	$^{244}\text{Am}$ (26 m)	1084.181(0.37), 1062.953(0.28), 1041.278(0.19)
942 3	>1.2	$^{77}\text{Sr}$ (9.0 s)	146.94(86.1), 160.10(9.2), 144.82(6.8)
942.0 2	0.26 6	$^{157}\text{Er}$ (18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
942.0 2	0.17 5	$^{173}\text{Ta}$ (3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
942.0 2	0.24 3	$^{183}\text{Ir}$ (58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
942.03 12	0.59 3	$^{147}\text{Pr}$ (13.4 m)	77.9921(15), 314.675(13.2), 641.380(10.0)
942.09 7	1.19 20	$^{202}\text{Bi}$ (1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
942.1 4	26 7	$^{62}\text{Mn}$ (0.88 s)	876.8(90), 1299.0(25), 1815.0(21)
942.1 5	1.43 17	$^{70}\text{As}$ (52.6 m)	1039.20(81), 1114.1(21.8), 668.3(21.8)
942.1 5	†1.8 8	$^{193}\text{Tl}$ (21.6 m)	324.37(†100), 1044.7(†59), 676.10(†48)
• 942.177 7	0.185 5	$^{147}\text{Eu}$ (24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
942.2 4	2.8 3	$^{130}\text{Sb}$ (6.3 m)	839.49(100), 793.53(86), 182.36(41)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
942.2 2	0.31 6	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
942.20 20	0.48 4	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
942.2	†69 16	<sup>189</sup> Tl(2.3 m)	333.7(†100), 451.0(†49), 522.3(†27)
942.20 10	34 3	<sup>190</sup> Pb(1.2 m)	151.19(8.92), 598.3(8.0), 142.2(7)
• 942.21 6	5.09 6	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
942.3 5	>0.19	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
942.39 10	0.096 9	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
942.4 2	6.4 5	<sup>196</sup> Bi(308 s)	1049.21(87), 689.00(35.5), 776.6(9.1)
942.4 2	0.87 6	<sup>236</sup> Pa(9.1 m)	642.35(37.0), 687.59(9.9), 1762.7(6.0)
• 942.45 15	0.211 7	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
942.47 7	1.26 6	<sup>74</sup> Ga(8.12 m)	595.847(91), 2353.46(44.5), 608.353(14.3)
942.5 3	0.38 6	<sup>88</sup> Br(16.5 s)	775.28(63), 802.14(13.13), 1440.69(4.72)
942.5 4	1.07 20	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
942.5 1	0.45 3	<sup>208</sup> Fr(59.1 s)	635.8(10), 778.5(6.8), 325.3(5.2)
942.6 4	0.00057 14	<sup>106</sup> Rh(29.80 s)	511.842(20), 621.94(9.93), 1050.39(1.56)
942.61 22	0.08 5	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
942.77 11	†5.4 5	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
942.8 1	0.97 8	<sup>130</sup> La(8.7 m)	357.4(81.0), 550.7(25.9), 908.0(17.0)
942.8 3	†5.2 7	<sup>153</sup> Yb(4.2 s)	547.4(†100), 674.1(†61), 369.6(†32)
942.80 11	18.8 17	<sup>182</sup> Hf(61.5 m)	799.64(9.4), 114.3152(6.2), 339.65(5.6)
942.87 12	1.82 13	<sup>115</sup> Te(5.8 m)	723.569(30), 1380.58(23.0), 1326.83(22.7)
942.88 11	0.101 22	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
942.89 32	0.10 3	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
942.9 3	0.019 4	<sup>143</sup> La(14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)
942.91 8	0.66 3	<sup>138</sup> I(6.49 s)	588.825(56), 875.23(9.2), 2262.19(3.86)
942.95 42	0.14 3	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
942.97 17	0.0031 10	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
943 1	0.06 4	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
943.0 3	0.10 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
• 943.05 6	0.23 4	<sup>182</sup> Re(64.0 h)	229.3220(26), 67.75001(22.2), 1121.3007(22.0)
943.1 2		<sup>223</sup> Rn(23.2 m)	591.8(†100), 635.2(†76), 416.0(†55)
943.17 7	0.414 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
943.2	0.80 4	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
943.3 3	>0.9	<sup>83</sup> Se(22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
943.3 3	14.9 8	<sup>104</sup> In(1.8 m)	658.0(100), 834.1(99), 878.1(29.4)
943.3 4	0.017 6	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
943.33 9	†8.7 7	<sup>93</sup> Tc(43.5 m)	2644.55(†42.7), 3129.0(†6.4), 1492.45(†5.7)
943.36 19	0.22 3	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
943.4 3	0.87 4	<sup>83</sup> Se(22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
943.4 1	47	<sup>131</sup> Sb(23.03 m)	933.1(26.1), 642.30(23), 1123.6(9.2)
943.4 1	0.298 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
943.5 3	0.16 4	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
943.5 5	0.32 13	<sup>121</sup> Ag(0.78 s)	314.55(32.1), 353.43(19.9), 500.61(9.3)
943.5 3	0.049 10	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
943.5	†7	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
943.54 15	†3.6 4	<sup>165</sup> Lu(10.74 m)	132.49(†100), 120.60(†100), 174.25(†47.0)
943.55 28	0.74 7	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
943.6 5	0.052 16	<sup>83</sup> Y(7.08 m)	35.50(0.44), 882.1(6.30), 489.90(5.53)
943.60 8	0.88 5	<sup>186</sup> Ir(16.64 h)	296.911(64.0), 137.155(42), 434.849(34.4)
• 943.6		<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
943.70 9	0.57 4	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
943.74 4	19.9 20	<sup>118</sup> I(8.5 m)	605.71(99), 600.71(92), 614.42(65)
943.8 5	†2.9 10	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
943.8 2	0.179 21	<sup>224</sup> Fr(3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
943.93 14	0.20 3	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
944.0 5	0.13 4	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
• 944	0.008 5	<sup>150</sup> Eu(35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
944.02 9	†4.0 3	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
944.07 10	2.43 7	<sup>96</sup> Rh(9.90 m)	832.57(100), 685.49(95.7), 631.71(74.5)
944.07 10	0.78 12	<sup>96</sup> Rh(1.51 m)	832.57(39), 1098.51(8.9), 1692.2(7.0)
944.08 20	†37	<sup>154</sup> Nd(25.9 s)	151.703(†800), 799.55(†600), 180.693(†510)
944.09 5	25	<sup>158</sup> Eu(45.9 m)	977.131(13.6), 79.5104(11), 897.60(10.3)
• 944.09 5	44	<sup>158</sup> Tb(180 y)	962.06(20.3), 79.5104(11.6), 181.930(9.9)
944.1 2	0.9	<sup>146</sup> Cs(0.343 s)	181.02(57.0), 557.76(9.18), 332.38(6.44)
944.1 1	0.20 11	<sup>152</sup> Pm(7.52 m)	244.6989(78), 121.7824(45), 340.48(31.3)
• 944.1	0.0073 20	<sup>206</sup> Po(8.8 d)	1032.26(32.9), 511.36(24.1), 286.410(23.8)
• 944.104 7	7.76 9	<sup>48</sup> V(15.9735 d)	983.517(99.98), 1312.096(97.5), 2240.375(2.41)
944.12 7	1.4 1	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
944.13 14	0.021 4	<sup>131</sup> La(59 m)	108.081(25.0), 417.783(18.0), 365.162(16.9)
944.19 15	0.165 16	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
944.199 15	0.098 8	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
944.2 1	†2.2 3	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
944.2 4	†1.71 24	<sup>201</sup> Po(15.3 m)	890.1(†100), 240.1(†71.0), 904.2(†54.8)
944.21 8	0.062 14	<sup>130</sup> I(12.36 h)	536.09(99), 668.54(96), 739.48(82)
944.21 10	0.032 10	<sup>157</sup> Eu(15.18 h)	63.929(23.0), 410.723(17.5), 370.509(11.0)
944.24 11	0.034 4	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
944.3 2	1.16 11	<sup>101</sup> Ag(11.1 m)	261.0(53), 588.0(10.0), 667.3(9.8)
944.3 10	0.050 21	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
• 944.35 7	1.331 9	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
• 944.38 7	0.0067 10	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
944.4 3	†1.0 5	<sup>131</sup> Pr(1.53 m)	266.13(†100), 72.82(†64), 387.56(†38)
944.4 2	0.044 18	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
944.5 3	0.167 12	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
944.5 3	2.3 10	<sup>114</sup> Rh(1.85 s)	332.9(87), 519.8(48.4), 618.7(31)
944.5 2	0.112 12	<sup>129</sup> Ba(2.23 h)	6.545(23.7), 214.30(13.4), 220.83(8.54)
944.5 3	†0.8 2	<sup>138</sup> Pm(3.24 m)	520.9(†100), 729.0(†37.8), 493.1(†21.6)
944.5 3	0.0103 21	<sup>162</sup> Tb(7.60 m)	260.070(37.2), 807.53(42.8), 888.20(38.7)
944.5 3	0.16 5	<sup>162</sup> Ho(67.0 m)	185.005(28.6), 1220.0(22.5), 282.864(11.3)
944.51 24	0.34 6	<sup>88</sup> Nb(14.5 m)	1082.53(103), 1057.01(100), 671.20(64)
• 944.56 10	0.138 5	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
944.6 5	0.047 19	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
944.6 4	0.063 9	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
944.6 6	0.009 4	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
944.6	0.32	<sup>145</sup> Ba(4.31 s)	96.6(17), 91.9(7), 65.9(5)
944.6 3	0.82 8	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
944.6 5	0.079 24	<sup>227</sup> Fr(2.47 m)	90.035(39), 585.804(29.5), 64.267(14.5)
944.68 2	0.22 6	<sup>145</sup> Cs(0.594 s)	175.36(20), 198.93(10.9), 112.46(10.71)
944.7 4	36.6 20	<sup>90</sup> Tc(49.2 s)	1054.3(100), 948.1(100), 809.8(34.3)
944.7 5	0.30 5	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
944.7 3	0.114 5	<sup>235</sup> Pu(25.3 m)	49.10(2.36), 756.4(0.479), 34.23(0.23)
944.75 28	0.47 3	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
944.79 20	0.38 22	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
• 944.8 1	0.055 5	<sup>177</sup> Ta(56.56 h)	112.9498(7.2), 208.3664(0.94), 1057.8(0.29)
944.8 1	37.8 18	<sup>242</sup> Np(5.5 m)	785.7(60), 159.0(19.2), 265.1(14.4)
944.85 4	0.0427 18	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
944.9 3	0.11 3	<sup>188</sup> Hg(3.25 m)	66.7(63), 190.1(4.40), 82.7(2.6)
944.92 4	0.294 14	<sup>88</sup> Kr(2.84 h)	2392.11(34.6), 196.301(25.98), 2195.842(13.18)
945.0 3	2.7 3	<sup>92</sup> Ru(3.65 m)	213.81(96), 259.32(92), 134.57(65.5)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
945.0	2.2 3	<sup>95</sup> Sr(23.90 s)	685.6(23), 2717.3(4.6), 2933.1(4.1)
945.0 3	0.11 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
945.02 11	0.80 8	<sup>197</sup> Pb(43 m)	385.85(74), 387.72(25.1), 222.45(24.6)
945.1 4	†0.7 4	<sup>103</sup> Nb(1.5 s)	102.64(†100), 641.1(†55), 538.5(†34.0)
945.1 1	†3.4 7	<sup>172</sup> Ir(2.0 s)	227.8(†100.0), 378.4(†62.0), 448.4(†40.5)
945.1 4	0.30 15	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
945.18 20	0.20 4	<sup>126</sup> In(1.60 s)	1141.11(55.9), 3344.61(21.6), 969.61(14.9)
945.18 20	1.0 2	<sup>126</sup> In(1.64 s)	1141.11(100), 908.58(99), 111.79(88)
945.2 2	0.61 11	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
945.2 5	0.47 11	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
945.2 5	0.051 17	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
• 945.23 3	0.86 3	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
945.27 3	0.869 22	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
945.3 5	0.30 7	<sup>123</sup> Cs(5.94 m)	97.3(23), 596.7(10.1), 83.3(4.1)
945.4 5	0.11 3	<sup>61</sup> Fe(5.98 m)	1205.07(44), 1027.42(42.7), 297.90(22.2)
945.4 4	0.14 5	<sup>122</sup> Cs(21.0 s)	331.1(48), 512.0(3.8), 817.9(3.09)
945.4 3	0.22 3	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
945.4 1	0.239 20	<sup>249</sup> Es(102.2 m)	379.5(40.4), 813.2(9.2), 375.1(3.3)
945.5 3	0.34 5	<sup>127</sup> In(1.09 s)	1597.7(49), 646.1(6.2), 805.1(5.6)
945.5 40	0.082 24	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
945.5 5	0.015 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
945.5 8	0.81 19	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
945.6	†1.0 2	<sup>178</sup> Ir(12 s)	266.1(†100.0), 131.6(†79), 363.1(†39.9)
945.6 8	<0.006	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
945.67 3	1.53 8	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
945.7 1	†37 4	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 948.8(†34.5)
945.7 1	1.09 10	<sup>200</sup> Po(11.5 m)	671.0(34.0), 617.7(19.7), 434.4(9.3)
• 945.7	†6×10 <sup>02</sup> 3	<sup>241</sup> Am(432.2 y)	59.537(†60), 26.345(†1000×10 <sup>9</sup> ), 33.195(†6000×10 <sup>8</sup> )
945.73 20	0.0307 11	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
945.78 23	0.0081 14	<sup>122</sup> I(3.63 m)	564.119(18), 692.794(1.325), 793.278(1.297)
945.80 3	0.0215 18	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
945.8 4	0.41 4	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
945.9 3	4.2 7	<sup>122</sup> Cs(4.5 m)	331.1(94), 497.1(79), 638.5(63)
945.9 3	0.15 8	<sup>251</sup> Cm(16.8 m)	542.7(10.9), 530.0(1.62), 389.7(1.28)
945.96 8	7.4 6	<sup>201</sup> Pb(9.33 h)	331.19(79), 361.27(9.9), 907.56(5.7)
946.0 2	0.019 3	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
946.0 5	0.0008 3	<sup>130</sup> I(9.0 m)	536.09(16), 586.05(1.07), 1614.10(0.447)
946 1	>0.35	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
946.0 5	0.031 13	<sup>138</sup> Cs(33.41 m)	1435.795(76.3), 462.796(30.7), 1009.78(29.8)
946.0 2	0.49 4	<sup>152</sup> Tb(4.2 m)	344.281(20.8), 411.115(18.8), 471.9(12.2)
946.0 5	10.8 6	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
946.00 3	13.4 8	<sup>234</sup> Pa(6.70 h)	131.30(18), 883.24(9.6), 569.5(8.2)
946.00 3	†9.9×10 <sup>3</sup>	<sup>234</sup> Pa(1.17 m)	1001.03(†837000), 766.38(†294000), 742.81(†80000)
• 946.00 3	0.432 26	<sup>234</sup> Np(4.4 d)	1558.31(18.72), 1527.21(11.2), 1601.80(9.1)
• 946.00 3	>9.0×10 <sup>-8</sup>	<sup>238</sup> Pu(87.74 y)	43.498(0.0395), 99.853(0.00735), 152.720(0.000937)
946 2	†80	<sup>243</sup> Bk(4.5 h)	755(†100), 840(†30), 87.4
• 946.046 6	0.0695 6	<sup>129</sup> Cs(32.06 h)	371.918(30.60), 411.490(22.31), 548.945(3.40)
946.1 6	0.120 24	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
946.2 3	0.14 3	<sup>75</sup> Br(96.7 m)	286.572(88), 141.3147(6.6), 427.883(4.4)
946.2 3	0.018 4	<sup>85</sup> Br(2.90 m)	802.41(2.56), 924.63(1.63), 919.06(0.65)
946.2 2	0.43 17	<sup>105</sup> Mo(35.6 s)	85.4(25.0), 76.50(19.3), 147.8(14.8)
946.2 2	†410 43	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
946.2 2	†17.7 25	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
946.3 3	†0.18 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
• 946.3 3	0.006 3	<sup>195</sup> Hg(41.6 h)	261.75(30.9), 560.27(7), 387.87(2.15)
946.3 2	0.08 3	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
• 946.3	$8.0 \times 10^{-6}$	<sup>253</sup> Es(20.47 d)	41.79(0.050), 389.11(0.0264), 387.1(0.00810)
946.4 8	0.67 20	<sup>90</sup> Mo(5.67 h)	257.34(78), 122.370(64.2), 203.13(6.4)
946.40 7	0.018 4	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
946.46 8	0.114 8	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
946.5 3	0.06 3	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
946.5 7	0.23 4	<sup>172</sup> Ta(36.8 m)	214.02(46), 95.23(17.5), 1109.27(12.4)
946.57 8	0.0072 10	<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
946.6	†0.55 7	<sup>135</sup> Pm(49 s)	198.5(†100), 207.2(†70), 463.5(†62)
946.63 20	0.063 13	<sup>138</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
946.69 13	0.129 5	<sup>87</sup> Kr(76.3 m)	402.586(49.6), 2554.8(9.2), 845.43(7.34)
946.7 5	0.056 19	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
946.7 1	5.0 14	<sup>211</sup> Rn(14.6 h)	674.1(45), 1362.9(32.5), 678.4(28.9)
946.8 11	31.5 18	<sup>31</sup> Mg(230 ms)	1613.0(36), 1626.1(24.8), 666.1(10.6)
946.8 10	0.40 11	<sup>77</sup> Rb(3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
946.8 5	0.045 9	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
946.8 7	0.027 13	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
946.8 4	0.47 24	<sup>201</sup> Pb(9.33 h)	331.19(79), 361.27(9.9), 945.96(7.4)
946.9 4	0.09	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
• 946.98 8	0.129 13	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
• 946.989 18	0.00822 24	<sup>121</sup> Te(154 d)	1102.149(2.54), 37.138(0.94), 998.291(0.0796)
947 1	1.0 3	<sup>60</sup> Zn(2.38 m)	670.3(64), 61.4(26), 273.4(10.9)
947	0.16	<sup>147</sup> Tb(1.83 m)	1397.0(79), 1797.1(14), 1643.0(1.2)
947 1	1.5 3	<sup>168</sup> Lu(6.7 m)	198.82(28), 979.22(20), 896.12(15)
947.06 5	0.67 6	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
947.09 10	1.40 12	<sup>148</sup> Pr(2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
947.1 1	2.09 11	<sup>93</sup> Y(10.18 h)	266.9(7.3), 1917.8(1.55), 680.2(0.658)
947.1 3	0.28 6	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
947.1 11	0.20 12	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
947.10 5	1.72 8	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
947.2 3	2.7 3	<sup>92</sup> Ru(3.65 m)	213.81(96), 259.32(92), 134.57(65.5)
947.2 6	0.044 14	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
947.2 2	0.035 9	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
947.2 3	0.22 7	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
947.2 2	0.070 8	<sup>224</sup> Fr(3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
• 947.24 10	0.042 3	<sup>206</sup> Po(8.8 d)	1032.26(32.9), 511.36(24.1), 286.410(23.8)
947.27 14	49 3	<sup>108</sup> Rh(6.0 m)	433.937(88), 581.1(60), 901.31(28)
947.3 3	0.082 9	<sup>112</sup> Ag(3.130 h)	617.27(43), 1387.67(5.4), 606.49(3.1)
947.3 5	0.113 25	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
947.3 5	0.062 14	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
947.3	0.15	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
947.3 17		<sup>199</sup> Pb(12.2 m)	366.90(7), 382.8, 2751.9
947.31 12	0.85 6	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
947.4 5	0.50 8	<sup>97</sup> Pd(3.10 m)	265.26(56), 475.2(26.7), 792.70(13.8)
947.4	1.31 6	<sup>150</sup> Pr(6.19 s)	130.2(32), 722.5(7.0), 852.7(6.1)
947.4 3	1.2 4	<sup>152</sup> Ho(49.5 s)	647.2(92), 613.8(88.4), 683.3(88)
947.4 1	16.2 18	<sup>211</sup> Rn(14.6 h)	674.1(45), 1362.9(32.5), 678.4(28.9)
947.45 20	0.20 4	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
• 947.46 15	0.292 6	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
947.5 7	0.37 8	<sup>84</sup> Br(31.80 m)	881.610(42), 1897.761(14.7), 3927.5(6.8)
947.6 4	0.058 19	<sup>90</sup> Kr(32.32 s)	1118.69(39.0), 121.82(35.5), 539.49(30.8)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
947.6 1	0.0050 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
947.6 2	†0.96 8	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
947.6 2	0.8 3	<sup>196</sup> Bi(308 s)	1049.21(87), 689.00(35.5), 776.6(9.1)
947.6 2	†0.23 9	<sup>196</sup> Bi(240 s)	1049.21(†21.1), 371.93(†20.8), 689.00(†19.2)
947.67 2	1.951 19	<sup>95</sup> Tc(20.0 h)	765.794(93.82), 1073.71(3.74), 869.60(0.317)
947.7 2	1.62 15	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
947.72 20	0.49 9	<sup>122</sup> In(1.5 s)	1140.55(29), 2759.13(3.1), 1013.34(2.7)
947.73 7	9.2 5	<sup>89</sup> Rb(15.15 m)	1031.94(58), 1248.19(42.6), 2196.02(13.3)
947.75 24	0.00053 6	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
• 947.80 15	0.157 5	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
• 947.835 15	0.959 14	<sup>149</sup> Gd(9.28 d)	149.735(48.2), 298.634(28.6), 346.651(23.9)
947.86 16	0.010 5	<sup>61</sup> Cu(3.333 h)	282.956(12.2), 656.008(10.77), 67.412(4.23)
947.86 4	4.01 19	<sup>134</sup> I(52.6 m)	847.025(95.4), 884.090(64.9), 1072.547(15.0)
947.90 10	1.17 5	<sup>207</sup> Po(5.80 h)	992.33(59.3), 742.64(28.2), 911.79(16.95)
947.9 4	0.30 9	<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
947.984 11	0.109 8	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
948.0 7	0.008 4	<sup>101</sup> Pd(8.47 h)	296.29(19), 590.44(12.06), 269.67(6.43)
• 948.0	0.011	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
948.0 1	0.44 9	<sup>188</sup> Tl(71 s)	412.7(88), 592.0(61), 504.2(23.3)
• 948.0 3	0.068 11	<sup>190</sup> Ir(11.78 d)	186.718(52.4), 605.24(39.9), 518.55(34.0)
948.0 15	†4	<sup>223</sup> Rn(23.2 m)	591.8(†100), 635.2(†76), 416.0(†55)
948.0 8	0.0075	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
948.0 2	0.09 3	<sup>242</sup> Np(2.2 m)	735.93(5), 780.44(2.76), 1473.1(2.34)
• 948.03 7	0.00069 23	<sup>77</sup> Br(57.036 h)	238.996(23), 520.639(22.4), 297.215(4.16)
948.04 4	0.854 14	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
948.1 2	78 10	<sup>90</sup> Tc(8.7 s)	
948.1 2	100	<sup>90</sup> Tc(49.2 s)	1054.3(100), 944.7(36.6), 809.8(34.3)
948.1 1	0.38 3	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
948.1 4	0.05 3	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
• 948.29 4	2.16 12	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
• 948.3 3	0.022 12	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
948.3 5	0.25	<sup>186</sup> Ta(10.5 m)	197.93(50), 214.87(42.3), 510.82(37.5)
948.37 10	0.67 5	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
948.4 5	0.288 20	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
948.4 3	0.59 15	<sup>127</sup> In(1.09 s)	1597.7(49), 646.1(6.2), 805.1(5.6)
948.4 3	2.73 25	<sup>127</sup> In(3.66 s)	252.3(38), 3074(2.85), 832.8(1.98)
948.41 30	0.08 4	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
948.46 10	0.172 19	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
948.49 5	1.17 6	<sup>91</sup> Rb(58.4 s)	93.628(33.7), 2564.19(12.5), 3599.67(10.4)
948.5 5	0.027 5	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
948.5 6	0.268 12	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
948.5 6	0.141 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
948.5 2	0.24 3	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
948.542 4	2.26 3	<sup>131</sup> Te(25.0 m)	149.716(69), 452.323(18.18), 1146.96(4.95)
948.6 5	0.30 8	<sup>117</sup> I(2.22 m)	325.9(75), 274.4(20.4), 661.5(5.1)
948.6 2	0.097 9	<sup>143</sup> La(14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)
948.6		<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
948.6 1	0.047 6	<sup>145</sup> Ce(3.01 m)	724.33(59), 62.54(13.33), 1148.03(9.15)
948.6 3	†4.8 19	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 955.08(†50)
948.7 10	0.25 5	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
• 948.71 3	0.0880 14	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
• 948.72 7	0.35 3	<sup>151</sup> Pm(28.40 h)	340.08(23), 167.75(8.3), 275.21(6.8)
948.8 1	†34.5 10	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
948.85 11		<sup>102</sup> Nb(1.3 s)	397.69, 847.37, 551.54

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
948.85 11	17.6 20	$^{102}\text{Nb}(4.3 \text{ s})$	296.611(79), 1633.10(41), 551.54(30)
948.9 5	0.34 12	$^{158}\text{Tm}(3.98 \text{ m})$	192.13(62), 335.10(16.8), 1149.83(7.6)
948.9 6	0.09 3	$^{192}\text{Au}(4.94 \text{ h})$	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
948.98 7	0.23 2	$^{183}\text{Os}(9.9 \text{ h})$	1101.94(49.0), 1107.92(22.36), 1034.85(6.02)
949.0 4	1.47 22	$^{109}\text{In}(4.2 \text{ h})$	203.5(74), 623.7(5.5), 1148.9(4.3)
949.0 1	0.071 14	$^{146}\text{Ba}(2.22 \text{ s})$	140.7(20.2), 251.2(19.6), 121.2(14.2)
949.0 12	0.19 12	$^{175}\text{Ta}(10.5 \text{ h})$	207.4(14.0), 348.5(12.0), 266.9(10.8)
949.05 15	0.074 15	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 949.08 10	1.609 15	$^{156}\text{Tb}(5.35 \text{ d})$	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
949.09 17	0.53 4	$^{103}\text{Cd}(7.3 \text{ m})$	1461.81(12), 1448.70(5.55), 1079.90(5.44)
949.09 8	†2.44 17	$^{188}\text{Au}(8.84 \text{ m})$	265.63(†100), 340.04(†23.9), 605.5(†16.3)
949.1 3	†7.3 12	$^{120}\text{Cs}(64 \text{ s})$	322.4(†100), 473.5(†30), 553.4(†19.1)
949.1 1	10.6 3	$^{142}\text{Ba}(10.6 \text{ m})$	255.300(20.5), 1204.3(14.23), 895.2(13.9)
949.2 3	0.27 7	$^{121}\text{Cs}(155 \text{ s})$	153.9(15.2), 239.6(7.7), 427.1(3.63)
949.2 3	0.21 5	$^{121}\text{Cs}(122 \text{ s})$	179.4(30.2), 196.0(24.1), 459.7(12.0)
949.2 3	0.66 17	$^{133}\text{Te}(55.4 \text{ m})$	912.671(55.28), 647.51(19.4), 863.955(15.6)
949.2 3	†0.7 2	$^{152}\text{Yb}(3.1 \text{ s})$	482.4(†100), 141.7(†13), 316.9(†7)
949.2 6	0.18 6	$^{161}\text{Tm}(33 \text{ m})$	45.54(5.00), 1648.1(9.50), 84.40(9.4)
949.24 5	1.04 7	$^{79}\text{Ga}(2.847 \text{ s})$	464.79(24.2), 516.41(21.5), 1187.28(12.8)
949.3 3	0.00036 6	$^{223}\text{Fr}(21.8 \text{ m})$	50.13(36.0), 79.72(9.1), 234.81(3.0)
949.35 65	0.064 21	$^{140}\text{Cs}(63.7 \text{ s})$	602.345(71.1), 908.25(11.6), 1200.25(6.39)
949.4 5	0.19 5	$^{88}\text{Nb}(7.8 \text{ m})$	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
949.4 3	0.052 9	$^{147}\text{Pr}(13.4 \text{ m})$	77.9921(15), 314.675(13.2), 641.380(10.0)
949.4 10	0.57 17	$^{191}\text{Hg}(50.8 \text{ m})$	252.5(57), 420.1(18.6), 578.6(17.6)
949.4 2	4.25 22	$^{228}\text{Fr}(39 \text{ s})$	473.7(10.2), 474.0(7.6), 410.40(6.3)
949.5 3	0.029 5	$^{123}\text{Xe}(2.08 \text{ h})$	148.9(49), 178.1(14.9), 330.2(8.6)
• 949.52 25	0.19 4	$^{106}\text{Ag}(8.28 \text{ d})$	511.842(88), 1045.83(29.6), 717.24(28.9)
• 949.53 5	0.077 4	$^{145}\text{Eu}(5.93 \text{ d})$	893.73(66), 653.512(15.0), 1658.53(14.9)
949.59 19	0.31 4	$^{141}\text{Xe}(1.73 \text{ s})$	909.23(24.0), 118.705(16.1), 105.937(9.8)
• 949.590 20	0.240 6	$^{148}\text{Eu}(54.5 \text{ d})$	550.284(98.5), 629.987(71.9), 611.293(20.5)
949.6 3	0.069 16	$^{79}\text{Rb}(22.9 \text{ m})$	688.1(23), 182.77(19.2), 143.41(13.9)
949.63 8	0.22 4	$^{117}\text{Cd}(2.49 \text{ h})$	273.349(28), 1303.27(18.4), 344.459(17.9)
949.7 2	0.36 6	$^{81}\text{As}(33.3 \text{ s})$	467.72(20), 491.20(8.5), 521.10(1.40)
949.7 7	0.21 7	$^{117}\text{Ag}(72.8 \text{ s})$	135.4(23), 337.7(10.3), 157.1(7.9)
949.7 1	0.68 4	$^{145}\text{Gd}(23.0 \text{ m})$	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
949.7 3	0.0142 17	$^{151}\text{Tb}(17.609 \text{ h})$	287.357(28.3), 251.863(26.3), 108.088(24.3)
• 949.78 7	0.0582 21	$^{165}\text{Tm}(30.06 \text{ h})$	242.917(35.5), 47.155(16.9), 297.369(12.71)
949.8 3	0.966 10	$^{45}\text{Ar}(21.48 \text{ s})$	1020.04(34.0), 3703.2(33.3), 61.35(25.0)
949.8 2	0.00134 13	$^{107}\text{Cd}(6.50 \text{ h})$	93.124(1.45), 828.93(0.17), 796.462(0.0665)
949.8 4	1.0 2	$^{130}\text{Sb}(6.3 \text{ m})$	839.49(100), 793.53(86), 182.36(41)
949.8		$^{157}\text{Lu}(5.0 \text{ s})$	967.5, 880.5, 875.7
949.8 3	0.30 4	$^{184}\text{Au}(53.0 \text{ s})$	162.97(50), 272.98(40), 362.47(17.5)
949.82 3	0.120 10	$^{93}\text{Mo}(6.85 \text{ h})$	689.07(0.070), 541.32(0.060), 385.31(0.060)
949.99 8	0.055 6	$^{155}\text{Dy}(9.9 \text{ h})$	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
950.0 10	0.008 3	$^{111}\text{Pd}(23.4 \text{ m})$	580.00(0.8), 70.44(0.78), 1459.0(0.56)
950.0	†2	$^{131}\text{Ce}(10.3 \text{ m})$	169.42(†100), 414.25(†68), 119.18(†44)
950.0 2	0.90 7	$^{150}\text{Tb}(3.48 \text{ h})$	638.05(72), 496.3(14.8), 792.5(4.39)
950.00 20	0.18 3	$^{153}\text{Dy}(6.4 \text{ h})$	80.723(11.10), 213.754(10.90), 99.659(10.51)
950.1 2	0.18 3	$^{183}\text{Ir}(58 \text{ m})$	392.52(10.4), 228.70(6.9), 87.67(5.6)
950.1 2	0.046	$^{185}\text{Au}(4.25 \text{ m})$	310.6(13), 243.1(6.6), 77.7(6)
950.14 18	†2.4 3	$^{83}\text{Ge}(1.85 \text{ s})$	306.51(†100.0), 1193.77(†20.5), 1525.50(†13.6)
950.19 5	2.21 24	$^{164}\text{Lu}(3.14 \text{ m})$	123.3(34.0), 740.52(12.2), 262.22(10.8)
• 950.2 4	0.006 3	$^{72}\text{As}(26.0 \text{ h})$	834.01(80), 629.95(7.92), 1463.95(1.107)
950.2 3	†4.0 8	$^{183}\text{Hg}(9.4 \text{ s})$	60.5(†100), 159.91(†21), 172.70(†17)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
950.2 2	1.00 12	<sup>204</sup> At(9.2 m)	684.341(95), 516.318(90), 426.253(67.5)
950.3 5	0.42	<sup>101</sup> Cd(1.2 m)	98.0(47), 1722.5(11), 1259.3(8)
950.33 15	0.159 24	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
• 950.37 7	0.057 10	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
950.4 5	0.41 16	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
950.4 2	0.24 7	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
950.49 12	0.038 10	<sup>88</sup> Kr(2.84 h)	2392.11(34.6), 196.301(25.98), 2195.842(13.18)
950.50 24	0.71 3	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
950.6 3	0.64 3	<sup>109</sup> Sb(17.0 s)	925.4(32), 1062.8(23.9), 664.5(20.1)
950.6 10	0.022 13	<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
• 950.6 2	0.00022 6	<sup>149</sup> Pm(53.08 h)	285.95(3.1), 859.46(0.109), 590.88(0.069)
950.77 17	7.5 4	<sup>78</sup> Ga(5.09 s)	619.40(77), 1186.42(20.1), 567.06(18.2)
950.8	0.39	<sup>148</sup> Dy(3.1 m)	620.24(96), 1247.2(1.4), 178.3(0.5)
950.8	0.015 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 950.80 3	0.389 9	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
950.85 20	0.082	<sup>137</sup> I(24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
950.85 7	0.192 13	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
950.9 3	1.9 4	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
• 950.96 3	>2.9×10 <sup>-5</sup>	<sup>85</sup> Sr(64.84 d)	514.0067(96), 868.5(0.0120), 151.159(0.0012)
• 950.967 18	2.755 9	<sup>166</sup> Ho(1.20×10 <sup>3</sup> y)	84.410(72.6), 810.276(58.08), 711.683(55.32)
• 950.987 26	0.519 7	<sup>140</sup> La(1.6781 d)	1596.210(95), 487.021(45.5), 815.772(23.28)
950.99 7	1.27 3	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
951.0 4	2.0 5	<sup>97</sup> Sr(426 ms)	1905.0(25), 953.8(21.4), 652.2(11.4)
951	0.022 13	<sup>211</sup> Pb(36.1 m)	404.853(3.78), 832.01(3.52), 427.088(1.76)
951.1 2	0.29	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
951.1 22	0.00055 6	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
951.1 5	0.23	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
• 951.190 10	0.00028 3	<sup>115</sup> Cd(53.46 h)	336.240(45.9), 527.900(27.45), 492.3(8.03)
951.2 1	0.15 3	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
951.3	0.0026 10	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
951.3 6	0.028 18	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
951.36 12	0.020 6	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
951.37 10	0.0145 11	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
951.39 2	0.330 7	<sup>131</sup> Te(25.0 m)	149.716(69), 452.323(18.18), 1146.96(4.95)
951.39 30	0.18 5	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
951.4 10	0.0139 23	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
951.46 16	0.084 13	<sup>100</sup> Sr(202 ms)	963.85(22.0), 898.50(18.9), 65.46(15.2)
951.5 5	†29 18	<sup>100</sup> Rh(4.6 m)	539.59(†5900), 687.0(†3500), 1827.2(†1410)
951.5 8	0.25 5	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
951.51 7	0.22 4	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
• 951.54 9	0.029 4	<sup>69</sup> Ge(39.05 h)	1107.01(36), 574.17(13.3), 872.14(11.9)
• 951.6 6	0.016 12	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
951.7 3	0.079 22	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
951.7 5	0.058 22	<sup>198</sup> Tl(5.3 h)	411.8044(82), 675.8874(11), 636.4(10.1)
951.8 3	0.0102 9	<sup>71</sup> Zn(3.96 h)	386.28(93), 487.38(62), 620.18(57)
951.8 2	†1.7 2	<sup>82</sup> Ge(4.60 s)	1091.90(†100), 843.24(†9.3), 248.84(†4.0)
951.80 10	1.95 10	<sup>83</sup> Y(7.08 m)	35.50(0.44), 882.1(6.30), 489.90(5.53)
951.8 3	†3.3 6	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
951.8 4	0.37 14	<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
951.85 20	0.058 13	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
951.86 10	0.070 11	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
951.9		<sup>130</sup> Pr(40.0 s)	499.0, 1405, 1282
951.9 2	0.88 8	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
951.9 3	0.163 20	<sup>190</sup> Re(3.2 h)	186.718(27.8), 605.24(14.9), 557.972(14.3)
• 951.9 3	0.098 16	<sup>190</sup> Ir(11.78 d)	186.718(52.4), 605.24(39.9), 518.55(34.0)
951.91 4	2.72 9	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
951.95 5	0.828 25	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
• 951.95 5	1.65 14	<sup>230</sup> Pa(17.4 d)	918.48(8.2), 454.95(6.27), 898.68(5.8)
952	>0.009	<sup>90</sup> Nb(14.60 h)	1129.224(92.7), 2318.968(82.03), 141.178(66.8)
952.0 3	0.028 9	<sup>103</sup> Tc(54.2 s)	346.380(17.5), 136.079(16.6), 562.90(7.0)
952.00 5	0.93 6	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
952.0	0.008 3	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
952.0 5	0.07 4	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
952.00 20	0.16 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
• 952.02 3	0.368 17	<sup>82</sup> Br(35.30 h)	776.517(83.5), 554.348(70.8), 619.106(43.4)
952.02 3	0.64 4	<sup>82</sup> Rb(6.472 h)	776.517(84), 554.348(62.4), 619.106(37.976)
952.1 2	0.89 4	<sup>141</sup> Sm(22.6 m)	196.88(74), 431.6(40.4), 777.6(20.3)
952.120 11	0.17 3	<sup>212</sup> Bi(60.55 m)	727.330(6.58), 1620.50(1.49), 785.37(1.102)
952.123 12	1.66 18	<sup>75</sup> Br(96.7 m)	286.572(88), 141.3147(6.6), 427.883(4.4)
952.2 14	†2	<sup>135</sup> Pm(49 s)	198.5(†100), 207.2(†70), 463.5(†62)
952.2 3	2.9 4	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
952.25 17	1.63 7	<sup>172</sup> Ta(36.8 m)	214.02(46), 95.23(17.5), 1109.27(12.4)
952.3 10	0.31	<sup>151</sup> Ho(35.2 s)	527.4(63), 775.53(9.2), 209.5(5.69)
952.33 8	0.14 3	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
952.33 22	0.39 6	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
952.4 2	2.73 18	<sup>60</sup> Cu(23.7 m)	1332.501(88), 1791.6(45.4), 826.06(21.7)
952.4 6	4 3	<sup>100</sup> Nb(2.99 s)	535.60(97.0), 600.5(65.0), 1280.6(23.8)
952.4 5	†18	<sup>177</sup> Os(2.8 m)	84.7(†100), 125.4(†63), 195.8(†61)
952.44 7	1.69 6	<sup>90</sup> Rb(258 s)	831.69(94), 1375.36(16.7), 3317.00(14.4)
952.5 10	0.8 3	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
952.5 3	0.37 4	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
952.54 10	5.0 4	<sup>121</sup> Cd(8.3 s)	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
• 952.55 25	0.0417 22	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
952.58 23	0.107 20	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
952.59 10	4.7	<sup>130</sup> In(0.32 s)	1905.17(74), 129.80(61), 1221.24(60)
952.59 10	11	<sup>130</sup> In(0.32 s)	1905.17(74), 129.80(61), 1221.24(60)
952.6 3	1.50 9	<sup>145</sup> Gd(23.0 m)	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
952.611 15	0.055 4	<sup>168</sup> Ho(2.99 m)	741.356(36.6), 821.164(34.5), 815.990(18.6)
952.66 15	0.74 7	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
• 952.68 3	0.0106 4	<sup>149</sup> Gd(9.28 d)	149.735(48.2), 298.634(28.6), 346.651(23.9)
952.7 1	0.159 18	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
952.7 5	†1.7 4	<sup>183</sup> Hg(9.4 s)	60.5(†100), 159.91(†21), 172.70(†17)
952.7 1	0.082 10	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
952.70 7	†21	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
• 952.711 28	0.139 11	<sup>165</sup> Tm(30.06 h)	242.917(35.5), 47.155(16.9), 297.369(12.71)
952.73 11	0.50 25	<sup>186</sup> Ta(10.5 m)	197.93(50), 214.87(42.3), 510.82(37.5)
952.78 10	0.0151 14	<sup>105</sup> Ru(4.44 h)	724.21(47), 469.37(17.5), 676.36(15.7)
952.8 3	0.040 12	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
• 952.8 1	0.00087 9	<sup>149</sup> Pm(53.08 h)	285.95(3.1), 859.46(0.109), 590.88(0.069)
• 952.82 15	0.09 4	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
952.9 4	0.20 3	<sup>75</sup> Kr(4.3 m)	132.43(67), 154.66(20.8), 153.15(8.0)
952.9 3	0.97 15	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
952.9 3	0.47 3	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
952.92 8	0.24 10	<sup>182</sup> Hf(61.5 m)	942.80(18.8), 799.64(9.4), 114.3152(6.2)
952.93 6	1.65 10	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
953.0 3	0.053 14	<sup>138</sup> Cs(33.41 m)	1435.795(76.3), 462.796(30.7), 1009.78(29.8)
953.0 5	†1.4 3	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
953.0 10	$\dagger 1.4$ 2	$^{182}\text{Ir}$ (15 m)	273.23( $\dagger 100$ ), 126.79( $\dagger 77$ ), 236.3( $\dagger 21.0$ )
953.0 10	0.05 3	$^{195}\text{Tl}$ (1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
953 2	0.017 9	$^{245}\text{Pu}$ (10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
953.02 5	1.19 7	$^{79}\text{Ga}$ (2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
953.05 10	0.52 10	$^{204}\text{At}$ (9.2 m)	684.341(95), 516.318(90), 426.253(67.5)
953.1 3	0.49 12	$^{126}\text{Ba}$ (100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
953.1 5	0.028 13	$^{138}\text{Xe}$ (14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
953.18 20	0.107 16	$^{89}\text{Kr}$ (3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
953.18 13	0.57 4	$^{154}\text{Tb}$ (9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
953.18 13		$^{154}\text{Tb}$ (21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
953.20 20	0.78 20	$^{102}\text{Nb}$ (4.3 s)	296.611(79), 1633.10(41), 551.54(30)
• 953.20 8	0.045 7	$^{150}\text{Eu}$ (35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
953.24 16	0.33 4	$^{91}\text{Kr}$ (8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
953.3 5	0.10 3	$^{100}\text{Ag}$ (2.01 m)	665.54(99), 750.67(78), 773.20(24.2)
953.3 2	0.0226 17	$^{151}\text{Tb}$ (17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
953.31 7	3.52 14	$^{92}\text{Sr}$ (2.71 h)	1383.93(90), 430.49(3.28), 241.56(2.92)
953.33 9	$\dagger 1.13$ 12	$^{184}\text{Ir}$ (3.09 h)	263.97( $\dagger 100$ ), 119.80( $\dagger 45$ ), 390.38( $\dagger 38$ )
953.37 15	0.0151 14	$^{122}\text{I}$ (3.63 m)	564.119(18), 692.794(1.325), 793.278(1.297)
• 953.41 11	0.097 9	$^{151}\text{Pm}$ (28.40 h)	340.08(23), 167.75(8.3), 275.21(6.8)
953.42 16	3.6 9	$^{181}\text{Re}$ (19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
• 953.45 6	0.0053 14	$^{171}\text{Lu}$ (8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
953.53 4	4.26 12	$^{89}\text{Br}$ (4.40 s)	1097.82(6.00), 997.93(4.26), 4166.3(3.8)
953.6 3	0.0220 22	$^{137}\text{Pr}$ (1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
953.6 2	0.024 6	$^{145}\text{Ce}$ (3.01 m)	724.33(59), 62.54(13.33), 1148.03(9.15)
953.63 3	0.25 3	$^{179}\text{Re}$ (19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
953.7 4	$\dagger 7.2$ 22	$^{193}\text{Hg}$ (3.80 h)	861.11( $\dagger 100$ ), 1118.84( $\dagger 64$ ), 789.21( $\dagger 36$ )
953.8 5	0.49 10	$^{70}\text{As}$ (52.6 m)	1039.20(81), 1114.1(21.8), 668.3(21.8)
953.8 4	0.051 14	$^{81}\text{Sr}$ (22.3 m)	153.54(33.8), 147.76(30.1), 443.34(17.5)
953.8 3	21.4 20	$^{97}\text{Sr}$ (426 ms)	1905.0(25), 652.2(11.4), 307.1(10)
953.9 4	0.17 7	$^{99}\text{Pd}$ (21.4 m)	136.00(73), 263.60(15.2), 673.38(6.9)
953.9 3	0.35 3	$^{107}\text{In}$ (32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
953.9 3	0.0013 4	$^{179}\text{Lu}$ (4.59 h)	214.335(11.3), 214.930(0.46), 123.3790(0.45)
953.97 8	1.24	$^{154}\text{Pm}$ (1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
954.0 5	0.27 5	$^{88}\text{Nb}$ (7.8 m)	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
954.00 20	16	$^{95}\text{Y}$ (10.3 m)	2175.6(7.00), 3576.0(6.4), 1324.0(4.91)
• 954.0 2	1.20 10	$^{126}\text{Sb}$ (12.46 d)	695.03(100), 666.331(100), 414.81(83.3)
954.0 15	0.016 3	$^{146}\text{Pr}$ (24.15 m)	453.88(48.0), 1523.7(15.6), 735.72(7.5)
954.0 3	0.069 16	$^{153}\text{Dy}$ (6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
954.000 9	1.97 20	$^{175}\text{Tm}$ (15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
954.0 2	2.0 6	$^{176}\text{Re}$ (5.3 m)	240.17(48), 109.08(25.0), 848.7(4.0)
• 954 1	0.16 4	$^{230}\text{Pa}$ (17.4 d)	951.95(1.65), 918.48(8.2), 454.95(6.27)
954.05 13	0.509 21	$^{111}\text{Sn}$ (35.3 m)	1152.98(2.7), 1914.70(1.99), 761.97(1.48)
954.10 14	0.089 6	$^{141}\text{Cs}$ (24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
954.1 8	4.0 11	$^{196}\text{Pb}$ (37 m)	253.1(27.0), 502.1(26.5), 366.5(11.1)
954.19 9	0.0123 11	$^{159}\text{Ho}$ (33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
954.3 2	0.58 8	$^{142}\text{Eu}$ (1.22 m)	768.1(100), 1023.3(92.0), 556.6(86.6)
• 954.30 15	0.224 7	$^{170}\text{Lu}$ (2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
954.4 3	0.025 12	$^{151}\text{Nd}$ (12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
954.45 4	7.8 5	$^{202}\text{Bi}$ (1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
954.5 3	>0.0035	$^{65}\text{Ni}$ (2.5172 h)	1481.84(24), 1115.546(15.43), 366.27(4.81)
954.5 2	0.0084 17	$^{121}\text{I}$ (2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
954.5 3	1.15 7	$^{150}\text{Tb}$ (3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
954.53 12	0.028 9	$^{105}\text{Cd}$ (55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
954.55 9	17.6 5	$^{132}\text{I}$ (2.295 h)	667.718(99), 772.60(75.6), 522.65(16.0)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 954.6 3	0.0018 14	<sup>76</sup> As(26.32 h)	559.101(45), 657.041(6.2), 1216.104(3.42)
• 954.61 3	0.0328 5	<sup>131</sup> Ba(11.50 d)	496.326(47), 123.805(28.97), 216.078(19.66)
954.7 3	0.09 3	<sup>99</sup> Ag(124 s)	264.41(65), 832.29(13.5), 805.07(12.5)
954.7 2	2.0 5	<sup>103</sup> Zr(1.3 s)	248(100), 164.05(94), 126.30(84)
954.7 6	0.030 18	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
954.7 3	0.08	<sup>238</sup> Am(98 m)	962.77(28), 918.69(23.0), 561.11(10.9)
954.78 17	†1.8 3	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
• 954.8 10	0.19 5	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
954.8 10	0.63 17	<sup>191</sup> Hg(50.8 m)	252.5(57), 420.1(18.6), 578.6(17.6)
954.86 4	1.381 20	<sup>183</sup> Os(9.9 h)	1101.94(49.0), 1107.92(22.36), 1034.85(6.02)
954.9 2	†181 38	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
954.9	0.10	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
955.0 5	5.0 8	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
955 20	†17	<sup>189</sup> W(11.5 m)	258(†100), 417(†96), 550(†28)
955 1	0.0054	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
955.08 10	†50 8	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 67.432(†38)
955.09 14	0.100 25	<sup>155</sup> Ho(48 m)	240.19(12.5), 136.30(5.00), 45.38(5)
955.1 3	0.36 7	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
955.19 19	0.033 5	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
955.2 5	0.10 3	<sup>103</sup> Tc(54.2 s)	346.380(17.5), 136.079(16.6), 562.90(7.0)
955.2 2	†2.2 7	<sup>136</sup> Pm(107 s)	373.8(†100), 602.7(†38.4), 857.2(†23.4)
955.2 3	8	<sup>149</sup> Tm(0.9 s)	796.2(18), 158.8(12.3), 416.7(11)
955.20 8	1.46 20	<sup>206</sup> At(30.0 m)	700.66(98), 477.10(86), 395.54(48)
• 955.28 13	0.0188 21	<sup>165</sup> Tm(30.06 h)	242.917(35.5), 47.155(16.9), 297.369(12.71)
955.3 2	0.028 5	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
955.3 3	0.56 9	<sup>104</sup> Ag(69.2 m)	555.796(92.6), 767.72(65.7), 941.7(25.0)
955.3 3	0.14 3	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
• 955.3 4	0.025 9	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
955.3 4	0.33 6	<sup>203</sup> Po(36.7 m)	908.64(55), 1090.95(19.2), 893.49(18.7)
955.3 5	0.21 6	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
955.32 13	†1.1 11	<sup>27</sup> Na(301 ms)	984.64(†114), 1697.94(†15.5), 3109.2(†>3.4)
955.35 20	1.04 4	<sup>86</sup> Y(14.74 h)	1076.64(83), 627.72(32.6), 1153.01(30.5)
955.35 8	0.0078 4	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
955.4 3	†0.93 9	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
955.4 5	0.69 4	<sup>141</sup> Sm(22.6 m)	196.88(74), 431.6(40.4), 777.6(20.3)
955.4	0.31 15	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
• 955.40 2	$3.1 \times 10^{-8}$ 3	<sup>239</sup> Pu(24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
955.5 4	<0.05	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
955.5 6	0.038 3	<sup>111</sup> Pd(23.4 m)	580.00(0.8), 70.44(0.78), 1459.0(0.56)
955.50 20	0.017 5	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
955.6 10		<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
955.6 4	0.095 4	<sup>207</sup> Po(5.80 h)	992.33(59.3), 742.64(28.2), 911.79(16.95)
955.7 20	0.06 3	<sup>84</sup> Br(31.80 m)	881.610(42), 1897.761(14.7), 3927.5(6.8)
955.7 1	0.049 4	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
955.7 2	0.35 5	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
• 955.7	† $5.8 \times 10^3$	<sup>6-241</sup> Am(432.2 y)	59.537(†60), 26.345(†1000×10 <sup>9</sup> ), 33.195(†6000×10 <sup>8</sup> )
955.71 5	0.47 3	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
955.74 16	0.32 4	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
955.8 4	†3.0 6	<sup>185</sup> Pt(33.0 m)	229.60(†100), 135.3(†80), 197.4(†74)
• 955.832 5	3.84 11	<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
955.84 8	2.20 11	<sup>90</sup> Br(1.92 s)	707.05(38.0), 1362.32(11.2), 655.17(7.7)
955.84 1	1.80 6	<sup>210</sup> At(8.1 h)	1181.39(99.3), 245.31(79), 1483.39(46.5)
955.90 10	12.4 10	<sup>124</sup> In(2.4 s)	1131.64(100), 969.94(52), 1072.85(47)
956.0 2	0.064 11	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
956.0 3	†22 3	<sup>147</sup> Ho(5.8 s)	189.1(†100), 883.9(†100), 486.7(†61)
956.2 3	4.2 6	<sup>85</sup> Se(31.7 s)	345.2(<0.23), 3396.6(7.4), 1427.2(7.0)
956.20 25	0.51 11	<sup>159</sup> Tm(9.13 m)	38.35(5.8), 84.8(5.8), 271.30(5.1)
956.22 22	0.48	<sup>106</sup> Rh(131 m)	511.842(85), 1045.83(30.4), 717.24(28.9)
• 956.22 22	0.47 8	<sup>106</sup> Ag(8.28 d)	511.842(88), 1045.83(29.6), 717.24(28.9)
956.3 3	4.6 5	<sup>127</sup> In(1.09 s)	1597.7(49), 646.1(6.2), 805.1(5.6)
956.4 5	0.041 5	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
• 956.4 5	0.017 10	<sup>149</sup> Gd(9.28 d)	149.735(48.2), 298.634(28.6), 346.651(23.9)
956.4 3	0.9 3	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
956.5 1	0.435 25	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
• 956.5 1	1.6 3	<sup>230</sup> Pa(17.4 d)	951.95(1.65), 918.48(8.2), 454.95(6.27)
956.6 2	0.042 15	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
956.68 7	1.09 7	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
956.7 2	0.195 19	<sup>71</sup> Zn(3.96 h)	386.28(93), 487.38(62), 620.18(57)
956.7 5	0.81 22	<sup>104</sup> In(1.8 m)	658.0(100), 834.1(99), 878.1(29.4)
• 956.7 4	0.040 12	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
956.7 5	7.9 22	<sup>172</sup> Ho(25 s)	133.6(36), 178.0(23), 757.2(18)
956.7 4	0.06	<sup>186</sup> Au(10.7 m)	191.56(62), 298.67(25.4), 764.89(10.5)
956.8 10	3.74 20	<sup>170</sup> Ho(2.76 m)	258.2(37.0), 931.3(36.1), 181.6(23.8)
956.9 8	0.34 8	<sup>121</sup> Cd(8.3 s)	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
• 956.9 1	0.0013 4	<sup>143</sup> Ce(33.039 h)	293.266(42.80), 57.356(11.7), 664.571(5.69)
956.9	†7.5	<sup>144</sup> Gd(4.5 m)	333.3(†100), 2432.6(†94.8), 629.5(†32.4)
956.9 3	6.8 3	<sup>154</sup> Pr(2.3 s)	162.4(15), 932.1(11.7), 70.8(11.22)
956.9 7	0.23 4	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
956.93 12	0.040 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
957.00 18	†0.69 4	<sup>71</sup> Se(4.74 m)	147.50(†211), 1095.26(†43.6), 830.33(†43.2)
957.0 10	0.012 8	<sup>124</sup> Cs(30.8 s)	353.9(40), 914.8(4.0), 492.6(3.6)
957.0 3	0.40 8	<sup>130</sup> La(8.7 m)	357.4(81.0), 550.7(25.9), 908.0(17.0)
957.0 10	0.103 19	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
957.1 2	†1.27 16	<sup>95</sup> Pd(13.3 s)	1350.9(†105), 716.6(†70.63), 381.8(†50.8)
957.1 10	0.0086 22	<sup>112</sup> Ag(3.130 h)	617.27(43), 1387.67(5.4), 606.49(3.1)
957.2 8	0.076 14	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
957.2 1	0.39 10	<sup>117</sup> Cd(3.36 h)	1997.33(26), 1065.98(23.1), 564.397(14.7)
957.2 3	0.051 11	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
957.2 4	3.0 8	<sup>183</sup> Lu(58 s)	1125.3(25.0), 1056.8(16.5), 168.1(7.5)
957.25 5	1.06 7	<sup>79</sup> Ga(2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
957.27 21	†6.7 10	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
957.3 4	0.77 9	<sup>85</sup> Zr(7.86 m)	454.20(45), 416.3(27.0), 1198.4(4.8)
957.3 5	0.4 1	<sup>123</sup> In(5.98 s)	1130.5(63), 1019.7(32), 618.8(2.6)
957.3 4	0.067 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
957.3 2	†2.12 21	<sup>185</sup> Hg(21.6 s)	222.8(†100.0), 258.7(†98), 212.5(†58)
957.33 6	†18	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
• 957.37 9	0.0075 9	<sup>110</sup> Ag(249.79 d)	657.7622(94.0), 884.685(72.2), 937.493(34.13)
957.4 2	0.79 7	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
957.4 4	0.12 3	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
957.40 8	$4.5 \times 10^{-5}$ 6	<sup>176</sup> Lu(3.635 h)	88.34(0.55640), 1159.28(0.00139), 1061.61(0.000762)
957.40 8	0.6	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
957.5 1	0.041 4	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
957.59 17	8	<sup>45</sup> K(17.3 m)	174.276(74.4), 1705.6(53), 2353.6(14.12)
957.59 20	0.98 10	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
• 957.6 5	0.0018 9	<sup>76</sup> As(26.32 h)	559.101(45), 657.041(6.2), 1216.104(3.42)
957.6 4	0.36 6	<sup>88</sup> Nb(14.5 m)	1082.53(103), 1057.01(100), 671.20(64)
957.6	†1.7	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
• 957.6 3	$3.2 \times 10^{-8}$ 3	<sup>239</sup> Pu(24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
957.7 2	0.47 8	<sup>105</sup> Mo(35.6 s)	85.4(25.0), 76.50(19.3), 147.8(14.8)
957.7 2	†4.09 20	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
957.70 10	5.9 5	<sup>197</sup> Pb(43 m)	385.85(74), 387.72(25.1), 222.45(24.6)
957.75 7	0.282 12	<sup>210</sup> Rn(2.4 h)	458.25(1.7), 648.70(0.843), 570.95(0.840)
957.8 3	1.27 22	<sup>78</sup> Zn(1.47 s)	224.75(43.9), 181.68(28.1), 860.30(24.5)
957.8 1	†1.80 18	<sup>171</sup> Ta(23.3 m)	49.6(†100), 506.4(†54), 501.8(†22.6)
957.9 4	0.11 4	<sup>126</sup> In(1.60 s)	1141.11(55.9), 3344.61(21.6), 969.61(14.9)
957.9 4	0.55 20	<sup>126</sup> In(1.64 s)	1141.11(100), 908.58(99), 111.79(88)
957.9 4	0.36 9	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
957.96 7	0.0438 25	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
958.0 3	0.96 10	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
• 958.0 6	0.014 6	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
958.0 6	†0.63 25	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
• 958.0 20	0.06 3	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
958.0 2	0.72 8	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
958.0 2	0.84 9	<sup>236</sup> Pa(9.1 m)	642.35(37.0), 687.59(9.9), 1762.7(6.0)
• 958.0 2	<1×10 <sup>-7</sup>	<sup>240</sup> Pu(6563 y)	45.242(0.0450), 104.234(0.00708), 160.308(0.000402)
958.1 3	1.31 11	<sup>118</sup> I(8.5 m)	605.71(99), 600.71(92), 614.42(65)
958.1 4	<0.33	<sup>154</sup> Pm(2.68 m)	184.810(32), 81.99(15.4), 546.66(14.5)
• 958.10 12	0.0062 5	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
958.18	0.06 3	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
958.18 4	0.65 3	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
958.2 5	0.21 4	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
958.2 1		<sup>125</sup> La(76 s)	67.6(34), 43.6(3.5), 985.2
958.20 14	1.97 12	<sup>190</sup> Re(3.2 h)	186.718(27.8), 605.24(14.9), 557.972(14.3)
958.22 24	0.088 20	<sup>110</sup> In(69.1 m)	657.7622(98), 2129.53(2.13), 2211.49(1.76)
958.23 6	3.95 6	<sup>148</sup> La(1.05 s)	158.468(55.6), 989.85(9.3), 760.30(8.6)
• 958.25 20	0.016 7	<sup>150</sup> Eu(35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
958.5 1	0.066 5	<sup>141</sup> Pm(20.90 m)	1223.26(4.74), 886.22(2.44), 193.68(1.61)
958.6 1	0.61 19	<sup>131</sup> Sb(23.03 m)	943.4(47), 933.1(26.1), 642.30(23)
958.6 2	0.51 14	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
958.61 5	0.29 5	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
958.61 5	0.6	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
958.62 4	0.26 4	<sup>75</sup> Br(96.7 m)	286.572(88), 141.3147(6.6), 427.883(4.4)
958.63 5	0.06 3	<sup>152</sup> Pm(4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
• 958.63 5	0.0230 21	<sup>152</sup> Eu(13.542 y)	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
958.7 1	1.54 10	<sup>77</sup> Rb(3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
958.7 3	†2.3 3	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
958.7 3	0.00060 15	<sup>223</sup> Fr(21.8 m)	50.13(36.0), 79.72(9.1), 234.81(3.0)
• 958.7 3	†0.0039 7	<sup>227</sup> Th(18.72 d)	235.971(†813), 50.13(†528), 256.25(†463)
958.77 15	0.19 3	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
958.8 2	0.37 6	<sup>92</sup> Ru(3.65 m)	213.81(96), 259.32(92), 134.57(65.5)
958.8 5	13	<sup>146</sup> La(10.0 s)	258.47(93), 409.86(81), 514.75(31)
958.82 20	0.50 4	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
958.89 14	0.025 6	<sup>131</sup> La(59 m)	108.081(25.0), 417.783(18.0), 365.162(16.9)
959.0 2	0.46 4	<sup>78</sup> As(90.7 m)	613.725(54), 694.916(16.7), 1308.59(13.0)
959.0 6	0.020 7	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
959.0	0.055 14	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
959.0 3	0.040 12	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
959.00 9	8.8 5	<sup>156</sup> Tm(83.8 s)	344.55(86), 452.85(17.2), 585.93(14.6)
959.0	0.22	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
959.0 2	0.0073 20	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
959.1 3	2.4 3	<sup>154</sup> Ho(3.10 m)	334.6(94), 412.4(79), 477.1(55)
959.1 1	1.69 12	<sup>240</sup> Np(61.9 m)	566.34(25.3), 973.9(23.8), 600.57(18.4)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 959.1 1	0.037 4	<sup>240</sup> Am(50.8 h)	987.76(73.2), 888.80(25.1), 98.860(1.5)
959.14 8	0.242 19	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
959.14 15	0.343 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
959.2 5	>0.06	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
959.2 2	0.189 16	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
• 959.2 2	0.44 11	<sup>230</sup> Pa(17.4 d)	951.95(1.65), 918.48(8.2), 454.95(6.27)
959.22 5	0.007	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
959.24 5	0.0701 16	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
959.35 19	0.105 21	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
959.36	4.7	<sup>144</sup> Tb(4.25 s)	743.0(12), 1001.6(7), 558.0(4.6)
959.4 9	0.25 14	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
959.5 2	†13.3 27	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 955.08(†50)
959.5 3	0.35 4	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
959.5 2	0.9 6	<sup>232</sup> Ac(119 s)	665.0(15.3), 1899(8.9), 1959(5.4)
• 959.6 2	0.50 10	<sup>126</sup> Sb(12.46 d)	695.03(100), 666.331(100), 414.81(83.3)
959.6 4	0.42 9	<sup>161</sup> Yb(4.2 m)	78.20(34), 599.88(25.9), 631.45(13.9)
959.6 10	0.026 20	<sup>183</sup> Hf(1.067 h)	783.754(66), 73.174(38), 459.069(27)
959.6 15	0.22 5	<sup>186</sup> Ir(16.64 h)	296.911(64.0), 137.155(42), 434.849(34.4)
959.66 5	0.0322 14	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
• 959.7 3	0.063 7	<sup>151</sup> Pm(28.40 h)	340.08(23), 167.75(8.3), 275.21(6.8)
959.70 7	0.24 12	<sup>202</sup> Au(28.8 s)	439.59(10.0), 1125.20(2.30), 1306.38(2.25)
• 959.70 7	0.069 6	<sup>202</sup> Tl(12.23 d)	439.59(91), 520.11(0.58)
• 959.7296 6	0.348 5	<sup>182</sup> Ta(114.43 d)	67.75001(41.2), 1121.3007(34.9), 1221.4066(26.98)
959.7296 6	0.54 13	<sup>182</sup> Re(12.7 h)	67.75001(38.2), 1121.3007(32), 1221.4066(24.8)
• 959.7296 6	0.20 4	<sup>182</sup> Re(64.0 h)	229.3220(26), 67.75001(22.2), 1121.3007(22.0)
959.79 18	0.214 22	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
959.8 5	0.15 5	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
959.8 2	0.039 4	<sup>143</sup> Sm(66 s)	687.7(0.19)
• 959.86 9	1.962 19	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
959.9 2	0.23	<sup>145</sup> La(24.8 s)	70.0(11), 355.8(3.8), 118.2(3.6)
959.9 2	0.22 7	<sup>205</sup> Po(1.66 h)	872.39(37), 1001.21(28.8), 849.83(25.5)
• 959.9	<5×10 <sup>-8</sup>	<sup>240</sup> Pu(6563 y)	45.242(0.0450), 104.234(0.00708), 160.308(0.000402)
959.99 13	0.157 12	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
960.0 3	†22	<sup>154</sup> Nd(25.9 s)	151.703(†800), 799.55(†600), 180.693(†510)
960.0 10	†12.4 12	<sup>170</sup> Ho(43 s)	812.3(†100.0), 1894.5(†45.2), 78.6(†40)
960.0 10	0.46 20	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
960.0 10	0.29 6	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
960.0 1	0.072 10	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
960.0 10	†9×10 <sup>02</sup> 3	<sup>234</sup> Pa(1.17 m)	1001.03(†837000), 766.38(†294000), 742.81(†80000)
960.01 5	>0.040	<sup>210</sup> At(8.1 h)	1181.39(99.3), 245.31(79), 1483.39(46.5)
960.06 4	0.75 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
960.09 7	†1.52 13	<sup>148</sup> Tb(60 m)	784.430(†119.0), 489.049(†28.0), 1079.025(†16.2)
960.09 7	†1.5	<sup>148</sup> Tb(60 m)	784.430(†119.0), 489.049(†28.0), 1079.025(†16.2)
960.1 10	3.6 14	<sup>73</sup> Kr(27.0 s)	177.8(65.8), 62.5(19.1), 454.8(15)
960.1 2	0.218 20	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
960.17 5	0.00131 8	<sup>187</sup> W(23.72 h)	685.774(27.3), 479.531(21.8), 72.001(11.14)
960.2		<sup>144</sup> Gd(4.5 m)	333.3(†100), 2432.6(†94.8), 629.5(†32.4)
960.2 5	0.14 5	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
960.2 3	0.0054 22	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
960.29	0.03 3	<sup>135</sup> I(6.57 h)	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
960.3 4	15.8 10	<sup>29</sup> Mg(1.30 s)	2223.9(38), 1397.9(17.3), 1754.1(10.4)
960.4 3	0.12 6	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
960.42 10	0.32 3	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
960.43 29	0.39 3	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
960.5 5	0.06 3	$^{109}\text{Ru}(34.5 \text{ s})$	206.29(22.0), 225.98(19.6), 1929.05(13.7)
960.5 5	†1.2 4	$^{110}\text{Tc}(0.92 \text{ s})$	240.67(†100), 372.1(†17.0), 613.0(†16.0)
960.5 3	0.064 18	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 960.55 12	1.45 3	$^{156}\text{Eu}(15.19 \text{ d})$	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
960.55 14	†29 4	$^{181}\text{Pt}(51 \text{ s})$	289.29(†100), 111.97(†100), 230.15(†92)
960.6 5	0.056 11	$^{139}\text{Xe}(39.68 \text{ s})$	218.59(56), 296.53(21.7), 174.97(11.3)
• 960.622 20	23.4 5	$^{169}\text{Lu}(34.06 \text{ h})$	191.2137(20.6), 1449.74(9.92), 889.753(5.36)
960.67 5	99	$^{202}\text{Bi}(1.72 \text{ h})$	422.18(83.7), 657.49(60.6), 954.45(7.8)
960.7 1	1.68 10	$^{100}\text{Ag}(2.01 \text{ m})$	665.54(99), 750.67(78), 773.20(24.2)
960.7 2	0.21 7	$^{157}\text{Er}(18.65 \text{ m})$	53.05(24), 391.32(14.2), 121.57(10.1)
960.7 8	0.173 19	$^{164}\text{Tm}(5.1 \text{ m})$	208.08(14.6), 314.97(10), 240.49(7.5)
960.7		$^{168}\text{Lu}(6.7 \text{ m})$	198.82(28), 979.22(20), 896.12(15)
• 960.754 20	0.0922 24	$^{99}\text{Mo}(65.94 \text{ h})$	739.50(12.1), 181.063(6.08), 140.511(4.52)
960.77 12	0.076 11	$^{176}\text{Ta}(8.09 \text{ h})$	1159.28(25), 88.34(12), 1224.93(6)
960.8 8	0.0068	$^{233}\text{Th}(22.3 \text{ m})$	86.477(2.7), 29.374(2.5), 459.222(1.4)
960.86 20	0.34 6	$^{151}\text{Dy}(17.9 \text{ m})$	386.10(19.4), 49.46(18.0), 546.31(14.3)
960.9 6	0.25 21	$^{105}\text{In}(5.07 \text{ m})$	131.37(41), 260.21(15.7), 604.11(9.2)
960.92 12	1.37 10	$^{206}\text{At}(30.0 \text{ m})$	700.66(98), 477.10(86), 395.54(48)
961.0 4	0.6	$^{99}\text{Zr}(2.1 \text{ s})$	469.140(55), 546.13(48.6), 593.990(27.4)
961.0 20	0.032 5	$^{145}\text{Gd}(23.0 \text{ m})$	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
• 961.0 6	0.15 3	$^{156}\text{Eu}(15.19 \text{ d})$	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
961		$^{238}\text{Pa}(2.3 \text{ m})$	1015.3(†<100), 1014.6(†<100), 635.18(†88)
961.05 20	0.32 3	$^{205}\text{At}(26.2 \text{ m})$	719.30(31), 669.41(8.6), 628.88(5.6)
961.055 10	1.61 6	$^{74}\text{Ga}(8.12 \text{ m})$	595.847(91), 2353.46(44.5), 608.353(14.3)
961.06 22	1.92 9	$^{152}\text{Pm}(4.1 \text{ m})$	121.7824(15.7), 841.586(2.17), 963.37(1.83)
961.06 22	0.204 10	$^{152}\text{Eu}(9.274 \text{ h})$	841.586(14.6), 963.37(12.01), 121.7824(7.21)
961.09 4	0.017	$^{239}\text{U}(23.45 \text{ m})$	74.664(48), 43.533(4.14), 662.24(0.18)
961.2 3	49.9 12	$^{52}\text{Ca}(4.6 \text{ s})$	675.2(62.4), 1636.4(35.6), 2070.4(11.2)
961.2 3	0.8 1	$^{148}\text{Ho}(9.59 \text{ s})$	1687.5(82.47), 660.8(58.94), 504.3(18.62)
961.2 4	0.021 5	$^{177}\text{Yb}(1.911 \text{ h})$	150.392(20.3), 1080.21(5.6), 1241.2(3.47)
961.2 2	0.20 3	$^{183}\text{Ir}(58 \text{ m})$	392.52(10.4), 228.70(6.9), 87.67(5.6)
961.2 7	0.231 22	$^{199}\text{Bi}(27 \text{ m})$	560.1(22.0), 424.85(22), 841.7(11)
961.22 8	†18.3 13	$^{184}\text{Ir}(3.09 \text{ h})$	263.97(†100), 119.80(†45), 390.38(†38)
961.3 5	0.08	$^{154}\text{Pm}(1.73 \text{ m})$	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
961.3 4	0.46 19	$^{170}\text{Ta}(6.76 \text{ m})$	100.8(21.0), 221.2(15.7), 860.4(7.39)
961.3 3	0.18 4	$^{188}\text{Hg}(3.25 \text{ m})$	66.7(63), 190.1(4.40), 82.7(2.6)
961.39 14	2.18 7	$^{55}\text{V}(6.54 \text{ s})$	517.71(73), 880.70(18.1), 921.10(4.6)
961.4		$^{130}\text{Pr}(40.0 \text{ s})$	951.9, 499.0, 1405
• 961.4 5	0.010 5	$^{148}\text{Eu}(54.5 \text{ d})$	550.284(98.5), 629.987(71.9), 611.293(20.5)
961.4 2	0.202 22	$^{167}\text{Lu}(51.5 \text{ m})$	29.66(14.4), 239.22(8.6), 213.19(3.6)
961.4 5	12 3	$^{172}\text{Ho}(25 \text{ s})$	133.6(36), 178.0(23), 757.2(18)
961.4 4		$^{192}\text{Au}(4.94 \text{ h})$	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
961.4 3	†16.3 14	$^{195}\text{Bi}(183 \text{ s})$	807.6(†100), 831.7(†100), 776.2(†95)
961.43	0.15 3	$^{135}\text{I}(6.57 \text{ h})$	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
961.439 20	0.44 5	$^{75}\text{Br}(96.7 \text{ m})$	286.572(88), 141.3147(6.6), 427.883(4.4)
• 961.478 12	0.033 13	$^{172}\text{Lu}(6.70 \text{ d})$	1093.657(62.5), 900.724(29.8), 181.528(20.6)
961.5 1	4	$^{96}\text{Y}(9.6 \text{ s})$	1750.42(89), 915.0(60), 617.1(56)
961.5 4	0.27 13	$^{185}\text{Au}(4.25 \text{ m})$	310.6(13), 243.1(6.6), 77.7(6)
961.6	0.41	$^{95}\text{Sr}(23.90 \text{ s})$	685.6(23), 2717.3(4.6), 2933.1(4.1)
961.6 6	0.29 11	$^{103}\text{Cd}(7.3 \text{ m})$	1461.81(12), 1448.70(5.55), 1079.90(5.44)
961.61 12	0.121 22	$^{163}\text{Tm}(1.810 \text{ h})$	104.320(18.6), 69.229(11.6), 241.305(10.9)
961.62 10	0.130 7	$^{240}\text{Np}(7.22 \text{ m})$	554.60(20.9), 597.40(11.7), 1496.9(1.33)
961.68 15	0.161 19	$^{158}\text{Tm}(3.98 \text{ m})$	192.13(62), 335.10(16.8), 1149.83(7.6)
• 961.76 9	0.0224 24	$^{124}\text{I}(4.18 \text{ d})$	602.730(60), 1690.980(10.41), 722.786(9.98)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
961.8 4	0.16 4	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
961.83 6	0.083 10	<sup>88</sup> Kr(2.84 h)	2392.11(34.6), 196.301(25.98), 2195.842(13.18)
961.84 3	4.69 3	<sup>105</sup> Cd(55.5 m)	346.870(4.20), 1302.459(3.98), 607.220(3.74)
• 961.92 8	0.211 18	<sup>195</sup> Hg(41.6 h)	261.75(30.9), 560.27(7), 387.87(2.15)
962.0 5	0.05 1	<sup>59</sup> Cu(81.5 s)	1301.46(14.78), 877.97(11.40), 339.411(7.97)
962.0 5	0.016 8	<sup>111</sup> Sn(35.3 m)	1152.98(2.7), 1914.70(1.99), 761.97(1.48)
962.0 1	3.4 8	<sup>129</sup> Sn(6.9 m)	1161.31(56.0), 1128.44(50), 760.8(16.8)
962.0 10	†5	<sup>135</sup> Pm(49 s)	198.5(†100), 207.2(†70), 463.5(†62)
962.00 8	3.38	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
962 1	0.010 5	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
962.01 11	0.0030 4	<sup>45</sup> Ti(184.8 m)	720.22(0.154), 1408.6(0.085), 1662.4(0.041)
962.06 4	6.5 3	<sup>63</sup> Zn(38.47 m)	669.62(8), 1412.08(0.75), 449.93(0.236)
962.06 4	1.58 10	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
• 962.06 4	20.3 4	<sup>158</sup> Tb(180 y)	944.09(44), 79.5104(11.6), 181.930(9.9)
962.1 4	1.44 20	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
962.1 10	†1.3	<sup>179</sup> Os(6.5 m)	65.39(†100), 218.6(†17), 32.3(†17)
962.11 23	0.096 22	<sup>109</sup> In(4.2 h)	203.5(74), 623.7(5.5), 1148.9(4.3)
962.18 15	12.0 5	<sup>133</sup> Sn(1.44 s)	5150.1(0.52), 5612.3(0.44), 4598.2(0.16)
962.2 4	0.151 25	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
962.2 4	0.38 5	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
962.2 3	0.046 5	<sup>178</sup> Lu(28.4 m)	93.180(6.0), 1340.8(3.22), 1310.05(1.40)
962.3 2	0.0120 15	<sup>93</sup> Y(10.18 h)	266.9(7.3), 947.1(2.09), 1917.8(1.55)
• 962.317 4	9.91 7	<sup>160</sup> Tb(72.3 d)	879.383(30.01), 298.580(25.51), 966.171(25.21)
962.317 4	†59.1 23	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 966.171(†54.5)
962.317 4	25.6 11	<sup>160</sup> Ho(25.6 m)	728.18(46.9), 879.383(26.6), 645.40(24.7)
962.4 5	†10 2	<sup>130</sup> Sn(1.7 m)	144.9(†100), 899.2(†49), 84.7(†42)
962.4 4	0.162 23	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
• 962.43 7	0.124 10	<sup>105</sup> Ag(41.29 d)	344.520(41), 280.41(30.2), 644.55(11.1)
962.43 7	†<2.5×10 <sup>2</sup>	<sup>105</sup> Ag(7.23 m)	319.14(†63000), 306.25(†12800), 442.37(†5900)
962.44 7	0.060 7	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
962.5 15	0.8 4	<sup>78</sup> Ga(5.09 s)	619.40(77), 1186.42(20.1), 567.06(18.2)
962.5 3	0.45 5	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
962.5 4	†5 1	<sup>185</sup> Pt(33.0 m)	229.60(†100), 135.3(†80), 197.4(†74)
962.6 1	†2.78 16	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
962.64 11	0.40 3	<sup>81</sup> Ga(1.221 s)	216.47(37.4), 828.26(22.1), 711.18(17.6)
962.64 12	1.09 3	<sup>194</sup> Pb(12.0 m)	581.82(18.8), 1519.45(16.4), 203.82(16.2)
962.66 10	2.0 3	<sup>126</sup> In(1.64 s)	1141.11(100), 908.58(99), 111.79(88)
962.70 20	0.54 5	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
962.7 5	0.22	<sup>125</sup> Cd(0.57 s)	1027.53(25.8), 1173.16(25.1), 736.65(12.6)
962.7 3	0.59 8	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
962.71 4	1.44 6	<sup>89</sup> Br(4.40 s)	1097.82(6.00), 997.93(4.26), 953.53(4.26)
962.71 4	1.25 8	<sup>90</sup> Br(1.92 s)	411.49(3.88), 1097.82(0.91), 997.93(0.33)
962.74 14	0.05	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
• 962.77 3	0.70 2	<sup>238</sup> Np(2.117 d)	984.45(27.8), 1028.54(20.3), 1025.87(9.6)
962.77 3	28	<sup>238</sup> Am(98 m)	918.69(23.0), 561.11(10.9), 605.13(7.6)
• 962.77 3	5.3×10 <sup>-7</sup>	<sup>242</sup> Cm(162.8 d)	44.08(0.0325), 101.90(0.0025), 157.42(0.0014)
962.80 10	0.54 3	<sup>83</sup> Y(7.08 m)	35.50(0.44), 882.1(6.30), 489.90(5.53)
962.8 1	†0.57 7	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
962.8 5	0.38 14	<sup>178</sup> Re(13.2 m)	237.3(45), 105.9(23.0), 939.1(8.9)
962.8 9	0.0014	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
• 962.85 25	0.0076 9	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
962.9 4	0.0005 5	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
962.96 7	0.218 22	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
963	†0.7	<sup>131</sup> Pr(1.53 m)	266.13(†100), 72.82(†64), 387.56(†38)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 963	0.034 5	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
963.0 2	†252 48	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
963.0 2	0.11 4	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
963.01 9	†3.01 20	<sup>162</sup> Lu(1.37 m)	166.82(†100), 631.87(†26.6), 798.76(†16.9)
963.08 11	0.055 11	<sup>69</sup> As(15.2 m)	232.69(11), 145.95(4.96), 86.78(3.44)
963.08 9	0.141 11	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
963.1 4	1.7 7	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
963.1 3	0.16 3	<sup>112</sup> Sb(51.4 s)	1257.05(96), 990.70(14.3), 670.0(3.7)
963.1 4	3.5 17	<sup>152</sup> Ho(161.8 s)	613.8(73), 613.8(14), 1098.0(12)
963.11 6	0.61 6	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
963.19 19	†2.7 4	<sup>165</sup> Lu(10.74 m)	132.49(†100), 120.60(†100), 174.25(†47.0)
963.2 3	1.04 13	<sup>99</sup> Ag(124 s)	264.41(65), 832.29(13.5), 805.07(12.5)
963.2 5	>0.0044	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
963.2 2	†3.4 7	<sup>187</sup> Hg(1.9 m)	233.38(†100), 376.34(†38), 240.26(†33)
963.37 1	1.83 10	<sup>152</sup> Pm(4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
• 963.37 1	0.134 4	<sup>152</sup> Eu(13.542 y)	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
963.37 1	12.01 10	<sup>152</sup> Eu(9.274 h)	841.586(14.6), 121.7824(7.21), 1389.00(0.770)
963.40 30	0.13	<sup>114</sup> Sb(3.49 m)	1299.90(99), 887.60(17.4), 327.18(7.0)
963.5 2	1.52 13	<sup>92</sup> Rb(4.492 s)	814.98(33), 2820.6(6.2), 569.8(5.6)
963.5 2	460	<sup>93</sup> Rb(5.84 s)	814.98(†27000), 569.8(†800), 393.5(†380)
963.5 4	0.105 21	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
963.6 4	0.16 4	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
963.6 5	0.14 6	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
963.6	0.035 18	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
963.69 13	0.364 25	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
963.7 8	2.6 3	<sup>65</sup> Co(1.20 s)	1141.7(4.0), 310.6(2.90), 1210.9(1.62)
963.7 3	0.093 25	<sup>82</sup> Rb(6.472 h)	776.517(84), 554.348(62.4), 619.106(37.976)
963.7 3	3.6 3	<sup>127</sup> In(1.09 s)	1597.7(49), 646.1(6.2), 805.1(5.6)
963.85 4	22.0 9	<sup>100</sup> Sr(202 ms)	898.50(18.9), 65.46(15.2), 10.68(9.7)
963.85 9	0.365 17	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
963.9 3	0.074 10	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
963.9 10	0.193 20	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
963.95 3	0.025 3	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
963.96 3	†7.5 15	<sup>164</sup> Tm(2.0 m)	91.40(†1500), 1154.66(†366), 768.91(†279)
964 1	0.10 3	<sup>89</sup> Nb(1.9 h)	1627.20(3.4), 1833.46(3.16), 3092.7(3.0)
964.0 7	2.6 3	<sup>98</sup> Ag(46.7 s)	863.1(100), 678.5(85), 570.93(53)
964.0 3	0.54 5	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
964.0 8	0.0015 8	<sup>141</sup> La(3.92 h)	1354.52(1.64), 1693.3(0.074), 2267.0(0.0413)
• 964.0 8		<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
964.0 3	1.29 16	<sup>171</sup> Re(15.2 s)	568.4(16.1), 102.0(9.7), 1066.0(8.1)
964.0 7	0.042 17	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
964.01 6	0.93 4	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
964.05 7	0.129 9	<sup>210</sup> Rn(2.4 h)	458.25(1.7), 648.70(0.843), 570.95(0.840)
964.08 3	0.38 4	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
• 964.09 5	0.342 18	<sup>172</sup> Tm(63.6 h)	78.7435(6.5), 1093.657(6.0), 1387.093(5.6)
964.1 5	0.0069 23	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
964.1 7	0.019 10	<sup>101</sup> Pd(8.47 h)	296.29(19), 590.44(12.06), 269.67(6.43)
964.1 2	0.34 9	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
964.1 4	0.28 4	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
964.131 9	0.058 17	<sup>152</sup> Pm(4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
964.131 9	1.69 14	<sup>152</sup> Pm(7.52 m)	244.6989(78), 121.7824(45), 340.48(31.3)
• 964.131 9	14.34 19	<sup>152</sup> Eu(13.542 y)	121.7824(28.4), 1408.011(20.87), 1112.116(13.55)
964.2 4	0.058 14	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
964.2 1	0.104 9	$^{119}\text{I}$ (19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
• 964.22 10	0.037 4	$^{206}\text{Bi}$ (6.243 d)	803.10(99), 881.01(66.2), 516.18(40.7)
964.30 12	0.064 10	$^{183}\text{Os}$ (9.9 h)	1101.94(49.0), 1107.92(22.36), 1034.85(6.02)
964.3 2	†85 3	$^{201}\text{Po}$ (8.9 m)	967.4(†100.0), 411.9(†33.0), 537.5(†24.8)
964.30 4	0.09	$^{239}\text{U}$ (23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
964.32 15	0.52 6	$^{204}\text{Bi}$ (11.22 h)	899.15(98), 374.72(82), 984.02(59)
964.4 4	1.4 3	$^{102}\text{Ag}$ (12.9 m)	556.52(91), 719.40(58), 1744.99(17.3)
964.4 5	0.67 8	$^{117}\text{I}$ (2.22 m)	325.9(75), 274.4(20.4), 661.5(5.1)
964.4 5	0.20 8	$^{126}\text{Ba}$ (100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
• 964.4 5	$3.1 \times 10^{-6}$ 9	$^{149}\text{Pm}$ (53.08 h)	285.95(3.1), 859.46(0.109), 590.88(0.069)
• 964.4 4	0.0047 9	$^{151}\text{Pm}$ (28.40 h)	340.08(23), 167.75(8.3), 275.21(6.8)
• 964.4 4	0.030 6	$^{153}\text{Tb}$ (2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
• 964.4 3	0.030 6	$^{153}\text{Tb}$ (2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
• 964.479 9	0.0681 16	$^{71}\text{As}$ (65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
964.5 9	0.033 24	$^{161}\text{Er}$ (3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
964.53 27	0.62 4	$^{166}\text{Ho}$ (56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
964.57 8	0.70 7	$^{100}\text{Sr}$ (202 ms)	963.85(22.0), 898.50(18.9), 65.46(15.2)
964.6 3	0.5 3	$^{71}\text{Zn}$ (3.96 h)	386.28(93), 487.38(62), 620.18(57)
964.6 10	3.6 4	$^{196}\text{Tl}$ (1.84 h)	426.0(84), 610.5(11.9), 635.5(9.8)
964.64 5	0.77 6	$^{71}\text{Zn}$ (2.45 m)	511.56(32), 910.27(7.8), 389.88(3.8)
964.64 5	4.3 5	$^{71}\text{Zn}$ (3.96 h)	386.28(93), 487.38(62), 620.18(57)
964.69 5	0.0176 6	$^{127}\text{Cs}$ (6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
964.74 13	0.207 15	$^{151}\text{Nd}$ (12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
964.770 10	5.11 13	$^{228}\text{Ac}$ (6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
964.770 10	4.25 13	$^{228}\text{Pa}$ (22 h)	911.205(4.19), 463.005(1.250), 968.971(3.88)
964.89 3	0.330 17	$^{135}\text{Ce}$ (17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
964.9 2	0.12 3	$^{108}\text{In}$ (58.0 m)	875.46(100), 632.96(100), 242.84(41)
964.9 2	58.7 12	$^{120}\text{In}$ (47.3 s)	1171.3(100), 1023.1(97.4), 197.3(80.6)
964.9 2	†7.6 15	$^{131}\text{Ce}$ (10.3 m)	169.42(†100), 414.25(†68), 119.18(†44)
964.9 3	0.33 4	$^{154}\text{Tb}$ (9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
964.9 5	0.3 1	$^{159}\text{Er}$ (36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
964.9 3	0.13 3	$^{188}\text{Hg}$ (3.25 m)	66.7(63), 190.1(4.40), 82.7(2.6)
964.93 6	15.6 11	$^{80}\text{Zn}$ (0.545 s)	712.53(45.1), 715.40(33.8), 685.60(15.3)
964.97 19	0.21 7	$^{181}\text{Re}$ (19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
965.0 10	0.010 5	$^{85}\text{Y}$ (4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
965 3	0.09 3	$^{185}\text{Ta}$ (49.4 m)	177.59(25.7), 173.68(22.6), 65.86(3.9)
965 1	0.010 5	$^{214}\text{Bi}$ (19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
965.01 11	0.217 17	$^{93}\text{Kr}$ (1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
965.01 3	0.16 4	$^{210}\text{At}$ (8.1 h)	1181.39(99.3), 245.31(79), 1483.39(46.5)
• 965.1 3	0.0039 7	$^{145}\text{Eu}$ (5.93 d)	893.73(66), 653.512(15.0), 1658.53(14.9)
965.1 4	0.42 8	$^{190}\text{Re}$ (3.2 h)	186.718(27.8), 605.24(14.9), 557.972(14.3)
965.2 3	0.30 6	$^{60}\text{Cu}$ (23.7 m)	1332.501(88), 1791.6(45.4), 826.06(21.7)
965.3 3	0.82 10	$^{153}\text{Tm}$ (1.48 s)	299.3(6), 765.5(1.92), 205.2(0.61)
965.4 1	†41 23	$^{194}\text{Bi}$ (106 s)	1308.3(†100), 671.8(†55), 773.5(†31)
965.4 1	†100.0 15	$^{194}\text{Bi}$ (92 s)	575.1(†98.0), 280.1(†73.7), 421.1(†59.9)
965.40 10	0.44 4	$^{224}\text{Fr}$ (3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
965.5 3	1.20 12	$^{120}\text{Xe}$ (40 m)	25.1(30), 72.6(9), 178.1(6.8)
965.5 2	†50 6	$^{134}\text{Pr}$ (11 m)	293.5(†100), 299.0(†100), 1196.8(†100)
965.5 2	†50 6	$^{134}\text{Pr}$ (17 m)	1964.1(†100), 1904.3(†100), 1579.9(†100)
965.58 11	0.103 11	$^{153}\text{Dy}$ (6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
965.58 10	0.0021	$^{239}\text{U}$ (23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
965.6 6	1.5 4	$^{116}\text{Cs}$ (3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
965.63 5	0.53 3	$^{149}\text{Tb}$ (4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
965.7 6	0.14 3	$^{99}\text{Rh}$ (4.7 h)	340.71(70), 617.8(12.0), 1261.2(11)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
965.8 2	0.08 6	$^{117}\text{Cd}(2.49 \text{ h})$	273.349(28), 1303.27(18.4), 344.459(17.9)
965.8 5	0.035 8	$^{132}\text{I}(2.295 \text{ h})$	667.718(99), 772.60(75.6), 954.55(17.6)
965.8 4	0.10 5	$^{185}\text{Au}(4.25 \text{ m})$	310.6(13), 243.1(6.6), 77.7(6)
965.8 2	0.54 6	$^{230}\text{Fr}(19.1 \text{ s})$	711.0(13.6), 129.1(11.0), 728.4(7.3)
965.8 1	0.47 3	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
965.95 6		$^{168}\text{Lu}(5.5 \text{ m})$	1483.65( $\dagger$ 100), 228.58( $\dagger$ 97), 111.8( $\dagger$ 68)
965.95 6	0.77 15	$^{168}\text{Lu}(6.7 \text{ m})$	198.82(28), 979.22(20), 896.12(15)
966 2	0.27 8	$^{83}\text{Se}(2.3 \text{ m})$	356.687(70), 510.17(43), 224.8(32.7)
966.0 1	0.66 12	$^{101}\text{Zr}(2.1 \text{ s})$	119.3(10.8), 205.6(6.0), 912.2(3.48)
966.0 3	0.124 25	$^{129}\text{La}(11.6 \text{ m})$	278.6(25), 110.5(16.9), 457.0(8.0)
• 966 1	>0.031	$^{147}\text{Gd}(38.06 \text{ h})$	229.32(63), 396.00(34.3), 929.01(20.2)
966.0 5	1.5 4	$^{164}\text{Tb}(3.0 \text{ m})$	168.838(25.4), 754.80(23.3), 215.07(21)
966.1 4	0.0264 8	$^{171}\text{Er}(7.516 \text{ h})$	308.31(64.4), 295.901(28.9), 111.621(20.5)
966.1 5	1.95 9	$^{199}\text{Bi}(27 \text{ m})$	560.1(22.0), 424.85(22), 841.7(11)
• 966.171 3	25.21 15	$^{160}\text{Tb}(72.3 \text{ d})$	879.383(30.01), 298.580(25.51), 1177.962(15.07)
966.171 3	$\dagger$ 54.5 23	$^{160}\text{Ho}(5.02 \text{ h})$	728.18( $\dagger$ 100), 879.383( $\dagger$ 65.9), 962.317( $\dagger$ 59.1)
966.171 3	21.9 11	$^{160}\text{Ho}(25.6 \text{ m})$	728.18(46.9), 879.383(26.6), 962.317(25.6)
966.2 3	$9.0 \times 10^{-5}$ 3	$^{109}\text{Pd}(13.7012 \text{ h})$	88.04(1.171), 311.4(0.032), 647.3(0.024)
966.2	0.090 10	$^{141}\text{Pm}(20.90 \text{ m})$	1223.26(4.74), 886.22(2.44), 193.68(1.61)
966.2 3	0.30 6	$^{157}\text{Sm}(482 \text{ s})$	197.870(56.00), 196.461(16.8), 394.351(11.93)
966.2	0.17	$^{185}\text{Ir}(14.4 \text{ h})$	254.4(13.3), 1828.8(10), 60.0(5.7)
966.24 22	$\dagger$ 1.6 3	$^{83}\text{Ge}(1.85 \text{ s})$	306.51( $\dagger$ 100.0), 1193.77( $\dagger$ 20.5), 1525.50( $\dagger$ 13.6)
966.24 20	0.17 4	$^{162}\text{Tm}(21.70 \text{ m})$	102.00(17.5), 798.68(8.4), 227.52(7)
966.25 11	0.034 3	$^{151}\text{Tb}(17.609 \text{ h})$	287.357(28.3), 251.863(26.3), 108.088(24.3)
966.3 5	0.38 7	$^{105}\text{In}(5.07 \text{ m})$	131.37(41), 260.21(15.7), 604.11(9.2)
966.34 10	0.64 3	$^{77}\text{Rb}(3.75 \text{ m})$	66.52(57), 178.99(22.2), 393.37(9.7)
966.4 10	0.038 11	$^{77}\text{Ge}(11.30 \text{ h})$	264.44(54), 211.03(30.8), 215.50(28.6)
966.4 2	0.045 3	$^{96}\text{Tc}(51.5 \text{ m})$	778.224(1.9), 1200.231(1.08), 480.705(0.311)
966.4 4	0.19 4	$^{121}\text{Xe}(40.1 \text{ m})$	252.7(13), 132.8(10.9), 445.2(7.7)
966.4 6	7.7 5	$^{129}\text{Sb}(4.40 \text{ h})$	812.8(43), 914.6(20.0), 544.7(17.9)
966.4 3	$\dagger$ 1.3 5	$^{171}\text{Hf}(12.1 \text{ h})$	122.0( $\dagger$ 100), 662.2( $\dagger$ 83), 347.18( $\dagger$ 47)
966.45 3	0.395 23	$^{132}\text{La}(4.8 \text{ h})$	464.55(76), 567.14(15.7), 1909.91(9.0)
966.48 4	0.035 3	$^{128}\text{Cs}(3.66 \text{ m})$	442.901(26.8), 526.557(2.41), 1140.079(1.168)
966.5 7	0.09 5	$^{140}\text{Xe}(13.60 \text{ s})$	805.52(20), 1413.66(12.2), 1315.05(8.2)
966.6 2	0.55 13	$^{105}\text{Mo}(35.6 \text{ s})$	85.4(25.0), 76.50(19.3), 147.8(14.8)
966.6 3	0.020 5	$^{139}\text{Cs}(9.27 \text{ m})$	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
966.7 5	2.7 8	$^{135}\text{Nd}(12.4 \text{ m})$	204.02(52), 41.43(23), 441.2(14.9)
966.7 2	$\dagger$ 8.8 9	$^{153}\text{Yb}(4.2 \text{ s})$	547.4( $\dagger$ 100), 674.1( $\dagger$ 61), 369.6( $\dagger$ 32)
966.8 2	0.22 3	$^{96}\text{Rh}(9.90 \text{ m})$	832.57(100), 685.49(95.7), 631.71(74.5)
• 966.85 20	0.143 5	$^{170}\text{Lu}(2.00 \text{ d})$	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
966.89 7	0.15	$^{142}\text{Cs}(1.70 \text{ s})$	359.598(27.2), 1326.46(12.92), 966.89(9.0)
966.89 7	9.0 8	$^{142}\text{Cs}(1.70 \text{ s})$	359.598(27.2), 1326.46(12.92), 1175.93(4.16)
966.90 5	0.36 5	$^{134}\text{I}(52.6 \text{ m})$	847.025(95.4), 884.090(64.9), 1072.547(15.0)
966.9 2	0.91 8	$^{236}\text{Pa}(9.1 \text{ m})$	642.35(37.0), 687.59(9.9), 1762.7(6.0)
• 966.9 2	$<5 \times 10^{-8}$	$^{240}\text{Pu}(6563 \text{ y})$	45.242(0.0450), 104.234(0.00708), 160.308(0.000402)
967.0 2	0.087 17	$^{119}\text{I}(19.1 \text{ m})$	257.52(87), 635.86(2.69), 320.53(2.17)
967.0 2	0.18	$^{140}\text{Sm}(14.82 \text{ m})$	225.5( $>$ 10), 225.4(10), 140.0(5.0)
967.0 3	$\dagger$ 6.8 20	$^{155}\text{Nd}(8.9 \text{ s})$	180.574( $\dagger$ 100), 418.99( $\dagger$ 75), 955.08( $\dagger$ 50)
967.0 12	0.19 8	$^{175}\text{Ta}(10.5 \text{ h})$	207.4(14.0), 348.5(12.0), 266.9(10.8)
967.0 2	$\dagger$ 17.9 13	$^{195}\text{Bi}(183 \text{ s})$	807.6( $\dagger$ 100), 831.7( $\dagger$ 100), 776.2( $\dagger$ 95)
967	$\dagger$ <4	$^{238}\text{Pa}(2.3 \text{ m})$	1015.3( $\dagger$ <100), 1014.6( $\dagger$ <100), 635.18( $\dagger$ 88)
967.02 3	0.88 3	$^{130}\text{I}(12.36 \text{ h})$	536.09(99), 668.54(96), 739.48(82)
967.06 9	0.130 16	$^{176}\text{Ta}(8.09 \text{ h})$	1159.28(25), 88.34(12), 1224.93(6)
967.10 20	0.95 7	$^{99}\text{Pd}(21.4 \text{ m})$	136.00(73), 263.60(15.2), 673.38(6.9)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
967.1 2	19.3 16	<sup>100</sup> Nb(2.99 s)	535.60(97.0), 600.5(65.0), 1280.6(23.8)
967.1 3	0.23 7	<sup>101</sup> Sr(118 ms)	128.34(18.0), 1124.82(10.9), 510.73(8.5)
967.1 1	†6.3 10	<sup>103</sup> Nb(1.5 s)	102.64(†100), 641.1(†55), 538.5(†34.0)
967.2 7	0.48 9	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
• 967.2 6	0.014 6	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
967.23 6	0.122 9	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
967.23 36	0.08 3	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
967.29 35	0.104 18	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
967.3 5	0.067 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
• 967.306 17	2.70 6	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
967.33 11	0.214 19	<sup>90</sup> Kr(32.32 s)	1118.69(39.0), 121.82(35.5), 539.49(30.8)
967.40 40	0.39 11	<sup>148</sup> La(1.05 s)	158.468(55.6), 989.85(9.3), 760.30(8.6)
967.4 6	0.017 17	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
967.4 5	0.034 6	<sup>177</sup> Yb(1.911 h)	150.392(20.3), 1080.21(5.6), 1241.2(3.47)
967.4 2	†3.4 4	<sup>201</sup> Po(15.3 m)	890.1(†100), 240.1(†71.0), 904.2(†54.8)
967.4 2	†100.0 15	<sup>201</sup> Po(8.9 m)	964.3(†85), 411.9(†33.0), 537.5(†24.8)
967.44 4	0.0083 10	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
967.46 5	2.14 12	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
967.5 3	0.160 19	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
967.5		<sup>157</sup> Lu(5.0 s)	949.8, 880.5, 875.7
967.5 3	†7.5 15	<sup>164</sup> Tm(2.0 m)	91.40(†1500), 1154.66(†366), 768.91(†279)
967.5 3	0.106 10	<sup>164</sup> Tm(5.1 m)	208.08(14.6), 314.97(10), 240.49(7.5)
967.58 12	0.207 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
967.58 12	0.022 7	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
967.6	0.032 9	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
967.80 9	0.26 5	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
• 967.89 5	0.190 9	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
967.9 6	0.21 8	<sup>97</sup> Rh(30.7 m)	421.55(75), 840.13(12.0), 878.80(9.0)
967.94 15	0.091 13	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
968.0 2	0.38 6	<sup>92</sup> Ru(3.65 m)	213.81(96), 259.32(92), 134.57(65.5)
968.0 4	0.13 4	<sup>101</sup> Sr(118 ms)	128.34(18.0), 1124.82(10.9), 510.73(8.5)
968 1	>0.35	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
• 968.0 4	0.0027 17	<sup>152</sup> Eu(13.542 y)	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
968.0 2	0.10 4	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
968.1 8	0.022 11	<sup>73</sup> Se(7.15 h)	360.80(108), 67.03(78), 865.09(0.584)
968.1 2	0.172 23	<sup>96</sup> Rb(0.199 s)	815.0(78.00), 692.0(8.0), 813.2(7.0)
968.1 3		<sup>118</sup> Ag(3.76 s)	487.77(60), 677.13(11.9), 2788.7(11.8)
968.2 4	0.024 8	<sup>77</sup> Kr(74.4 m)	129.64(81), 146.59(37.3), 312.0(3.7)
968.2 7	0.16 5	<sup>78</sup> As(90.7 m)	613.725(54), 694.916(16.7), 1308.59(13.0)
968.2 4	0.47 6	<sup>118</sup> Cs(14 s)	337.4(100), 472.8(37.4), 586.6(15.4)
968.2 7	0.12 4	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
968.2 9	0.011	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
• 968.201 4	1.888 20	<sup>124</sup> Sb(60.20 d)	602.730(97.8), 1690.980(47.3), 722.786(10.76)
• 968.201 4	0.411 6	<sup>124</sup> I(4.18 d)	602.730(60), 1690.980(10.41), 722.786(9.98)
968.3 3	2.5 3	<sup>154</sup> Ho(3.10 m)	334.6(94), 412.4(79), 477.1(55)
968.3 4	0.043 12	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
968.328 7	1.07 4	<sup>199</sup> Pt(30.80 m)	542.993(15), 493.772(5.59), 317.056(4.95)
• 968.368 14	2.8×10 <sup>-8</sup>	<sup>239</sup> Pu(24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
968.4 9	>0.0023	<sup>81</sup> Rb(4.576 h)	190.38(64.0), 446.15(23.2), 510.31(5.3)
• 968.4 3	0.114 21	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
968.4 2	0.14 4	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
968.4 3	†14	<sup>179</sup> Os(6.5 m)	65.39(†100), 218.6(†17), 32.3(†17)
968.5 2	0.081 5	<sup>96</sup> Tc(51.5 m)	778.224(1.9), 1200.231(1.08), 480.705(0.311)
968.50 10	0.33 3	<sup>224</sup> Fr(3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
968.5 7	0.034 17	$^{245}\text{Pu}(10.5 \text{ h})$	327.428(25.4), 560.13(5.4), 308.222(4.9)
• 968.6 5	0.050 11	$^{146}\text{Eu}(4.59 \text{ d})$	747.2(98), 633.03(43), 634.07(37)
968.6 5	>0.22	$^{180}\text{Ir}(1.5 \text{ m})$	276.4(56), 132.2(38.1), 699.0(13.4)
968.7	0.12	$^{133}\text{Ce}(4.9 \text{ h})$	477.22(39), 510.36(20.7), 58.39(19.2)
968.7 8	†100	$^{178}\text{Os}(5.0 \text{ m})$	1331.1(†94), 594.6(†72), 685.0(†65)
968.7 3	0.217 21	$^{187}\text{Au}(8.4 \text{ m})$	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
968.8 1	4.38 23	$^{108}\text{In}(39.6 \text{ m})$	632.96(76), 1986.8(12.4), 3452.2(9.2)
968.8 2	2.7 3	$^{108}\text{In}(58.0 \text{ m})$	875.46(100), 632.96(100), 242.84(41)
968.8 5	3.31 13	$^{144}\text{La}(40.8 \text{ s})$	397.440(94.3), 541.20(39.2), 844.8(22.3)
968.9 2	0.46 6	$^{75}\text{Zn}(10.2 \text{ s})$	228.67(28.9), 432.29(20.2), 155.94(17.2)
968.9 3	0.0162 23	$^{79}\text{Rb}(22.9 \text{ m})$	688.1(23), 182.77(19.2), 143.41(13.9)
• 968.9 2	0.0146 16	$^{151}\text{Pm}(28.40 \text{ h})$	340.08(23), 167.75(8.3), 275.21(6.8)
968.9 4	†0.71 19	$^{189}\text{Hg}(7.6 \text{ m})$	320.99(†100), 78.21(†63), 565.42(†48)
• 968.9 4	0.017 6	$^{238}\text{Np}(2.117 \text{ d})$	984.45(27.8), 1028.54(20.3), 1025.87(9.6)
968.92 7	0.0531 24	$^{145}\text{Ce}(3.01 \text{ m})$	724.33(59), 62.54(13.33), 1148.03(9.15)
• 968.94 3	0.0365 19	$^{131}\text{Ba}(11.50 \text{ d})$	496.326(47), 123.805(28.97), 216.078(19.66)
968.971 10	16.2 3	$^{228}\text{Ac}(6.15 \text{ h})$	911.205(26.6), 338.322(11.3), 964.770(5.11)
968.971 10	3.88 19	$^{228}\text{Pa}(22 \text{ h})$	911.205(4.19), 463.005(1.250), 964.770(4.25)
969.0 10	0.25 6	$^{74}\text{Kr}(11.50 \text{ m})$	89.65(31), 203.0(18.0), 296.67(9.9)
969.0		$^{135}\text{Ce}(17.7 \text{ h})$	265.56(41.8), 300.07(23.5), 606.76(18.8)
969.0 2	†133 33	$^{157}\text{Ho}(12.6 \text{ m})$	279.97(†47600), 341.16(†37000), 193.41(†15200)
969 1	0.42	$^{164}\text{Tb}(3.0 \text{ m})$	168.838(25.4), 754.80(23.3), 215.07(21)
969	†<4	$^{238}\text{Pa}(2.3 \text{ m})$	1015.3(†<100), 1014.6(†<100), 635.18(†88)
969.02 21	0.057 13	$^{100}\text{Sr}(202 \text{ ms})$	963.85(22.0), 898.50(18.9), 65.46(15.2)
• 969.05 20	0.058 3	$^{170}\text{Lu}(2.00 \text{ d})$	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
969.05 4	0.0055 11	$^{173}\text{Hf}(23.6 \text{ h})$	123.672(83), 296.974(33.9), 139.634(12.7)
969.07 6	2.6 3	$^{100}\text{Nb}(1.5 \text{ s})$	535.60(45.7), 528.24(9.1), 159.547(8.8)
969.1 8	†0.36 7	$^{120}\text{I}(81.0 \text{ m})$	560.44(†137), 1523.0(†21.1), 640.85(†17.1)
969.11 10	>0.36	$^{228}\text{Pa}(22 \text{ h})$	911.205(4.19), 463.005(1.250), 964.770(4.25)
969.19 9	0.011 4	$^{157}\text{Eu}(15.18 \text{ h})$	63.929(23.0), 410.723(17.5), 370.509(11.0)
969.2 4	0.073 16	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
969.2 4	0.009 6	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
969.30 5	0.45 6	$^{117}\text{Cd}(2.49 \text{ h})$	273.349(28), 1303.27(18.4), 344.459(17.9)
969.3 4	0.041 14	$^{187}\text{W}(23.72 \text{ h})$	685.774(27.3), 479.531(21.8), 72.001(11.14)
• 969.315 11	41.6 19	$^{232}\text{Pa}(1.31 \text{ d})$	894.351(19.8), 150.059(10.8), 453.655(8.61)
969.315 11	0.31 5	$^{232}\text{Np}(14.7 \text{ m})$	327.3(52), 819.187(33.3), 866.760(24.4)
969.4 1	0.56 4	$^{107}\text{Tc}(21.2 \text{ s})$	102.70(21.0), 177.00(9.2), 106.31(7.6)
969.4 6	0.6 3	$^{116}\text{Cs}(3.84 \text{ s})$	393.5(<0.09), 524.3(76), 615.1(30.4)
969.4 7	0.036 21	$^{140}\text{Cs}(63.7 \text{ s})$	602.345(71.1), 908.25(11.6), 1200.25(6.39)
• 969.4	0.0075 20	$^{206}\text{Po}(8.8 \text{ d})$	1032.26(32.9), 511.36(24.1), 286.410(23.8)
969.44 10	2.10 7	$^{105}\text{Ru}(4.44 \text{ h})$	724.21(47), 469.37(17.5), 676.36(15.7)
969.458 20	0.404 13	$^{128}\text{I}(24.99 \text{ m})$	442.901(17), 526.557(1.58), 1140.079(0.0103)
969.458 20	0.630 19	$^{128}\text{Cs}(3.66 \text{ m})$	442.901(26.8), 526.557(2.41), 1140.079(1.168)
969.5 5	0.52 8	$^{117}\text{I}(2.22 \text{ m})$	325.9(75), 274.4(20.4), 661.5(5.1)
969.6 5	0.38	$^{101}\text{Cd}(1.2 \text{ m})$	98.0(47), 1722.5(11), 1259.3(8)
• 969.6 5	$3.1 \times 10^{-6}$ 9	$^{149}\text{Pm}(53.08 \text{ h})$	285.95(3.1), 859.46(0.109), 590.88(0.069)
969.6 3	0.075 15	$^{192}\text{Au}(4.94 \text{ h})$	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
969.61 5	14.9 10	$^{126}\text{In}(1.60 \text{ s})$	1141.11(55.9), 3344.61(21.6), 3886.82(4.7)
969.7 3	0.094 14	$^{89}\text{Kr}(3.15 \text{ m})$	220.948(20.1), 586.03(16.6), 904.27(7.2)
• 969.72 15	0.00080 9	$^{97}\text{Ru}(2.9 \text{ d})$	215.718(86), 324.48(10.79), 569.31(0.873)
969.72 30	0.032 5	$^{131}\text{La}(59 \text{ m})$	108.081(25.0), 417.783(18.0), 365.162(16.9)
969.79 6	4.65	$^{154}\text{Pm}(1.73 \text{ m})$	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
• 969.81 18	0.07 4	$^{172}\text{Lu}(6.70 \text{ d})$	1093.657(62.5), 900.724(29.8), 181.528(20.6)
• 969.86 4	0.373 6	$^{156}\text{Eu}(15.19 \text{ d})$	811.79(9.70), 88.9667(8.4), 1230.68(7.98)

•  $t_{1/2} > 1 \text{ d}$



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 969.86 4	0.121 12	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
• 969.9 2	0.18 4	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
969.9 7	0.25 5	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
969.94 5	3.0 5	<sup>124</sup> In(3.17 s)	1131.64(68), 3214.15(21.5), 997.79(21.1)
969.94 5	52 4	<sup>124</sup> In(2.4 s)	1131.64(100), 1072.85(47), 102.91(45)
970.0 1	2.57 12	<sup>61</sup> Zn(89.1 s)	475.0(16.85), 1660.5(7.80), 690.2(1.87)
970.0	0.07	<sup>95</sup> Sr(23.90 s)	685.6(23), 2717.3(4.6), 2933.1(4.1)
970.0 2	39.9 9	<sup>97</sup> Y(1.17 s)	1103.0(92.6), 161.4(71.8), 1091(56)
970.0 4	0.36 13	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
970.0 3	†13	<sup>154</sup> Nd(25.9 s)	151.703(†800), 799.55(†600), 180.693(†510)
970.00 20	0.303 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
970.0 10	0.80 23	<sup>191</sup> Hg(50.8 m)	252.5(57), 420.1(18.6), 578.6(17.6)
970.0 4	0.00024 12	<sup>223</sup> Fr(21.8 m)	50.13(36.0), 79.72(9.1), 234.81(3.0)
• 970.0 4	†0.0019 4	<sup>227</sup> Th(18.72 d)	235.971(†813), 50.13(†528), 256.25(†463)
• 970 1	0.014 4	<sup>230</sup> Pa(17.4 d)	951.95(1.65), 918.48(8.2), 454.95(6.27)
970.1 1	0.027 8	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
970.1 5	0.55 6	<sup>117</sup> Xe(61 s)	28.5(7.0), 221.3(10.0), 32.3(7.6)
970.1 2	1.7 6	<sup>129</sup> Sn(6.9 m)	1161.31(56.0), 1128.44(50), 760.8(16.8)
970.100 15	0.005 4	<sup>178</sup> Lu(28.4 m)	93.180(6.0), 1340.8(3.22), 1310.05(1.40)
970.100 15	0.0549 21	<sup>178</sup> Ta(9.31 m)	93.180(1.78), 1350.68(1.18), 1340.8(1.027)
• 970.20 20	0.112 4	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
970.3 4	0.084 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
970.38 3	0.604 20	<sup>152</sup> Eu(9.274 h)	344.281(2.44), 1314.67(0.956), 271.135(0.076)
970.38 3	†22.0 22	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
970.4 3	0.06 6	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
970.4 4	0.122 24	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
970.4 5	0.26 4	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
970.5 3	0.15 5	<sup>127</sup> In(1.09 s)	1597.7(49), 646.1(6.2), 805.1(5.6)
970.5 2	0.33 17	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
970.55 6	1.104 16	<sup>72</sup> Ga(14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)
• 970.55 6	0.0175 24	<sup>72</sup> As(26.0 h)	834.01(80), 629.95(7.92), 1463.95(1.107)
970.6 4	0.81 22	<sup>119</sup> Cd(2.69 m)	292.9(36.8), 343.0(16.9), 1609.7(10.9)
970.7 15	0.23 10	<sup>65</sup> Ge(30.9 s)	649.7(33), 62.0(27), 809.1(21.5)
970.7 4	†0.8 3	<sup>138</sup> Pm(3.24 m)	520.9(†100), 729.0(†37.8), 493.1(†21.6)
970.75 10	†0.43 4	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
970.77 10	0.38 4	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
970.8 3	0.136 20	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
970.87 10	2.35 13	<sup>77</sup> Rb(3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
970.9 5	0.062 7	<sup>224</sup> Fr(3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
• 970.91 15	0.23 3	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
971.0 8	0.0068 23	<sup>93</sup> Y(10.18 h)	266.9(7.3), 947.1(2.09), 1917.8(1.55)
971.0 3	0.31 4	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
971 1	0.05 3	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
971.0 3	0.084 13	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
971.0 5	1.2 3	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
971.0 2	0.125 21	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
971.0 2	0.262 24	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
971.06 5	1.22 10	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
971.1 2	0.151 13	<sup>143</sup> Cs(1.78 s)	195.554(13), 232.421(8.32), 306.424(6.80)
971.12 5	3.3 4	<sup>98</sup> Nb(2.86 s)	787.374(13), 1023.73(6.1), 1432.22(3.4)
971.12 5	0.62 3	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
971.12 35	0.09 3	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
971.14 19	0.262 24	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
971.2 3	1.40 19	<sup>122</sup> Cs(4.5 m)	331.1(94), 497.1(79), 638.5(63)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
971.3 2	†23 6	<sup>112</sup> Te(2.0 m)	372.70(†100), 296.20(†86), 418.9(†57)
971.32 35		<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
971.34 15	0.278 17	<sup>97</sup> Zr(16.91 h)	743.36(93), 507.64(5.03), 1147.97(2.61)
971.34 5	0.52 4	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
971.4 3	†6.0 3	<sup>201</sup> Po(15.3 m)	890.1(†100), 240.1(†71.0), 904.2(†54.8)
• 971.41	0.07	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
971.43 18	0.27 3	<sup>86</sup> Y(14.74 h)	1076.64(83), 627.72(32.6), 1153.01(30.5)
971.44 4	0.34 6	<sup>118</sup> In(4.45 m)	1229.68(96), 1050.69(81.0), 683.08(54.3)
971.44 14	0.31 7	<sup>118</sup> In(4.45 m)	1229.68(96), 1050.69(81.0), 683.08(54.3)
971.5 4	0.12 6	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
• 971.54 3	0.280 6	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
971.6 3	0.081 25	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
• 971.7 10	†0.0006 3	<sup>227</sup> Th(18.72 d)	235.971(†813), 50.13(†528), 256.25(†463)
971.77 9	0.0028 8	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
971.8 1	0.048 5	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
971.8 2	1.65 17	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
971.85 13	0.75 6	<sup>202</sup> Au(28.8 s)	439.59(10.0), 1125.20(2.30), 1306.38(2.25)
971.9 4	0.239 18	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
971.96	0.90 3	<sup>135</sup> I(6.57 h)	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
972.0 2	†5.9 18	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 955.08(†50)
972.1 3	†4.5 3	<sup>138</sup> Pm(3.24 m)	520.9(†100), 729.0(†37.8), 493.1(†21.6)
972.1 3	0.211 13	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
• 972.14 20	0.028 9	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
972.2 5	†9 2	<sup>130</sup> Sn(1.7 m)	144.9(†100), 899.2(†49), 84.7(†42)
972.2 1	8.9 18	<sup>141</sup> Gd(24.5 s)	351.1(89), 223.9(64), 574.9(51)
972.2 2	0.22 4	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
972.2 8	0.095 14	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
972.2 2		<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
972.2 3	†2.3 3	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
972.3 4	1 1	<sup>128</sup> Sb(9.01 h)	753.82(100), 743.22(100), 314.12(61)
972.3 5	0.91 13	<sup>136</sup> Nd(50.65 m)	108.90(32), 40.2(18.9), 574.8(10.4)
972.3 8	0.00024 8	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
972.32 9	0.068 7	<sup>92</sup> Y(3.54 h)	934.46(13.9), 1405.28(4.8), 561.03(2.40)
972.34 9	0.98 4	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
972.36 4	0.081 8	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
972.4	0.18	<sup>133</sup> Pr(6.5 m)	134.3(14), 74.0(10), 315.6(10)
972.48 10	0.056 9	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
• 972.5 5		<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
• 972.53 4	0.344 22	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
972.550 25	0.454 16	<sup>116</sup> In(54.41 m)	1293.54(84.4), 1097.3(56.2), 416.86(28.9)
972.550 25	72 5	<sup>116</sup> Sb(60.3 m)	1293.54(100), 542.872(52), 407.351(42)
972.6 2	0.62 16	<sup>108</sup> Tc(5.17 s)	242.25(82), 465.6(14.3), 707.81(11.4)
972.6 5	0.08 3	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
972.62	1.21 3	<sup>135</sup> I(6.57 h)	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
972.64 11	0.55 17	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
972.64 19	0.162 12	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
• 972.8 8	0.10 7	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
972.8 4	0.53 9	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
972.9 2	0.78 6	<sup>143</sup> Gd(39 s)	258.81(75), 204.77(19.4), 463.7(9.9)
973 1	0.04 1	<sup>87</sup> Zr(1.68 h)	1227(1.0), 1209.8(0.33), 1024(0.28)
973.0 4	0.015 5	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
973.0 6	0.15 4	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
973.0 3	0.26 4	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
973.0 7	0.021 11	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
973.06 10	0.214 13	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
973.07 5	0.672 25	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
973.10 22	0.056 13	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
973.2 2	2.6 3	<sup>76</sup> Rb(39.1 s)	2571.3(47), 424.0(43.4), 355.6(8.2)
973.2 3	†0.60 7	<sup>129</sup> In(1.23 s)	315.3(†28), 1222.0(†2.5), 906.7(†1.6)
973.23 10	0.191 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
973.35 13	2.5 5	<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
973.37 5	0.47 3	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
973.37 22	0.13 4	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
973.38 4	†4.5 15	<sup>164</sup> Tm(2.0 m)	91.40(†1500), 1154.66(†366), 768.91(†279)
973.4 3	0.39 6	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
973.49 15	0.12	<sup>137</sup> I(24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
973.5 6	0.013 4	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
973.5 2	0.11 4	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
973.52 17	0.157 17	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
973.6 1	0.17 4	<sup>107</sup> Tc(21.2 s)	102.70(21.0), 177.00(9.2), 106.31(7.6)
973.6 2	1.64 5	<sup>148</sup> Ho(9.59 s)	1687.5(82.47), 660.8(58.94), 504.3(18.62)
973.6 3	0.20 3	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
973.7 2	0.035 5	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
973.8 20	0.010 4	<sup>145</sup> Gd(23.0 m)	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
973.8 1	0.142 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
973.8	†98 7	<sup>202</sup> Po(44.7 m)	688.6(†1000), 316.0(†286), 165.7(†174)
973.9 1	0.040 3	<sup>91</sup> Sr(9.63 h)	1024.3(33), 749.8(23.61), 652.9(8.0)
973.9 1	99 5	<sup>132</sup> Sb(2.79 m)	696.8(86), 989.6(14.9), 103.4(13.9)
973.9 1	100 10	<sup>132</sup> Sb(4.10 m)	696.8(100), 150.6(66), 103.4(35)
973.9 2	†79 12	<sup>134</sup> Pr(11 m)	293.5(†100), 299.0(†100), 1196.8(†100)
973.9 2	†79 12	<sup>134</sup> Pr(17 m)	1964.1(†100), 1904.3(†100), 1579.9(†100)
973.9 1	23.8 12	<sup>240</sup> Np(61.9 m)	566.34(25.3), 600.57(18.4), 895.8(13.6)
974 1		<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
974.0 5	0.112 14	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
974.0 4	0.29	<sup>154</sup> Pm(2.68 m)	184.810(32), 81.99(15.4), 546.66(14.5)
974.0 2	†2.7 3	<sup>168</sup> Re(4.4 s)	199.3(†100), 363.2(†95), 479.8(†62.8)
974		<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
974.02 32	0.12 3	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
974.08 10	0.49 11	<sup>203</sup> Po(36.7 m)	908.64(55), 1090.95(19.2), 893.49(18.7)
• 974.09 4	0.0144 10	<sup>152</sup> Eu(13.542 y)	344.281(26.58), 778.91(12.96), 411.115(2.231)
974.09 4	†74 5	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
974.1 5	1.2	<sup>101</sup> Cd(1.2 m)	98.0(47), 1722.5(11), 1259.3(8)
974.1 5	0.20 4	<sup>141</sup> Sm(22.6 m)	196.88(74), 431.6(40.4), 777.6(20.3)
• 974.1 3	0.118 12	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
974.14 9	0.068 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
974.17 7	0.44 3	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
974.2 2	0.019	<sup>104</sup> Ag(69.2 m)	555.796(92.6), 767.72(65.7), 941.7(25.0)
974.2 2	0.018	<sup>104</sup> Ag(33.5 m)	555.796(91), 1238.0(3.87), 2276.7(2.46)
974.2 5	0.52 9	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
974.204 26	0.640 15	<sup>131</sup> La(59 m)	108.081(25.0), 417.783(18.0), 365.162(16.9)
974.3 2	0.32 5	<sup>92</sup> Ru(3.65 m)	213.81(96), 259.32(92), 134.57(65.5)
974.3 5	0.09 3	<sup>100</sup> Cd(49.1 s)	936.55(66), 139.71(6.7), 582.5(6.3)
974.39 10	0.98 6	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
974.4 6	1.8 18	<sup>116</sup> Ag(10.4 s)	513.39(92), 705.82(61), 1028.90(30.4)
974.42 15	0.0058 7	<sup>45</sup> Ti(184.8 m)	720.22(0.154), 1408.6(0.085), 1662.4(0.041)
974.5 2	0.60 12	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
974.5 4	0.008 8	<sup>152</sup> Pm(4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
• 974.5 3	<1.9×10 <sup>-8</sup>	<sup>242</sup> Cm(162.8 d)	44.08(0.0325), 101.90(0.0025), 157.42(0.0014)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
974.54 3	1.60 10	<sup>106</sup> In(6.2 m)	632.66(100), 861.16(92), 997.87(48)
974.54 4	0.0039	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
974.6 1	75 8	<sup>84</sup> Y(40 m)	793.3(99), 1040.2(56), 660.9(15.7)
974.6 3	0.24 6	<sup>108</sup> Tc(5.17 s)	242.25(82), 465.6(14.3), 707.81(11.4)
974.6 4	0.08	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
974.610 24	0.088 18	<sup>75</sup> Br(96.7 m)	286.572(88), 141.3147(6.6), 427.883(4.4)
974.61 3	12.9 5	<sup>122</sup> In(10.3 s)	1140.55(98), 1001.58(50.7), 1190.58(20.5)
974.670 35	4.8 3	<sup>134</sup> I(52.6 m)	847.025(95.4), 884.090(64.9), 1072.547(15.0)
974.7 2	0.35 4	<sup>71</sup> Zn(3.96 h)	386.28(93), 487.38(62), 620.18(57)
974.7 3	0.103 12	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
974.72	14.95 22	<sup>25</sup> Na(59.1 s)	585.03(13.00), 389.70(12.68), 1611.711(9.48)
974.72	0.024 3	<sup>25</sup> Al(7.183 s)	1611.711(0.79), 389.70(0.023), 585.03(0.023)
974.8	†5.5	<sup>144</sup> Gd(4.5 m)	333.3(†100), 2432.6(†94.8), 629.5(†32.4)
974.90 10	2.8 3	<sup>114</sup> Sb(3.49 m)	1299.90(99), 887.60(17.4), 327.18(7.0)
974.9 1	3.08 16	<sup>130</sup> La(8.7 m)	357.4(81.0), 550.7(25.9), 908.0(17.0)
974.9 4	0.34 5	<sup>136</sup> Pr(13.1 m)	552.16(76), 539.75(52), 1092.3(18.5)
974.9 7	0.037 14	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
974.91 20	0.025 22	<sup>66</sup> Ge(2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
975.0	34	<sup>43</sup> Ar(5.37 m)	738.1(15), 1439.5(13), 2344.7(7)
975.0 4	0.22	<sup>44</sup> Ar(11.87 m)	182.6(66), 1703.4(57), 1886.0(31)
975.0 5	0.16 4	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
• 975 1	>0.021	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
975.0 6	0.33 12	<sup>166</sup> Lu(2.65 m)	228.12(77.3), 337.50(41), 367.95(31.4)
975.0 2	0.19 5	<sup>236</sup> Pa(9.1 m)	642.35(37.0), 687.59(9.9), 1762.7(6.0)
975 1	0.25 17	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
975.03 12	0.093 9	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
975.1 3	0.27 3	<sup>74</sup> Ga(8.12 m)	595.847(91), 2353.46(44.5), 608.353(14.3)
975.1 4	†3.0 3	<sup>120</sup> I(81.0 m)	560.44(†137), 1523.0(†21.1), 640.85(†17.1)
975.1 2	0.044 5	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
975.1 1	0.027 7	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
• 975.170 11	0.08 3	<sup>200</sup> Tl(26.1 h)	367.943(87), 1205.717(29.9), 579.298(13.8)
975.19 4	0.372 19	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
975.20 10	0.0075 9	<sup>82</sup> Rb(1.273 m)	776.517(13), 1395.139(0.471), 698.374(0.133)
975.2 5	0.00018 3	<sup>223</sup> Fr(21.8 m)	50.13(36.0), 79.72(9.1), 234.81(3.0)
975.25	0.6 3	<sup>42</sup> Ti(199 ms)	611.046(56), 2222.6(0.67), 636.4(0.7)
975.38 14	0.058 12	<sup>89</sup> Rb(15.15 m)	1031.94(58), 1248.19(42.6), 2196.02(13.3)
975.4	†11	<sup>99</sup> Cd(16 s)	342.6(†100), 671.8(†31), 1583.3(†28)
975.5 5	0.033 10	<sup>72</sup> Ga(14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)
975.5 5	0.07	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
975.6		<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
975.7 3	2.90 18	<sup>170</sup> Ho(2.76 m)	258.2(37.0), 931.3(36.1), 181.6(23.8)
975.7 5	†6	<sup>177</sup> Os(2.8 m)	84.7(†100), 125.4(†63), 195.8(†61)
975.9 3	0.059 10	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
975.9 1	†0.18 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
975.9 3	0.047 11	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
975.95 3	0.051 5	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
975.95 3	1.63 9	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
976	35	<sup>120</sup> I(53 m)	560.44(100), 601.11(87), 614.62(67)
976.00 12	0.91 4	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
976.08 6	0.71 4	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
976.09 4	0.0460 22	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
976.1 7	0.78 16	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
• 976.1 2	0.12 3	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
976.1 15	0.42 6	<sup>196</sup> Tl(1.84 h)	426.0(84), 610.5(11.9), 635.5(9.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
976.2 3	0.17 3	<sup>141</sup> Eu(40.0 s)	394.0(9), 384.5(5.6), 382.9(2.97)
976.2 1	8.0 18	<sup>141</sup> Gd(24.5 s)	351.1(89), 223.9(64), 574.9(51)
976.2 5	0.0007 3	<sup>171</sup> Er(7.516 h)	308.31(64.4), 295.901(28.9), 111.621(20.5)
976.2 10	0.022 11	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
• 976.23 11	0.088 10	<sup>124</sup> Sb(60.20 d)	602.730(97.8), 1690.980(47.3), 722.786(10.76)
• 976.23 11	0.103 12	<sup>124</sup> I(4.18 d)	602.730(60), 1690.980(10.41), 722.786(9.98)
976.3 3	0.088 20	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
976.3 2	1.08 9	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
976.3 1	0.0019 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
976.3	0.35	<sup>133</sup> Pr(6.5 m)	134.3(14), 74.0(10), 315.6(10)
976.3 3	0.90 9	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
976.32 10	1.37 10	<sup>206</sup> At(30.0 m)	700.66(98), 477.10(86), 395.54(48)
• 976.37 7	2.71 7	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
976.4 2	0.122 9	<sup>94</sup> Rb(2.702 s)	1309.1(87), 836.9(87.10), 1577.5(31.8)
976.4 2	†50 2	<sup>139</sup> I(2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
• 976.4 3	0.057 16	<sup>190</sup> Ir(11.78 d)	186.718(52.4), 605.24(39.9), 518.55(34.0)
976.49 21	0.057 4	<sup>87</sup> Kr(76.3 m)	402.586(49.6), 2554.8(9.2), 845.43(7.34)
976.50 5	4.62 13	<sup>76</sup> Ga(32.6 s)	562.93(66), 545.51(26.0), 1108.41(15.8)
976.5 3	†0.2	<sup>111</sup> Rh(11 s)	275.4(†100.0), 411.8(†9.42), 230.0(†8.9)
976.5 2	2.67 20	<sup>136</sup> I(83.4 s)	1313.02(67), 1321.08(24.8), 2289.6(10.4)
• 976.50 4	0.0812 22	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
976.5 10	0.42 21	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
976.5 5	†1.0 5	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
976.55 2	0.80 4	<sup>210</sup> At(8.1 h)	1181.39(99.3), 245.31(79), 1483.39(46.5)
976.6 3	2.6 4	<sup>159</sup> Sm(11.37 s)	189.79(46), 861.97(18.2), 254.43(9.8)
976.6 5	3.6 6	<sup>178</sup> Re(13.2 m)	237.3(45), 105.9(23.0), 939.1(8.9)
976.68 29	0.63 6	<sup>146</sup> Cs(0.343 s)	181.02(57.0), 557.76(9.18), 332.38(6.44)
976.7 4	0.0116 23	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
976.7 5	0.53 11	<sup>97</sup> Pd(3.10 m)	265.26(56), 475.2(26.7), 792.70(13.8)
976.74 20	0.00023 4	<sup>165</sup> Dy(2.334 h)	94.700(3.58), 361.68(0.84), 633.415(0.568)
976.8 2	1.79 16	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
976.8 1	0.31 3	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
976.9 2	0.068 8	<sup>82</sup> Rb(6.472 h)	776.517(84), 554.348(62.4), 619.106(37.976)
• 976.9 3	0.031 10	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
977 1	0.15 5	<sup>127</sup> In(1.09 s)	1597.7(49), 646.1(6.2), 805.1(5.6)
977 1	>0.35	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
977.00 20	0.165 13	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
977.0 8	2.5 6	<sup>166</sup> Ta(34.4 s)	158.5(53), 311.8(28.2), 810.1(9.8)
977.0 2	0.049 6	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
977.0 3	0.142 14	<sup>190</sup> Au(42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
977.02 2	<0.000024	<sup>15</sup> C(2.449 s)	5297.817(63.2), 8310.15(0.032), 9046.78(0.031)
977.03 17	0.44 5	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
977.048 18	0.0097 12	<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
977.1 1	0.0114 20	<sup>126</sup> Cs(1.64 m)	388.633(41), 491.243(5.0), 925.24(4.56)
977.1 5	0.037 9	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
977.131 13	13.6 7	<sup>158</sup> Eu(45.9 m)	944.09(25), 79.5104(11), 897.60(10.3)
• 977.131 13	0.167 22	<sup>158</sup> Tb(180 y)	944.09(44), 962.06(20.3), 79.5104(11.6)
977.15 4	0.564 19	<sup>81</sup> Rb(4.576 h)	190.38(64.0), 446.15(23.2), 510.31(5.3)
977.15 15	0.28 5	<sup>124</sup> In(3.17 s)	1131.64(68), 3214.15(21.5), 997.79(21.1)
977.15 15	1.60 20	<sup>124</sup> In(2.4 s)	1131.64(100), 969.94(52), 1072.85(47)
977.2 7	0.63 8	<sup>51</sup> Sc(12.4 s)	1437.3(52), 2144.1(31.8), 1567.5(14.9)
977.2 2	0.13 3	<sup>104</sup> Tc(18.3 m)	358.0(89), 530.5(15.6), 535.1(14.7)
977.2 2	0.65 20	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
977.2 2	0.39 17	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
977.2		$^{245}\text{Pu}(10.5 \text{ h})$	327.428(25.4), 560.13(5.4), 308.222(4.9)
977.27 10	†2.06 17	$^{188}\text{Au}(8.84 \text{ m})$	265.63(†100), 340.04(†23.9), 605.5(†16.3)
• 977.373 4	1.439 15	$^{56}\text{Co}(77.27 \text{ d})$	846.771(100), 1238.282(67.6), 2598.459(17.28)
977.4 1		$^{158}\text{Ho}(21.3 \text{ m})$	406.14(†100), 838.9(†84.3), 1484.1(†66.2)
977.4 1	†2.25 11	$^{158}\text{Ho}(11.3 \text{ m})$	218.21(†100.0), 98.91(†70), 945.7(†37)
977.4 2	0.039	$^{185}\text{Au}(4.25 \text{ m})$	310.6(13), 243.1(6.6), 77.7(6)
977.42 15	2.7 3	$^{126}\text{In}(1.64 \text{ s})$	1141.11(100), 908.58(99), 111.79(88)
977.5 5	1.61 8	$^{199}\text{Bi}(27 \text{ m})$	560.1(22.0), 424.85(22), 841.7(11)
977.53 4	3.14 10	$^{187}\text{Ir}(10.5 \text{ h})$	912.95(4.79), 427.12(4.12), 400.89(3.94)
977.6 2	0.057 25	$^{230}\text{Ac}(122 \text{ s})$	454.95(8), 508.20(5.15), 1243.9(3.50)
977.7 3	0.51 14	$^{157}\text{Tm}(3.63 \text{ m})$	455.00(9.3), 385.5(8.8), 348.40(8.4)
977.7 12	†1.9 7	$^{191}\text{Tl}(5.22 \text{ m})$	452.6(†100), 470.1(†98), 391.6(†96)
977.8 4	1.19 20	$^{69}\text{Se}(27.4 \text{ s})$	97.98(66), 66.4(24.8), 691.8(16.6)
977.8 1	5.1 4	$^{96}\text{Rb}(0.199 \text{ s})$	815.0(78.00), 692.0(8.0), 813.2(7.0)
977.8 1	0.8	$^{97}\text{Rb}(169.9 \text{ ms})$	815.0(100), 692.0(16.5), 414.3(15.0)
977.80 2	0.09 5	$^{244}\text{Am}(26 \text{ m})$	1084.181(0.37), 941.95(0.36), 1062.953(0.28)
977.85 6	†5.39 6	$^{71}\text{Se}(4.74 \text{ m})$	147.50(†211), 1095.26(†43.6), 830.33(†43.2)
977.9	8.2 14	$^{36}\text{Si}(0.45 \text{ s})$	175.0(68), 249.9(68), 878.2(44)
977.9 2	0.0019 5	$^{105}\text{Ru}(4.44 \text{ h})$	724.21(47), 469.37(17.5), 676.36(15.7)
977.9 3	0.0043 14	$^{167}\text{Yb}(17.5 \text{ m})$	113.34(55.3), 106.18(22.5), 176.25(21)
977.9 4	1.6 6	$^{187}\text{Pt}(2.35 \text{ h})$	106.46(9), 201.52(6.4), 110.04(5.7)
977.94 18	2.1 3	$^{102}\text{Ag}(12.9 \text{ m})$	556.52(91), 719.40(58), 1744.99(17.3)
977.94 18	2.7 3	$^{102}\text{Ag}(7.7 \text{ m})$	556.52(48), 1834.7(9.8), 2054.4(6.6)
978	0.07 4	$^{61}\text{Fe}(5.98 \text{ m})$	1205.07(44), 1027.42(42.7), 297.90(22.2)
978 1	0.12 6	$^{133}\text{Te}(12.5 \text{ m})$	312.072(62), 407.63(27.1), 1333.21(10.67)
978.1 20	0.15 6	$^{74}\text{Kr}(11.50 \text{ m})$	89.65(31), 203.0(18.0), 296.67(9.9)
978.1	0.18	$^{147}\text{Ba}(0.893 \text{ s})$	167.4(11), 105.2(4.8), 196.1(4.8)
978.1 3	0.11 4	$^{150}\text{Tb}(3.48 \text{ h})$	638.05(72), 496.3(14.8), 792.5(4.39)
978.1 3	†13.4 23	$^{233}\text{Pu}(20.9 \text{ m})$	235.4(†100), 534.8(†90.2), 500.3(†38.6)
978.18 20	0.087	$^{137}\text{I}(24.5 \text{ s})$	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
978.19 21	†2.5 4	$^{189}\text{Hg}(7.6 \text{ m})$	320.99(†100), 78.21(†63), 565.42(†48)
978.2 3	†7 1	$^{159}\text{Yb}(1.58 \text{ m})$	166.16(†500), 177.12(†159), 390.20(†113)
978.2	0.11	$^{185}\text{Ir}(14.4 \text{ h})$	254.4(13.3), 1828.8(10), 60.0(5.7)
978.2 3	0.090 21	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
978.2 3	1.00 13	$^{251}\text{Cm}(16.8 \text{ m})$	542.7(10.9), 530.0(1.62), 389.7(1.28)
978.22 15	0.056 9	$^{105}\text{Cd}(55.5 \text{ m})$	961.84(4.69), 346.870(4.20), 1302.459(3.98)
• 978.28	0.07	$^{146}\text{Eu}(4.59 \text{ d})$	747.2(98), 633.03(43), 634.07(37)
978.30 4	4.86 17	$^{133}\text{Te}(55.4 \text{ m})$	912.671(55.28), 647.51(19.4), 863.955(15.6)
978.3 2	†41 3	$^{135}\text{Pm}(49 \text{ s})$	198.5(†100), 207.2(†70), 463.5(†62)
978.3 2	0.146 21	$^{183}\text{Ir}(58 \text{ m})$	392.52(10.4), 228.70(6.9), 87.67(5.6)
978.3 10	0.14 3	$^{201}\text{Bi}(108 \text{ m})$	629.1(24.0), 936.2(11.3), 1014.1(10.7)
978.3 8	0.0075	$^{233}\text{Th}(22.3 \text{ m})$	86.477(2.7), 29.374(2.5), 459.222(1.4)
• 978.36 7	0.040 6	$^{205}\text{Bi}(15.31 \text{ d})$	1764.36(1.368), 703.44(31), 987.62(0.585)
978.37 12	0.69 7	$^{100}\text{Y}(735 \text{ ms})$	212.531(73), 118.59(15.4), 665.98(7.7)
978.45 15	0.087 12	$^{158}\text{Tm}(3.98 \text{ m})$	192.13(62), 335.10(16.8), 1149.83(7.6)
• 978.47 5	0.020 5	$^{150}\text{Eu}(35.8 \text{ y})$	333.971(96), 439.401(80.4), 584.274(52.6)
978.5 5	1.90 11	$^{144}\text{La}(40.8 \text{ s})$	397.440(94.3), 541.20(39.2), 844.8(22.3)
978.5		$^{160}\text{Lu}(36.1 \text{ s})$	243.2(†100), 395.4(†21.0), 577.2(†10.7)
978.6 3	1.9 5	$^{121}\text{Cd}(13.5 \text{ s})$	324.976(49.5), 1040.26(16.8), 349.937(12.9)
978.66 7	0.373 21	$^{81}\text{Sr}(22.3 \text{ m})$	153.54(33.8), 147.76(30.1), 443.34(17.5)
978.7 5	0.113 25	$^{121}\text{Xe}(40.1 \text{ m})$	252.7(13), 132.8(10.9), 445.2(7.7)
978.7 2	†25 5	$^{134}\text{Pr}(11 \text{ m})$	293.5(†100), 299.0(†100), 1196.8(†100)
978.7 2	†25 5	$^{134}\text{Pr}(17 \text{ m})$	1964.1(†100), 1904.3(†100), 1579.9(†100)
978.7 2	0.19 3	$^{183}\text{Au}(42.0 \text{ s})$	161.18(9.4), 214.13(5.9), 313.08(5.0)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
978.7 4	0.00081 9	$^{223}\text{Fr}(21.8 \text{ m})$	50.13(36.0), 79.72(9.1), 234.81(3.0)
978.73 26	$\dagger 2.3 5$	$^{165}\text{Lu}(10.74 \text{ m})$	132.49( $\dagger 100$ ), 120.60( $\dagger 100$ ), 174.25( $\dagger 47.0$ )
978.8 8	1.2 3	$^{121}\text{Cd}(8.3 \text{ s})$	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
978.8	0.016 5	$^{149}\text{Nd}(1.728 \text{ h})$	211.309(25.9), 114.314(19.2), 270.166(10.7)
978.8 3	0.343 20	$^{177}\text{W}(135 \text{ m})$	115.65(50), 426.98(13.2), 1036.4(10.3)
978.87 10	0.040 3	$^{155}\text{Dy}(9.9 \text{ h})$	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
978.94 14	>0.006	$^{93}\text{Mo}(6.85 \text{ h})$	949.82(0.120), 689.07(0.070), 541.32(0.060)
978.969 15	0.256 5	$^{145}\text{Pr}(5.984 \text{ h})$	748.278(0.5250), 675.795(0.514), 72.500(0.261)
979.0		$^{127}\text{Sn}(4.13 \text{ m})$	490.9(90), 1348.0(4.8), 1564.0(4.0)
979.00 20	0.30 3	$^{153}\text{Dy}(6.4 \text{ h})$	80.723(11.10), 213.754(10.90), 99.659(10.51)
979.013 23	0.078 10	$^{149}\text{Nd}(1.728 \text{ h})$	211.309(25.9), 114.314(19.2), 270.166(10.7)
979.07 18	1.54 18	$^{195}\text{Pb}(15.0 \text{ m})$	383.64(106.9), 394.21(44), 878.40(24.2)
• 979.09 10	0.044 3	$^{146}\text{Eu}(4.59 \text{ d})$	747.2(98), 633.03(43), 634.07(37)
979.09 6	0.49 3	$^{149}\text{Tb}(4.118 \text{ h})$	352.24(29.43), 164.98(26.4), 388.57(18.37)
979.17 6	0.089 6	$^{145}\text{Ce}(3.01 \text{ m})$	724.33(59), 62.54(13.33), 1148.03(9.15)
979.2 2	0.36 3	$^{96}\text{Y}(9.6 \text{ s})$	1750.42(89), 915.0(60), 617.1(56)
979.2 4	4.0 18	$^{110}\text{Rh}(28.5 \text{ s})$	373.80(91), 546.90(42.4), 687.70(25.8)
979.2 3	4.2 4	$^{112}\text{Rh}(6.8 \text{ s})$	348.70(87), 560.5(49), 1098.6(39)
979.2 4	7.4 16	$^{127}\text{Sn}(2.10 \text{ h})$	1114.3(39), 1095.6(20), 823.1(10.9)
979.22 5		$^{168}\text{Lu}(5.5 \text{ m})$	1483.65( $\dagger 100$ ), 228.58( $\dagger 97$ ), 111.8( $\dagger 68$ )
979.22 5	20 3	$^{168}\text{Lu}(6.7 \text{ m})$	198.82(28), 896.12(15), 884.64(13.9)
979.25 13	0.24 4	$^{174}\text{Ta}(1.05 \text{ h})$	206.50(58), 91.00(16.0), 1205.92(4.9)
• 979.29 7	3.01 7	$^{119}\text{Te}(4.70 \text{ d})$	153.59(66), 1212.73(66), 270.53(28.0)
979.3	3.6	$^{96}\text{Y}(9.6 \text{ s})$	1750.42(89), 915.0(60), 617.1(56)
• 979.33 12	0.035 6	$^{153}\text{Tb}(2.34 \text{ d})$	212.038(31.0), 170.504(6.8), 109.758(6.4)
979.37 14	0.00109 10	$^{161}\text{Gd}(3.66 \text{ m})$	360.94(0.59), 314.92(22.7), 102.315(13.9)
979.4 3	0.28 3	$^{123}\text{Xe}(2.08 \text{ h})$	148.9(49), 178.1(14.9), 330.2(8.6)
979.46 9	1.1 3	$^{164}\text{Lu}(3.14 \text{ m})$	123.3(34.0), 740.52(12.2), 262.22(10.8)
979.48 4	0.408 14	$^{151}\text{Tb}(17.609 \text{ h})$	287.357(28.3), 251.863(26.3), 108.088(24.3)
979.48 10	0.027 3	$^{228}\text{Ac}(6.15 \text{ h})$	911.205(26.6), 968.971(16.2), 338.322(11.3)
979.5 2	0.46 9	$^{74}\text{Br}(46 \text{ m})$	634.78(91), 728.37(35.6), 634.26(16.4)
979.5 4	0.16 8	$^{185}\text{Au}(4.25 \text{ m})$	310.6(13), 243.1(6.6), 77.7(6)
• 979.5 2	0.059 12	$^{188}\text{Ir}(41.5 \text{ h})$	155.032(29.7), 2214.62(18.7), 632.99(18)
979.5 3	0.032 16	$^{201}\text{Pb}(9.33 \text{ h})$	331.19(79), 361.27(9.9), 945.96(7.4)
979.6 5	$\dagger 0.73 12$	$^{120}\text{I}(81.0 \text{ m})$	560.44( $\dagger 137$ ), 1523.0( $\dagger 21.1$ ), 640.85( $\dagger 17.1$ )
979.6		$^{238}\text{Pa}(2.3 \text{ m})$	1015.3( $\dagger < 100$ ), 1014.6( $\dagger < 100$ ), 635.18( $\dagger 88$ )
979.65 21	0.062 13	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 979.67 3	$2.8 \times 10^{-8} 5$	$^{239}\text{Pu}(24110 \text{ y})$	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
979.7 3	$\dagger 1.6 6$	$^{131}\text{Ce}(10.3 \text{ m})$	169.42( $\dagger 100$ ), 414.25( $\dagger 68$ ), 119.18( $\dagger 44$ )
979.7 3	1.58 17	$^{141}\text{Xe}(1.73 \text{ s})$	909.23(24.0), 118.705(16.1), 105.937(9.8)
979.7 3	$\dagger 4.9 3$	$^{201}\text{Po}(15.3 \text{ m})$	890.1( $\dagger 100$ ), 240.1( $\dagger 71.0$ ), 904.2( $\dagger 54.8$ )
979.76 19	6.6 6	$^{78}\text{Zn}(1.47 \text{ s})$	224.75(43.9), 181.68(28.1), 860.30(24.5)
979.77	18.1 19	$^{25}\text{Ne}(602 \text{ ms})$	89.53(95.5), 1069.30(2.3), 2202(1.1)
• 979.79 7	0.122 12	$^{169}\text{Lu}(34.06 \text{ h})$	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
979.8	0.7	$^{200}\text{Bi}(36.4 \text{ m})$	1026.5(100), 462.34(98), 419.70(91)
• 979.8 2	$2.6 \times 10^{-7} 1$	$^{242}\text{Cm}(162.8 \text{ d})$	44.08(0.0325), 101.90(0.0025), 157.42(0.0014)
• 979.843 15	0.214 5	$^{148}\text{Eu}(54.5 \text{ d})$	550.284(98.5), 629.987(71.9), 611.293(20.5)
979.94 22	0.06	$^{176}\text{Ta}(8.09 \text{ h})$	1159.28(25), 88.34(12), 1224.93(6)
979.98 2	0.0052 3	$^{135}\text{La}(19.5 \text{ h})$	480.51(1.5), 874.51(0.164), 587.83(0.1108)
980.0 3	0.75 15	$^{113}\text{Rh}(2.72 \text{ s})$	189.7(17.0), 409.3(15.9), 219.6(3.88)
980 1	0.10 5	$^{127}\text{In}(1.09 \text{ s})$	1597.7(49), 646.1(6.2), 805.1(5.6)
980.0 4	0.036 14	$^{167}\text{Lu}(51.5 \text{ m})$	29.66(14.4), 239.22(8.6), 213.19(3.6)
980.01 10	3.25 5	$^{172}\text{Ta}(36.8 \text{ m})$	214.02(46), 95.23(17.5), 1109.27(12.4)
980.1 1	0.45 10	$^{142}\text{Tb}(597 \text{ ms})$	515.0(25), 465.0(2.7), 853.1(2.42)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
980.1 6	0.12 3	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
980.15 7	0.277 19	<sup>210</sup> Rn(2.4 h)	458.25(1.7), 648.70(0.843), 570.95(0.840)
980.2 2	0.11	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
980.23 15	0.125 16	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
• 980.23 10	7.08 14	<sup>206</sup> Po(8.8 d)	1032.26(32.9), 511.36(24.1), 286.410(23.8)
980.26 5	1.49 17	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
980.29 11	0.187 16	<sup>90</sup> Kr(32.32 s)	1118.69(39.0), 121.82(35.5), 539.49(30.8)
980.3 4	0.78 16	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
980.3 3	0.09	<sup>162</sup> Ho(67.0 m)	185.005(28.6), 1220.0(22.5), 282.864(11.3)
• 980.30 20	0.130 13	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
980.3 1	1.8	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
980.3 1	2.7	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
980.38 13	0.18 6	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
980.4 7	0.0043 17	<sup>162</sup> Tb(7.60 m)	260.070(37.2), 807.53(42.8), 888.20(38.7)
980.43 10	1.33 18	<sup>130</sup> In(0.55 s)	1221.24(89), 774.37(46), 89.23(20.2)
980.45 2	11.55 12	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 1010.29(9.54)
980.5 2	0.114 24	<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
980.58 10	0.265 15	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
980.59 18	0.123 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
980.6 1	0.138 16	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
980.6 5	1.19 11	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
980.65 95	0.10 4	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
980.7	84 1	<sup>8</sup> He(119.0 ms)	
980.7 3	0.83 24	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
• 980.71 15	0.0414 22	<sup>76</sup> As(26.32 h)	559.101(45), 657.041(6.2), 1216.104(3.42)
980.71 15	0.33 3	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
980.8 2	0.51 6	<sup>104</sup> Tc(18.3 m)	358.0(89), 530.5(15.6), 535.1(14.7)
980.80 20		<sup>106</sup> In(6.2 m)	632.66(100), 861.16(92), 997.87(48)
980.8 2	0.174 24	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
980.8 1	0.123 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
• 980.81 37	0.0037 7	<sup>77</sup> Br(57.036 h)	238.996(23), 520.639(22.4), 297.215(4.16)
980.81 18	0.46 9	<sup>106</sup> In(5.2 m)	632.66(92), 1714.90(17.1), 861.16(10.6)
980.90 15	1.13 10	<sup>67</sup> Ge(18.9 m)	167.01(84), 1472.48(4.9), 910.92(3.1)
980.9 2	0.10	<sup>142</sup> Eu(2.34 s)	768.1(10), 1658.1(1.75), 1754.1(1.49)
981.0 3	0.050 19	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
981.02 10	0.0481 19	<sup>66</sup> Ga(9.49 h)	1039.30(37), 2752.01(23.38), 833.50(5.89)
981.06 8	0.0058 5	<sup>133</sup> La(3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
981.1 3	0.13 3	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
981.2	0.18 5	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
981.2	0.043 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
981.2	0.18 9	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
981.2 3	†1.29 24	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
981.3 5	0.032 8	<sup>227</sup> Fr(2.47 m)	90.035(39), 585.804(29.5), 64.267(14.5)
981.33 4	0.043 14	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
981.4 10	†21	<sup>99</sup> Rb(59 ms)	90.8(†100), 125.2(†40), 1071.6(†26)
981.4 1	0.56 4	<sup>107</sup> Tc(21.2 s)	102.70(21.0), 177.00(9.2), 106.31(7.6)
981.4 2	0.0084 17	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
981.4 3	†23	<sup>154</sup> Nd(25.9 s)	151.703(†800), 799.55(†600), 180.693(†510)
981.4 8	0.24	<sup>167</sup> Dy(6.20 m)	569.7(48), 259.33(27.9), 310.26(25.0)
981.5 9	0.136 14	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
981.5	†3.0	<sup>107</sup> Sn(2.90 m)	1129.2(†100), 678.5(†100), 1540.6(†30)
981.54 9	>0.00011	<sup>136</sup> La(9.87 m)	818.514(2.3), 760.50(0.289), 1322.76(0.264)
• 981.59 6	0.0084 14	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
981.60 20	†0.044 13	<sup>71</sup> Se(4.74 m)	147.50(†211), 1095.26(†43.6), 830.33(†43.2)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
981.6 4	0.59 18	<sup>119</sup> Cd(2.69 m)	292.9(36.8), 343.0(16.9), 1609.7(10.9)
981.6 5	0.19 4	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
981.6 4	1.06 7	<sup>139</sup> Pm(4.15 m)	402.8(15), 463.1(4.1), 367.8(3.52)
981.6 3	0.0217 23	<sup>141</sup> Nd(2.49 h)	1126.8(0.8), 1292.6(0.46), 1147.2(0.306)
981.6 3	0.125 25	<sup>152</sup> Pm(4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
981.6 3	0.72 21	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
981.7 3	2.11 13	<sup>63</sup> Co(27.4 s)	87.13(48.7), 155.6(1.60), 1364.5(1.43)
981.7 4	0.0293 16	<sup>81</sup> Rb(30.5 m)	49.56(0.78), 643.6(0.115), 1194.9(0.112)
981.7	0.74 9	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
981.71 35		<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
981.8 7	0.28 6	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
981.80 5	0.0214 14	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
981.8 9	1.27 22	<sup>174</sup> Re(2.40 m)	243.4(37), 113.0(19.8), 1002.9(5.62)
981.8 3	0.200 25	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
981.82 3	0.210 7	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
982.0 5	0.24 5	<sup>142</sup> Eu(1.22 m)	768.1(100), 1023.3(92.0), 556.6(86.6)
982.0 4	0.31 6	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
982.00 15	0.0096 17	<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
982.0 5	>0.025	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
982.01 17	0.9 3	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
982.1 5	0.065 14	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
• 982.1 4	0.016 6	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
982.1 3	2.6 3	<sup>180</sup> Lu(5.7 m)	407.94(43.0), 1199.7(24.3), 1106.00(22.7)
982.2 2	26.4 8	<sup>139</sup> Nd(5.50 h)	113.94(40), 737.96(35), 708.06(26.4)
982.25 5	0.209 12	<sup>137</sup> Xe(3.818 m)	455.490(31), 848.95(0.62), 1783.43(0.415)
982.27 5	0.0160 5	<sup>129</sup> Te(69.6 m)	27.81(16.3), 459.60(7.70), 487.39(1.42)
982.4 5	0.95 13	<sup>97</sup> Sr(426 ms)	1905.0(25), 953.8(21.4), 652.2(11.4)
982.4 7	0.08 3	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
982.45 4	10.2 7	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
982.5 5	0.85 11	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
• 982.62 16	0.0020 7	<sup>145</sup> Eu(5.93 d)	893.73(66), 653.512(15.0), 1658.53(14.9)
982.7 4	0.46 8	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
982.7 2	0.203 11	<sup>208</sup> Tl(3.053 m)	2614.533(99), 583.191(84.5), 510.77(22.6)
• 982.7 3	$1.1 \times 10^{-8}$ 3	<sup>239</sup> Pu(24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
982.73 15	0.017 5	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
• 982.73 15	0.22 2	<sup>246</sup> Bk(1.80 d)	798.80(61), 1081.40(5.8), 833.60(5.0)
982.75 13	0.0379 11	<sup>73</sup> Se(7.15 h)	360.80(108), 67.03(78), 865.09(0.584)
982.75 10	1.25 9	<sup>197</sup> Tl(2.84 h)	425.84(12.9), 152.22(7.2), 1411.34(4.5)
982.8 6	0.18	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
982.9 4		<sup>140</sup> Gd(15.8 s)	174.8(76), 749.9(70), 379.0(38)
982.9 2	†6.4 3	<sup>203</sup> At(7.4 m)	639.4(†100), 641.5(†55.8), 738.1(†38.4)
982.969 17	0.020 9	<sup>28</sup> Mg(20.91 h)	30.6383(95), 1342.27(52.6), 941.72(38.3)
• 982.98 5	0.0090 5	<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
983.0 15	†4.8 14	<sup>87</sup> Nb(2.6 m)	200.95(†100), 470.63(†73), 1066.8(†37)
983.0 4	0.30 10	<sup>118</sup> Cs(14 s)	337.4(100), 472.8(37.4), 586.6(15.4)
983	9	<sup>150</sup> Ho(72 s)	803.4(90), 591.3(23), 653.3(15.3)
983.0 3	0.067 11	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
983.0 10	0.12 3	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
983.0 5	0.24 9	<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
983	4.0 6	<sup>211</sup> Fr(3.10 m)	539.9(20), 918.3(11), 281(6.8)
983.0 3	0.009	<sup>238</sup> Am(98 m)	962.77(28), 918.69(23.0), 561.11(10.9)
• 983.0 3	$5 \times 10^{-7}$ 3	<sup>242</sup> Cm(162.8 d)	44.08(0.0325), 101.90(0.0025), 157.44(0.0014)
983.1 6	0.039 11	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
983.12 4	4.57 21	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
983.17 20	0.0089 16	<sup>179</sup> Lu(4.59 h)	214.335(11.3), 214.930(0.46), 123.3790(0.45)
983.2	0.0021 8	<sup>96</sup> Tc(51.5 m)	778.224(1.9), 1200.231(1.08), 480.705(0.311)
983.211 18	0.0040 8	<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
983.3 3	7.3 3	<sup>141</sup> Sm(22.6 m)	196.88(74), 431.6(40.4), 777.6(20.3)
983.4	0.008	<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
• 983.4 4	0.172 21	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
983.4 5	0.088 17	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
983.4 2	†0.4 2	<sup>172</sup> Ir(2.0 s)	227.8(†100.0), 378.4(†62.0), 448.4(†40.5)
983.5 5	5.4 5	<sup>90</sup> Tc(49.2 s)	1054.3(100), 948.1(100), 944.7(36.6)
983.5 4	0.028 19	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
983.5 5	†2.5 6	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
983.5 2	0.028 12	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
983.5 5	0.040 8	<sup>227</sup> Fr(2.47 m)	90.035(39), 585.804(29.5), 64.267(14.5)
• 983.517 5	100.1 3	<sup>48</sup> Sc(43.67 h)	1312.096(100.1), 1037.599(97.6), 175.361(7.48)
• 983.517 5	99.98 20	<sup>48</sup> V(15.9735 d)	1312.096(97.5), 944.104(7.76), 2240.375(2.41)
983.58 15	0.17 6	<sup>44</sup> K(22.13 m)	1157.031(58), 2150.76(22.7), 2518.95(9.69)
983.59 8	1.24 15	<sup>100</sup> Y(735 ms)	212.531(73), 118.59(15.4), 665.98(7.7)
983.65 5	0.88 13	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
• 983.67 5	0.0049 16	<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
• 983.67 20	0.314 22	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
983.7	0.18 3	<sup>99</sup> Rh(4.7 h)	340.71(70), 617.8(12.0), 1261.2(11)
983.73 10	2.06 6	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
983.8	1.18 16	<sup>95</sup> Sr(23.90 s)	685.6(23), 2717.3(4.6), 2933.1(4.1)
983.8 3	0.052 9	<sup>112</sup> Ag(3.130 h)	617.27(43), 1387.67(5.4), 606.49(3.1)
983.85 17	0.32 7	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
983.85 5		<sup>168</sup> Lu(5.5 m)	1483.65(†100), 228.58(†97), 111.8(†68)
983.85 5	11.9 20	<sup>168</sup> Lu(6.7 m)	198.82(28), 979.22(20), 896.12(15)
983.9	>0.14	<sup>95</sup> Rh(5.02 m)	941.6(72), 1352.0(20.8), 677.6(5.80)
983.9 2	0.97 17	<sup>119</sup> Cd(2.20 m)	1025.0(24.8), 2021.3(22.6), 720.7(17.9)
983.9 1	0.0049 16	<sup>126</sup> Cs(1.64 m)	388.633(41), 491.243(5.0), 925.24(4.56)
983.9 2	0.75 3	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
983.9 2	0.06	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
984.0 2	0.15 3	<sup>104</sup> Tc(18.3 m)	358.0(89), 530.5(15.6), 535.1(14.7)
984.0 10	1.5 5	<sup>118</sup> Sb(5.00 h)	1229.68(100), 253.68(99), 1050.69(97)
984	†0.09 1	<sup>136</sup> Pm(107 s)	373.8(†100), 602.7(†38.4), 857.2(†23.4)
984.0 20	0.032 5	<sup>145</sup> Gd(23.0 m)	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
984.0 20	>0.00046	<sup>157</sup> Dy(8.14 h)	326.16(92), 182.20(1.84), 83.01(0.62)
984.0 5	†1.7 4	<sup>183</sup> Hg(9.4 s)	60.5(†100), 159.91(†21), 172.70(†17)
984.02 2	59 3	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 911.78(13.5)
• 984.09 14	0.175 19	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
984.1 4	0.61 13	<sup>61</sup> Fe(5.98 m)	1205.07(44), 1027.42(42.7), 297.90(22.2)
984.1 4	0.045 9	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
984.2 3	0.27 3	<sup>88</sup> Nb(7.8 m)	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
984.2 3	1.14 24	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
984.2 2	0.59 4	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
984.2 1	1.62 15	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
984.3 10	<0.28	<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
984.3 2	0.148 25	<sup>129</sup> La(11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
984.30 3	0.084 8	<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
984.3 4	0.45 6	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
• 984.4 5	0.014 3	<sup>124</sup> I(4.18 d)	602.730(60), 1690.980(10.41), 722.786(9.98)
984.4 2		<sup>151</sup> Tm(5.2 s)	
984.4 5	0.056 22	<sup>199</sup> Pb(90 m)	366.90(44.2), 353.39(9.5), 1135.04(7.8)
• 984.43 10	0.096 12	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
984.45 90	0.11 4	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
984.45 20	1.30 12	<sup>186</sup> Au(10.7 m)	191.56(62), 298.67(25.4), 764.89(10.5)
• 984.45 2	27.8	<sup>238</sup> Np(2.117 d)	1028.54(20.3), 1025.87(9.6), 923.98(2.86)
984.45 2	0.115 14	<sup>238</sup> Am(98 m)	962.77(28), 918.69(23.0), 561.11(10.9)
• 984.45 2	$2.0 \times 10^{-6}$ 8	<sup>242</sup> Cm(162.8 d)	44.08(0.0325), 101.90(0.0025), 157.42(0.0014)
984.5 6	0.08 4	<sup>60</sup> Cu(23.7 m)	1332.501(88), 1791.6(45.4), 826.06(21.7)
984.5 3	0.074 14	<sup>142</sup> Ba(10.6 m)	255.300(20.5), 1204.3(14.23), 895.2(13.9)
• 984.5	0.0095 18	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
984.5 5	0.29 7	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
984.58 17	0.070 19	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
984.6 3	0.52 10	<sup>55</sup> Co(17.53 h)	931.3(75), 477.2(20.2), 1408.4(16.88)
984.60 20	0.0104 19	<sup>105</sup> Ru(4.44 h)	724.21(47), 469.37(17.5), 676.36(15.7)
984.6 6	2.2 4	<sup>166</sup> Lu(1.41 m)	228.12(15), 102.38(13), 285.07(11.0)
984.6	†7	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
984.64 8	†114	<sup>27</sup> Na(301 ms)	1697.94(†15.5), 3109.2(†>3.4), 955.32(†1.1)
984.7 2	0.37 15	<sup>73</sup> Br(3.4 m)	64.9(37.0), 336.0(10.4), 699.8(9.1)
984.78 5	0.0747 13	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
984.9 1	4.0 3	<sup>74</sup> Br(25.4 m)	634.78(64), 219.05(18.1), 634.26(14.1)
984.9 1	3.4 5	<sup>74</sup> Br(46 m)	634.78(91), 728.37(35.6), 634.26(16.4)
984.9 4	2.4 8	<sup>120</sup> In(46.2 s)	1171.3(96), 1023.1(55), 863.7(32.5)
984.92 4	0.0064 4	<sup>165</sup> Dy(2.334 h)	94.700(3.58), 361.68(0.84), 633.415(0.568)
984.93 5	2.02 17	<sup>143</sup> Gd(112 s)	271.94(84), 588.00(15.7), 798.89(10.7)
985.0 7	6.1 4	<sup>30</sup> Na(48 ms)	1482.1(42), 1978.1(10.4), 4966.3(6.8)
985.0 7	†12 22	<sup>31</sup> Na(17.0 ms)	1482.1(†100), 1978.1(†22), 1820.1(†20)
985.0 4	0.218 14	<sup>91</sup> Tc(3.14 m)	2450.90(13.5), 1639.90(9.2), 1605.20(7.77)
985 1	†1.8 3	<sup>94</sup> Kr(0.20 s)	629.2(†100), 764.5(†71), 219.466(†67.4)
985.0 5	1.21 7	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
985.0 8	0.0014	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
985.02 14	0.41 4	<sup>197</sup> Pb(43 m)	385.85(74), 387.72(25.1), 222.45(24.6)
985.03 3	31.2 19	<sup>110</sup> Sb(23.0 s)	1211.87(92), 1243.6(13.4), 827.1(9.4)
985.05 13	†5.3 6	<sup>82</sup> Ga(0.602 s)	1348.07(†100), 2215.0(†22.0), 867.46(†13.4)
985.08 20	0.00033 20	<sup>188</sup> Re(16.98 h)	155.032(14.9), 632.99(1.25), 477.99(1.0)
• 985.08 20	0.065 12	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
985.1 4	†0.9 3	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
• 985.10 10	0.896 18	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
985.1 6	0.052 17	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
985.1 5	0.31	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
985.12 6	1.15 5	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
985.2 4	0.075 19	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
985.2 1		<sup>125</sup> La(76 s)	67.6(34), 43.6(3.5), 1240.6
985.2 2	0.153 24	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
985.2 1	0.85 12	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
• 985.28 10	0.0042 3	<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
985.3 3	2.86 23	<sup>97</sup> Rb(169.9 ms)	167.1(26), 585.2(21.0), 600.5(10.6)
985.3 4	0.39 6	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
985.3 3	0.027 12	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
985.36 35		<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
985.4 5	0.080 24	<sup>90</sup> Rb(258 s)	831.69(94), 1375.36(16.7), 3317.00(14.4)
985.4 5	0.017 5	<sup>90</sup> Rb(158 s)	831.69(28), 1060.70(6.69), 4365.90(5.6)
985.4 4	1.6 3	<sup>130</sup> Sb(6.3 m)	839.49(100), 793.53(86), 182.36(41)
985.4 2	†18 1	<sup>139</sup> I(2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
985.5 7	†2.6 9	<sup>160</sup> Tm(9.4 m)	125.8(†100), 728.5(†37), 264.1(†27)
985.53 15	0.0098 17	<sup>160</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
• 985.65 4	0.0210 10	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
985.69 4	0.143 14	<sup>157</sup> Eu(15.18 h)	63.929(23.0), 410.723(17.5), 370.509(11.0)
985.7 1	0.227 13	<sup>143</sup> Cs(1.78 s)	195.554(13), 232.421(8.32), 306.424(6.80)
985.7 5	0.015 3	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
985.73 6	0.0986 22	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
985.780 16	1.315 24	<sup>88</sup> Kr(2.84 h)	2392.11(34.6), 196.301(25.98), 2195.842(13.18)
985.8 2	0.128 22	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
985.8 8	0.37 5	<sup>142</sup> Cs(1.70 s)	359.598(27.2), 1326.46(12.92), 966.89(9.0)
985.8 2	†3.1 7	<sup>159</sup> Yb(1.58 m)	166.16(†500), 177.12(†159), 390.20(†113)
985.8 3	0.112 18	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
985.8 7	0.24 8	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
985.8 4	†46 4	<sup>195</sup> Bi(183 s)	807.6(†100), 831.7(†100), 776.2(†95)
985.8 3	0.37 14	<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
985.864	2.09 4	<sup>39</sup> Cl(55.6 m)	1267.185(54), 250.332(46.3), 1517.508(39.2)
985.90 20	0.54 5	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
985.93 23	0.31 4	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
985.94 20	0.25 3	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
985.98 13	0.151 10	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
986.02 11	0.302 11	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
986.03 4	0.95 3	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
• 986.03 4	0.26 3	<sup>246</sup> Bk(1.80 d)	798.80(61), 1081.40(5.8), 833.60(5.0)
986.05 6	6.8 4	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 213.429(6.7), 1385.21(5.7)
986.05 6	4100	<sup>94</sup> Rb(2.702 s)	432.61(†9000), 213.429(†6000), 709.95(†2500)
986.2 4	0.06 3	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
986.3 4	0.20 10	<sup>121</sup> Cs(155 s)	153.9(15.2), 239.6(7.7), 427.1(3.63)
986.3 4	0.16 8	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
986.3 4	0.017 6	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
986.4 3	0.29 3	<sup>88</sup> Br(16.5 s)	775.28(63), 802.14(13.13), 1440.69(4.72)
986.4 10	0.24 8	<sup>130</sup> La(8.7 m)	357.4(81.0), 550.7(25.9), 908.0(17.0)
• 986.443 35	0.00133 12	<sup>99</sup> Mo(65.94 h)	739.50(12.1), 181.063(6.08), 140.511(4.52)
986.5 2	0.7 5	<sup>74</sup> Br(46 m)	634.78(91), 728.37(35.6), 634.26(16.4)
986.5 4	0.090 14	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
986.5 2	0.070 17	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
986.5 7	0.84 14	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
986.5 3	0.176 22	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
986.52 7	0.352 20	<sup>115</sup> Sb(32.1 m)	497.358(98), 489.27(1.3), 1236.52(0.58)
986.6 2	0.21 4	<sup>104</sup> Tc(18.3 m)	358.0(89), 530.5(15.6), 535.1(14.7)
986.6 3	0.64 10	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
986.6 2	†1.11 10	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
986.64 3	0.029 3	<sup>128</sup> Cs(3.66 m)	442.901(26.8), 526.557(2.41), 1140.079(1.168)
986.65 11	0.072 11	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
986.68 10	0.0023 5	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
986.7 2	0.032 7	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
986.8 5	0.27 5	<sup>85</sup> Zr(7.86 m)	454.20(45), 416.3(27.0), 1198.4(4.8)
• 986.8 4	>0.0035	<sup>106</sup> Ag(8.28 d)	511.842(88), 1045.83(29.6), 717.24(28.9)
986.84 6	1.13 8	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
986.91 10	0.164 14	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
• 986.91 4	2.1×10 <sup>-8</sup> 4	<sup>239</sup> Pu(24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
986.93 15	0.0034 8	<sup>16</sup> N(7.13 s)	6128.63(67.0), 7115.15(4.9), 2741.5(0.82)
986.98 6	11	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
987.00 20	0.0071 14	<sup>105</sup> Ru(4.44 h)	724.21(47), 469.37(17.5), 676.36(15.7)
987.0 4	0.095 14	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
987.0 10	3.9 9	<sup>168</sup> Ta(2.0 m)	124.0(35.6), 261.6(22.7), 751.4(7.3)
987.0 3	5.88 21	<sup>170</sup> Ta(6.76 m)	100.8(21.0), 221.2(15.7), 860.4(7.39)
987.0 3	3.36 13	<sup>170</sup> Ta(6.76 m)	100.8(21.0), 221.2(15.7), 860.4(7.39)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
987.0 5	>0.025	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
987.1 5	0.034 25	<sup>82</sup> Rb(6.472 h)	776.517(84), 554.348(62.4), 619.106(37.976)
987.1 3	†0.18 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
987.1 1	†8.6 9	<sup>171</sup> Ta(23.3 m)	49.6(†100), 506.4(†54), 501.8(†22.6)
987.1 3	0.040 4	<sup>183</sup> Hf(1.067 h)	783.754(66), 73.174(38), 459.069(27)
987.13 9	†15	<sup>197</sup> Ir(5.8 m)	469.72(†100), 430.56(†61), 815.92(†45)
987.17 4	2.15 17	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
• 987.25 10	0.314 5	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
987.28 4	2.8 1	<sup>187</sup> Ir(10.5 h)	912.95(4.79), 427.12(4.12), 400.89(3.94)
987.3 5	0.08 3	<sup>49</sup> Ca(8.715 m)	3084.4(92), 4071.9(7.0), 1408.9(0.63)
987.3 10	0.14 5	<sup>90</sup> Mo(5.67 h)	257.34(78), 122.370(64.2), 203.13(6.4)
987.4 6	0.23 5	<sup>117</sup> Cs(8.4 s)	204.8(15.0), 29.7(9.9), 205.6(6.8)
987.4 2	0.67 4	<sup>190</sup> Au(42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
987.41 20	0.051 16	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
987.41 20	0.044	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
• 987.44 6	0.93 9	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
987.48 10	0.42 3	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
987.5 5	0.16 5	<sup>138</sup> I(6.49 s)	588.825(56), 875.23(9.2), 2262.19(3.86)
• 987.55 5	<0.00031	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
987.57 9	5.1 5	<sup>86</sup> Nb(88 s)	751.74(97.8), 914.81(78.1), 1003.24(37.4)
987.6 3	†1.4 2	<sup>75</sup> Ga(126 s)	253.0(†100), 574.8(†31.6), 885.6(†11.1)
987.6 7	>0.06	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
987.60 16	0.81 17	<sup>122</sup> In(10.3 s)	1140.55(98), 1001.58(50.7), 1190.58(20.5)
987.60 10	1.2 3	<sup>123</sup> Cd(1.82 s)	1165.86(25.7), 1027.45(22.6), 2102.81(12.5)
987.6 4	1.0 3	<sup>146</sup> Tb(23 s)	1579.4(100), 1078.6(51.6), 1417.2(17.2)
987.60 20	1.32 14	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
987.62 17	0.79 12	<sup>84</sup> Br(31.80 m)	881.610(42), 1897.761(14.7), 3927.5(6.8)
• 987.62 3	0.585 16	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 1043.72(1.291)
987.7 3	0.0105 23	<sup>93</sup> Y(10.18 h)	266.9(7.3), 947.1(2.09), 1917.8(1.55)
987.7 2	1.8 4	<sup>151</sup> Er(23.5 s)	638.3(36), 667.2(17), 256.4(15.9)
987.74 10	0.246 20	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
987.76 6	6.7 4	<sup>240</sup> Np(61.9 m)	566.34(25.3), 973.9(23.8), 600.57(18.4)
• 987.76 6	73.2 10	<sup>240</sup> Am(50.8 h)	888.80(25.1), 98.860(1.5), 42.824(0.09)
987.8 3	0.048 2	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
• 987.8 1	0.202 15	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
987.8	37 4	<sup>145</sup> Tb(29.5 s)	257.8(39), 537.0(23), 1446.8(15)
987.8 3	1.30 9	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
987.81 10	1.9 4	<sup>121</sup> Cd(13.5 s)	324.976(49.5), 1040.26(16.8), 349.937(12.9)
987.81 10	13.6 8	<sup>121</sup> Cd(8.3 s)	2059.41(21.0), 1020.89(18.9), 1181.45(12.4)
987.9 5	1.75 23	<sup>85</sup> Se(31.7 s)	345.2(<0.23), 3396.6(7.4), 1427.2(7.0)
987.9 2	0.179 23	<sup>96</sup> Rb(0.199 s)	815.0(78.00), 692.0(8.0), 813.2(7.0)
987.9 6	0.21 6	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
• 987.92 5	0.285 12	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
987.96 8	0.66 6	<sup>83</sup> Se(22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
987.96 8	16.1 7	<sup>83</sup> Se(70.1 s)	1030.86(21.2), 356.687(18), 673.98(15.2)
988.0 5	1.16 20	<sup>72</sup> Cu(6.6 s)	652.4(68), 1004.6(12.0), 1657.7(10.1)
988.0 4	0.22 3	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
988	†2.2	<sup>149</sup> Tb(4.16 m)	795.9(†111), 651(†37), 164.98(†8.3)
988 1		<sup>158</sup> Sm(5.30 m)	189.4(15.2), 363.6(12.4), 324.5(10.6)
988.0 15	†4	<sup>223</sup> Rn(23.2 m)	591.8(†100), 635.2(†76), 416.0(†55)
988 1	†4.4 9	<sup>244</sup> Bk(4.35 h)	891.5(†100), 217.6(†88), 921.5(†19)
988.2 4	0.092 22	<sup>78</sup> As(90.7 m)	613.725(54), 694.916(16.7), 1308.59(13.0)
988.2 5	†9 2	<sup>135</sup> Pm(49 s)	198.5(†100), 207.2(†70), 463.5(†62)
988.2 5	0.097 15	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
988.2 1	0.50 22	$^{157}\text{Sm}(482 \text{ s})$	197.870(56.00), 196.461(16.8), 394.351(11.93)
988.2 3	0.18 4	$^{188}\text{Hg}(3.25 \text{ m})$	66.7(63), 190.1(4.40), 82.7(2.6)
988.25 20	0.19 3	$^{101}\text{Mo}(14.61 \text{ m})$	191.92(19), 590.91(16.4), 1012.47(12.8)
988.27 10	1.75 10	$^{77}\text{Rb}(3.75 \text{ m})$	66.52(57), 178.99(22.2), 393.37(9.7)
988.3 5	1.01 8	$^{68}\text{As}(151.6 \text{ s})$	1015.96(78), 761.61(33.8), 651.12(32.1)
988.38 13	1.46 22	$^{157}\text{Sm}(482 \text{ s})$	197.870(56.00), 196.461(16.8), 394.351(11.93)
988.4 1	0.423 9	$^{113}\text{Ag}(5.37 \text{ h})$	298.58(10), 258.8(1.64), 316.3(1.343)
988.4 2	0.88 4	$^{167}\text{Lu}(51.5 \text{ m})$	29.66(14.4), 239.22(8.6), 213.19(3.6)
988.43 20	0.13 4	$^{228}\text{Ac}(6.15 \text{ h})$	911.205(26.6), 968.971(16.2), 338.322(11.3)
988.43 20	0.206 19	$^{228}\text{Pa}(22 \text{ h})$	911.205(4.19), 463.005(1.250), 964.770(4.25)
988.5 6	0.20 6	$^{159}\text{Er}(36 \text{ m})$	624.5(33), 649.1(23.4), 205.92(9.7)
• 988.5	0.134 13	$^{170}\text{Lu}(2.00 \text{ d})$	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
988.57 6	1.21 9	$^{71}\text{Zn}(3.96 \text{ h})$	386.28(93), 487.38(62), 620.18(57)
988.6 7	0.13 6	$^{120}\text{In}(3.08 \text{ s})$	1171.3(19), 2039.8(1.86), 703.8(1.42)
988.6 7	0.063 5	$^{120}\text{Sb}(15.89 \text{ m})$	1171.3(1.7), 703.8(0.149)
• 988.6 4	0.129 16	$^{147}\text{Gd}(38.06 \text{ h})$	229.32(63), 396.00(34.3), 929.01(20.2)
988.7 3	0.129 16	$^{153}\text{Dy}(6.4 \text{ h})$	80.723(11.10), 213.754(10.90), 99.659(10.51)
988.73 10	4.8 3	$^{123}\text{Cd}(1.82 \text{ s})$	1165.86(25.7), 1027.45(22.6), 2102.81(12.5)
• 988.75 28	0.0082 21	$^{165}\text{Tm}(30.06 \text{ h})$	242.917(35.5), 47.155(16.9), 297.369(12.71)
988.9 5	0.19 5	$^{141}\text{Xe}(1.73 \text{ s})$	909.23(24.0), 118.705(16.1), 105.937(9.8)
988.9 10	0.21 5	$^{172}\text{Ta}(36.8 \text{ m})$	214.02(46), 95.23(17.5), 1109.27(12.4)
988.93 20	0.27 5	$^{126}\text{In}(1.60 \text{ s})$	1141.11(55.9), 3344.61(21.6), 969.61(14.9)
• 988.94 4	>0.031	$^{205}\text{Bi}(15.31 \text{ d})$	1764.36(1.368), 703.44(31), 987.62(0.585)
989.0 3	0.059 5	$^{85}\text{Y}(4.86 \text{ h})$	231.67(22.8), 2123.8(5.0), 767.40(3.6)
• 989.0 5	0.025 16	$^{153}\text{Tb}(2.34 \text{ d})$	212.038(31.0), 170.504(6.8), 109.758(6.4)
989.0 3	0.084 22	$^{179}\text{Re}(19.5 \text{ m})$	430.221(28), 289.968(26.9), 1680.244(13.0)
989.01 9	80.1 7	$^{54}\text{V}(49.8 \text{ s})$	834.848(97.1), 2259.35(45.6), 3170(11.5)
989.02 10	3.04 24	$^{140}\text{Xe}(13.60 \text{ s})$	805.52(20), 1413.66(12.2), 1315.05(8.2)
989.06 10	3.7 3	$^{158}\text{Tm}(3.98 \text{ m})$	192.13(62), 335.10(16.8), 1149.83(7.6)
989.1 3	0.58 5	$^{120}\text{Xe}(40 \text{ m})$	25.1(30), 72.6(9), 178.1(6.8)
989.1 3	0.15 5	$^{127}\text{In}(1.09 \text{ s})$	1597.7(49), 646.1(6.2), 805.1(5.6)
989.1 2	1.13 11	$^{128}\text{La}(5.0 \text{ m})$	284.00(87), 479.24(54), 643.65(14.7)
989.1 3	0.077 12	$^{143}\text{Ba}(14.33 \text{ s})$	211.475(25), 798.79(15.6), 980.45(11.55)
989.12 2	45	$^{250}\text{Bk}(3.217 \text{ h})$	1031.85(35.6), 1028.65(4.91), 889.96(1.530)
989.12 2	13.3 9	$^{250}\text{Es}(2.22 \text{ h})$	1031.85(10.6), 828.82(5.5), 1167.25(2.94)
989.15 20	0.011 4	$^{195}\text{Hg}(9.9 \text{ h})$	779.80(7), 61.46(6.2), 585.13(1.99)
989.2 4	0.61 13	$^{61}\text{Fe}(5.98 \text{ m})$	1205.07(44), 1027.42(42.7), 297.90(22.2)
989.2 6	0.011 6	$^{214}\text{Bi}(19.9 \text{ m})$	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
989.2 1	0.081 5	$^{240}\text{Np}(7.22 \text{ m})$	554.60(20.9), 597.40(11.7), 1496.9(1.33)
989.23 10	1.5 3	$^{168}\text{Lu}(6.7 \text{ m})$	198.82(28), 979.22(20), 896.12(15)
989.5 1	0.103 10	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
989.51 4	0.88 4	$^{80}\text{Ga}(1.697 \text{ s})$	659.14(78.0), 1083.47(48.4), 1109.36(18.6)
• 989.57 11	6.8 3	$^{126}\text{Sb}(12.46 \text{ d})$	695.03(100), 666.331(100), 414.81(83.3)
989.6 7	0.0039 11	$^{63}\text{Zn}(38.47 \text{ m})$	669.62(8), 962.06(6.5), 1412.08(0.75)
989.6 2	14.9 15	$^{132}\text{Sb}(2.79 \text{ m})$	973.9(99), 696.8(86), 103.4(13.9)
989.6 2	0.087 23	$^{173}\text{Ta}(3.14 \text{ h})$	172.2(18), 69.70(5.9), 90.3(5.0)
• 989.606 10	0.464 10	$^{148}\text{Eu}(54.5 \text{ d})$	550.284(98.5), 629.987(71.9), 611.293(20.5)
989.7 5	0.45 8	$^{117}\text{I}(2.22 \text{ m})$	325.9(75), 274.4(20.4), 661.5(5.1)
989.7 1	†0.32 9	$^{160}\text{Ho}(5.02 \text{ h})$	728.18(†100), 879.383(†65.9), 962.317(†59.1)
989.7 3	0.89 22	$^{181}\text{Re}(19.9 \text{ h})$	365.57(56), 360.70(20), 639.30(6.4)
989.7 3	0.72 7	$^{198}\text{Tl}(5.3 \text{ h})$	411.8044(82), 675.8874(11), 636.4(10.1)
989.71 16	0.058 9	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
989.76 5	0.70 3	$^{95}\text{Ru}(1.643 \text{ h})$	336.43(70.2), 1096.76(21.0), 626.77(17.8)
• 989.77 5	0.075 25	$^{205}\text{Bi}(15.31 \text{ d})$	1764.36(1.368), 703.44(31), 987.62(0.585)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
989.8 5	0.09	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
989.8 3	1.69 9	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
989.85	0.166 3	<sup>25</sup> Na(59.1 s)	974.72(14.95), 585.03(13.00), 389.70(12.68)
989.85 6	9.3 3	<sup>148</sup> La(1.05 s)	158.468(55.6), 760.30(8.6), 601.88(7.62)
989.9 5	†2.7 13	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 955.08(†50)
989.94 3	10.7 8	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
989.97 30	0.079 18	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
989.99 14	0.165 24	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
990.0 5	0.14 3	<sup>141</sup> Eu(40.0 s)	394.0(9), 384.5(5.6), 382.9(2.97)
990.0 1	†1.09 7	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
990.0 3	0.0008	<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
990.0 7	0.00015 9	<sup>223</sup> Fr(21.8 m)	50.13(36.0), 79.72(9.1), 234.81(3.0)
• 990.0 7	†0.0022 6	<sup>227</sup> Th(18.72 d)	235.971(†813), 50.13(†528), 256.25(†463)
• 990	0.0006	<sup>249</sup> Cf(351 y)	388.16(66), 333.37(14.6), 252.80(2.50)
990.09 9	0.142 17	<sup>88</sup> Kr(2.84 h)	2392.11(34.6), 196.301(25.98), 2195.842(13.18)
990.1 1	0.40 8	<sup>208</sup> Fr(59.1 s)	635.8(10), 778.5(6.8), 325.3(5.2)
990.13 5	2.94 8	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
990.13 18	0.034 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
990.2 6	1.02 10	<sup>90</sup> Mo(5.67 h)	257.34(78), 122.370(64.2), 203.13(6.4)
• 990.200 24	0.0309 13	<sup>152</sup> Eu(13.542 y)	344.281(26.58), 778.91(12.96), 411.115(2.231)
990.200 24	†18.5 14	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
990.2 3	0.81 5	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
990.245	0.29 4	<sup>43</sup> K(22.3 h)	372.760(87), 617.490(79.2), 396.861(11.85)
990.3 4	1.4 7	<sup>81</sup> Ge(7.6 s)	335.98(58.9), 792.94(34), 1495.53(19.9)
990.3 3	0.013 2	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
990.34 5	1.19 12	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
990.50 30	0.07 3	<sup>114</sup> Sb(3.49 m)	1299.90(99), 887.60(17.4), 327.18(7.0)
990.5 4		<sup>144</sup> Cs(1.01 s)	199.326(†100.0), 639.00(†21.2), 758.96(†20.6)
990.5 5	0.47 9	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
990.6 5	0.50 5	<sup>85</sup> Zr(7.86 m)	454.20(45), 416.3(27.0), 1198.4(4.8)
990.6 5	1.5 3	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
990.6 5	3.2 3	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
990.64 5	0.0377 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
990.67 11	†0.93 8	<sup>71</sup> Se(4.74 m)	147.50(†211), 1095.26(†43.6), 830.33(†43.2)
990.70 14	14.3 4	<sup>112</sup> Sb(51.4 s)	1257.05(96), 670.0(3.7), 894.60(2.7)
990.7 3	0.34 11	<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
• 990.75 15	0.08 4	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
990.80 20	0.23 5	<sup>159</sup> Tm(9.13 m)	38.35(5.8), 84.8(5.8), 271.30(5.1)
990.9 3	0.113 23	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
990.9 3	1.39 13	<sup>100</sup> Cd(49.1 s)	936.55(66), 139.71(6.7), 582.5(6.3)
990.9 2	0.55 6	<sup>236</sup> Pa(9.1 m)	642.35(37.0), 687.59(9.9), 1762.7(6.0)
991.0 6	0.17 3	<sup>136</sup> Pr(13.1 m)	552.16(76), 539.75(52), 1092.3(18.5)
991 1	>0.35	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
991.0 4	0.058 17	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
991.0 6	0.09 3	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
991.06 7	0.68 5	<sup>81</sup> Ga(1.221 s)	216.47(37.4), 828.26(22.1), 711.18(17.6)
991.1		<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
991.2 2	†1.62 10	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
991.2 1	0.098 25	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
991.23 11	†8.8 7	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
991.33 12	0.046 6	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
991.38 13	0.32 5	<sup>89</sup> Br(4.40 s)	1097.82(6.00), 997.93(4.26), 953.53(4.26)
991.38 13	0.27 3	<sup>90</sup> Br(1.92 s)	411.49(3.88), 962.71(1.25), 1097.82(0.91)
991.4 8	0.070 10	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
991.5 5	1.4 5	<sup>131</sup> Sb(23.03 m)	943.4(47), 933.1(26.1), 642.30(23)
991.5 4	0.044 21	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
991.52 4	43	<sup>64</sup> Ga(2.630 m)	807.86(13.65), 3365.86(13.1), 1387.34(11.8)
991.59 21	0.121 20	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
991.6 5	0.25 7	<sup>98</sup> Y(0.548 s)	1223.0(36.0), 2941.3(16.7), 1590.9(14.7)
991.6 7	0.51 6	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
991.67 20	0.296 23	<sup>77</sup> Rb(3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
991.7 10	†3.7	<sup>177</sup> Os(2.8 m)	84.7(†100), 125.4(†63), 195.8(†61)
991.7 3	†23.0 23	<sup>233</sup> Pu(20.9 m)	235.4(†100), 534.8(†90.2), 500.3(†38.6)
• 991.72 20	0.0222 12	<sup>77</sup> Br(57.036 h)	238.996(23), 520.639(22.4), 297.215(4.16)
991.725 42	0.0057 4	<sup>134</sup> La(6.45 m)	604.699(5.05), 1554.934(0.414), 563.227(0.359)
• 991.77 6	0.042 3	<sup>165</sup> Tm(30.06 h)	242.917(35.5), 47.155(16.9), 297.369(12.71)
• 991.78 4	1.04 5	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
991.8 3	0.044 11	<sup>77</sup> Kr(74.4 m)	129.64(81), 146.59(37.3), 312.0(3.7)
991.8 10	0.0008	<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
991.9 2	5.3 10	<sup>151</sup> Er(23.5 s)	638.3(36), 667.2(17), 256.4(15.9)
991.98 18	1.5 15	<sup>106</sup> In(6.2 m)	632.66(100), 861.16(92), 997.87(48)
992 1	0.088 17	<sup>89</sup> Nb(1.9 h)	1627.20(3.4), 1833.46(3.16), 3092.7(3.0)
992		<sup>90</sup> Ru(13 s)	1002
992.0 4	0.189 25	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
992.0	1.8	<sup>134</sup> Nd(8.5 m)	163.2(58), 288.9(13), 216.8(12)
992.0 10	0.3 1	<sup>156</sup> Pm(26.70 s)	173.75(52.0), 1147.84(20.5), 117.42(13.8)
992 1	†3.5 7	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
992.0 2	0.082 21	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
992.1 6	0.13 5	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
992.1 4	1.9 4	<sup>130</sup> Sb(39.5 m)	793.53(100), 839.49(100), 331.05(78)
992.128 13	87 4	<sup>174</sup> Tm(5.4 m)	366.526(92), 272.918(86), 176.645(66.2)
• 992.128 13	0.546 11	<sup>174</sup> Lu(142 d)	272.918(0.550), 176.645(0.470), 76.471(0.0638)
992.20 10	0.0016 7	<sup>82</sup> Rb(1.273 m)	776.517(13), 1395.139(0.471), 698.374(0.133)
992.2 1	0.043 3	<sup>91</sup> Sr(9.63 h)	1024.3(33), 749.8(23.61), 652.9(8.0)
• 992.204 4	0.0323 10	<sup>149</sup> Gd(9.28 d)	149.735(48.2), 298.634(28.6), 346.651(23.9)
992.21 4	0.0031	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
992.3 7	0.013 6	<sup>199</sup> Pt(30.80 m)	542.993(15), 493.772(5.59), 317.056(4.95)
992.33 70	0.027 8	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
992.33 9	59.3 7	<sup>207</sup> Po(5.80 h)	742.64(28.2), 911.79(16.95), 405.75(9.7)
992.37 22	0.22 4	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
992.4 3	0.29 6	<sup>75</sup> Zn(10.2 s)	228.67(28.9), 432.29(20.2), 155.94(17.2)
992.4 2	2.7 5	<sup>132</sup> La(24.3 m)	464.55(22), 663.07(11.6), 285.6(7)
992.4 2	†8.0 9	<sup>185</sup> Hg(21.6 s)	222.8(†100.0), 258.7(†98), 212.5(†58)
992.429 28	0.1021 22	<sup>129</sup> Xe(16.9 h)	188.418(54), 243.378(30.1), 54.968(6.81)
992.43 9	0.080 12	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
992.44 18	0.23 8	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
992.5 3	21.6 11	<sup>114</sup> Rh(1.85 s)	332.9(87), 519.8(48.4), 618.7(31)
992.5 20	0.010 4	<sup>145</sup> Gd(23.0 m)	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
992.5	1.4	<sup>211</sup> Rn(14.6 h)	674.1(45), 1362.9(32.5), 678.4(28.9)
• 992.55 4	0.025 3	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
992.6 3	†15	<sup>154</sup> Nd(25.9 s)	151.703(†800), 799.55(†600), 180.693(†510)
• 992.64 3	$2.7 \times 10^{-8}$ 4	<sup>239</sup> Pu(24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
992.66 8	36.9 20	<sup>132</sup> Sn(39.7 s)	340.53(49), 85.58(48.2), 899.04(44.8)
992.68 8	0.143 11	<sup>57</sup> Mn(87.2 s)	122.0614(13.9), 14.41300(10.56), 692.03(5.50)
992.7 5	0.218 14	<sup>91</sup> Tc(3.14 m)	2450.90(13.5), 1639.90(9.2), 1605.20(7.77)
992.8 2	0.94 6	<sup>101</sup> Pd(8.47 h)	296.29(19), 590.44(12.06), 269.67(6.43)
992.8 20	0.0037 14	<sup>157</sup> Dy(8.14 h)	326.16(92), 182.20(1.84), 83.01(0.62)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
992.83 6	0.0148 16	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
992.88 5	1.10 3	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
• 992.9 5	0.013 5	<sup>140</sup> La(1.6781 d)	1596.210(95), 487.021(45.5), 815.772(23.28)
992.9 3	5.0 5	<sup>154</sup> Ho(3.10 m)	334.6(94), 412.4(79), 477.1(55)
992.9	2.9	<sup>200</sup> Bi(36.4 m)	1026.5(100), 462.34(98), 419.70(91)
992.9 10	0.23	<sup>224</sup> Fr(3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
• 992.9 10	$1.5 \times 10^{-6}$	<sup>228</sup> Th(1.9131 y)	84.373(1.266), 215.985(0.263), 131.613(0.1355)
992.92 12	16.2 14	<sup>154</sup> Tb(22.7 h)	247.925(79), 346.643(69), 1419.81(46)
992.93 14	0.042 9	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
992.940 25	0.0771 18	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
992.99 9	0.0063 5	<sup>133</sup> La(3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
993 2	0.32 22	<sup>83</sup> Se(22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
993.0 2	0.13 3	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
993 3	0.23 8	<sup>185</sup> Ta(49.4 m)	177.59(25.7), 173.68(22.6), 65.86(3.9)
993.0 3	0.13 3	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
993	0.50	<sup>207</sup> Hg(2.9 m)	351.059(77), 997.1(69), 1637.1(30)
993.0 5	0.158 16	<sup>227</sup> Fr(2.47 m)	90.035(39), 585.804(29.5), 64.267(14.5)
993.05	0.0039 18	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
993.1 1	0.0057 16	<sup>126</sup> Cs(1.64 m)	388.633(41), 491.243(5.0), 925.24(4.56)
993.1 3	0.46 5	<sup>143</sup> Gd(112 s)	271.94(84), 588.00(15.7), 798.89(10.7)
993.12 20	0.38 22	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
993.18 9	0.00075 10	<sup>94</sup> Nb(6.263 m)	871.082(0.50), 702.626(0.00315)
993.18 9	2.21 3	<sup>94</sup> Tc(52.0 m)	871.082(94), 1868.68(5.7), 1522.11(4.5)
993.2 2	0.35 3	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
993.2 3	0.50 14	<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
993.28 6	0.0759 14	<sup>73</sup> Se(39.8 m)	67.03(2.59), 253.70(2.356), 84.0(2.03)
993.3 3	0.34 6	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
993.4 2	1.15 7	<sup>69</sup> Cu(2.85 m)	1007.5(23.4), 834.4(13.1), 531.2(6.0)
993.4 9	0.075 21	<sup>79</sup> As(9.01 m)	95.73(0.85), 364.9(1.06), 432.1(0.850)
993.4 3	2.4 4	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
993.4	0.013	<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
993.46 10	0.04 3	<sup>60</sup> Cu(23.7 m)	1332.501(88), 1791.6(45.4), 826.06(21.7)
993.46 4	0.171 20	<sup>183</sup> Os(9.9 h)	1101.94(49.0), 1107.92(22.36), 1034.85(6.02)
993.5 5	1.7	<sup>116</sup> Ag(2.68 m)	513.39(76), 2478.5(12), 699.58(11)
993.5 3	0.08 4	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
993.55 19	0.21 10	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
993.6 3	0.14 3	<sup>73</sup> Ga(4.86 h)	297.32(79.8), 325.70(11.17), 739.42(4.23)
993.62 7	0.64 4	<sup>74</sup> Ga(8.12 m)	595.847(91), 2353.46(44.5), 608.353(14.3)
• 993.62 7	0.0184 18	<sup>74</sup> As(17.77 d)	595.847(59), 608.353(0.552), 1204.208(0.285)
993.64 8	0.48 5	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
993.69 14	0.016 4	<sup>81</sup> Rb(4.576 h)	190.38(64.0), 446.15(23.2), 510.31(5.3)
993.69 13	0.30 3	<sup>91</sup> Rb(58.4 s)	93.628(33.7), 2564.19(12.5), 3599.67(10.4)
993.7 4	0.040 4	<sup>65</sup> Ga(15.2 m)	115.09(54), 61.20(11.4), 153.0(8.9)
993.70 10	0.0054 11	<sup>73</sup> Se(7.15 h)	360.80(108), 67.03(78), 865.09(0.584)
993.7 10	†3	<sup>99</sup> Rb(59 ms)	90.8(†100), 125.2(†40), 1071.6(†26)
993.8 4	3.31 17	<sup>86</sup> Se(15.3 s)	2441.1(43.0), 2660.0(21.6), 48.3(15.4)
993.8 1	0.30 3	<sup>107</sup> Tc(21.2 s)	102.70(21.0), 177.00(9.2), 106.31(7.6)
• 993.81 21	0.0020 3	<sup>137</sup> Ce(34.4 h)	824.82(0.44), 169.26(0.44), 762.3(0.192)
993.9 7	2.8 7	<sup>179</sup> Yb(8.0 m)	592.1(75), 612.3(35.4), 381.4(9.6)
• 993.96 13	0.054 16	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
994.0 3	3.8 4	<sup>84</sup> Y(40 m)	793.3(99), 974.6(75), 1040.2(56)
994.0 5	1.6 5	<sup>98</sup> Y(2.0 s)	1223.0(80), 620.505(63), 647.58(53)
994.0 5	0.0006 3	<sup>171</sup> Er(7.516 h)	308.31(64.4), 295.901(28.9), 111.621(20.5)
994 1	0.00094	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
994.03 6	0.086 4	$^{121}\text{I}(2.12 \text{ h})$	212.189(84), 532.08(6.07), 598.74(1.47)
994.10 7	0.75 6	$^{155}\text{Ho}(48 \text{ m})$	240.19(12.5), 136.30(5.00), 45.38(5)
994.17 25	0.19 3	$^{163}\text{Yb}(11.05 \text{ m})$	860.28(10.1), 63.62(6.5), 123.21(1.98)
994.18 14	0.057 8	$^{155}\text{Dy}(9.9 \text{ h})$	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
• 994.20 10	>0.6	$^{83}\text{Sr}(32.41 \text{ h})$	762.65(30), 381.53(14.1), 418.37(4.41)
994.2 3	2.0 4	$^{122}\text{Cs}(4.5 \text{ m})$	331.1(94), 497.1(79), 638.5(63)
994.2 2	1.61 9	$^{136}\text{I}(83.4 \text{ s})$	1313.02(67), 1321.08(24.8), 2289.6(10.4)
• 994.21 14	>0.6	$^{83}\text{Sr}(32.41 \text{ h})$	762.65(30), 381.53(14.1), 418.37(4.41)
994.3 4	0.017 17	$^{117}\text{Cd}(2.49 \text{ h})$	273.349(28), 1303.27(18.4), 344.459(17.9)
994.3	0.035 9	$^{149}\text{Tb}(4.118 \text{ h})$	352.24(29.43), 164.98(26.4), 388.57(18.37)
994.3 8	$\dagger 10.4$ 19	$^{195}\text{Pb}(15 \text{ m})$	883.1( $\dagger 100$ ), 393.7( $\dagger 42$ ), 871.0( $\dagger 36$ )
994.4 2	$\dagger 0.18$ 5	$^{160}\text{Ho}(5.02 \text{ h})$	728.18( $\dagger 100$ ), 879.383( $\dagger 65.9$ ), 962.317( $\dagger 59.1$ )
994.41 18	0.19 3	$^{208}\text{Rn}(24.35 \text{ m})$	426.78(7.07), 251.05(5.02), 350.026(3.34)
994.46 12	0.05	$^{176}\text{Ta}(8.09 \text{ h})$	1159.28(25), 88.34(12), 1224.93(6)
994.5 1	$\dagger 8.63$ 22	$^{158}\text{Ho}(11.3 \text{ m})$	218.21( $\dagger 100.0$ ), 98.91( $\dagger 70$ ), 945.7( $\dagger 37$ )
994.6 6	0.030 4	$^{71}\text{Zn}(3.96 \text{ h})$	386.28(93), 487.38(62), 620.18(57)
994.60 7	0.294 12	$^{210}\text{Rn}(2.4 \text{ h})$	458.25(1.7), 648.70(0.843), 570.95(0.840)
994.6 3	0.062 21	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
994.61 15	1.59 15	$^{193}\text{Hg}(11.8 \text{ h})$	257.97(61), 407.63(25), 573.25(14.2)
994.64 10	0.062 4	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
994.7	0.008	$^{135}\text{Ce}(17.7 \text{ h})$	265.56(41.8), 300.07(23.5), 606.76(18.8)
994.7 5	0.42 4	$^{137}\text{Pm}(2.4 \text{ m})$	177.5(40.29), 108.6(35), 233.6(29.57)
994.75 25	$\dagger 11.0$ 11	$^{193}\text{Tl}(21.6 \text{ m})$	324.37( $\dagger 100$ ), 1044.7( $\dagger 59$ ), 676.10( $\dagger 48$ )
994.8 2	14.0 4	$^{63}\text{Fe}(6.1 \text{ s})$	1427.2(4.6), 1299.0(1.23), 1494.6(1.12)
994.8 4	0.13 4	$^{105}\text{In}(5.07 \text{ m})$	131.37(41), 260.21(15.7), 604.11(9.2)
994.93 11	0.029 3	$^{168}\text{Ho}(2.99 \text{ m})$	741.356(36.6), 821.164(34.5), 815.990(18.6)
995.0 6	0.021 8	$^{111}\text{Sn}(35.3 \text{ m})$	1152.98(2.7), 1914.70(1.99), 761.97(1.48)
995.0 5	0.05	$^{117}\text{Cd}(3.36 \text{ h})$	1997.33(26), 1065.98(23.1), 564.397(14.7)
995	0.5	$^{125}\text{Cs}(45 \text{ m})$	526(24), 111.8(9), 412(5)
995 1	0.00012	$^{223}\text{Fr}(21.8 \text{ m})$	50.13(36.0), 79.72(9.1), 234.81(3.0)
• 995 1	$\dagger 0.00041$	$^{227}\text{Th}(18.72 \text{ d})$	235.971( $\dagger 813$ ), 50.13( $\dagger 528$ ), 256.25( $\dagger 463$ )
995.08 12	0.80 6	$^{91}\text{Kr}(8.57 \text{ s})$	108.788(43.5), 506.592(19.1), 612.87(7.7)
995.089 25	0.0551 17	$^{165}\text{Dy}(2.334 \text{ h})$	94.700(3.58), 361.68(0.84), 633.415(0.568)
995.09 2	0.69 5	$^{133}\text{Te}(12.5 \text{ m})$	312.072(62), 407.63(27.1), 1333.21(10.67)
995.09 2	0.50 17	$^{133}\text{Te}(55.4 \text{ m})$	912.671(55.28), 647.51(19.4), 863.955(15.6)
995.09 10	0.16 3	$^{135}\text{I}(6.57 \text{ h})$	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
• 995.1 3	0.116 20	$^{131}\text{Te}(30 \text{ h})$	773.67(49.9), 852.21(27.0), 793.75(18.10)
995.13 15	$\dagger 36$ 5	$^{160}\text{Eu}(38 \text{ s})$	173.19( $\dagger 100$ ), 513.6( $\dagger 60$ ), 412.56( $\dagger 56$ )
995.13	0.15	$^{203}\text{Bi}(11.76 \text{ h})$	820.3(30), 825.2(14.6), 896.9(13)
995.16 4	0.070 7	$^{180}\text{Re}(2.44 \text{ m})$	902.795(90), 103.557(22.2), 825.357(9.9)
995.2	0.79 4	$^{96}\text{Rh}(9.90 \text{ m})$	832.57(100), 685.49(95.7), 631.71(74.5)
995.3 3	0.103 20	$^{95}\text{Rb}(377.5 \text{ ms})$	352.02(49), 204.02(15.1), 680.7(14.8)
995.36 8	3.9 3	$^{97}\text{Rh}(46.2 \text{ m})$	189.21(49), 2245.6(14), 421.55(12.7)
995.4 11	0.13 9	$^{129}\text{Sb}(4.40 \text{ h})$	812.8(43), 914.6(20.0), 544.7(17.9)
995.4 2	0.26 7	$^{173}\text{Ta}(3.14 \text{ h})$	172.2(18), 69.70(5.9), 90.3(5.0)
995.4 5	$\dagger 0.83$ 21	$^{183}\text{Hg}(9.4 \text{ s})$	60.5( $\dagger 100$ ), 159.91( $\dagger 21$ ), 172.70( $\dagger 17$ )
995.4	$\dagger 10$	$^{238}\text{Pa}(2.3 \text{ m})$	1015.3( $\dagger < 100$ ), 1014.6( $\dagger < 100$ ), 635.18( $\dagger 88$ )
• 995.5	>0.9	$^{147}\text{Gd}(38.06 \text{ h})$	229.32(63), 396.00(34.3), 929.01(20.2)
995.5 3	0.14 4	$^{150}\text{Tb}(3.48 \text{ h})$	638.05(72), 496.3(14.8), 792.5(4.39)
995.50 15	1.83 11	$^{172}\text{Ta}(36.8 \text{ m})$	214.02(46), 95.23(17.5), 1109.27(12.4)
995.54 5	0.0371 6	$^{127}\text{Cs}(6.25 \text{ h})$	411.95(62.8), 124.70(11.37), 462.31(5.07)
• 995.58 20	>0.9	$^{147}\text{Gd}(38.06 \text{ h})$	229.32(63), 396.00(34.3), 929.01(20.2)
• 995.6	>0.6	$^{83}\text{Sr}(32.41 \text{ h})$	762.65(30), 381.53(14.1), 418.37(4.41)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
995.6 4	0.118 22	<sup>199</sup> Pb(90 m)	366.90(44.2), 353.39(9.5), 1135.04(7.8)
995.7 4	†1.7 4	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
995.8 5	0.030 10	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
995.8 5	0.36 8	<sup>141</sup> Sm(22.6 m)	196.88(74), 431.6(40.4), 777.6(20.3)
995.8 5	1.25 25	<sup>151</sup> Ho(35.2 s)	527.4(63), 775.53(9.2), 209.5(5.69)
995.8 2	0.201 22	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
995.87 1	0.033 17	<sup>152</sup> Pm(4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
995.87 1	0.0700 15	<sup>152</sup> Eu(9.274 h)	841.586(14.6), 963.37(12.01), 121.7824(7.21)
995.9 3	0.061 17	<sup>66</sup> Ge(2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
995.9	0.07 3	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
995.92 7	0.67 4	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
995.93 19	1.31 8	<sup>83</sup> Se(22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
995.97 8	0.88 5	<sup>147</sup> Pr(13.4 m)	77.9921(15), 314.675(13.2), 641.380(10.0)
996.0 4	0.26 6	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
996.0 4	0.45 11	<sup>148</sup> Ho(9.59 s)	1687.5(82.47), 660.8(58.94), 504.3(18.62)
996.0 2	†2.2 2	<sup>203</sup> At(7.4 m)	639.4(†100), 641.5(†55.8), 738.1(†38.4)
996.0 3	0.20 3	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
• 996.06 6	0.0098 8	<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
996.1 3	0.50 5	<sup>104</sup> Ag(33.5 m)	555.796(91), 1238.0(3.87), 2276.7(2.46)
996.1 2	0.74 14	<sup>108</sup> In(58.0 m)	875.46(100), 632.96(100), 242.84(41)
996.1 3	0.4 3	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
996.1 3	0.37 4	<sup>141</sup> Eu(40.0 s)	394.0(9), 384.5(5.6), 382.9(2.97)
996.1 5	0.055 16	<sup>227</sup> Fr(2.47 m)	90.035(39), 585.804(29.5), 64.267(14.5)
996.1 20	†4.1×10 <sup>3</sup>	<sup>234</sup> Pa(1.17 m)	1001.03(†837000), 766.38(†294000), 742.81(†80000)
996.19 11	0.297 11	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
996.2 1	1.89 15	<sup>73</sup> Br(3.4 m)	64.9(37.0), 336.0(10.4), 699.8(9.1)
996.2 3	1.9 4	<sup>112</sup> Rh(6.8 s)	348.70(87), 560.5(49), 1098.6(39)
996.2 4	†1.2 2	<sup>182</sup> Au(21 s)	154.76(†100), 264.33(†40.0), 855.41(†14.5)
• 996.262 5	10.6 4	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
996.262 5	8.6 8	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
996.262 5	4.9 5	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
996.262 5	2.39 24	<sup>154</sup> Tb(22.7 h)	247.925(79), 346.643(69), 1419.81(46)
996.3 2	1.6 4	<sup>119</sup> Cd(2.20 m)	1025.0(24.8), 2021.3(22.6), 720.7(17.9)
996.3 2	0.29 5	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
996.3 4	0.191 12	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
996.31 5	2.07 4	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
996.38 12	0.030 9	<sup>157</sup> Eu(15.18 h)	63.929(23.0), 410.723(17.5), 370.509(11.0)
996.4 5	†3.5	<sup>179</sup> Os(6.5 m)	65.39(†100), 218.6(†17), 32.3(†17)
996.4 8	2.3 6	<sup>191</sup> Hg(50.8 m)	252.5(57), 420.1(18.6), 578.6(17.6)
996.41 21	†3.6 5	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
996.5 2	0.54 3	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
996.5 5	0.160 18	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
996.5 1	0.124 9	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
996.50 20	0.23 3	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
996.5	†0.39 12	<sup>178</sup> Ir(12 s)	266.1(†100.0), 131.6(†79), 363.1(†39.9)
996.53 10	3.76 20	<sup>101</sup> Sr(118 ms)	128.34(18.0), 1124.82(10.9), 510.73(8.5)
996.55 5	0.1051 22	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
996.6 3	0.32 4	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
996.6 4	0.07 3	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
996.61 15	1.12 13	<sup>115</sup> Te(5.8 m)	723.569(30), 1380.58(23.0), 1326.83(22.7)
996.61 17	0.38 5	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
996.7 5	1.28 18	<sup>110</sup> Sb(23.0 s)	1211.87(92), 985.03(31.2), 1243.6(13.4)
996.7 7	3.9 4	<sup>117</sup> Te(62 m)	719.7(65), 1716.4(15.9), 2300.0(11.2)
996.70 7	0.271 16	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
996.7 1	$\dagger 0.7 2$	$^{172}\text{Ir}(2.0 \text{ s})$	227.8( $\dagger 100.0$ ), 378.4( $\dagger 62.0$ ), 448.4( $\dagger 40.5$ )
996.78 10	4.2 6	$^{125}\text{Cd}(0.65 \text{ s})$	436.29(37), 1099.48(22.3), 2147.19(19.1)
996.8 3	0.39 5	$^{121}\text{Xe}(40.1 \text{ m})$	252.7(13), 132.8(10.9), 445.2(7.7)
996.80 16	0.028 5	$^{130}\text{I}(12.36 \text{ h})$	536.09(99), 668.54(96), 739.48(82)
996.8 3	0.063 16	$^{138}\text{Xe}(14.08 \text{ m})$	258.411(31.5), 434.562(20.3), 1768.26(16.7)
996.8	0.129 23	$^{141}\text{Ba}(18.27 \text{ m})$	190.328(46.0), 304.194(25.4), 276.948(23.4)
996.82	0.0014 2	$^{24}\text{Na}(14.9590 \text{ h})$	1368.633(100), 2754.028(99.944), 3866.19(0.052)
996.82	0.137 7	$^{24}\text{Al}(2.053 \text{ s})$	1368.633(96.0), 7069.50(43.0), 2754.028(41.2)
996.9 3	1.8 3	$^{180}\text{Ir}(1.5 \text{ m})$	276.4(56), 132.2(38.1), 699.0(13.4)
• 997.0 5	0.0059 20	$^{124}\text{Sb}(60.20 \text{ d})$	602.730(97.8), 1690.980(47.3), 722.786(10.76)
• 997.0 5	0.024	$^{124}\text{I}(4.18 \text{ d})$	602.730(60), 1690.980(10.41), 722.786(9.98)
997.0 2	0.46 5	$^{167}\text{Dy}(6.20 \text{ m})$	569.7(48), 259.33(27.9), 310.26(25.0)
997		$^{168}\text{Lu}(6.7 \text{ m})$	198.82(28), 979.22(20), 896.12(15)
997.0 1	$\dagger 3.1 3$	$^{171}\text{Ta}(23.3 \text{ m})$	49.6( $\dagger 100$ ), 506.4( $\dagger 54$ ), 501.8( $\dagger 22.6$ )
997.1 3	1.6	$^{111}\text{Sb}(75 \text{ s})$	154.48(71), 489.1(42), 1032.6(10.0)
997.1 1	1.2	$^{147}\text{Tb}(1.83 \text{ m})$	1397.0(79), 1797.1(14), 1643.0(1.2)
997.1 4	$\dagger 0.29 3$	$^{184}\text{Ir}(3.09 \text{ h})$	263.97( $\dagger 100$ ), 119.80( $\dagger 45$ ), 390.38( $\dagger 38$ )
997.1 2	$\dagger 3.1 3$	$^{185}\text{Hg}(21.6 \text{ s})$	222.8( $\dagger 100.0$ ), 258.7( $\dagger 98$ ), 212.5( $\dagger 58$ )
997.1 3	69	$^{207}\text{Hg}(2.9 \text{ m})$	351.059(77), 1637.1(30), 1756.3(16)
997.2 10	0.07	$^{103}\text{Cd}(7.3 \text{ m})$	1461.81(12), 1448.70(5.55), 1079.90(5.44)
997.2 3	0.16 5	$^{180}\text{Lu}(5.7 \text{ m})$	407.94(43.0), 1199.7(24.3), 1106.00(22.7)
997.2	0.12	$^{185}\text{Ir}(14.4 \text{ h})$	254.4(13.3), 1828.8(10), 60.0(5.7)
997.25 1	3.334 14	$^{131}\text{Te}(25.0 \text{ m})$	149.716(69), 452.323(18.18), 1146.96(4.95)
997.25 11	0.247 24	$^{133}\text{Ce}(4.9 \text{ h})$	477.22(39), 510.36(20.7), 58.39(19.2)
• 997.256 8	0.133 5	$^{110}\text{Ag}(249.79 \text{ d})$	657.7622(94.0), 884.685(72.2), 937.493(34.13)
997.256 8	10.52 20	$^{110}\text{In}(4.9 \text{ h})$	657.7622(98.3), 884.685(92.9), 937.493(68.4)
997.29 23	0.0113 11	$^{151}\text{Tb}(17.609 \text{ h})$	287.357(28.3), 251.863(26.3), 108.088(24.3)
• 997.33 16	0.112 6	$^{56}\text{Co}(77.27 \text{ d})$	846.771(100), 1238.282(67.6), 2598.459(17.28)
997.355 25	0.012 3	$^{155}\text{Sm}(22.3 \text{ m})$	104.3346(74.6), 245.771(3.7), 141.4428(1.98)
997.37 10	0.66 4	$^{89}\text{Kr}(3.15 \text{ m})$	220.948(20.1), 586.03(16.6), 904.27(7.2)
997.37 18	0.070 21	$^{187}\text{Au}(8.4 \text{ m})$	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
997.38 5	18.0 7	$^{166}\text{Lu}(2.65 \text{ m})$	228.12(77.3), 337.50(41), 367.95(31.4)
997.4 5	$> 0.39$	$^{172}\text{Ta}(36.8 \text{ m})$	214.02(46), 95.23(17.5), 1109.27(12.4)
• 997.42 23	0.028 6	$^{153}\text{Tb}(2.34 \text{ d})$	212.038(31.0), 170.504(6.8), 109.758(6.4)
997.5 2	1.04 16	$^{149}\text{Dy}(4.20 \text{ m})$	100.8(15.2), 789.4(11.8), 1776.3(11.1)
997.5 7	$> 0.25$	$^{161}\text{Tm}(33 \text{ m})$	45.54(5.00), 1648.1(9.50), 84.40(9.4)
997.55 7	1.23 5	$^{83}\text{Se}(70.1 \text{ s})$	1030.86(21.2), 356.687(18), 987.96(16.1)
997.6 3	0.41 6	$^{88}\text{Nb}(14.5 \text{ m})$	1082.53(103), 1057.01(100), 671.20(64)
997.63 3	$\dagger 5.91 17$	$^{158}\text{Ho}(11.3 \text{ m})$	218.21( $\dagger 100.0$ ), 98.91( $\dagger 70$ ), 945.7( $\dagger 37$ )
997.66	1.04 5	$^{133}\text{Te}(12.5 \text{ m})$	312.072(62), 407.63(27.1), 1333.21(10.67)
997.67 19	0.087 17	$^{163}\text{Tm}(1.810 \text{ h})$	104.320(18.6), 69.229(11.6), 241.305(10.9)
997.7	$\dagger 100$	$^{130}\text{Ce}(25 \text{ m})$	1072.6( $\dagger 100$ ), 920.5( $\dagger 100$ ), 851.5( $\dagger 80$ )
997.7 4	0.086 22	$^{150}\text{Tb}(3.48 \text{ h})$	638.05(72), 496.3(14.8), 792.5(4.39)
997.7 5	0.191 12	$^{192}\text{Au}(4.94 \text{ h})$	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
997.7 3	0.045 10	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
997.79 5	21.1 15	$^{124}\text{In}(3.17 \text{ s})$	1131.64(68), 3214.15(21.5), 1470.70(6.0)
997.85 6	0.319 11	$^{90}\text{Rb}(158 \text{ s})$	831.69(28), 1060.70(6.69), 4365.90(5.6)
997.87 4	48 3	$^{106}\text{In}(6.2 \text{ m})$	632.66(100), 861.16(92), 1009.27(30.3)
997.9 4	1.98 19	$^{127}\text{Sn}(2.10 \text{ h})$	1114.3(39), 1095.6(20), 823.1(10.9)
997.9 4	0.30 5	$^{202}\text{Bi}(1.72 \text{ h})$	960.67(99), 422.18(83.7), 657.49(60.6)
997.93 4	4.26 12	$^{89}\text{Br}(4.40 \text{ s})$	1097.82(6.00), 953.53(4.26), 4166.3(3.8)
997.93 4	0.33 3	$^{90}\text{Br}(1.92 \text{ s})$	411.49(3.88), 962.71(1.25), 1097.82(0.91)
• 997.98 5	0.0268 10	$^{171}\text{Lu}(8.24 \text{ d})$	739.78(47.8), 19.394(13.7), 667.404(11.04)
998.06 10	0.00027 13	$^{179}\text{Lu}(4.59 \text{ h})$	214.335(11.3), 214.930(0.46), 123.3790(0.45)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
998.12 15	1.4 3	$^{123}\text{Cd}(2.10 \text{ s})$	371.32(51), 1052.28(24.8), 1438.13(8.3)
998.2 3	0.217 19	$^{94}\text{Tc}(52.0 \text{ m})$	871.082(94), 1868.68(5.7), 1522.11(4.5)
998.2 1	$\dagger 2.0 2$	$^{172}\text{Ir}(2.0 \text{ s})$	227.8( $\dagger 100.0$ ), 378.4( $\dagger 62.0$ ), 448.4( $\dagger 40.5$ )
• 998.291 11	0.0796 18	$^{121}\text{Te}(154 \text{ d})$	1102.149(2.54), 37.138(0.94), 909.847(0.0703)
998.3 3	0.0043 14	$^{167}\text{Yb}(17.5 \text{ m})$	113.34(55.3), 106.18(22.5), 176.25(21)
998.3 4	2.6 3	$^{175}\text{Ta}(10.5 \text{ h})$	207.4(14.0), 348.5(12.0), 266.9(10.8)
998.30 10	0.097 16	$^{176}\text{Ta}(8.09 \text{ h})$	1159.28(25), 88.34(12), 1224.93(6)
998.36 5	0.32 4	$^{158}\text{Eu}(45.9 \text{ m})$	944.09(25), 977.131(13.6), 79.5104(11)
998.4 10	0.09 3	$^{105}\text{Cd}(55.5 \text{ m})$	961.84(4.69), 346.870(4.20), 1302.459(3.98)
998.4 10	0.15 4	$^{105}\text{Cd}(55.5 \text{ m})$	961.84(4.69), 346.870(4.20), 1302.459(3.98)
998.4 3	0.171 18	$^{120}\text{Xe}(40 \text{ m})$	25.1(30), 72.6(9), 178.1(6.8)
998.43	<0.14	$^{105}\text{Cd}(55.5 \text{ m})$	961.84(4.69), 346.870(4.20), 1302.459(3.98)
998.47 10	2.03 16	$^{194}\text{Pb}(12.0 \text{ m})$	581.82(18.8), 1519.45(16.4), 203.82(16.2)
998.5 6	0.65 6	$^{109}\text{In}(4.2 \text{ h})$	203.5(74), 623.7(5.5), 1148.9(4.3)
998.5 7	0.41 4	$^{199}\text{Bi}(27 \text{ m})$	560.1(22.0), 424.85(22), 841.7(11)
998.52 8	0.041 10	$^{59}\text{Cu}(81.5 \text{ s})$	1301.46(14.78), 877.97(11.40), 339.411(7.97)
998.59 10	2.39 18	$^{197}\text{Pb}(43 \text{ m})$	385.85(74), 387.72(25.1), 222.45(24.6)
998.6 4	0.033 12	$^{81}\text{Sr}(22.3 \text{ m})$	153.54(33.8), 147.76(30.1), 443.34(17.5)
998.6 3	0.042 10	$^{87}\text{Br}(55.60 \text{ s})$	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
998.6 10	0.125 24	$^{201}\text{Bi}(108 \text{ m})$	629.1(24.0), 936.2(11.3), 1014.1(10.7)
• 998.70 15	0.69 7	$^{99}\text{Rh}(16.1 \text{ d})$	528.24(33), 353.05(30.0), 89.65(29.0)
• 998.74 27	0.0045 13	$^{146}\text{Eu}(4.59 \text{ d})$	747.2(98), 633.03(43), 634.07(37)
998.75 12	1.03 8	$^{107}\text{In}(32.4 \text{ m})$	204.97(47), 505.51(11.9), 320.92(10.2)
998.75 12	0.19 8	$^{107}\text{In}(32.4 \text{ m})$	204.97(47), 505.51(11.9), 320.92(10.2)
998.8 2	$\dagger 14.0 15$	$^{159}\text{Yb}(1.58 \text{ m})$	166.16( $\dagger 500$ ), 177.12( $\dagger 159$ ), 390.20( $\dagger 113$ )
998.8 2	0.037	$^{161}\text{Er}(3.21 \text{ h})$	826.6(3.0), 211.15(12.2), 592.6(3.7)
998.8 2	0.11	$^{161}\text{Er}(3.21 \text{ h})$	826.6(3.0), 211.15(12.2), 592.6(3.7)
999.0 10	0.061 20	$^{150}\text{Pm}(2.68 \text{ h})$	333.971(68), 1324.51(17.5), 1165.739(15.8)
999.0 3	$\dagger 0.41 7$	$^{192}\text{Tl}(9.6 \text{ m})$	422.8( $\dagger 100$ ), 634.8( $\dagger 75.9$ ), 786.3( $\dagger 31.7$ )
999.06 20	$\dagger 35$	$^{154}\text{Nd}(25.9 \text{ s})$	151.703( $\dagger 800$ ), 799.55( $\dagger 600$ ), 180.693( $\dagger 510$ )
999.1 1	0.22 4	$^{230}\text{Ac}(122 \text{ s})$	454.95(8), 508.20(5.15), 1243.9(3.50)
999.2 5	0.61 24	$^{148}\text{Pr}(2.27 \text{ m})$	301.702(61), 1357.78(5.5), 1023.18(4.8)
999.2 2	1.19 18	$^{207}\text{Rn}(9.25 \text{ m})$	344.53(46), 747.15(14.2), 402.68(11.9)
999.22 4	1.35 11	$^{77}\text{Zn}(2.08 \text{ s})$	189.49(28.1), 473.94(19.7), 1832.0(12.4)
999.23 7	0.64 4	$^{201}\text{Pb}(9.33 \text{ h})$	331.19(79), 361.27(9.9), 945.96(7.4)
999.26 15	0.028 7	$^{131}\text{Te}(25.0 \text{ m})$	149.716(69), 452.323(18.18), 1146.96(4.95)
• 999.26 15	0.223 25	$^{131}\text{Te}(30 \text{ h})$	773.67(49.9), 852.21(27.0), 793.75(18.10)
999.32 10	0.37 6	$^{158}\text{Tm}(3.98 \text{ m})$	192.13(62), 335.10(16.8), 1149.83(7.6)
999.34 8	0.13	$^{165}\text{Yb}(9.9 \text{ m})$	80.11(49), 68.86(9.1), 1090.28(4.4)
999.4 1	$\dagger 7.82 31$	$^{129}\text{Ba}(2.17 \text{ h})$	182.30( $\dagger 100$ ), 1459.1( $\dagger 50.0$ ), 202.38( $\dagger 33.7$ )
• 999.4 10	0.012 4	$^{230}\text{Pa}(17.4 \text{ d})$	951.95(1.65), 918.48(8.2), 454.95(6.27)
999.46 10	0.51	$^{165}\text{Yb}(9.9 \text{ m})$	80.11(49), 68.86(9.1), 1090.28(4.4)
999.46 21	$\dagger 3.6 4$	$^{182}\text{Ir}(15 \text{ m})$	273.23( $\dagger 100$ ), 126.79( $\dagger 77$ ), 236.3( $\dagger 21.0$ )
• 999.46 25	0.071 12	$^{188}\text{Ir}(41.5 \text{ h})$	155.032(29.7), 2214.62(18.7), 632.99(18)
999.5 3	2.6 4	$^{97}\text{Y}(1.17 \text{ s})$	1103.0(92.6), 161.4(71.8), 1091(56)
999.5 3	0.028 12	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
999.54 7	0.015 4	$^{183}\text{Os}(13.0 \text{ h})$	381.768(89.6), 114.463(20.63), 167.844(8.81)
999.6 2	0.548 23	$^{143}\text{Eu}(2.63 \text{ m})$	1107.3(8), 1536.8(3.29), 1912.7(2.13)
999.6 5	0.058 18	$^{167}\text{Lu}(51.5 \text{ m})$	29.66(14.4), 239.22(8.6), 213.19(3.6)
• 999.60 10	1.52 4	$^{170}\text{Lu}(2.00 \text{ d})$	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
999.6 2	0.155 9	$^{209}\text{At}(5.41 \text{ h})$	545.0(91), 781.9(83.5), 790.2(63.5)
999.68 3	2.44 7	$^{155}\text{Dy}(9.9 \text{ h})$	226.918(68.4), 184.564(3.37), 1089.8( $> 2.8$ )
999.7 2	0.74 15	$^{119}\text{Cd}(2.20 \text{ m})$	1025.0(24.8), 2021.3(22.6), 720.7(17.9)
999.7 3	0.157 17	$^{143}\text{Ba}(14.33 \text{ s})$	211.475(25), 798.79(15.6), 980.45(11.55)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
999.70 20	0.131 17	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
999.7 2	2.3 3	<sup>154</sup> Ho(3.10 m)	334.6(94), 412.4(79), 477.1(55)
999.7 2	3.26 20	<sup>154</sup> Ho(11.76 m)	334.6(84), 412.4(15.0), 873.4(12.5)
999.7 3	0.55 8	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
999.7 4	†1.7 4	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
999.8 2	0.66 6	<sup>75</sup> Zn(10.2 s)	228.67(28.9), 432.29(20.2), 155.94(17.2)
999.8 3	†4.3 11	<sup>131</sup> Sn(56.0 s)	1226.03(†100), 450.03(†90), 798.50(†86)
999.8 2	†3.3 4	<sup>131</sup> Ce(5.0 m)	230.43(†100), 436.85(†7.3), 462.9(†6.9)
999.8 50	0.10 5	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
999.8 6	0.14 5	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
999.8 4	0.25 3	<sup>141</sup> Eu(40.0 s)	394.0(9), 384.5(5.6), 382.9(2.97)
999.8 3	†14 3	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 955.08(†50)
999.8 5	0.00021 12	<sup>223</sup> Fr(21.8 m)	50.13(36.0), 79.72(9.1), 234.81(3.0)
• 999.8 5	†0.0019 7	<sup>227</sup> Th(18.72 d)	235.971(†813), 50.13(†528), 256.25(†463)
999.85 20	0.081 21	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
999.86 4	0.799 14	<sup>72</sup> Ga(14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)
• 999.86 4	0.025 3	<sup>72</sup> As(26.0 h)	834.01(80), 629.95(7.92), 1463.95(1.107)
999.9 2	>0.26	<sup>74</sup> Ga(8.12 m)	595.847(91), 2353.46(44.5), 608.353(14.3)
999.9 3	0.38 8	<sup>98</sup> Pd(17.7 m)	112.0(58), 662.2(19.7), 106.75(13.9)
999.9 2	0.12	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
999.9 3	†2.2 9	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
• 999.96 7	0.42 3	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1000.0 2	0.88 13	<sup>121</sup> Cd(8.3 s)	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
1000.0 5		<sup>134</sup> Pr(11 m)	293.5(†100), 299.0(†100), 1196.8(†100)
1000.0 5		<sup>134</sup> Pr(17 m)	1964.1(†100), 1904.3(†100), 1579.9(†100)
1000	4.1	<sup>134</sup> Nd(8.5 m)	163.2(58), 288.9(13), 216.8(12)
1000.0 3	0.535 20	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
1000.00 12	3.3 7	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
1000.12 4	0.0465 17	<sup>194</sup> Ir(19.15 h)	328.455(13.1), 293.545(2.55), 645.157(1.17)
• 1000.12 4	0.180 18	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
1000.2 2	†0.46 4	<sup>71</sup> Se(4.74 m)	147.50(†211), 1095.26(†43.6), 830.33(†43.2)
1000.2 6	9.7 6	<sup>104</sup> In(1.8 m)	658.0(100), 834.1(99), 878.1(29.4)
1000.2 4	2.3 5	<sup>130</sup> Sb(39.5 m)	793.53(100), 839.49(100), 331.05(78)
1000.2 3	0.086 24	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1000.2 1	1.57 22	<sup>142</sup> Gd(70.2 s)	750.2(11.2), 178.90(11.20), 284.4(6.16)
1000.2 8	†2.0 9	<sup>160</sup> Tm(9.4 m)	125.8(†100), 728.5(†37), 264.1(†27)
1000.2 5		<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1000.3 5	0.056 7	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1000.3 5	1.0	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1000.4 3	0.15 4	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1000.47 14	0.23 4	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
1000.5 3	0.046 10	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
1000.5 4	0.065 10	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1000.5 6	0.5 4	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
1000.5 3	†18.0 38	<sup>233</sup> Pu(20.9 m)	235.4(†100), 534.8(†90.2), 500.3(†38.6)
1000.5 5	0.020 8	<sup>249</sup> Es(102.2 m)	379.5(40.4), 813.2(9.2), 375.1(3.3)
1000.6 4	0.038 10	<sup>144</sup> Eu(10.2 s)	1659.8(10), 817.7(1.56), 2423.3(0.96)
1000.6 3	0.19 5	<sup>237</sup> Am(73.0 m)	280.23(47.3), 438.4(8.3), 473.5(4.3)
1000.69 15	>0.005	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1000.7 2	5.0 3	<sup>136</sup> Pr(13.1 m)	552.16(76), 539.75(52), 1092.3(18.5)
1000.7 5	0.14 4	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1000.72 1	3.62 6	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
1000.8 5	0.24 8	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
1000.8 2	†1.91 21	<sup>185</sup> Hg(21.6 s)	222.8(†100.0), 258.7(†98), 212.5(†58)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1000.92 18	1.38 11	<sup>195</sup> Pb(15.0 m)	383.64(106.9), 394.21(44), 878.40(24.2)
1000.93 12	0.0044 14	<sup>187</sup> W(23.72 h)	685.774(27.3), 479.531(21.8), 72.001(11.14)
1001.0 11	4.5 13	<sup>53</sup> Ti(32.7 s)	127.6(46), 228.4(40), 1675.5(25)
1001 1	0.005 3	<sup>128</sup> Cs(3.66 m)	442.901(26.8), 526.557(2.41), 1140.079(1.168)
1001.0 3	†10 5	<sup>136</sup> Eu(3.3 s)	254.9(†100), 431.4(†34), 458.0(†20)
1001.0 3	0.108 22	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
1001 1	0.0012	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
1001.0 10	0.025 17	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1001.03 3	837000 10	<sup>234</sup> Pa(1.17 m)	766.38(†294000), 742.81(†80000), 258.23(†72800)
• 1001.03 3	1.59 7	<sup>234</sup> Np(4.4 d)	1558.31(18.72), 1527.21(11.2), 1601.80(9.1)
• 1001.03 3	9.9×10 <sup>-7</sup> 7	<sup>238</sup> Pu(87.74 y)	43.498(0.0395), 99.853(0.00735), 152.720(0.000937)
• 1001.1 3	0.0040 19	<sup>152</sup> Eu(13.542 y)	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
1001.1 5	0.064 8	<sup>224</sup> Fr(3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
1001.2 6	0.082 19	<sup>83</sup> Y(7.08 m)	35.50(0.44), 882.1(6.30), 489.90(5.53)
1001.2 5	0.10 4	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
1001.2 5	>0.26	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
1001.2 1	9.72 25	<sup>142</sup> Ba(10.6 m)	255.300(20.5), 1204.3(14.23), 895.2(13.9)
1001.2 3	†12 3	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 955.08(†50)
1001.21 7	28.8 15	<sup>205</sup> Po(1.66 h)	872.39(37), 849.83(25.5), 836.79(19.2)
1001.3 3	†29 5	<sup>107</sup> Sn(2.90 m)	1129.2(†100), 678.5(†100), 1540.6(†30)
1001.3 1	†2.7 3	<sup>171</sup> Ta(23.3 m)	49.6(†100), 506.4(†54), 501.8(†22.6)
1001.311 230.0114 12		<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
• 1001.343 180.00400 12		<sup>99</sup> Mo(65.94 h)	739.50(12.1), 181.063(6.08), 140.511(4.52)
1001.4 1	2.07 20	<sup>84</sup> Y(40 m)	793.3(99), 974.6(75), 1040.2(56)
1001.4 3	0.95 10	<sup>164</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
1001.5 5	0.09	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
• 1001.54 4	0.006 4	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1001.58 3	50.7 18	<sup>122</sup> In(10.3 s)	1140.55(98), 1190.58(20.5), 1163.61(15.4)
1001.58 3	98.4 14	<sup>122</sup> In(10.8 s)	1140.55(100), 103.74(81), 163.48(66)
1001.6 1	0.114 9	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
1001.6	7	<sup>144</sup> Tb(4.25 s)	743.0(12), 959.36(4.7), 558.0(4.6)
1001.6 5	0.18 3	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
• 1001.6951 62.066 14		<sup>182</sup> Ta(114.43 d)	67.75001(41.2), 1121.3007(34.9), 1221.4066(26.98)
1001.6951 60.22		<sup>182</sup> Re(12.7 h)	67.75001(38.2), 1121.3007(32), 1221.4066(24.8)
• 1001.6951 62.46 9		<sup>182</sup> Re(64.0 h)	229.3220(26), 67.75001(22.2), 1121.3007(22.0)
1001.7 4	0.062 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1001.7	>0.026	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1001.71 5	0.040 8	<sup>110</sup> In(69.1 m)	657.7622(98), 2129.53(2.13), 2211.49(1.76)
1001.71 18	†0.31 3	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
1001.8 3	0.062 17	<sup>94</sup> Y(18.7 m)	918.74(56), 1138.88(6.0), 550.88(4.9)
1001.80 15	0.18 4	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
• 1001.85	1.2	<sup>44</sup> Sc(58.6 h)	1126.08(1.2), 1157.031(1.2)
1001.87 11	0.031 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1001.9 2	0.0043 11	<sup>73</sup> Se(7.15 h)	360.80(108), 67.03(78), 865.09(0.584)
1001.9 3	0.29 3	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
• 1001.92 4	0.025 4	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1002.0 10	0.12 3	<sup>76</sup> Kr(14.8 h)	315.7(39), 270.2(21.1), 45.48(19.5)
1002		<sup>90</sup> Ru(13 s)	992
1002.0 10	0.089 22	<sup>99</sup> Rh(4.7 h)	340.71(70), 617.8(12.0), 1261.2(11)
1002.0 3	0.09 3	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1002 1		<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1002.0 5		<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1002.02 20	0.38 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1002.10 20	0.64 6	<sup>121</sup> Ag(0.78 s)	314.55(32.1), 353.43(19.9), 500.61(9.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1002.1	0.283 18	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1002.13 24	0.21 3	<sup>95</sup> Y(10.3 m)	954.00(16), 2175.6(7.00), 3576.0(6.4)
1002.19 20	19	<sup>199</sup> Po(4.13 m)	1034.3(16), 362.01(7), 499.61(4.3)
1002.2 3	†2.2 6	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
1002.2 5	1.22 11	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
1002.2 3	1.49 15	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
1002.23 22	0.0087 7	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1002.3 3	0.061 11	<sup>111</sup> Pd(23.4 m)	580.00(0.8), 70.44(0.78), 1459.0(0.56)
• 1002.3	0.134 13	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1002.38 6	0.0657 14	<sup>73</sup> Se(39.8 m)	67.03(2.59), 253.70(2.356), 84.0(2.03)
1002.38 5	0.0168 22	<sup>155</sup> Sm(22.3 m)	104.3346(74.6), 245.771(3.7), 141.4428(1.98)
1002.4	1.4 2	<sup>26</sup> Na(1.072 s)	1808.63(99.0), 1129.65(5.3), 2541.2(2.5)
1002.4 5	1.5 4	<sup>191</sup> Hg(50.8 m)	252.5(57), 420.1(18.6), 578.6(17.6)
1002.444 180.044 4	0.044 4	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1002.48 9	†0.48 3	<sup>148</sup> Tb(60 m)	784.430(†119.0), 489.049(†28.0), 1079.025(†16.2)
1002.5 5	0.22 11	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1002.5 6	0.026 7	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
1002.50 20	0.141 17	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1002.5 7	0.36 4	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1002.6 2	0.69 10	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
1002.6 4	1.78 19	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
1002.6 5	†6.3 13	<sup>152</sup> Pr(3.24 s)	164.2(†100), 284.9(†81.0), 72.40(†38.9)
1002.6 3	1.0 5	<sup>152</sup> Ho(49.5 s)	647.2(92), 613.8(88.4), 683.3(88)
1002.62 11	0.070 11	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1002.68 15	0.252 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1002.71 7	0.051 10	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
• 1002.74 2	0.25 13	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
• 1002.75 2	0.022 3	<sup>172</sup> Tm(63.6 h)	78.7435(6.5), 1093.657(6.0), 1387.093(5.6)
• 1002.75 2	5.25 13	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
• 1002.77 10	0.0105 20	<sup>145</sup> Eu(5.93 d)	893.73(66), 653.512(15.0), 1658.53(14.9)
1002.8 4	0.18 3	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
1002.8 10	0.08	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
• 1002.8 1	0.00103 9	<sup>177</sup> Ta(56.56 h)	112.9498(7.2), 208.3664(0.94), 1057.8(0.29)
• 1002.85 1	0.0753 17	<sup>143</sup> Ce(33.039 h)	293.266(42.80), 57.356(11.7), 664.571(5.69)
• 1002.88 4	1.035 6	<sup>160</sup> Tb(72.3 d)	879.383(30.01), 298.580(25.51), 966.171(25.21)
1002.88 4	†0.64 9	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1002.9 2	0.09 4	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1002.9 5	0.26 3	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
1002.9 7	0.032 8	<sup>124</sup> Cs(30.8 s)	353.9(40), 914.8(4.0), 492.6(3.6)
1002.9 1	5.0 11	<sup>129</sup> Sn(6.9 m)	1161.31(56.0), 1128.44(50), 760.8(16.8)
1002.9 3	55 20	<sup>148</sup> Tm(0.7 s)	646.6(100), 877.4(72), 257.5(52)
1002.9 2	5.62 8	<sup>174</sup> Re(2.40 m)	243.4(37), 113.0(19.8), 349.5(4.8)
1002.9 3	0.084 14	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
• 1002.93 5	0.009 3	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
• 1003.0 10	$8.0 \times 10^{-6}$ 8	<sup>233</sup> U( $1.592 \times 10^5$ y)	2.44(0.0862), 97.134(0.020), 54.699(0.0182)
1003.03 10	0.163 14	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1003.04 11	0.25 5	<sup>100</sup> Sr(202 ms)	963.85(22.0), 898.50(18.9), 65.46(15.2)
1003.1 7	0.192 21	<sup>190</sup> Au(42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
1003.2 4	0.69 8	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
• 1003.20 10	0.314 11	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1003.24 5	37.4 9	<sup>86</sup> Nb(88 s)	751.74(97.8), 914.81(78.1), 670.01(14.9)
1003.24 13	0.070 10	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 1003.28 4	0.158 8	<sup>232</sup> Pa(1.31 d)	969.315(41.6), 894.351(19.8), 150.059(10.8)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1003.3 4	0.047 17	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1003.3 2	0.82 10	<sup>200</sup> Po(11.5 m)	671.0(34.0), 617.7(19.7), 434.4(9.3)
1003.38 4	0.51 4	<sup>204</sup> Po(3.53 h)	883.984(29.9), 270.068(27.8), 1016.31(24.1)
1003.42 11	†1.18 4	<sup>71</sup> Se(4.74 m)	147.50(†211), 1095.26(†43.6), 830.33(†43.2)
1003.45 25	0.56 16	<sup>204</sup> At(9.2 m)	684.341(95), 516.318(90), 426.253(67.5)
1003.57 3	0.053 6	<sup>213</sup> Bi(45.59 m)	440.46(26.1), 292.80(0.429), 807.36(0.292)
1003.6 1	7.86 24	<sup>130</sup> La(8.7 m)	357.4(81.0), 550.7(25.9), 908.0(17.0)
• 1003.6 2	0.035 20	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
1003.6		<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
• 1003.65 9	0.00070 14	<sup>129</sup> Te(33.6 d)	695.88(2.988), 729.57(0.70), 556.65(0.118)
1003.690 230.0116 22		<sup>179</sup> Lu(4.59 h)	214.335(11.3), 214.930(0.46), 123.3790(0.45)
1003.7 2	1.96 20	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1003.7 2	†50	<sup>96</sup> Rb(0.199 s)	352.02(†700), 204.02(†200), 680.7(†121)
1003.7 5	†0.63 21	<sup>183</sup> Hg(9.4 s)	60.5(†100), 159.91(†21), 172.70(†17)
1003.7 5	†2.1 5	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1003.8 2	0.142 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1003.8 3	0.086 14	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
1003.83 12	1.62 18	<sup>197</sup> Pb(8 m)	385.85(50), 761.14(13.3), 375.48(12.8)
1003.9 9	0.06 3	<sup>90</sup> Rb(258 s)	831.69(94), 1375.36(16.7), 3317.00(14.4)
1003.9 9	0.008 4	<sup>90</sup> Rb(158 s)	831.69(28), 1060.70(6.69), 4365.90(5.6)
1003.97 6	0.51 3	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
1004.00 20	2.4 5	<sup>102</sup> Nb(4.3 s)	296.611(79), 1633.10(41), 551.54(30)
1004.0 3	0.7 3	<sup>105</sup> Tc(7.6 m)	143.26(16), 107.945(14.1), 321.50(11.1)
1004.00 8	0.40 8	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
1004	>0.0050	<sup>208</sup> Tl(3.053 m)	2614.533(99), 583.191(84.5), 510.77(22.6)
1004.0 3	†31.0 32	<sup>233</sup> Pu(20.9 m)	235.4(†100), 534.8(†90.2), 500.3(†38.6)
1004.1 4	0.27 13	<sup>153</sup> Ho(2.0 m)	295.8(67), 637.0(5.36), 688.5(3.7)
1004.2 3	0.073 10	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
1004.3 3	0.0086 12	<sup>122</sup> I(3.63 m)	564.119(18), 692.794(1.325), 793.278(1.297)
1004.3 3	0.074 25	<sup>129</sup> La(11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
• 1004.3 4	0.010 3	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1004.3 7	0.264 22	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
1004.3 3	1.23 12	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
1004.31 10	0.09 4	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1004.4 1	0.00019 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
1004.4 6	0.58 19	<sup>178</sup> Re(13.2 m)	237.3(45), 105.9(23.0), 939.1(8.9)
1004.4 5	†0.12 2	<sup>188</sup> Au(8.84 m)	265.63(†100), 340.04(†23.9), 605.5(†16.3)
1004.41 17	0.36 4	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1004.44 12	0.80 5	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
1004.47 5	0.85 13	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
1004.49 10	0.353 24	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
• 1004.49 20	0.022 3	<sup>137</sup> Ce(34.4 h)	824.82(0.44), 169.26(0.44), 762.3(0.192)
1004.5 10	0.092 17	<sup>89</sup> Nb(1.9 h)	1627.20(3.4), 1833.46(3.16), 3092.7(3.0)
1004.51 15	0.0062 13	<sup>117</sup> In(116.2 m)	158.562(16), 861.35(0.019), 1020.6(0.0068)
1004.51 15	0.21 3	<sup>117</sup> Sb(2.80 h)	158.562(86), 861.35(0.31), 1021.0(0.112)
1004.54 10	0.152 21	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1004.56 6	0.24 4	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1004.6 3	12.0 5	<sup>72</sup> Cu(6.6 s)	652.4(68), 1657.7(10.1), 846.5(7.8)
1004.6 5	0.16 6	<sup>109</sup> In(4.2 h)	203.5(74), 623.7(5.5), 1148.9(4.3)
1004.6 5	0.15 5	<sup>193</sup> Hg(11.8 h)	257.97(61), 407.63(25), 573.25(14.2)
• 1004.67 5	0.039 9	<sup>160</sup> Tb(72.3 d)	879.383(30.01), 298.580(25.51), 966.171(25.21)
1004.67 5	†6.2 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1004.67 5	2.90 21	<sup>160</sup> Ho(25.6 m)	728.18(46.9), 879.383(26.6), 962.317(25.6)
1004.7 3	0.37 5	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
• 1004.725 6	18.01 5	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1004.725 6	10.9 8	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1004.725 6	0.80 18	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
1004.725 6	7.1 5	<sup>154</sup> Tb(22.7 h)	247.925(79), 346.643(69), 1419.81(46)
1004.73 20	0.32 4	<sup>78</sup> As(90.7 m)	613.725(54), 694.916(16.7), 1308.59(13.0)
1004.79 4	0.71 3	<sup>80</sup> Ga(1.697 s)	659.14(78.0), 1083.47(48.4), 1109.36(18.6)
1004.91 5	0.041 8	<sup>114</sup> Ag(4.6 s)	558.454(20.40), 576.08(1.77), 1301.234(1.31)
1004.99 20	0.0053 15	<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1005.0 5	0.071 16	<sup>227</sup> Fr(2.47 m)	90.035(39), 585.804(29.5), 64.267(14.5)
1005.0 5	0.54 11	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1005.01 9	0.19 3	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1005.02	0.029	<sup>44</sup> K(22.13 m)	1157.031(58), 2150.76(22.7), 2518.95(9.69)
• 1005.03 5	0.0330 10	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
• 1005.1 2	0.0219 21	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1005.1 2	†4.01 21	<sup>95</sup> Pd(13.3 s)	1350.9(†105), 716.6(†70.63), 381.8(†50.8)
1005.1 3	0.27 10	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1005.13 8	1.34 7	<sup>199</sup> Pb(90 m)	366.90(44.2), 353.39(9.5), 1135.04(7.8)
• 1005.193 160.924 18		<sup>77</sup> Br(57.036 h)	238.996(23), 520.639(22.4), 297.215(4.16)
1005.2 5	0.036 5	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1005.2 3	0.29 8	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
1005.279 172.90 17		<sup>152</sup> Pm(7.52 m)	244.6989(78), 121.7824(45), 340.48(31.3)
• 1005.279 170.647 15		<sup>152</sup> Eu(13.542 y)	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
1005.4 9	0.16 5	<sup>101</sup> Sr(118 ms)	128.34(18.0), 1124.82(10.9), 510.73(8.5)
1005.4 6	0.016 5	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
1005.4 4	0.59 11	<sup>190</sup> Au(42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
1005.5 5	0.054 7	<sup>224</sup> Fr(3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
1005.6 3	1.42 19	<sup>76</sup> Rb(39.1 s)	2571.3(47), 424.0(43.4), 355.6(8.2)
1005.6 4	0.26 4	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1005.6 2	†5	<sup>139</sup> I(2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
1005.65 9	0.164 12	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
1005.7 3	1.2 3	<sup>81</sup> Ge(7.6 s)	93.10(26), 335.98(12.8), 197.30(12.3)
1005.7 7	0.46 12	<sup>84</sup> Br(31.80 m)	881.610(42), 1897.761(14.7), 3927.5(6.8)
1005.76 15	0.014 7	<sup>131</sup> Te(25.0 m)	149.716(69), 452.323(18.18), 1146.96(4.95)
• 1005.76 15	0.096 20	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
1005.78 9	1.02 13	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
• 1005.8 2	1.8×10 <sup>-8</sup> 3	<sup>239</sup> Pu(24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
• 1005.894 200.0027 3		<sup>196</sup> Au(6.183 d)	355.684(87), 332.983(22.9), 521.175(0.389)
1005.93 26	0.15 8	<sup>94</sup> Tc(52.0 m)	871.082(94), 1868.68(5.7), 1522.11(4.5)
1005.981 230.0206 15		<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
1006.0 4	0.029 8	<sup>111</sup> Sn(35.3 m)	1152.98(2.7), 1914.70(1.99), 761.97(1.48)
1006.0 1	1.45 13	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1006.0 10	0.31 6	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1006.1 5	0.16 4	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
1006.11 10	0.414 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1006.14 6	90	<sup>53</sup> V(1.61 m)	1289.59(10), 283.14(0.8), 442.7(0.39)
1006.20 19	8.7 6	<sup>78</sup> Zn(1.47 s)	224.75(43.9), 181.68(28.1), 860.30(24.5)
1006.2 4	3.21 25	<sup>139</sup> Nd(5.50 h)	113.94(40), 737.96(35), 982.2(26.4)
1006.2 5	0.16 5	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
1006.2 6	0.99 10	<sup>176</sup> Tm(1.9 m)	189.57(44.5), 1069.3(34), 381.8(21.8)
1006.21 13	0.07 3	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1006.25 9	0.075 14	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1006.25 14	0.258 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1006.3 4	0.094 24	<sup>91</sup> Rb(58.4 s)	93.628(33.7), 2564.19(12.5), 3599.67(10.4)
1006.3 3	0.068 17	<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
1006.3 5	<0.15	<sup>236</sup> Pa(9.1 m)	642.35(37.0), 687.59(9.9), 1762.7(6.0)
1006.351	100.492 19	<sup>180</sup> Re(2.44 m)	902.795(90), 103.557(22.2), 825.357(9.9)
1006.4	1.2	<sup>96</sup> Y(9.6 s)	1750.42(89), 915.0(60), 617.1(56)
• 1006.4 1	1.36 8	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1006.4 4	0.11 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1006.4 4	0.09 5	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
• 1006.466	170.0435 16	<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1006.5 2	0.74 19	<sup>71</sup> Zn(3.96 h)	386.28(93), 487.38(62), 620.18(57)
1006.5 5	0.93 14	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1006.6 2	0.56 14	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
1006.7 2	0.28 4	<sup>96</sup> Rh(9.90 m)	832.57(100), 685.49(95.7), 631.71(74.5)
1006.7 2	0.86 20	<sup>96</sup> Rh(1.51 m)	832.57(39), 1098.51(8.9), 1692.2(7.0)
1006.7 2	0.24	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1006.7 1	†1.7 2	<sup>172</sup> Ir(2.0 s)	227.8(†100.0), 378.4(†62.0), 448.4(†40.5)
1006.8	1.73 10	<sup>150</sup> Pr(6.19 s)	130.2(32), 722.5(7.0), 852.7(6.1)
1006.86 16	3.1 3	<sup>156</sup> Tm(83.8 s)	344.55(86), 452.85(17.2), 585.93(14.6)
1006.88	0.11	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1007.0 3	0.103 13	<sup>112</sup> Ag(3.130 h)	617.27(43), 1387.67(5.4), 606.49(3.1)
1007		<sup>158</sup> Ho(21.3 m)	406.14(†100), 838.9(†84.3), 1484.1(†66.2)
• 1007.0 6	0.084 24	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
1007 1	0.0028	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
1007.08 8	3.24 10	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
1007.1 2	2.2 3	<sup>108</sup> Tc(5.17 s)	242.25(82), 465.6(14.3), 707.81(11.4)
• 1007.15 10	3.06 11	<sup>206</sup> Po(8.8 d)	1032.26(32.9), 511.36(24.1), 286.410(23.8)
1007.2 4	0.92 10	<sup>161</sup> Yb(4.2 m)	78.20(34), 599.88(25.9), 631.45(13.9)
1007.2 2	†2.12 21	<sup>185</sup> Hg(21.6 s)	222.8(†100.0), 258.7(†98), 212.5(†58)
1007.2 5	†0.20 2	<sup>188</sup> Au(8.84 m)	265.63(†100), 340.04(†23.9), 605.5(†16.3)
1007.22 6		<sup>108</sup> Rh(16.8 s)	433.937(43), 618.84(15.0), 497.22(5.2)
1007.22 6	0.0139 7	<sup>108</sup> Ag(2.37 m)	433.937(0.50), 618.84(0.261), 510.1(>0.0035)
1007.3 4	†2.7 5	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1007.3 2	0.16 3	<sup>242</sup> Np(2.2 m)	735.93(5), 780.44(2.76), 1473.1(2.34)
1007.31 20	0.41 10	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1007.4 3	0.177 17	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
1007.4	†0.9	<sup>131</sup> Pr(1.53 m)	266.13(†100), 72.82(†64), 387.56(†38)
1007.42 16	0.140 14	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
1007.431 250.161 3		<sup>125</sup> Xe(16.9 h)	188.418(54), 243.378(30.1), 54.968(6.81)
• 1007.465 321.80 4		<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1007.47 20	0.0135 5	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
1007.5 2	23.4 7	<sup>69</sup> Cu(2.85 m)	834.4(13.1), 531.2(6.0), 1429.8(3.42)
1007.5 3	1.28 23	<sup>98</sup> Pd(17.7 m)	112.0(58), 662.2(19.7), 106.75(13.9)
1007.5	†5	<sup>99</sup> Cd(16 s)	342.6(†100), 671.8(†31), 1583.3(†28)
1007.5 4	3.6 3	<sup>122</sup> In(10.8 s)	1140.55(100), 1001.58(98.4), 103.74(81)
1007.5 2	0.66 17	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
• 1007.59 3	1.271 13	<sup>82</sup> Br(35.30 h)	776.517(83.5), 554.348(70.8), 619.106(43.4)
1007.59 3	7.17 8	<sup>82</sup> Rb(6.472 h)	776.517(84), 554.348(62.4), 619.106(37.976)
1007.6 1	0.46 7	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1007.6 4	0.18 4	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1007.6 3	2.7 3	<sup>198</sup> Tl(5.3 h)	411.8044(82), 675.8874(11), 636.4(10.1)
1007.7 2	0.15 4	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1007.7 6	†7.1 9	<sup>160</sup> Tm(9.4 m)	125.8(†100), 728.5(†37), 264.1(†27)
1007.7 6	0.21 5	<sup>160</sup> Tm(74.5 s)	264.1(9), 125.8(6.5), 375.8(2.4)
1007.72 9	†0.92 8	<sup>148</sup> Tb(60 m)	784.430(†119.0), 489.049(†28.0), 1079.025(†16.2)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1007.76 12	0.427 24	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1007.8 5	0.31 9	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1007.8 1	†3.4 3	<sup>171</sup> Ta(23.3 m)	49.6(†100), 506.4(†54), 501.8(†22.6)
1007.8 2	2.9 7	<sup>176</sup> Re(5.3 m)	240.17(48), 109.08(25.0), 848.7(4.0)
1007.8 1	1.09 17	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1007.87 6	0.096 14	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1007.9 8	0.0123 18	<sup>142</sup> Pm(40.5 s)	1575.85(2.0), 641.4(0.384), 2384.3(0.067)
1007.9 1	0.73 6	<sup>249</sup> Es(102.2 m)	379.5(40.4), 813.2(9.2), 375.1(3.3)
1007.96 1	0.798 7	<sup>131</sup> Te(25.0 m)	149.716(69), 452.323(18.18), 1146.96(4.95)
1008.00 20	0.50 10	<sup>99</sup> Sr(0.269 s)	125.118(16.1), 536.12(14.0), 1198.12(9.2)
1008.0 5	0.49 8	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
1008.0 3	0.20 3	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
1008.03 31	†1.7	<sup>197</sup> Ir(5.8 m)	469.72(†100), 430.56(†61), 815.92(†45)
1008.1 2	1.11 4	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1008.1 5	13 3	<sup>172</sup> Ho(25 s)	133.6(36), 178.0(23), 757.2(18)
1008.2 3	0.27 4	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1008.28 5	1.35 8	<sup>143</sup> Gd(112 s)	271.94(84), 588.00(15.7), 798.89(10.7)
1008.3 3	6.0 6	<sup>129</sup> In(0.61 s)	2118.0(45), 1865.0(32), 769.3(9.1)
1008.3 3	0.22 3	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1008.39 10	1.76 16	<sup>105</sup> Tc(7.6 m)	143.26(16), 107.945(14.1), 321.50(11.1)
1008.4 5	1.7×10 <sup>-5</sup> 9	<sup>135</sup> La(19.5 h)	480.51(1.5), 874.51(0.164), 587.83(0.1108)
1008.4	0.064 14	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
1008.4 8	†2.0 5	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
1008.4 4	0.035 8	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1008.42 20		<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1008.5 2	0.62 12	<sup>108</sup> In(58.0 m)	875.46(100), 632.96(100), 242.84(41)
1008.5 6	0.6 3	<sup>116</sup> Cs(3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
1008.5 1	2.8 3	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
1008.6 10	0.043 9	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1008.6 4	0.124 19	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
1008.6 6	0.049 24	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1008.6 5	0.0037 14	<sup>167</sup> Yb(17.5 m)	113.34(55.3), 106.18(22.5), 176.25(21)
1008.60 4	2.24 23	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1008.64 28	1.76 20	<sup>206</sup> At(30.0 m)	700.66(98), 477.10(86), 395.54(48)
1008.8 10	>0.6	<sup>96</sup> Pd(122 s)	124.70(65), 762.3(50.0), 499.7(17.9)
• 1008.87 10	0.09 6	<sup>206</sup> Po(8.8 d)	1032.26(32.9), 511.36(24.1), 286.410(23.8)
1008.9 4	†0.7 4	<sup>113</sup> Ru(0.80 s)	263.2(†100), 211.7(†31.0), 337.5(†27.9)
1008.93 5	0.92 7	<sup>79</sup> Ga(2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
1008.98 23	0.19 3	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
1009.0 4	0.046 7	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
1009.0 5	1.71 16	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
1009.1 4	2.91 24	<sup>141</sup> Sm(22.6 m)	196.88(74), 431.6(40.4), 777.6(20.3)
1009.12 20	1.74 13	<sup>99</sup> Sr(0.269 s)	125.118(16.1), 536.12(14.0), 1198.12(9.2)
1009.2 3	0.048 10	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1009.25 16	1.4 6	<sup>54</sup> V(49.8 s)	834.848(97.1), 989.01(80.1), 2259.35(45.6)
1009.27 6	30.3 15	<sup>106</sup> In(6.2 m)	632.66(100), 861.16(92), 997.87(48)
• 1009.27	0.011	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1009.3 1	0.05 4	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1009.3 8	0.023 12	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
1009.31 4	0.070 3	<sup>133</sup> La(3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
1009.35 14	0.060 9	<sup>66</sup> Ga(9.49 h)	1039.30(37), 2752.01(23.38), 833.50(5.89)
1009.35 20	0.027 5	<sup>195</sup> Hg(9.9 h)	779.80(7), 61.46(6.2), 585.13(1.99)
1009.35 10	0.39 3	<sup>197</sup> Tl(2.84 h)	425.84(12.9), 152.22(7.2), 1411.34(4.5)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1009.36 17	2.4 6	$^{181}\text{Re}$ (19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
1009.4 4	0.037 9	$^{79}\text{Rb}$ (22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
1009.4 5	0.27 4	$^{103}\text{Cd}$ (7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1009.4 4	0.12 3	$^{112}\text{Sb}$ (51.4 s)	1257.05(96), 990.70(14.3), 670.0(3.7)
• 1009.4 3	$1.4 \times 10^{-8}$ 3	$^{239}\text{Pu}$ (24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
• 1009.50 30	0.0394 22	$^{170}\text{Lu}$ (2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
• 1009.53 6	0.071 12	$^{156}\text{Tb}$ (5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1009.59 15	0.281 16	$^{163}\text{Yb}$ (11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1009.6	6.5 14	$^{35}\text{Si}$ (0.78 s)	4100.7(36.5), 3859.5(32.7), 2386.3(31.6)
1009.6 3	2.5 3	$^{184}\text{Au}$ (53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
1009.69 3	0.164 6	$^{151}\text{Tb}$ (17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1009.7 3	0.166 22	$^{167}\text{Lu}$ (51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1009.7 1	0.246 25	$^{230}\text{Ac}$ (122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
• 1009.7 1	1.08 8	$^{230}\text{Pa}$ (17.4 d)	951.95(1.65), 918.48(8.2), 454.95(6.27)
1009.73 13	$\dagger$ 2.10 24	$^{144}\text{Cs}$ (1.01 s)	199.326( $\dagger$ 100.0), 639.00( $\dagger$ 21.2), 758.96( $\dagger$ 20.6)
1009.78 8	29.8 6	$^{138}\text{Cs}$ (33.41 m)	1435.795(76.3), 462.796(30.7), 2218.00(15.2)
1009.8 3	0.104 7	$^{135}\text{Te}$ (19.0 s)	603.5(37.0), 266.8(10.36), 870.3(7.73)
1009.8 4	0.18 9	$^{188}\text{Tl}$ (71 s)	412.7(88), 592.0(61), 504.2(23.3)
1009.8 3	$\dagger$ 30 2	$^{195}\text{Bi}$ (183 s)	807.6( $\dagger$ 100), 831.7( $\dagger$ 100), 776.2( $\dagger$ 95)
• 1009.9 3	0.0033 25	$^{71}\text{As}$ (65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1009.9 2	0.0041 9	$^{137}\text{Xe}$ (3.818 m)	455.490(31), 848.95(0.62), 1783.43(0.415)
1009.9 2	0.11 3	$^{173}\text{Ta}$ (3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
1009.9 3	0.066 10	$^{234}\text{Pa}$ (6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1009.9 3		$^{234}\text{Pa}$ (6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1009.96 10	0.029 3	$^{155}\text{Dy}$ (9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1009.96 17	0.40 6	$^{183}\text{Au}$ (42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
1009.99 10	0.33 4	$^{195}\text{Tl}$ (1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1010.0 3	$6.1 \times 10^{-5}$ 20	$^{109}\text{Pd}$ (13.7012 h)	88.04(1.171), 311.4(0.032), 647.3(0.024)
1010.0 9	$\dagger$ 2.6 5	$^{132}\text{Pr}$ (1.6 m)	325.5( $\dagger$ 100), 496.9( $\dagger$ 25), 822.4( $\dagger$ 17.3)
• 1010.20	0.000004	$^{242}\text{Cm}$ (162.8 d)	44.08(0.0325), 101.90(0.0025), 157.42(0.0014)
1010.10 20	0.52 7	$^{99}\text{Ag}$ (124 s)	264.41(65), 832.29(13.5), 805.07(12.5)
1010.18 23	0.83 24	$^{181}\text{Os}$ (105 m)	238.75(44), 826.77(20), 118.03(12.9)
1010.2 3	$\dagger$ 2.3	$^{154}\text{Nd}$ (25.9 s)	151.703( $\dagger$ 800), 799.55( $\dagger$ 600), 180.693( $\dagger$ 510)
• 1010.226 150.091 6		$^{184}\text{Re}$ (38.0 d)	903.279(37.9), 792.071(37.5), 111.208(17.1)
• 1010.287 180.0770 22		$^{166}\text{Ho}$ ( $1.20 \times 10^3$ y)	84.410(72.6), 810.276(58.08), 711.683(55.32)
1010.29 2	9.54 20	$^{143}\text{Ba}$ (14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1010.3 5	0.065 9	$^{115}\text{Ag}$ (20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1010.3 5	0.24 5	$^{121}\text{Xe}$ (40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
1010.3 3	0.017 4	$^{201}\text{Pb}$ (9.33 h)	331.19(79), 361.27(9.9), 945.96(7.4)
• 1010.35 20	0.0279 21	$^{83}\text{Sr}$ (32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1010.4 10	0.55 4	$^{140}\text{Cs}$ (63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1010.4 3	3.06 10	$^{151}\text{Dy}$ (17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1010.5 5	0.017 11	$^{66}\text{Ge}$ (2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
1010.50 7	0.72 3	$^{95}\text{Ru}$ (1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
1010.5 5	0.059 20	$^{114}\text{Sb}$ (3.49 m)	1299.90(99), 887.60(17.4), 327.18(7.0)
1010.5 2	2.30 12	$^{149}\text{Dy}$ (4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1010.54 10	1.05 5	$^{194}\text{Pb}$ (12.0 m)	581.82(18.8), 1519.45(16.4), 203.82(16.2)
1010.55 18	0.24 4	$^{101}\text{Sr}$ (118 ms)	128.34(18.0), 1124.82(10.9), 510.73(8.5)
1010.56 24	0.29 6	$^{162}\text{Tm}$ (21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1010.6 4	0.84 12	$^{175}\text{Ta}$ (10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1010.69 25	0.008 5	$^{73}\text{Se}$ (39.8 m)	67.03(2.59), 253.70(2.356), 84.0(2.03)
1010.7 2	$\dagger$ 10.0 8	$^{152}\text{Tb}$ (17.5 h)	344.281( $\dagger$ 1500), 586.294( $\dagger$ 223), 271.135( $\dagger$ 203)
1010.7 3	0.118 20	$^{153}\text{Dy}$ (6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1010.7 1	$\dagger$ 1.32 13	$^{158}\text{Ho}$ (11.3 m)	218.21( $\dagger$ 100.0), 98.91( $\dagger$ 70), 945.7( $\dagger$ 37)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1010.71 17	0.037 13	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1010.8 5	0.43 9	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
1010.8 3	0.022 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1010.8 3	0.162 25	<sup>155</sup> Ho(48 m)	240.19(12.5), 136.30(5.00), 45.38(5)
1010.8 3	0.085 12	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1010.8 4	0.085 12	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1010.84 20	0.109 14	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1010.9 3	0.60 8	<sup>190</sup> Re(3.2 h)	186.718(27.8), 605.24(14.9), 557.972(14.3)
1010.92 6	0.68 7	<sup>71</sup> Zn(3.96 h)	386.28(93), 487.38(62), 620.18(57)
1011 1	>0.0035	<sup>81</sup> Rb(30.5 m)	49.56(0.78), 643.6(0.115), 1194.9(0.112)
1011.0 2	0.0008 3	<sup>145</sup> Pr(5.984 h)	748.278(0.5250), 675.795(0.514), 72.500(0.261)
1011 1	0.0040	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
1011.05 14	2.26 21	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
1011.06 6	0.76 8	<sup>186</sup> Ir(16.64 h)	296.911(64.0), 137.155(42), 434.849(34.4)
1011.10 20	0.42 6	<sup>121</sup> Ag(0.78 s)	314.55(32.1), 353.43(19.9), 500.61(9.3)
1011.1	†0.42 6	<sup>135</sup> Pm(49 s)	198.5(†100), 207.2(†70), 463.5(†62)
1011.1 3	0.031 11	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1011.1 3	1.9 3	<sup>196</sup> Bi(308 s)	1049.21(87), 689.00(35.5), 776.6(9.1)
1011.2	0.55 23	<sup>148</sup> Ba(0.607 s)	56.08(29.20), 133.53(3.88), 415.78(3.59)
1011.23 6	0.074 4	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1011.3 5	0.38	<sup>101</sup> Cd(1.2 m)	98.0(47), 1722.5(11), 1259.3(8)
1011.3 5	0.44 5	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
1011.4 5	0.20 4	<sup>96</sup> Rh(9.90 m)	832.57(100), 685.49(95.7), 631.71(74.5)
1011.4 3	3.93 10	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
• 1011.4 5		<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1011.42 8	0.34 3	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
1011.5 3	0.14 4	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
1011.6 3	†3.8 5	<sup>138</sup> Pm(3.24 m)	520.9(†100), 729.0(†37.8), 493.1(†21.6)
1011.7 7	0.071 24	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
1011.7 1	2.66 15	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1011.75 4	0.0018 4	<sup>15</sup> C(2.449 s)	5297.817(63.2), 8310.15(0.032), 9046.78(0.031)
1011.8 5	0.73 16	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
• 1011.8 5	3.6 2	<sup>194</sup> Ir(171 d)	482.833(97), 328.455(93), 600.5(62)
1011.82 10	0.048 9	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
• 1011.87 5	0.314 6	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
1011.9 4	1.46 17	<sup>176</sup> Tm(1.9 m)	189.57(44.5), 1069.3(34), 381.8(21.8)
1011.92 9	0.048 9	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
• 1012.03 15	0.025 5	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1012.190 100.032 4		<sup>168</sup> Ho(2.99 m)	741.356(36.6), 821.164(34.5), 815.990(18.6)
• 1012.190 100.011 1		<sup>168</sup> Tm(93.1 d)	198.241(52.39), 815.990(48.99), 447.515(23.05)
1012.2 3	0.15 3	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1012.2 3	†>1.4	<sup>96</sup> Rb(0.199 s)	352.02(†700), 204.02(†200), 680.7(†121)
1012.2 3	0.220 21	<sup>136</sup> Pr(13.1 m)	552.16(76), 539.75(52), 1092.3(18.5)
• 1012.2 5	0.0036 9	<sup>151</sup> Pm(28.40 h)	340.08(23), 167.75(8.3), 275.21(6.8)
• 1012.23 12	0.195 7	<sup>206</sup> Po(8.8 d)	1032.26(32.9), 511.36(24.1), 286.410(23.8)
1012.25 4	0.954 24	<sup>89</sup> Br(4.40 s)	1097.82(6.00), 997.93(4.26), 953.53(4.26)
1012.3 8	0.91 17	<sup>77</sup> Rb(3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
1012.3 3	0.08 6	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
1012.3 5	0.112 12	<sup>127</sup> Ba(12.7 m)	180.8(12), 114.8(9.3), 66.06(2.12)
1012.3 3	2.75 21	<sup>139</sup> Nd(5.50 h)	113.94(40), 737.96(35), 982.2(26.4)
• 1012.30 30	0.0130 13	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1012.3 3	†28.2 28	<sup>233</sup> Pu(20.9 m)	235.4(†100), 534.8(†90.2), 500.3(†38.6)
1012.4 2	†0.43 4	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1012.40 40	0.061 20	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1012.47 38	12.8 8	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 695.60(7.2)
1012.5 5	0.45 5	<sup>117</sup> Xe(61 s)	28.5(7.0), 221.3(10.0), 32.3(7.6)
1012.5	0.147 23	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
1012.50 20	0.038 7	<sup>187</sup> Ir(10.5 h)	912.95(4.79), 427.12(4.12), 400.89(3.94)
1012.5 1	0.212 18	<sup>211</sup> Rn(14.6 h)	674.1(45), 1362.9(32.5), 678.4(28.9)
1012.53 7		<sup>168</sup> Lu(5.5 m)	1483.65(†100), 228.58(†97), 111.8(†68)
1012.53 7		<sup>168</sup> Lu(6.7 m)	198.82(28), 979.22(20), 896.12(15)
• 1012.54 8	0.121 18	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
• 1012.6 3	0.031 13	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
• 1012.610 2	0.0225 7	<sup>149</sup> Gd(9.28 d)	149.735(48.2), 298.634(28.6), 346.651(23.9)
1012.62 18	1.66 13	<sup>115</sup> Te(5.8 m)	723.569(30), 1380.58(23.0), 1326.83(22.7)
1012.7 6	0.13 4	<sup>146</sup> Pr(24.15 m)	453.88(48.0), 1523.7(15.6), 735.72(7.5)
1012.7	0.012 7	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1012.70 6	0.37 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1012.745 2	0.0055 3	<sup>145</sup> Pr(5.984 h)	748.278(0.5250), 675.795(0.514), 72.500(0.261)
• 1012.8 2	0.0029 12	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1012.89 4	0.298 14	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1012.9 3	0.098 20	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1012.90 10	0.00297 20	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1012.91 10	1.99 25	<sup>123</sup> Cd(1.82 s)	1165.86(25.7), 1027.45(22.6), 2102.81(12.5)
1012.95 10	1.76 9	<sup>199</sup> Tl(7.42 h)	455.46(12.4), 208.20597(12.3), 247.26(9.3)
1013.0 2	9.5 8	<sup>81</sup> Ge(7.6 s)	335.98(58.9), 792.94(34), 1495.53(19.9)
1013.0 7	3.0 4	<sup>98</sup> Ag(46.7 s)	863.1(100), 678.5(85), 570.93(53)
1013.0 4	0.43 9	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
• 1013.08 10	0.080 14	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1013.1 5	0.25 6	<sup>136</sup> Nd(50.65 m)	108.90(32), 40.2(18.9), 574.8(10.4)
1013.1 2	0.070 17	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
1013.1 3	0.102 15	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1013.1 4	0.085 7	<sup>190</sup> Au(42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
• 1013.20 8	2.50 5	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
1013.2 6	0.05 3	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1013.2 3	0.10 3	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1013.28 6	0.91 6	<sup>113</sup> Sb(6.67 m)	497.96(80), 332.41(14.8), 88.25(2.7)
• 1013.30 4	0.082 19	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1013.33 17	6.0 3	<sup>97</sup> Rh(46.2 m)	189.21(49), 2245.6(14), 421.55(12.7)
1013.34 10	2.7 6	<sup>122</sup> In(1.5 s)	1140.55(29), 2759.13(3.1), 2065.62(1.97)
1013.34 10	10.5 15	<sup>122</sup> In(10.3 s)	1140.55(98), 1001.58(50.7), 1190.58(20.5)
1013.4	0.6 2	<sup>36</sup> P(5.6 s)	3290.7(100), 901.8(70.4), 1638.2(35.3)
1013.4 3	1.45 15	<sup>99</sup> Pd(21.4 m)	136.00(73), 263.60(15.2), 673.38(6.9)
1013.4 4	0.027 9	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
1013.4 3	1.3 3	<sup>122</sup> In(10.8 s)	1140.55(100), 1001.58(98.4), 103.74(81)
1013.4 2	0.18 7	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1013.4 4	0.094 18	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
• 1013.40 6	0.0129 14	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
1013.4 10	0.010 5	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1013.4 5	0.071 16	<sup>227</sup> Fr(2.47 m)	90.035(39), 585.804(29.5), 64.267(14.5)
1013.5 5	0.117 15	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
1013.5 7	0.69 7	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
1013.51 8	0.103 9	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1013.57 8	0.0013 3	<sup>129</sup> Te(69.6 m)	27.81(16.3), 459.60(7.70), 487.39(1.42)
1013.58 20	0.0048 13	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
• 1013.59 18	0.0064 18	<sup>165</sup> Tm(30.06 h)	242.917(35.5), 47.155(16.9), 297.369(12.71)
1013.6 3	0.00086 10	<sup>163</sup> Er(75.0 m)	1113.5(0.0490), 436.1(0.0285), 439.94(0.0276)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1013.6 3	$\dagger$ 0.72 17	$^{188}\text{Au}$ (8.84 m)	265.63( $\dagger$ 100), 340.04( $\dagger$ 23.9), 605.5( $\dagger$ 16.3)
1013.606 170.007 3		$^{28}\text{Mg}$ (20.91 h)	30.6383(95), 1342.27(52.6), 941.72(38.3)
1013.65 7	0.079 16	$^{204}\text{Bi}$ (11.22 h)	899.15(98), 374.72(82), 984.02(59)
1013.7 2	2.62 21	$^{83}\text{As}$ (13.4 s)	734.60(43), 1113.10(14.7), 2076.70(11.9)
1013.7 5	0.70 4	$^{137}\text{Pm}$ (2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
1013.70 14	0.63 3	$^{205}\text{At}$ (26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
1013.7 10	0.11 3	$^{228}\text{Fr}$ (39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1013.7		$^{228}\text{Fr}$ (39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1013.741 8	0.74 3	$^{180}\text{Re}$ (2.44 m)	902.795(90), 103.557(22.2), 825.357(9.9)
1013.8 15	0.22 6	$^{74}\text{Kr}$ (11.50 m)	89.65(31), 203.0(18.0), 296.67(9.9)
1013.8 4	5.9 17	$^{99}\text{Y}$ (1.470 s)	121.761(33), 724.30(14.9), 536.2(6.6)
1013.8 3	0.7 3	$^{140}\text{Pm}$ (9.2 s)	773.74(5.0), 477.1(2.6), 1204.8(1.9)
• 1013.808 1120.20 17		$^{148}\text{Pm}$ (41.29 d)	550.284(94.5), 629.987(89), 725.673(32.7)
• 1013.808 110.532 12		$^{148}\text{Eu}$ (54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1013.82 20	0.05 3	$^{195}\text{Tl}$ (1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1013.82 12	2.9 3	$^{206}\text{At}$ (30.0 m)	700.66(98), 477.10(86), 395.54(48)
• 1013.84 3	0.058 12	$^{205}\text{Bi}$ (15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1013.9 3	0.21 5	$^{97}\text{Rb}$ (169.9 ms)	167.1(26), 585.2(21.0), 600.5(10.6)
1013.9 1	0.284 17	$^{143}\text{Ba}$ (14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1013.9 20	0.010 3	$^{145}\text{Gd}$ (23.0 m)	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
1013.95 19	0.26 3	$^{90}\text{Rb}$ (258 s)	831.69(94), 1375.36(16.7), 3317.00(14.4)
1013.97 10	3.4 9	$^{125}\text{Cd}$ (0.65 s)	436.29(37), 1099.48(22.3), 2147.19(19.1)
1014.0 8	0.7 4	$^{72}\text{Br}$ (78.6 s)	862.03(70), 1316.70(17.3), 454.70(13.1)
1014.0 4	2.7 5	$^{80}\text{Ge}$ (29.5 s)	265.36(27.0), 110.4(6.5), 1564.3(4.9)
1014.0 3	0.30 8	$^{119}\text{Ag}$ (2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
1014.0 3	0.66 15	$^{119}\text{Cd}$ (2.69 m)	292.9(36.8), 343.0(16.9), 1609.7(10.9)
1014.0 3	$\dagger$ 7.4 7	$^{138}\text{Pm}$ (3.24 m)	520.9( $\dagger$ 100), 729.0( $\dagger$ 37.8), 493.1( $\dagger$ 21.6)
1014.0 3	0.9 2	$^{150}\text{Er}$ (18.5 s)	475.8(100), 130.0(2.6), 1022.1(0.9)
1014.0 5	0.34	$^{180}\text{Ir}$ (1.5 m)	276.4(56), 132.2(38.1), 699.0(13.4)
1014.1 5	10.7 5	$^{201}\text{Bi}$ (108 m)	629.1(24.0), 936.2(11.3), 786.4(9.5)
• 1014.11 4	0.071 3	$^{168}\text{Tm}$ (93.1 d)	198.241(52.39), 815.990(48.99), 447.515(23.05)
1014.2 2	0.36 5	$^{76}\text{Ga}$ (32.6 s)	562.93(66), 545.51(26.0), 1108.41(15.8)
1014.2 2	0.023 8	$^{101}\text{Pd}$ (8.47 h)	296.29(19), 590.44(12.06), 269.67(6.43)
1014.2 2	0.071 6	$^{145}\text{Gd}$ (23.0 m)	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
1014.20 20	0.135 18	$^{153}\text{Dy}$ (6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1014.3	$\dagger$ 10	$^{99}\text{Cd}$ (16 s)	342.6( $\dagger$ 100), 671.8( $\dagger$ 31), 1583.3( $\dagger$ 28)
• 1014.3 3	0.0013 4	$^{143}\text{Ce}$ (33.039 h)	293.266(42.80), 57.356(11.7), 664.571(5.69)
• 1014.37 4	0.914 19	$^{205}\text{Bi}$ (15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1014.4 4	0.0121 8	$^{81}\text{Rb}$ (30.5 m)	49.56(0.78), 643.6(0.115), 1194.9(0.112)
1014.4 2	$\dagger$ 2.33 21	$^{185}\text{Hg}$ (21.6 s)	222.8( $\dagger$ 100.0), 258.7( $\dagger$ 98), 212.5( $\dagger$ 58)
1014.4 3	$\dagger$ 8.9 10	$^{193}\text{Tl}$ (21.6 m)	324.37( $\dagger$ 100), 1044.7( $\dagger$ 59), 676.10( $\dagger$ 48)
1014.4 1	0.21 6	$^{240}\text{Np}$ (61.9 m)	566.34(25.3), 973.9(23.8), 600.57(18.4)
1014.41 9	0.82 13	$^{133}\text{Sb}$ (2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
1014.42 3	28.0 4	$^{27}\text{Mg}$ (9.458 m)	843.74(71.8), 170.68(0.8)
1014.42 3	0.0172 24	$^{27}\text{Si}$ (4.16 s)	2211.0(0.180), 2981.82(0.026), 1720.3(0.0122)
1014.5 15	0.9 4	$^{68}\text{Cu}$ (3.75 m)	1339.96(12.0), 1077.35(12), 1041.3(9.6)
• 1014.5 8	0.008 3	$^{124}\text{Sb}$ (60.20 d)	602.730(97.8), 1690.980(47.3), 722.786(10.76)
1014.59 19	0.046 15	$^{132}\text{La}$ (4.8 h)	464.55(76), 567.14(15.7), 1909.91(9.0)
1014.6 8	$\dagger$ 6.3 23	$^{152}\text{Pr}$ (3.24 s)	164.2( $\dagger$ 100), 284.9( $\dagger$ 81.0), 72.40( $\dagger$ 38.9)
1014.6	$\dagger$ <100	$^{238}\text{Pa}$ (2.3 m)	1015.3( $\dagger$ <100), 635.18( $\dagger$ 88), 448.3( $\dagger$ 76)
1014.64 5	0.0173 5	$^{211}\text{Pb}$ (36.1 m)	404.853(3.78), 832.01(3.52), 427.088(1.76)
• 1014.7 5	$\dagger$ 6.4 $\times$ 10 <sup>2</sup>	$^{241}\text{Am}$ (432.2 y)	59.537( $\dagger$ 60), 26.345( $\dagger$ 1000 $\times$ 10 <sup>9</sup> ), 33.195( $\dagger$ 6000 $\times$ 10 <sup>8</sup> )
1014.74 17	0.068 20	$^{197}\text{Pb}$ (43 m)	385.85(74), 387.72(25.1), 222.45(24.6)
1014.75 5	0.236 8	$^{121}\text{I}$ (2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1014.9 6	0.0154 17	<sup>162</sup> Tb(7.60 m)	260.070(37.2), 807.53(42.8), 888.20(38.7)
1014.9 3	4.82 10	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
1014.94 17	†5.2 5	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1015.0 10	0.008 4	<sup>111</sup> Pd(23.4 m)	580.00(0.8), 70.44(0.78), 1459.0(0.56)
1015.0 1	0.312 24	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1015 1	0.49 16	<sup>159</sup> Eu(18.1 m)	67.8(19), 78.6(9.1), 95.7(7.0)
1015.0 4	†4.7 4	<sup>168</sup> Re(4.4 s)	199.3(†100), 363.2(†95), 479.8(†62.8)
1015.02 10	†34 3	<sup>164</sup> Tm(2.0 m)	91.40(†1500), 1154.66(†366), 768.91(†279)
1015.02 7	†34 3	<sup>164</sup> Tm(2.0 m)	91.40(†1500), 1154.66(†366), 768.91(†279)
• 1015.09 6	0.074 5	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1015.1 3	0.11 6	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
1015.1	5.0 6	<sup>145</sup> Tb(29.5 s)	257.8(39), 987.8(37), 537.0(23)
1015.10 14	0.00119 20	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1015.11 17	0.010 4	<sup>61</sup> Cu(3.333 h)	282.956(12.2), 656.008(10.77), 67.412(4.23)
1015.14 6	9.8 5	<sup>79</sup> Ge(39.0 s)	230.62(61), 542.27(32.6), 755(18)
1015.2 4	0.105 14	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
1015.2 2	0.81 7	<sup>194</sup> Pb(12.0 m)	581.82(18.8), 1519.45(16.4), 203.82(16.2)
• 1015.2 7	†0.00098	<sup>227</sup> Th(18.72 d)	235.971(†813), 50.13(†528), 256.25(†463)
1015.27 13	0.190 14	<sup>142</sup> Cs(1.70 s)	359.598(27.2), 1326.46(12.92), 966.89(9.0)
1015.3 3	0.12 4	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
1015.3 5	0.040 15	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1015.3 2	†<100	<sup>238</sup> Pa(2.3 m)	1014.6(†<100), 635.18(†88), 448.3(†76)
• 1015.31 3	0.0121 5	<sup>149</sup> Gd(9.28 d)	149.735(48.2), 298.634(28.6), 346.651(23.9)
1015.35 6	0.60 5	<sup>155</sup> Ho(48 m)	240.19(12.5), 136.30(5.00), 45.38(5)
1015.35 7	0.088 18	<sup>187</sup> Ir(10.5 h)	912.95(4.79), 427.12(4.12), 400.89(3.94)
1015.4 4	0.94 13	<sup>153</sup> Ho(2.0 m)	295.8(67), 637.0(5.36), 688.5(3.7)
• 1015.4 4		<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1015.40 8	0.24 3	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1015.5 10	0.74 21	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1015.5 3	0.156 23	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1015.5 5	0.00068 22	<sup>205</sup> Hg(5.2 m)	203.750(2.2), 415.70(0.0130), 1218.96(0.0062)
1015.7 4	2.9 3	<sup>72</sup> Cu(6.6 s)	652.4(68), 1004.6(12.0), 1657.7(10.1)
1015.7 10	†4	<sup>99</sup> Rb(59 ms)	90.8(†100), 125.2(†40), 1071.6(†26)
1015.7 2	1.6 3	<sup>139</sup> Sm(2.57 m)	273.7(37), 306.7(28.5), 596.3(8.0)
1015.70 30	0.10 2	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
1015.7 8	0.25 5	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1015.75 7		<sup>168</sup> Lu(5.5 m)	1483.65(†100), 228.58(†97), 111.8(†68)
1015.75 7	1.8 3	<sup>168</sup> Lu(6.7 m)	198.82(28), 979.22(20), 896.12(15)
1015.8 4	3.3 4	<sup>116</sup> Cs(3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
1015.87 4	3.38 13	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
1015.90 10	0.42 4	<sup>93</sup> Ru(59.7 s)	680.68(6), 1434.73(0.73), 1801.4(0.378)
1015.90 10	0.7 3	<sup>93</sup> Ru(10.8 s)	1396.2(39), 1111.2(26.2), 2039.1(9.2)
1015.96 10	78	<sup>68</sup> As(151.6 s)	761.61(33.8), 651.12(32.1), 1777.70(20.1)
1016.0 4	0.41 7	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
1016.05 20	0.088 9	<sup>187</sup> Ir(10.5 h)	912.95(4.79), 427.12(4.12), 400.89(3.94)
1016.1 2	11.0 6	<sup>142</sup> Eu(1.22 m)	768.1(100), 1023.3(92.0), 556.6(86.6)
1016.162 136.2 6		<sup>84</sup> Br(31.80 m)	881.610(42), 1897.761(14.7), 3927.5(6.8)
1016.162 131		<sup>84</sup> Br(6.0 m)	425.30(100), 881.610(98), 1463.84(97)
• 1016.162 130.349 10		<sup>84</sup> Rb(32.77 d)	881.610(69), 1897.761(0.738)
1016.2 2	0.28 3	<sup>238</sup> Am(98 m)	962.77(28), 918.69(23.0), 561.11(10.9)
1016.22 9	0.482 24	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1016.31 2	24.1 5	<sup>204</sup> Po(3.53 h)	883.984(29.9), 270.068(27.8), 534.90(13.2)
1016.36 10	0.478 11	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1016.40 3	2.78 6	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1016.4 4	$\dagger$ 1.8 3	$^{152}\text{Tb}$ (17.5 h)	344.281( $\dagger$ 1500), 586.294( $\dagger$ 223), 271.135( $\dagger$ 203)
1016.42 14	0.93 11	$^{81}\text{Ga}$ (1.221 s)	216.47(37.4), 828.26(22.1), 711.18(17.6)
1016.44 15	0.019 3	$^{228}\text{Ac}$ (6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1016.5 4	0.065 5	$^{143}\text{Ba}$ (14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1016.55 20	0.041 5	$^{192}\text{Au}$ (4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1016.60 10	0.77 4	$^{151}\text{Dy}$ (17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1016.6 6	0.209 18	$^{167}\text{Lu}$ (51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
• 1016.70 12	0.0037 5	$^{171}\text{Lu}$ (8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
• 1016.7 2	0.0136 19	$^{232}\text{Pa}$ (1.31 d)	969.315(41.6), 894.351(19.8), 150.059(10.8)
1016.7 2		$^{232}\text{Np}$ (14.7 m)	327.3(52), 819.187(33.3), 866.760(24.4)
1016.72 16	$\dagger$ 10.9 9	$^{159}\text{Yb}$ (1.58 m)	166.16( $\dagger$ 500), 177.12( $\dagger$ 159), 390.20( $\dagger$ 113)
1016.78 10	1.23 6	$^{146}\text{Pr}$ (24.15 m)	453.88(48.0), 1523.7(15.6), 735.72(7.5)
1016.8 5	0.18 5	$^{96}\text{Rh}$ (9.90 m)	832.57(100), 685.49(95.7), 631.71(74.5)
• 1016.8 6	0.019 9	$^{153}\text{Tb}$ (2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1016.8 3	0.089 17	$^{153}\text{Dy}$ (6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1016.8	0.035	$^{185}\text{Ir}$ (14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
1016.8 4	0.57 5	$^{232}\text{Np}$ (14.7 m)	327.3(52), 819.187(33.3), 866.760(24.4)
1016.9 2	0.66 9	$^{135}\text{Pr}$ (24 m)	296.12(24), 82.64(13.7), 213.45(13.0)
1017.0	6.6 20	$^{23}\text{F}$ (2.23 s)	1701.44(33.0), 2129.3(22), 1822.4(15.6)
• 1017.0 10	0.0007 4	$^{99}\text{Mo}$ (65.94 h)	739.50(12.1), 181.063(6.08), 140.511(4.52)
1017.0 3	0.57 16	$^{130}\text{La}$ (8.7 m)	357.4(81.0), 550.7(25.9), 908.0(17.0)
1017.0 5	0.40 4	$^{208}\text{At}$ (1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
• 1017.08 16	0.0172 21	$^{146}\text{Eu}$ (4.59 d)	747.2(98), 633.03(43), 634.07(37)
1017.1 2	1.09 15	$^{156}\text{Tm}$ (83.8 s)	344.55(86), 452.85(17.2), 585.93(14.6)
1017.1 3	$\dagger$ 1.6 4	$^{171}\text{Hf}$ (12.1 h)	122.0( $\dagger$ 100), 662.2( $\dagger$ 83), 347.18( $\dagger$ 47)
1017.2 3	$\dagger$ 3.2 7	$^{153}\text{Yb}$ (4.2 s)	547.4( $\dagger$ 100), 674.1( $\dagger$ 61), 369.6( $\dagger$ 32)
1017.29 6	0.0146 10	$^{166}\text{Tm}$ (7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1017.31 14	0.097 7	$^{141}\text{Cs}$ (24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
• 1017.40 5	0.320 12	$^{125}\text{Sn}$ (9.64 d)	1067.10(10), 1089.15(4.59), 822.48(4.28)
1017.40 5	0.097 19	$^{125}\text{Sn}$ (9.52 m)	332.10(97.2), 1404.0(0.70), 589.6(0.20)
1017.47 10	0.32 3	$^{105}\text{Ru}$ (4.44 h)	724.21(47), 469.37(17.5), 676.36(15.7)
• 1017.58 5	0.260 19	$^{169}\text{Lu}$ (34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1017.58 11	0.119 16	$^{176}\text{Ta}$ (8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1017.6 2		$^{102}\text{Ag}$ (7.7 m)	556.52(48), 1834.7(9.8), 2054.4(6.6)
1017.6 1	0.222 25	$^{129}\text{La}$ (11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
1017.6		$^{157}\text{Eu}$ (15.18 h)	63.929(23.0), 410.723(17.5), 370.509(11.0)
1017.66 14	6.3	$^{154}\text{Pm}$ (1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1017.68 5	0.0144 5	$^{188}\text{Re}$ (16.98 h)	155.032(14.9), 632.99(1.25), 477.99(1.0)
• 1017.68 5	1.06 9	$^{188}\text{Ir}$ (41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
1017.7 3	0.10 2	$^{87}\text{Br}$ (55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1017.7 4	0.15 5	$^{108}\text{In}$ (39.6 m)	632.96(76), 1986.8(12.4), 3452.2(9.2)
1017.7 3	0.090 11	$^{139}\text{Xe}$ (39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1017.7	$\dagger$ 8.1 4	$^{178}\text{Ir}$ (12 s)	266.1( $\dagger$ 100.0), 131.6( $\dagger$ 79), 363.1( $\dagger$ 39.9)
1017.8 4	0.028 7	$^{79}\text{Rb}$ (22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
1017.8 2	0.15	$^{140}\text{Sm}$ (14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
1017.8 5	0.26 6	$^{144}\text{La}$ (40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
• 1017.9 4	0.114 21	$^{147}\text{Gd}$ (38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1017.91 18	$\dagger$ 1.70 23	$^{188}\text{Au}$ (8.84 m)	265.63( $\dagger$ 100), 340.04( $\dagger$ 23.9), 605.5( $\dagger$ 16.3)
1017.92 20	0.0059 13	$^{228}\text{Ac}$ (6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1017.93 23	0.18 12	$^{86}\text{Y}$ (14.74 h)	1076.64(83), 627.72(32.6), 1153.01(30.5)
• 1017.93 13	0.36 11	$^{206}\text{Po}$ (8.8 d)	1032.26(32.9), 511.36(24.1), 286.410(23.8)
1017.999 110.0096 4		$^{145}\text{Pr}$ (5.984 h)	748.278(0.5250), 675.795(0.514), 72.500(0.261)
1018.0 3	0.37 4	$^{118}\text{I}$ (13.7 m)	605.71(86.0), 545.12(10.9), 600.71(10.2)
1018	0.00093 19	$^{155}\text{Sm}$ (22.3 m)	104.3346(74.6), 245.771(3.7), 141.4428(1.98)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1018.01 5	30 2	<sup>130</sup> Sb(6.3 m)	839.49(100), 793.53(86), 182.36(41)
1018.1 8	0.37	<sup>97</sup> Zr(16.91 h)	743.36(93), 507.64(5.03), 1147.97(2.61)
1018.1 4	13.0 13	<sup>113</sup> Te(1.7 m)	814.4(22), 1181.0(12.3), 644.8(6.4)
1018.1 5	0.006 3	<sup>133</sup> I(20.8 h)	529.872(87.0), 875.329(4.51), 1298.223(2.35)
1018.1 4	0.10 5	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
1018.12 6	0.480 24	<sup>113</sup> Sb(6.67 m)	497.96(80), 332.41(14.8), 88.25(2.7)
1018.14 13	>0.0011	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
1018.2 1	0.45 10	<sup>140</sup> Pm(5.95 m)	1028.19(100), 773.74(100), 419.57(92)
1018.2 5	0.15	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
1018.3 4	0.041 18	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1018.33 20	1.03 14	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1018.36 10	0.69 6	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
1018.4 2	1.21 11	<sup>119</sup> Cd(2.69 m)	292.9(36.8), 343.0(16.9), 1609.7(10.9)
1018.5 2	0.29 5	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
• 1018.50 10	0.084 5	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
1018.5 3	†0.23 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1018.5 4	0.81 8	<sup>161</sup> Yb(4.2 m)	78.20(34), 599.88(25.9), 631.45(13.9)
1018.5 10	0.122 23	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1018.52 13	0.0595 22	<sup>73</sup> Se(7.15 h)	360.80(108), 67.03(78), 865.09(0.584)
1018.58 25	0.64 9	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
1018.6 3	1.42 17	<sup>118</sup> I(8.5 m)	605.71(99), 600.71(92), 614.42(65)
1018.6 3	0.22 3	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
• 1018.63 8	7.60 8	<sup>206</sup> Bi(6.243 d)	803.10(99), 881.01(66.2), 516.18(40.7)
1018.65 5	0.140 22	<sup>78</sup> As(90.7 m)	613.725(54), 694.916(16.7), 1308.59(13.0)
1018.7 2	2.6 6	<sup>176</sup> Re(5.3 m)	240.17(48), 109.08(25.0), 848.7(4.0)
1018.77 19	0.51 10	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
1018.8 3	0.50 6	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
1018.816 7	0.37 4	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
• 1018.816 7	0.00113 27	<sup>184</sup> Re(38.0 d)	903.279(37.9), 792.071(37.5), 111.208(17.1)
• 1018.816 7	0.094 10	<sup>184</sup> Re(169 d)	252.848(10.7), 216.548(9.43), 920.932(8.14)
1018.85 25	†43	<sup>154</sup> Nd(25.9 s)	151.703(†800), 799.55(†600), 180.693(†510)
• 1018.89 5	0.0141 9	<sup>110</sup> Ag(249.79 d)	657.7622(94.0), 884.685(72.2), 937.493(34.13)
1018.89 5	0.29	<sup>110</sup> In(4.9 h)	657.7622(98.3), 884.685(92.9), 937.493(68.4)
1018.9 3	0.028 27	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1018.93 21	0.13 4	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
1018.99 17	0.0226 20	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1019.0 2	0.148 17	<sup>94</sup> Rb(2.702 s)	1309.1(87), 836.9(87.10), 1577.5(31.8)
1019.0 4	0.45 9	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1019.02 4	0.044 6	<sup>57</sup> Mn(87.2 s)	122.0614(13.9), 14.41300(10.56), 692.03(5.50)
1019.1 2	0.016 4	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
1019.2 2	0.044 7	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
1019.20 3	0.197 5	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1019.24 14	0.118 24	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1019.24 29	0.040 11	<sup>164</sup> Yb(75.8 m)	40.928(1.147), 675.41(0.38), 390.6(0.31)
1019.32 15	0.073	<sup>137</sup> I(24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
1019.43 6	0.0022 5	<sup>129</sup> Te(69.6 m)	27.81(16.3), 459.60(7.70), 487.39(1.42)
• 1019.45 15	0.048 9	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1019.48 1	0.7	<sup>110</sup> In(4.9 h)	657.7622(98.3), 884.685(92.9), 937.493(68.4)
• 1019.5 6	0.013 6	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1019.5 1	0.25	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1019.5 1	0.66	<sup>154</sup> Pm(2.68 m)	184.810(32), 81.99(15.4), 546.66(14.5)
1019.5 6	0.40 16	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1019.5 4	0.027 7	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1019.54 12	0.0554 12	<sup>73</sup> Se(39.8 m)	67.03(2.59), 253.70(2.356), 84.0(2.03)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1019.56	0.84 4	$^{44}\text{K}$ (22.13 m)	1157.031(58), 2150.76(22.7), 2518.95(9.69)
1019.58 13	0.115 8	$^{141}\text{Cs}$ (24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1019.61 8	$\dagger < 10$	$^{238}\text{Pa}$ (2.3 m)	1015.3( $\dagger < 100$ ), 1014.6( $\dagger < 100$ ), 635.18( $\dagger 88$ )
1019.7 2	32 2	$^{123}\text{In}$ (5.98 s)	1130.5(63), 618.8(2.6), 845.5(1.3)
1019.7 7	0.56 21	$^{164}\text{Tm}$ (5.1 m)	208.08(14.6), 314.97(10), 240.49(7.5)
1019.7 10	0.19 4	$^{201}\text{Bi}$ (108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
• 1019.79 4	0.114 9	$^{172}\text{Lu}$ (6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1019.80 4	2.47 11	$^{81}\text{Ga}$ (1.221 s)	216.47(37.4), 828.26(22.1), 711.18(17.6)
1019.8 5	0.161 12	$^{127}\text{Ba}$ (12.7 m)	180.8(12), 114.8(9.3), 66.06(2.12)
1019.8 5	0.050 20	$^{163}\text{Yb}$ (11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1019.8 3	0.025 7	$^{201}\text{Pb}$ (9.33 h)	331.19(79), 361.27(9.9), 945.96(7.4)
1019.86 10	0.022 4	$^{228}\text{Ac}$ (6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1019.9 3	1.97 17	$^{106}\text{Rh}$ (131 m)	511.842(85), 1045.83(30.4), 717.24(28.9)
• 1019.9 3	1.04 16	$^{106}\text{Ag}$ (8.28 d)	511.842(88), 1045.83(29.6), 717.24(28.9)
1019.90 20	0.47 4	$^{114}\text{Sb}$ (3.49 m)	1299.90(99), 887.60(17.4), 327.18(7.0)
1019.99 8	0.034 3	$^{121}\text{I}$ (2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1020 1		$^{66}\text{Co}$ (0.23 s)	1424.8(100), 1246.0(98), 471.3(23)
1020.0 3	0.108 20	$^{95}\text{Rb}$ (377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1020.0 3	0.47 8	$^{101}\text{Mo}$ (14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
1020.0 10	0.040 24	$^{124}\text{Cs}$ (30.8 s)	353.9(40), 914.8(4.0), 492.6(3.6)
1020.0 6	0.011 6	$^{214}\text{Bi}$ (19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
• 1020 1	$\dagger 0.0012 4$	$^{227}\text{Th}$ (18.72 d)	235.971( $\dagger 813$ ), 50.13( $\dagger 528$ ), 256.25( $\dagger 463$ )
1020.04 5	34.0 8	$^{45}\text{Ar}$ (21.48 s)	3703.2(33.3), 61.35(25.0), 1808.38(13.2)
1020.1 2	0.29 6	$^{108}\text{In}$ (58.0 m)	875.46(100), 632.96(100), 242.84(41)
1020.1 4	$\dagger 0.77 22$	$^{188}\text{Au}$ (8.84 m)	265.63( $\dagger 100$ ), 340.04( $\dagger 23.9$ ), 605.5( $\dagger 16.3$ )
1020.2 3	$\dagger 2.6 5$	$^{142}\text{Xe}$ (1.22 s)	571.83( $\dagger 100$ ), 657.05( $\dagger 79$ ), 538.24( $\dagger 77$ )
1020.3 12	0.8 3	$^{46}\text{Ar}$ (8.4 s)	1944.30(100), 288.1(0.7), 584.7(0.4)
1020.3 3	0.014 8	$^{66}\text{Ge}$ (2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
1020.3 5	0.141 3	$^{207}\text{Po}$ (5.80 h)	992.33(59.3), 742.64(28.2), 911.79(16.95)
1020.4 3	0.85 4	$^{151}\text{Dy}$ (17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1020.4 6	0.29 4	$^{154}\text{Tb}$ (9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1020.41 10	0.58 15	$^{126}\text{In}$ (1.64 s)	1141.11(100), 908.58(99), 111.79(88)
1020.55 5	0.0238 5	$^{125}\text{Xe}$ (16.9 h)	188.418(54), 243.378(30.1), 54.968(6.81)
1020.6 5	0.0068 14	$^{117}\text{In}$ (116.2 m)	158.562(16), 861.35(0.019), 1004.51(0.0062)
1020.6 5	0.103 17	$^{117}\text{Sb}$ (2.80 h)	158.562(86), 861.35(0.31), 1004.51(0.21)
1020.75 15	2.17 16	$^{83}\text{Se}$ (70.1 s)	1030.86(21.2), 356.687(18), 987.96(16.1)
1020.75 17	$\dagger 2.7 6$	$^{183}\text{Hg}$ (9.4 s)	60.5( $\dagger 100$ ), 159.91( $\dagger 21$ ), 172.70( $\dagger 17$ )
1020.8 4	$> 0.047$	$^{142}\text{La}$ (91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1020.8 1	0.265 25	$^{143}\text{Cs}$ (1.78 s)	195.554(13), 232.421(8.32), 306.424(6.80)
1020.89 10	18.9 6	$^{121}\text{Cd}$ (8.3 s)	2059.41(21.0), 987.81(13.6), 1181.45(12.4)
1021.0 5	0.112 17	$^{117}\text{Sb}$ (2.80 h)	158.562(86), 861.35(0.31), 1004.51(0.21)
1021.0 3	$\dagger 1.06 12$	$^{120}\text{Cs}$ (64 s)	322.4( $\dagger 100$ ), 473.5( $\dagger 30$ ), 553.4( $\dagger 19.1$ )
• 1021.00 20	0.00193 10	$^{123}\text{Sn}$ (129.2 d)	1088.64(0.6), 1030.23(0.0310), 160.33(0.00191)
1021.0 5	0.036 16	$^{176}\text{Ta}$ (8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1021 1	$\dagger < 10$	$^{238}\text{Pa}$ (2.3 m)	1015.3( $\dagger < 100$ ), 1014.6( $\dagger < 100$ ), 635.18( $\dagger 88$ )
1021.05	0.030 15	$^{151}\text{Nd}$ (12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1021.05 11	0.074 15	$^{151}\text{Nd}$ (12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1021.08 20	0.043 5	$^{115}\text{Sb}$ (32.1 m)	497.358(98), 489.27(1.3), 1236.52(0.58)
1021.13 8	2.81 6	$^{133}\text{Te}$ (12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
1021.2 4	1.2 3	$^{78}\text{Ga}$ (5.09 s)	619.40(77), 1186.42(20.1), 567.06(18.2)
1021.2 3	1.01 17	$^{97}\text{Zr}$ (16.91 h)	743.36(93), 507.64(5.03), 1147.97(2.61)
1021.2 2	0.035 12	$^{145}\text{Ce}$ (3.01 m)	724.33(59), 62.54(13.33), 1148.03(9.15)
1021.2 5	0.55 11	$^{166}\text{Lu}$ (2.65 m)	228.12(77.3), 337.50(41), 367.95(31.4)
1021.26 7	1.30 9	$^{87}\text{Br}$ (55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1021.4 5	0.0013 8	$^{82}\text{Rb}(1.273 \text{ m})$	776.517(13), 1395.139(0.471), 698.374(0.133)
1021.4 2	1.27 20	$^{104}\text{In}(1.8 \text{ m})$	658.0(100), 834.1(99), 878.1(29.4)
1021.4 7	0.03 3	$^{146}\text{Ba}(2.22 \text{ s})$	140.7(20.2), 251.2(19.6), 121.2(14.2)
1021.4 2	1.18 11	$^{152}\text{Pm}(7.52 \text{ m})$	244.6989(78), 121.7824(45), 340.48(31.3)
1021.4 3	0.073 12	$^{161}\text{Er}(3.21 \text{ h})$	826.6(3.0), 211.15(12.2), 592.6(3.7)
1021.4 4	0.073 12	$^{161}\text{Er}(3.21 \text{ h})$	826.6(3.0), 211.15(12.2), 592.6(3.7)
1021.4 5	0.010	$^{249}\text{Es}(102.2 \text{ m})$	379.5(40.4), 813.2(9.2), 375.1(3.3)
1021.5 2	0.033 14	$^{105}\text{Cd}(55.5 \text{ m})$	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1021.5 5	0.27 6	$^{136}\text{Nd}(50.65 \text{ m})$	108.90(32), 40.2(18.9), 574.8(10.4)
1021.5 3	1.4	$^{145}\text{La}(24.8 \text{ s})$	70.0(11), 355.8(3.8), 118.2(3.6)
1021.5 5	1.6 4	$^{151}\text{Ho}(35.2 \text{ s})$	527.4(63), 775.53(9.2), 209.5(5.69)
1021.5 5	0.18 3	$^{209}\text{Rn}(28.5 \text{ m})$	408.32(50.3), 745.78(22.8), 337.45(14.5)
1021.56 7	0.187 19	$^{195}\text{Hg}(9.9 \text{ h})$	779.80(7), 61.46(6.2), 585.13(1.99)
1021.6 5	0.14 6	$^{77}\text{Zn}(2.08 \text{ s})$	189.49(28.1), 473.94(19.7), 1832.0(12.4)
1021.6 8	>0.04	$^{175}\text{Ta}(10.5 \text{ h})$	207.4(14.0), 348.5(12.0), 266.9(10.8)
1021.62 5	0.0054 3	$^{133}\text{La}(3.912 \text{ h})$	278.835(2.50), 302.353(1.648), 290.06(1.413)
1021.67 12	0.87 5	$^{207}\text{At}(1.80 \text{ h})$	814.41(44.5), 588.33(19.2), 300.654(12.8)
1021.698	1.96 3	$^{43}\text{K}(22.3 \text{ h})$	372.760(87), 617.490(79.2), 396.861(11.85)
1021.7	1.465 14	$^{10}\text{C}(19.255 \text{ s})$	718.3(98.53)
1021.7 2	>0.0011	$^{49}\text{Cr}(42.3 \text{ m})$	90.639(53.20), 152.928(30.32), 62.289(16.39)
1021.77 17	†7.5 11	$^{181}\text{Pt}(51 \text{ s})$	289.29(†100), 111.97(†100), 230.15(†92)
1021.8 1	0.46 5	$^{104}\text{Tc}(18.3 \text{ m})$	358.0(89), 530.5(15.6), 535.1(14.7)
1021.8 7	0.137 24	$^{107}\text{In}(32.4 \text{ m})$	204.97(47), 505.51(11.9), 320.92(10.2)
1021.8	0.0026 10	$^{149}\text{Nd}(1.728 \text{ h})$	211.309(25.9), 114.314(19.2), 270.166(10.7)
1021.8 2	0.14 3	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
1021.9 5	0.0059 5	$^{77}\text{Ge}(11.30 \text{ h})$	264.44(54), 211.03(30.8), 215.50(28.6)
1021.9 7	0.08 3	$^{90}\text{Rb}(258 \text{ s})$	831.69(94), 1375.36(16.7), 3317.00(14.4)
1021.90 20	2.3 5	$^{102}\text{Nb}(4.3 \text{ s})$	296.611(79), 1633.10(41), 551.54(30)
1021.9 2	4.2 6	$^{118}\text{Cs}(14 \text{ s})$	337.4(100), 472.8(37.4), 586.6(15.4)
1021.93 25	0.19 3	$^{204}\text{Bi}(11.22 \text{ h})$	899.15(98), 374.72(82), 984.02(59)
1022.0 10	0.007 3	$^{111}\text{Pd}(23.4 \text{ m})$	580.00(0.8), 70.44(0.78), 1459.0(0.56)
1022.0 6	0.039 6	$^{139}\text{Xe}(39.68 \text{ s})$	218.59(56), 296.53(21.7), 174.97(11.3)
1022.0 4	0.51 7	$^{161}\text{Yb}(4.2 \text{ m})$	78.20(34), 599.88(25.9), 631.45(13.9)
1022 1	0.47 11	$^{164}\text{Tb}(3.0 \text{ m})$	168.838(25.4), 754.80(23.3), 215.07(21)
• 1022.06 6	0.078 6	$^{153}\text{Tb}(2.34 \text{ d})$	212.038(31.0), 170.504(6.8), 109.758(6.4)
1022.07 6	0.80 7	$^{174}\text{Ta}(1.05 \text{ h})$	206.50(58), 91.00(16.0), 1205.92(4.9)
1022.1 3	0.28 10	$^{99}\text{Pd}(21.4 \text{ m})$	136.00(73), 263.60(15.2), 673.38(6.9)
1022.1 2	†4.0 10	$^{131}\text{Sn}(56.0 \text{ s})$	1226.03(†100), 450.03(†90), 798.50(†86)
1022.1 3	0.9 2	$^{150}\text{Er}(18.5 \text{ s})$	475.8(100), 130.0(2.6), 1014.0(0.9)
1022.175 230.0556 21		$^{166}\text{Tm}(7.70 \text{ h})$	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1022.2 3	0.27 14	$^{94}\text{Tc}(52.0 \text{ m})$	871.082(94), 1868.68(5.7), 1522.11(4.5)
1022.2 5	0.076 9	$^{115}\text{Ag}(20.0 \text{ m})$	229.08(18), 212.80(4.4), 472.70(4.0)
1022.24 12	0.39 3	$^{133}\text{Ce}(4.9 \text{ h})$	477.22(39), 510.36(20.7), 58.39(19.2)
• 1022.370 211.41 4		$^{172}\text{Lu}(6.70 \text{ d})$	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1022.4 3	0.22 8	$^{105}\text{Mo}(35.6 \text{ s})$	85.4(25.0), 76.50(19.3), 147.8(14.8)
1022.4 4	0.11	$^{154}\text{Pm}(1.73 \text{ m})$	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1022.4 3	0.39 5	$^{181}\text{Au}(11.4 \text{ s})$	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1022.43 5	0.00069 8	$^{129}\text{Te}(69.6 \text{ m})$	27.81(16.3), 459.60(7.70), 487.39(1.42)
• 1022.43 5	0.0173 9	$^{129}\text{Te}(33.6 \text{ d})$	695.88(2.988), 729.57(0.70), 556.65(0.118)
• 1022.46 4	0.0090 5	$^{147}\text{Eu}(24.1 \text{ d})$	197.299(27), 121.220(22.9), 677.516(9.8)
1022.5 3	4.9 6	$^{100}\text{Nb}(1.5 \text{ s})$	535.60(45.7), 528.24(9.1), 159.547(8.8)
1022.5 5	0.14 8	$^{111}\text{Pd}(5.5 \text{ h})$	70.44(8.3), 391.25(5.4), 632.80(3.6)
• 1022.5 2	0.049 7	$^{146}\text{Eu}(4.59 \text{ d})$	747.2(98), 633.03(43), 634.07(37)
1022.6 5	0.23	$^{140}\text{Sm}(14.82 \text{ m})$	225.5(>10), 225.4(10), 140.0(5.0)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1022.6 10	$\dagger$ 2.6 9	$^{191}\text{Tl}(5.22 \text{ m})$	452.6( $\dagger$ 100), 470.1( $\dagger$ 98), 391.6( $\dagger$ 96)
1022.627 8	0.63 4	$^{184}\text{Ta}(8.7 \text{ h})$	414.03(72), 252.848(43), 920.932(32.0)
• 1022.627 8	0.52 3	$^{184}\text{Re}(38.0 \text{ d})$	903.279(37.9), 792.071(37.5), 111.208(17.1)
• 1022.627 8	0.180 16	$^{184}\text{Re}(169 \text{ d})$	252.848(10.7), 216.548(9.43), 920.932(8.14)
1022.7 2	0.40 5	$^{74}\text{Br}(46 \text{ m})$	634.78(91), 728.37(35.6), 634.26(16.4)
1022.7 3	2.2	$^{101}\text{Cd}(1.2 \text{ m})$	98.0(47), 1722.5(11), 1259.3(8)
1022.7 2	$\dagger$ 3.6 4	$^{104}\text{Nb}(0.92 \text{ s})$	192.2( $\dagger$ 100), 368.4( $\dagger$ 20), 620.2( $\dagger$ 19.2)
1022.7	0.26	$^{147}\text{Ba}(0.893 \text{ s})$	167.4(11), 105.2(4.8), 196.1(4.8)
1022.7 4	$\dagger$ 15.2 7	$^{170}\text{Ho}(43 \text{ s})$	812.3( $\dagger$ 100.0), 1894.5( $\dagger$ 45.2), 78.6( $\dagger$ 40)
1022.7 5	$\dagger$ 4.9	$^{177}\text{Os}(2.8 \text{ m})$	84.7( $\dagger$ 100), 125.4( $\dagger$ 63), 195.8( $\dagger$ 61)
1022.74 10	5.19 19	$^{74}\text{Br}(25.4 \text{ m})$	634.78(64), 219.05(18.1), 634.26(14.1)
1022.78	0.0201 14	$^{42}\text{K}(12.360 \text{ h})$	1524.70(18), 312.6(0.336), 899.43(0.0515)
1022.78 3	0.104 8	$^{149}\text{Nd}(1.728 \text{ h})$	211.309(25.9), 114.314(19.2), 270.166(10.7)
1022.80 30	0.74 10	$^{115}\text{Te}(5.8 \text{ m})$	723.569(30), 1380.58(23.0), 1326.83(22.7)
1022.8 5	4.40 22	$^{199}\text{Bi}(27 \text{ m})$	560.1(22.0), 424.85(22), 841.7(11)
1022.9 5	0.56 9	$^{104}\text{Ag}(69.2 \text{ m})$	555.796(92.6), 767.72(65.7), 941.7(25.0)
1022.9 6	0.11 3	$^{150}\text{Pm}(2.68 \text{ h})$	333.971(68), 1324.51(17.5), 1165.739(15.8)
1022.9 2	0.0109 21	$^{167}\text{Yb}(17.5 \text{ m})$	113.34(55.3), 106.18(22.5), 176.25(21)
1022.96 16	0.049 10	$^{110}\text{In}(69.1 \text{ m})$	657.7622(98), 2129.53(2.13), 2211.49(1.76)
1023.0 3	0.69 12	$^{93}\text{Ru}(10.8 \text{ s})$	1396.2(39), 1111.2(26.2), 2039.1(9.2)
1023.0 2	0.13 3	$^{146}\text{Ba}(2.22 \text{ s})$	140.7(20.2), 251.2(19.6), 121.2(14.2)
• 1023 1	0.0067 18	$^{154}\text{Eu}(8.593 \text{ y})$	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1023.0 3	0.102 17	$^{191}\text{Au}(3.18 \text{ h})$	586.45(17), 277.88(7.2), 674.19(6.8)
1023.0 2	$\dagger$ 2.40 25	$^{201}\text{Po}(15.3 \text{ m})$	890.1( $\dagger$ 100), 240.1( $\dagger$ 71.0), 904.2( $\dagger$ 54.8)
1023.05 7	2.7	$^{176}\text{Ta}(8.09 \text{ h})$	1159.28(25), 88.34(12), 1224.93(6)
1023.1 3	$\dagger$ 2.6 7	$^{83}\text{Ge}(1.85 \text{ s})$	306.51( $\dagger$ 100.0), 1193.77( $\dagger$ 20.5), 1525.50( $\dagger$ 13.6)
1023.1 2	97.4 40	$^{120}\text{In}(47.3 \text{ s})$	1171.3(100), 197.3(80.6), 89.9(77.6)
1023.1 2	55 12	$^{120}\text{In}(46.2 \text{ s})$	1171.3(96), 863.7(32.5), 1294.5(12.2)
• 1023.1 2	99.4 3	$^{120}\text{Sb}(5.76 \text{ d})$	1171.3(100), 197.3(87.0), 89.9(79.5)
1023.1 3	0.108 22	$^{167}\text{Lu}(51.5 \text{ m})$	29.66(14.4), 239.22(8.6), 213.19(3.6)
1023.1 3	0.58 5	$^{236}\text{Pa}(9.1 \text{ m})$	642.35(37.0), 687.59(9.9), 1762.7(6.0)
1023.18 7	4.8 4	$^{148}\text{Pr}(2.27 \text{ m})$	301.702(61), 1357.78(5.5), 721.43(4.3)
1023.20 12	0.44 4	$^{91}\text{Rb}(58.4 \text{ s})$	93.628(33.7), 2564.19(12.5), 3599.67(10.4)
1023.2 1	0.26 3	$^{109}\text{Ru}(34.5 \text{ s})$	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1023.2 3	0.58 6	$^{118}\text{I}(13.7 \text{ m})$	605.71(86.0), 545.12(10.9), 600.71(10.2)
1023.2 3		$^{118}\text{I}(8.5 \text{ m})$	605.71(99), 600.71(92), 614.42(65)
1023.2 1	0.147 14	$^{141}\text{Pm}(20.90 \text{ m})$	1223.26(4.74), 886.22(2.44), 193.68(1.61)
1023.2 7	0.61 14	$^{176}\text{Tm}(1.9 \text{ m})$	189.57(44.5), 1069.3(34), 381.8(21.8)
1023.28 14	0.285 17	$^{163}\text{Yb}(11.05 \text{ m})$	860.28(10.1), 63.62(6.5), 123.21(1.98)
1023.3 3	0.33 5	$^{120}\text{Xe}(40 \text{ m})$	25.1(30), 72.6(9), 178.1(6.8)
1023.3 2	92.0 30	$^{142}\text{Eu}(1.22 \text{ m})$	768.1(100), 556.6(86.6), 1016.1(11.0)
1023.3 3	$\dagger$ 6.5 20	$^{155}\text{Nd}(8.9 \text{ s})$	180.574( $\dagger$ 100), 418.99( $\dagger$ 75), 955.08( $\dagger$ 50)
1023.3 4	$\dagger$ 0.57 24	$^{189}\text{Hg}(7.6 \text{ m})$	320.99( $\dagger$ 100), 78.21( $\dagger$ 63), 565.42( $\dagger$ 48)
1023.32 20	0.54 10	$^{245}\text{Pu}(10.5 \text{ h})$	327.428(25.4), 560.13(5.4), 308.222(4.9)
1023.44 7	0.040 5	$^{246}\text{Am}(25.0 \text{ m})$	1078.86(27.7), 798.80(25), 1062.04(17.1)
• 1023.44 7	0.15 2	$^{246}\text{Bk}(1.80 \text{ d})$	798.80(61), 1081.40(5.8), 833.60(5.0)
1023.5 10	1.2 3	$^{98}\text{Ag}(46.7 \text{ s})$	863.1(100), 678.5(85), 570.93(53)
• 1023.6 2	0.081 10	$^{131}\text{Te}(30 \text{ h})$	773.67(49.9), 852.21(27.0), 793.75(18.10)
1023.6 2	2.0 9	$^{232}\text{Ac}(119 \text{ s})$	665.0(15.3), 1899(8.9), 1959(5.4)
1023.6 2	0.062 21	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
1023.7 6	0.12 5	$^{103}\text{Cd}(7.3 \text{ m})$	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1023.73 3	6.1 7	$^{98}\text{Nb}(2.86 \text{ s})$	787.374(13), 1432.22(3.4), 644.830(3.4)
1023.73 3	1.02 7	$^{98}\text{Nb}(51.3 \text{ m})$	787.374(93), 722.645(73.8), 1168.830(17.8)
1023.8 6	0.7 3	$^{166}\text{Lu}(1.41 \text{ m})$	228.12(15), 102.38(13), 285.07(11.0)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1023.9 10	0.46 11	<sup>77</sup> Rb(3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
1023.9 3	1.11 13	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
1023.99 4	1.09 6	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1024 1	0.28 2	<sup>87</sup> Zr(1.68 h)	1227(1.0), 1209.8(0.33), 793.60(0.10)
• 1024.00 25	$8.0 \times 10^{-5}$ 4	<sup>121</sup> Te(154 d)	1102.149(2.54), 37.138(0.94), 998.291(0.0796)
1024.00 18	0.027 6	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1024.04 10	3.79 17	<sup>86</sup> Y(14.74 h)	1076.64(83), 627.72(32.6), 1153.01(30.5)
1024.05 30	0.164 21	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1024.1 3	0.99 13	<sup>100</sup> Cd(49.1 s)	936.55(66), 139.71(6.7), 582.5(6.3)
1024.1 3	†12	<sup>154</sup> Nd(25.9 s)	151.703(†800), 799.55(†600), 180.693(†510)
1024.1 3	0.41 6	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1024.13 6	0.73 5	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
1024.2 2	0.55 5	<sup>92</sup> Ru(3.65 m)	213.81(96), 259.32(92), 134.57(65.5)
1024.25	0.12	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1024.3 5	>0.14	<sup>74</sup> Ga(8.12 m)	595.847(91), 2353.46(44.5), 608.353(14.3)
1024.3 1	33	<sup>91</sup> Sr(9.63 h)	749.8(23.61), 652.9(8.0), 925.8(3.84)
1024.3 3	0.11	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1024.3 3	<0.54	<sup>154</sup> Pm(2.68 m)	184.810(32), 81.99(15.4), 546.66(14.5)
1024.3 3	1.43 7	<sup>170</sup> Ho(2.76 m)	258.2(37.0), 931.3(36.1), 181.6(23.8)
1024.317 240.244 5		<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1024.4 2	†4.0 7	<sup>131</sup> Ce(10.3 m)	169.42(†100), 414.25(†68), 119.18(†44)
1024.4 13	>0.35	<sup>179</sup> Yb(8.0 m)	592.1(75), 612.3(35.4), 381.4(9.6)
1024.4 7	0.43 7	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1024.4 10	0.26 5	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1024.49 11	1.09 7	<sup>97</sup> Nb(72.1 m)	658.08(98), 1268.68(0.148), 1515.59(0.122)
1024.5 1	0.164 13	<sup>143</sup> Cs(1.78 s)	195.554(13), 232.421(8.32), 306.424(6.80)
1024.5 4	†6.8 5	<sup>168</sup> Re(4.4 s)	199.3(†100), 363.2(†95), 479.8(†62.8)
1024.54 24	0.48 6	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
1024.6 5	0.14 3	<sup>74</sup> Ga(8.12 m)	595.847(91), 2353.46(44.5), 608.353(14.3)
1024.6 3	0.9 4	<sup>122</sup> Cs(4.5 m)	331.1(94), 497.1(79), 638.5(63)
1024.6 3	†0.27 3	<sup>196</sup> Ir(1.40 h)	393.346(†105.2), 521.175(†104), 447.1(†102.1)
1024.6 2	0.13 5	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1024.64 5	0.0170 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
1024.7 2	0.26 5	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
• 1024.7 6	0.016 9	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1024.7 2	†0.29 5	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1024.70 6	0.044 4	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1024.7 3	†0.82 21	<sup>194</sup> Bi(92 s)	965.4(†100.0), 575.1(†98.0), 280.1(†73.7)
1024.71	6.67 12	<sup>44</sup> K(22.13 m)	1157.031(58), 2150.76(22.7), 2518.95(9.69)
1024.9 4	1.52 11	<sup>139</sup> Nd(5.50 h)	113.94(40), 737.96(35), 982.2(26.4)
1024.9 19	0.14 5	<sup>180</sup> Re(2.44 m)	902.795(90), 103.557(22.2), 825.357(9.9)
1024.91 15	2.87 22	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
1025.0 5	3.4 7	<sup>52</sup> Sc(8.2 s)	1049.7(98), 1267.9(39), 1032.3(13.7)
1025		<sup>92</sup> Br(0.343 s)	769(†100), 1446(†10), 1035(†6)
1025.0 3	4.2 4	<sup>102</sup> Ag(12.9 m)	556.52(91), 719.40(58), 1744.99(17.3)
1025.0 1	24.8 12	<sup>119</sup> Cd(2.20 m)	2021.3(22.6), 720.7(17.9), 1203.7(13.4)
1025.0 15	0.86 19	<sup>196</sup> Tl(1.84 h)	426.0(84), 610.5(11.9), 635.5(9.8)
1025 1	0.00015	<sup>223</sup> Fr(21.8 m)	50.13(36.0), 79.72(9.1), 234.81(3.0)
• 1025 1	†0.0010 3	<sup>227</sup> Th(18.72 d)	235.971(†813), 50.13(†528), 256.25(†463)
1025.03 13	0.134 9	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1025.08 16	0.008 4	<sup>81</sup> Rb(4.576 h)	190.38(64.0), 446.15(23.2), 510.31(5.3)
1025.09 5	0.465 24	<sup>79</sup> Ga(2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
1025.11 17	12.4 7	<sup>78</sup> Ga(5.09 s)	619.40(77), 1186.42(20.1), 567.06(18.2)
1025.12 4	0.201 6	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1025.2 2	0.034 7	<sup>100</sup> Tc(15.8 s)	539.59(7), 590.83(5.7), 1512.1(0.44)
1025.2 2	0.031 16	<sup>100</sup> Rh(20.8 h)	539.59(78.4), 2376.1(35.3), 1553.4(21)
1025.3 5	0.23 8	<sup>89</sup> Rb(15.15 m)	1031.94(58), 1248.19(42.6), 2196.02(13.3)
• 1025.30 10	0.043 4	<sup>206</sup> Bi(6.243 d)	803.10(99), 881.01(66.2), 516.18(40.7)
1025.3 2	0.052 21	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
• 1025.377 113.1×10 <sup>-5</sup>	21	<sup>168</sup> Tm(93.1 d)	198.241(52.39), 815.990(48.99), 447.515(23.05)
1025.4 2	0.80 8	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
1025.5 1	0.19 2	<sup>107</sup> Tc(21.2 s)	102.70(21.0), 177.00(9.2), 106.31(7.6)
1025.5 4	0.15 7	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
1025.54 24	0.43 3	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
1025.6 3	0.23 9	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1025.7 4		<sup>168</sup> Lu(6.7 m)	198.82(28), 979.22(20), 896.12(15)
• 1025.72 7	0.084 12	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
• 1025.73 10	0.151 10	<sup>79</sup> Kr(35.04 h)	261.29(13), 397.54(9.3), 606.09(8.12)
1025.73 11	†2.8 3	<sup>144</sup> Cs(1.01 s)	199.326(†100.0), 639.00(†21.2), 758.96(†20.6)
1025.8 4	2.3 3	<sup>110</sup> Sb(23.0 s)	1211.87(92), 985.03(31.2), 1243.6(13.4)
• 1025.87 2	9.6 5	<sup>238</sup> Np(2.117 d)	984.45(27.8), 1028.54(20.3), 923.98(2.86)
1025.9 3	0.0045 16	<sup>167</sup> Yb(17.5 m)	113.34(55.3), 106.18(22.5), 176.25(21)
1025.96 76	0.10 5	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1026.0 2	<0.11	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1026.05 10	0.164 16	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
• 1026.05 10	1.46 7	<sup>230</sup> Pa(17.4 d)	951.95(1.65), 918.48(8.2), 454.95(6.27)
1026.19 5	2.17 12	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
1026.25 10	0.00277 20	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
• 1026.27 6	0.0054 24	<sup>172</sup> Tm(63.6 h)	78.7435(6.5), 1093.657(6.0), 1387.093(5.6)
• 1026.27 6	0.067 4	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1026.29 10	0.80 7	<sup>206</sup> At(30.0 m)	700.66(98), 477.10(86), 395.54(48)
1026.30 20	0.50 4	<sup>88</sup> Nb(7.8 m)	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
1026.34 24	†7.4 7	<sup>182</sup> Au(21 s)	154.76(†100), 264.33(†40.0), 855.41(†14.5)
1026.35 20	5.30 21	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
1026.4 3	1.14 23	<sup>75</sup> Rb(19.0 s)	178.98(<63), 178.97(>51), 187.21(8.7)
1026.4 2	5.30 21	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
1026.4 2	0.16 4	<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
1026.43 14	0.292 21	<sup>111</sup> Sn(35.3 m)	1152.98(2.7), 1914.70(1.99), 761.97(1.48)
1026.46 4	1.80 6	<sup>89</sup> Br(4.40 s)	1097.82(6.00), 997.93(4.26), 953.53(4.26)
1026.49 5	1.55 10	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1026.5 1	7.6 7	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
1026.50 22	0.19 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1026.5 4	†1.0 5	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
1026.5 2	100	<sup>200</sup> Bi(36.4 m)	462.34(98), 419.70(91), 245.154(46)
1026.5 2	†110 6	<sup>200</sup> Bi(31 m)	462.34(†45.7), 419.70(†26.0), 245.154(†5.6)
1026.5 10	0.0081	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
• 1026.512 170.312 8		<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1026.6 10	0.008 4	<sup>111</sup> Pd(23.4 m)	580.00(0.8), 70.44(0.78), 1459.0(0.56)
1026.6 3	†1.29 24	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1026.7 5	0.65 20	<sup>96</sup> Pd(122 s)	124.70(65), 762.3(50.0), 499.7(17.9)
1026.7 8	0.28	<sup>97</sup> Zr(16.91 h)	743.36(93), 507.64(5.03), 1147.97(2.61)
1026.71 8	1.22 5	<sup>186</sup> Ir(16.64 h)	296.911(64.0), 137.155(42), 434.849(34.4)
1026.74 5	0.27 5	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1026.8 3	0.108 11	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
1026.8 2	0.056 19	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
• 1026.8 2	0.0015 5	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
1026.8 3	0.11 4	<sup>205</sup> Po(1.66 h)	872.39(37), 1001.21(28.8), 849.83(25.5)
1026.83 3	5.5 3	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1026.87 6	0.07 4	$^{189}\text{Pt}(10.87 \text{ h})$	721.41(9.3), 94.33(7.6), 568.84(7.1)
1026.91 15	1.30 15	$^{184}\text{Au}(53.0 \text{ s})$	162.97(50), 272.98(40), 362.47(17.5)
1026.99 6	0.071 16	$^{204}\text{Bi}(11.22 \text{ h})$	899.15(98), 374.72(82), 984.02(59)
1027 2	0.00011 3	$^{49}\text{Cr}(42.3 \text{ m})$	90.639(53.20), 152.928(30.32), 62.289(16.39)
1027 2	9.1	$^{50}\text{K}(472 \text{ ms})$	4030(2.6), 4880(1.5), 3005(1.3)
1027 2	†130 11	$^{51}\text{K}(365 \text{ ms})$	1973(†45)
1027.0 1	0.43 12	$^{134}\text{Te}(41.8 \text{ m})$	767.20(29.0), 210.465(22.3), 277.951(20.9)
1027.08 15	0.91 7	$^{162}\text{Tm}(21.70 \text{ m})$	102.00(17.5), 798.68(8.4), 227.52(7)
• 1027.091 120.061 17		$^{200}\text{Tl}(26.1 \text{ h})$	367.943(87), 1205.717(29.9), 579.298(13.8)
1027.1 4	0.12 3	$^{90}\text{Rb}(258 \text{ s})$	831.69(94), 1375.36(16.7), 3317.00(14.4)
1027.1 4	0.014 2	$^{90}\text{Rb}(158 \text{ s})$	831.69(28), 1060.70(6.69), 4365.90(5.6)
1027.1 2	5.7 3	$^{154}\text{Ho}(11.76 \text{ m})$	334.6(84), 412.4(15.0), 873.4(12.5)
1027.11 7	0.023 5	$^{168}\text{Ho}(2.99 \text{ m})$	741.356(36.6), 821.164(34.5), 815.990(18.6)
1027.18 4	0.0088 16	$^{149}\text{Nd}(1.728 \text{ h})$	211.309(25.9), 114.314(19.2), 270.166(10.7)
1027.2 2	0.018 9	$^{149}\text{Tb}(4.118 \text{ h})$	352.24(29.43), 164.98(26.4), 388.57(18.37)
1027.2 2	†4.5 4	$^{185}\text{Hg}(21.6 \text{ s})$	222.8(†100.0), 258.7(†98), 212.5(†58)
1027.2 5	0.27 5	$^{228}\text{Fr}(39 \text{ s})$	473.7(10.2), 474.0(7.6), 410.40(6.3)
1027.3 3	0.011 4	$^{88}\text{Rb}(17.78 \text{ m})$	1836.063(21.40), 898.042(14.04), 2677.892(1.96)
1027.3 2	†3	$^{139}\text{I}(2.29 \text{ s})$	527.7(†100), 571.2(†98), 536.6(†67)
1027.3 4	2.0 5	$^{148}\text{Er}(4.6 \text{ s})$	1311.8(8.9), 244.0(7.1), 315.3(6.9)
1027.33 8	0.09 5	$^{60}\text{Cu}(23.7 \text{ m})$	1332.501(88), 1791.6(45.4), 826.06(21.7)
• 1027.39 8	0.128 5	$^{156}\text{Eu}(15.19 \text{ d})$	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
1027.4 2		$^{106}\text{In}(6.2 \text{ m})$	632.66(100), 861.16(92), 997.87(48)
1027.4 2	0.54 12	$^{108}\text{Tc}(5.17 \text{ s})$	242.25(82), 465.6(14.3), 707.81(11.4)
• 1027.4 2	0.040 7	$^{146}\text{Eu}(4.59 \text{ d})$	747.2(98), 633.03(43), 634.07(37)
1027.4 1	†1.80 18	$^{171}\text{Ta}(23.3 \text{ m})$	49.6(†100), 506.4(†54), 501.8(†22.6)
1027.42 11	42.7 22	$^{61}\text{Fe}(5.98 \text{ m})$	1205.07(44), 297.90(22.2), 1645.95(7.0)
1027.45 15	22.6 15	$^{123}\text{Cd}(1.82 \text{ s})$	1165.86(25.7), 2102.81(12.5), 2601.98(12.0)
• 1027.45 15	0.114 13	$^{195}\text{Hg}(41.6 \text{ h})$	261.75(30.9), 560.27(7), 387.87(2.15)
1027.53 8	25.8 15	$^{125}\text{Cd}(0.57 \text{ s})$	1173.16(25.1), 736.65(12.6), 2392.43(9.4)
1027.55 20	0.18 4	$^{209}\text{Rn}(28.5 \text{ m})$	408.32(50.3), 745.78(22.8), 337.45(14.5)
1027.662 2416.8 7		$^{208}\text{At}(1.63 \text{ h})$	686.527(98), 660.040(89), 177.595(48.6)
1027.7	0.47	$^{147}\text{Tb}(1.83 \text{ m})$	1397.0(79), 1797.1(14), 1643.0(1.2)
• 1027.8 4	0.010 5	$^{131}\text{Te}(30 \text{ h})$	773.67(49.9), 852.21(27.0), 793.75(18.10)
1027.9 3	0.203 23	$^{96}\text{Rb}(0.199 \text{ s})$	815.0(78.00), 692.0(8.0), 813.2(7.0)
1027.9 2	0.14 5	$^{155}\text{Ho}(48 \text{ m})$	240.19(12.5), 136.30(5.00), 45.38(5)
1028.0 3	†2.3 6	$^{103}\text{Nb}(1.5 \text{ s})$	102.64(†100), 641.1(†55), 538.5(†34.0)
1028 1	>0.35	$^{137}\text{Pm}(2.4 \text{ m})$	177.5(40.29), 108.6(35), 233.6(29.57)
1028.0 3	0.119 17	$^{191}\text{Au}(3.18 \text{ h})$	586.45(17), 277.88(7.2), 674.19(6.8)
1028.1 2	0.64 3	$^{177}\text{Yb}(1.911 \text{ h})$	150.392(20.3), 1080.21(5.6), 1241.2(3.47)
1028.11 4	0.0390 16	$^{130}\text{I}(9.0 \text{ m})$	536.09(16), 586.05(1.07), 1614.10(0.447)
1028.11 4	0.017 8	$^{130}\text{Cs}(29.21 \text{ m})$	536.09(3.8), 586.05(0.47), 894.5(0.39)
1028.16 11	0.57 5	$^{157}\text{Sm}(482 \text{ s})$	197.870(56.00), 196.461(16.8), 394.351(11.93)
1028.19 7	100 2	$^{140}\text{Pm}(5.95 \text{ m})$	773.74(100), 419.57(92), 1197.5(3.8)
1028.2 2	†2.86 17	$^{95}\text{Pd}(13.3 \text{ s})$	1350.9(†105), 716.6(†70.63), 381.8(†50.8)
1028.2 10	0.017 7	$^{245}\text{Pu}(10.5 \text{ h})$	327.428(25.4), 560.13(5.4), 308.222(4.9)
1028.25 7	1.22 10	$^{141}\text{Xe}(1.73 \text{ s})$	909.23(24.0), 118.705(16.1), 105.937(9.8)
1028.3 3	0.65 13	$^{91}\text{Kr}(8.57 \text{ s})$	108.788(43.5), 506.592(19.1), 612.87(7.7)
1028.3 5	0.0070 10	$^{240}\text{Np}(7.22 \text{ m})$	554.60(20.9), 597.40(11.7), 1496.9(1.33)
1028.4 4	0.42 9	$^{175}\text{Ta}(10.5 \text{ h})$	207.4(14.0), 348.5(12.0), 266.9(10.8)
1028.4 5	†6.6 17	$^{233}\text{Pu}(20.9 \text{ m})$	235.4(†100), 534.8(†90.2), 500.3(†38.6)
1028.5 3	0.25 7	$^{250}\text{Es}(2.22 \text{ h})$	989.12(13.3), 1031.85(10.6), 828.82(5.5)
1028.54 10	0.255 25	$^{146}\text{La}(6.27 \text{ s})$	258.47(64), 924.58(7.45), 702.28(6.43)
• 1028.54 2	20.3 8	$^{238}\text{Np}(2.117 \text{ d})$	984.45(27.8), 1025.87(9.6), 923.98(2.86)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1028.54 2	0.115 17	<sup>238</sup> Am(98 m)	962.77(28), 918.69(23.0), 561.11(10.9)
• 1028.54 2	1.6×10 <sup>-6</sup> 6	<sup>242</sup> Cm(162.8 d)	44.08(0.0325), 101.90(0.0025), 157.42(0.0014)
1028.6 6	0.3 2	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
1028.65 2	4.91 14	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 889.96(1.530)
1028.65 2	0.44 4	<sup>250</sup> Es(8.6 h)	828.82(72), 303.41(21.6), 349.4(19.8)
1028.7 2	0.11 6	<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
1028.7 1	0.57 3	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
• 1028.80 10	0.81 3	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1028.9 3	0.31 5	<sup>88</sup> Br(16.5 s)	775.28(63), 802.14(13.13), 1440.69(4.72)
1028.90 30	30.4 18	<sup>116</sup> Ag(10.4 s)	513.39(92), 705.82(61), 708.80(20)
1028.9 2	5.5 8	<sup>118</sup> Cs(14 s)	337.4(100), 472.8(37.4), 586.6(15.4)
1028.9 5	0.0110 22	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
1028.9 10	†1.8	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
1028.991 190.010 3		<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1029 2	>0.06	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
1029 1	0.42 11	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1029.05 20	0.040 9	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1029.06 3	11.7 4	<sup>117</sup> Cd(3.36 h)	1997.33(26), 1065.98(23.1), 564.397(14.7)
1029.1 2	1.2 8	<sup>232</sup> Ac(119 s)	665.0(15.3), 1899(8.9), 1959(5.4)
1029.18 6	0.151 19	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1029.21 9	1.62 8	<sup>199</sup> Pb(90 m)	366.90(44.2), 353.39(9.5), 1135.04(7.8)
• 1029.3 5	0.0249 15	<sup>72</sup> As(26.0 h)	834.01(80), 629.95(7.92), 1463.95(1.107)
1029.4 4	0.27 4	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
1029.4 3	0.0059 17	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1029.4 3	0.37 4	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1029.4 6	0.028 15	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1029.4 8	0.028 15	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1029.46 13	0.65 6	<sup>197</sup> Pb(43 m)	385.85(74), 387.72(25.1), 222.45(24.6)
1029.5 3	0.24 3	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1029.55 5	0.105 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1029.58 32	0.15 5	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
1029.6 7	0.68 5	<sup>112</sup> Sb(51.4 s)	1257.05(96), 990.70(14.3), 670.0(3.7)
1029.6 5	0.126 16	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1029.6 2	0.078 9	<sup>129</sup> Ba(2.23 h)	6.545(23.7), 214.30(13.4), 220.83(8.54)
1029.60 5	0.33 3	<sup>141</sup> Pm(20.90 m)	1223.26(4.74), 886.22(2.44), 193.68(1.61)
1029.6 6	0.52 12	<sup>141</sup> Sm(22.6 m)	196.88(74), 431.6(40.4), 777.6(20.3)
1029.65 26	0.023 5	<sup>85</sup> Br(2.90 m)	802.41(2.56), 924.63(1.63), 919.06(0.65)
1029.7 2	†5.7 1	<sup>203</sup> At(7.4 m)	639.4(†100), 641.5(†55.8), 738.1(†38.4)
1029.81 14	0.019 13	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1029.88 6	1.22 17	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
1029.9 5	0.57 6	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
1029.97 8	1.30 4	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
1030 1		<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
1030.0 2	1.42 17	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
1030.0 3	†0.9 3	<sup>194</sup> Bi(92 s)	965.4(†100.0), 575.1(†98.0), 280.1(†73.7)
1030.05 7	0.68 4	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
1030.1 2	2.02 8	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
1030.1 4	0.071 11	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
1030.1 6	12.6 8	<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
1030.12 7	0.27 3	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
1030.170 210.217 11		<sup>128</sup> Cs(3.66 m)	442.901(26.8), 526.557(2.41), 1140.079(1.168)
• 1030.20 8	0.0107 8	<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
• 1030.2 3	0.0131 20	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
• 1030.23 10	0.0310 12	<sup>123</sup> Sn(129.2 d)	1088.64(0.6), 1021.00(0.00193), 160.33(0.00191)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1030.3 5	0.27 10	<sup>76</sup> Kr(14.8 h)	315.7(39), 270.2(21.1), 45.48(19.5)
1030.4	†0.8	<sup>144</sup> Gd(4.5 m)	333.3(†100), 2432.6(†94.8), 629.5(†32.4)
1030.5	0.015 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1030.6 10		<sup>76</sup> Zn(5.7 s)	281.7, 831.2, 755.0
• 1030.6 10	0.0009 5	<sup>76</sup> As(26.32 h)	559.101(45), 657.041(6.2), 1216.104(3.42)
1030.6 5	1.66 12	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
1030.7 4	1.5 3	<sup>130</sup> Sb(39.5 m)	793.53(100), 839.49(100), 331.05(78)
1030.8 3	0.081 17	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1030.86 24	0.22 8	<sup>83</sup> Se(22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
1030.86 24	21.2 7	<sup>83</sup> Se(70.1 s)	356.687(18), 987.96(16.1), 673.98(15.2)
• 1030.9 6	0.011 6	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1030.9 2	†0.23 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
• 1030.9 5	0.018 6	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
1030.9 3	1.1 5	<sup>196</sup> Bi(308 s)	1049.21(87), 689.00(35.5), 776.6(9.1)
1030.9 3	†0.32 14	<sup>196</sup> Bi(240 s)	1049.21(†21.1), 371.93(†20.8), 689.00(†19.2)
1031.00 17	1.36 6	<sup>186</sup> Au(10.7 m)	191.56(62), 298.67(25.4), 764.89(10.5)
1031.0 2	1.23 9	<sup>190</sup> Tl(3.7 m)	416.4(91), 625.4(82), 731.1(37)
1031.04 19	3.16 5	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1031.2 3	0.062 16	<sup>90</sup> Kr(32.32 s)	1118.69(39.0), 121.82(35.5), 539.49(30.8)
• 1031.22 3	0.0201 9	<sup>143</sup> Ce(33.039 h)	293.266(42.80), 57.356(11.7), 664.571(5.69)
1031.3 4	0.0105 24	<sup>77</sup> Kr(74.4 m)	129.64(81), 146.59(37.3), 312.0(3.7)
1031.3 2	†4.0 5	<sup>131</sup> Pr(1.53 m)	266.13(†100), 72.82(†64), 387.56(†38)
1031.5 6	1.5 13	<sup>120</sup> I(53 m)	560.44(100), 601.11(87), 614.62(67)
1031.5 5	0.25 6	<sup>136</sup> Nd(50.65 m)	108.90(32), 40.2(18.9), 574.8(10.4)
1031.5 3	0.178 21	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
• 1031.52 6	0.034 11	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1031.57 24	†1.18 23	<sup>162</sup> Lu(1.37 m)	166.82(†100), 631.87(†26.6), 798.76(†16.9)
1031.59 8	0.250 17	<sup>79</sup> Ge(19.1 s)	109.58(21), 1505.85(9.2), 100.48(2.70)
1031.59 8	2.15 12	<sup>79</sup> Ge(39.0 s)	230.62(61), 542.27(32.6), 755(18)
1031.6 2		<sup>106</sup> In(6.2 m)	632.66(100), 861.16(92), 997.87(48)
1031.69 8	1.99 18	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
• 1031.70 3	0.125 5	<sup>132</sup> Cs(6.479 d)	464.55(1.73), 567.14(0.234)
1031.70 3	7.8 5	<sup>132</sup> La(4.8 h)	464.55(76), 567.14(15.7), 1909.91(9.0)
1031.70 3	2.7	<sup>132</sup> La(24.3 m)	464.55(22), 663.07(11.6), 285.6(7)
1031.7 2		<sup>223</sup> Rn(23.2 m)	591.8(†100), 635.2(†76), 416.0(†55)
1031.75 10	9.6 6	<sup>125</sup> In(2.36 s)	1335.04(71), 617.88(7.4), 744.62(5.2)
1031.77 8	0.0044 13	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
1031.8 2	0.77 5	<sup>143</sup> Gd(39 s)	258.81(75), 204.77(19.4), 463.7(9.9)
1031.8 3	0.21 5	<sup>188</sup> Hg(3.25 m)	66.7(63), 190.1(4.40), 82.7(2.6)
1031.85 2	35.6 5	<sup>250</sup> Bk(3.217 h)	989.12(45), 1028.65(4.91), 889.96(1.530)
1031.85 2	10.6 8	<sup>250</sup> Es(2.22 h)	989.12(13.3), 828.82(5.5), 1167.25(2.94)
1031.87 12	0.054 5	<sup>85</sup> Br(2.90 m)	802.41(2.56), 924.63(1.63), 919.06(0.65)
1031.9 10	0.05 3	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1031.9 10	0.07 5	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1031.9 2	7.8 9	<sup>115</sup> Te(6.7 m)	770.40(34.2), 723.569(18), 1071.70(12.9)
• 1031.91 6	0.131 7	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1031.94 4	58 3	<sup>89</sup> Rb(15.15 m)	1248.19(42.6), 2196.02(13.3), 657.77(10.0)
1032.0 3	0.050 11	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
• 1032	0.031 9	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1032.1 1	2.9 3	<sup>146</sup> Tb(23 s)	1579.4(100), 1078.6(51.6), 1417.2(17.2)
1032.162 270.042 4		<sup>61</sup> Cu(3.333 h)	282.956(12.2), 656.008(10.77), 67.412(4.23)
• 1032.26 10	32.9 7	<sup>206</sup> Po(8.8 d)	511.36(24.1), 286.410(23.8), 807.38(22.7)
1032.3 3	13.7 10	<sup>52</sup> Sc(8.2 s)	1049.7(98), 1267.9(39), 1214.5(11.7)
1032.3 4	0.065 6	<sup>72</sup> Ga(14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1032.3 8	0.038 20	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
1032.37 8	0.072 23	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1032.4 4	0.0048 6	<sup>45</sup> Ti(184.8 m)	720.22(0.154), 1408.6(0.085), 1662.4(0.041)
1032.4 5	0.10 3	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
1032.4 6	0.105 21	<sup>136</sup> Pr(13.1 m)	552.16(76), 539.75(52), 1092.3(18.5)
1032.4 2	0.030 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1032.4 2	0.044 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1032.4 3	0.144 22	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1032.5 4	0.54 9	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1032.55 8	0.85	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1032.59 17	0.530 19	<sup>91</sup> Mo(65.0 s)	1507.93(24.3), 1208.09(18.7), 2240.87(0.73)
1032.6 5	0.58 6	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
1032.6 1	10.0 9	<sup>111</sup> Sb(75 s)	154.48(71), 489.1(42), 755.4(5.1)
1032.64 7	10.8 12	<sup>168</sup> Lu(6.7 m)	198.82(28), 979.22(20), 896.12(15)
1032.8	0.09 3	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1032.8 2	0.018 4	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1032.85 7	35 3	<sup>108</sup> In(58.0 m)	875.46(100), 632.96(100), 242.84(41)
1032.9 3	0.38 6	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1032.9		<sup>238</sup> Pa(2.3 m)	1015.3( $\dagger$ <100), 1014.6( $\dagger$ <100), 635.18( $\dagger$ 88)
1033 2	0.26 8	<sup>51</sup> Sc(12.4 s)	1437.3(52), 2144.1(31.8), 1567.5(14.9)
1033.0 1	0.342 14	<sup>142</sup> Ba(10.6 m)	255.300(20.5), 1204.3(14.23), 895.2(13.9)
1033.0 10	0.17 3	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1033.0 10	0.43 8	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1033.04 21	0.36 7	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1033.1 18	2.5 9	<sup>53</sup> Ti(32.7 s)	127.6(46), 228.4(40), 1675.5(25)
1033.10 20	0.070 19	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1033.11 3	0.47 4	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1033.11 3	0.44 7	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
1033.2 1	0.110 22	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1033.2 4	0.47 5	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
1033.2 4	$\dagger$ 0.3 1	<sup>138</sup> Pm(3.24 m)	520.9( $\dagger$ 100), 729.0( $\dagger$ 37.8), 493.1( $\dagger$ 21.6)
1033.2 4	0.100 5	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1033.2 5	0.023 6	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1033.250 100.207 13		<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1033.250 100.50 3		<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
• 1033.3 8	0.006 5	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1033.30 9	0.44 7	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
1033.3 5	$\dagger$ 2.1 3	<sup>182</sup> Ir(15 m)	273.23( $\dagger$ 100), 126.79( $\dagger$ 77), 236.3( $\dagger$ 21.0)
1033.3 3	$\dagger$ 2.1 4	<sup>183</sup> Hg(9.4 s)	60.5( $\dagger$ 100), 159.91( $\dagger$ 21), 172.70( $\dagger$ 17)
1033.4	0.25 4	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
• 1033.4	0.0118 6	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1033.47 4	1.06 5	<sup>155</sup> Ho(48 m)	240.19(12.5), 136.30(5.00), 45.38(5)
1033.48 21	1.8 2	<sup>94</sup> Rh(25.8 s)	756.23(100), 1430.50(100), 311.70(97.3)
1033.5 2	0.14 4	<sup>240</sup> Np(61.9 m)	566.34(25.3), 973.9(23.8), 600.57(18.4)
• 1033.5 2	0.010 1	<sup>240</sup> Am(50.8 h)	987.76(73.2), 888.80(25.1), 98.860(1.5)
• 1033.542 170.1952 25		<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1033.6 3	0.113 20	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1033.7 6	2.5 18	<sup>172</sup> Ho(25 s)	133.6(36), 178.0(23), 757.2(18)
1033.74 10	0.046 7	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1033.8 3	9	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1033.8 5	0.33 6	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
1033.9 8	1.9 5	<sup>116</sup> Cs(3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
1033.95 11	0.130 22	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
• 1033.986 147.77 14		<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1033.998	280.0529 11	$^{159}\text{Ho}$ (33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1034		$^{132}\text{Pr}$ (1.6 m)	325.5( $\dagger$ 100), 496.9( $\dagger$ 25), 822.4( $\dagger$ 17.3)
1034.0 3	0.119 14	$^{167}\text{Lu}$ (51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1034.0 5	$\dagger$ 11.7 13	$^{180}\text{Au}$ (8.1 s)	153.3( $\dagger$ 100), 524.3( $\dagger$ 29), 257.6( $\dagger$ 26)
1034.0 3	0.35 4	$^{184}\text{Au}$ (53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
1034.02 2	0.53 4	$^{145}\text{Cs}$ (0.594 s)	175.36(20), 198.93(10.9), 112.46(10.71)
1034.087	110.421 17	$^{173}\text{Hf}$ (23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
• 1034.20 30	0.027 9	$^{170}\text{Lu}$ (2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1034.2 2	0.29 5	$^{242}\text{Np}$ (2.2 m)	735.93(5), 780.44(2.76), 1473.1(2.34)
1034.25 10	1.4 1	$^{156}\text{Pm}$ (26.70 s)	173.75(52.0), 1147.84(20.5), 117.42(13.8)
1034.3 3	1.44 6	$^{100}\text{Rh}$ (20.8 h)	539.59(78.4), 2376.1(35.3), 1553.4(21)
1034.3	0.19 4	$^{141}\text{Ba}$ (18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
1034.3 3	16	$^{199}\text{Po}$ (4.13 m)	1002.19(19), 362.01(7), 499.61(4.3)
1034.39 21	1.70 8	$^{172}\text{Ta}$ (36.8 m)	214.02(46), 95.23(17.5), 1109.27(12.4)
1034.4 5	1.06 17	$^{97}\text{Pd}$ (3.10 m)	265.26(56), 475.2(26.7), 792.70(13.8)
1034.47 6	0.120 25	$^{158}\text{Eu}$ (45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
1034.49 4	0.022 4	$^{168}\text{Ho}$ (2.99 m)	741.356(36.6), 821.164(34.5), 815.990(18.6)
1034.6 1	$\dagger$ 8.10 32	$^{129}\text{Ba}$ (2.17 h)	182.30( $\dagger$ 100), 1459.1( $\dagger$ 50.0), 202.38( $\dagger$ 33.7)
1034.6	99.7	$^{149}\text{Ho}$ (58 s)	1736.4(28.0), 372.1(25.3), 1754.0(19.0)
1034.60 10	0.201 22	$^{153}\text{Dy}$ (6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1034.6 10	0.53 11	$^{164}\text{Tb}$ (3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1034.72 8	0.0272 7	$^{161}\text{Gd}$ (3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1034.79 13	0.0055 10	$^{166}\text{Tm}$ (7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1034.80 20	0.39 7	$^{99}\text{Ag}$ (124 s)	264.41(65), 832.29(13.5), 805.07(12.5)
1034.8 4	$\dagger$ 4.5 10	$^{159}\text{Yb}$ (1.58 m)	166.16( $\dagger$ 500), 177.12( $\dagger$ 159), 390.20( $\dagger$ 113)
1034.8 3	0.47 7	$^{181}\text{Au}$ (11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1034.85 5	6.02 6	$^{183}\text{Os}$ (9.9 h)	1101.94(49.0), 1107.92(22.36), 484.40(2.21)
1034.87 22	0.25 5	$^{103}\text{Cd}$ (7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1034.9 6	0.13 5	$^{91}\text{Rb}$ (58.4 s)	93.628(33.7), 2564.19(12.5), 3599.67(10.4)
1034.9 3	$\dagger$ 3.2 6	$^{189}\text{Hg}$ (7.6 m)	320.99( $\dagger$ 100), 78.21( $\dagger$ 63), 565.42( $\dagger$ 48)
1035	$\dagger$ 6	$^{92}\text{Br}$ (0.343 s)	769( $\dagger$ 100), 1446( $\dagger$ 10), 678( $\dagger$ 6)
1035.0 2	0.51 5	$^{132}\text{I}$ (2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
1035.0 2	0.025 5	$^{176}\text{Ta}$ (8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
• 1035.07 6	1.00 5	$^{126}\text{Sb}$ (12.46 d)	695.03(100), 666.331(100), 414.81(83.3)
1035.07 6	1.80 17	$^{126}\text{Sb}$ (19.15 m)	414.81(86), 666.331(86), 695.03(82)
1035.1 5	0.066 21	$^{93}\text{Rb}$ (5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1035.1 10	0.94 17	$^{119}\text{Cd}$ (2.20 m)	1025.0(24.8), 2021.3(22.6), 720.7(17.9)
1035.18 10	0.50 20	$^{202}\text{Bi}$ (1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
1035.2 2	3.70 18	$^{60}\text{Cu}$ (23.7 m)	1332.501(88), 1791.6(45.4), 826.06(21.7)
• 1035.4 4	0.036 6	$^{83}\text{Sr}$ (32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
• 1035.40 10	0.00056 24	$^{121}\text{Te}$ (154 d)	1102.149(2.54), 37.138(0.94), 998.291(0.0796)
1035.4 3	1.6 3	$^{126}\text{Ba}$ (100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
• 1035.4 2	0.137 10	$^{131}\text{Te}$ (30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
1035.4	0.015 7	$^{151}\text{Nd}$ (12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 1035.4 4	0.016 9	$^{153}\text{Tb}$ (2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1035.4 4	0.80 12	$^{175}\text{Ta}$ (10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1035.4 5	$\dagger$ 5.7 15	$^{233}\text{Pu}$ (20.9 m)	235.4( $\dagger$ 100), 534.8( $\dagger$ 90.2), 500.3( $\dagger$ 38.6)
1035.5 10	1.1 4	$^{90}\text{Tc}$ (49.2 s)	1054.3(100), 948.1(100), 944.7(36.6)
1035.5 3	0.20 3	$^{93}\text{Sr}$ (7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
1035.5 3	0.037 19	$^{98}\text{Nb}$ (51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1035.5 4	0.23 10	$^{121}\text{Cs}$ (122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
1035.5 5	0.0028 21	$^{131}\text{Te}$ (25.0 m)	149.716(69), 452.323(18.18), 1146.96(4.95)
1035.5 4	0.74 14	$^{157}\text{Tm}$ (3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1035.54 17	0.93 18	$^{193}\text{Hg}$ (11.8 h)	257.97(61), 407.63(25), 573.25(14.2)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1035.58 25	0.0087 17	<sup>133</sup> I(20.8 h)	529.872(87.0), 875.329(4.51), 1298.223(2.35)
1035.6 3	1.06 13	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
1035.61 7	0.24 4	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
1035.7 7	0.053 14	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
• 1035.71 8	0.0073 24	<sup>182</sup> Ta(114.43 d)	67.75001(41.2), 1121.3007(34.9), 1221.4066(26.98)
1035.71 8	0.0073 19	<sup>182</sup> Re(12.7 h)	67.75001(38.2), 1121.3007(32), 1221.4066(24.8)
1035.9 8	0.9 3	<sup>116</sup> Cs(3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
1035.9 3	0.57 10	<sup>122</sup> Cs(21.0 s)	331.1(48), 512.0(3.8), 817.9(3.09)
1035.9 3	0.172 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1035.9 2	0.085 17	<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
1035.9 2	0.026 9	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1036.00 20	7.4 10	<sup>102</sup> Sr(69 ms)	243.80(53), 150.15(18.0), 93.89(13.4)
1036.0 4	0.017 17	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
• 1036 1	0.0079 14	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1036.0 4	0.010 4	<sup>180</sup> Re(2.44 m)	902.795(90), 103.557(22.2), 825.357(9.9)
1036.00 4	12.6 4	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
• 1036.00 4	1.75 13	<sup>246</sup> Bk(1.80 d)	798.80(61), 1081.40(5.8), 833.60(5.0)
1036.05 20	0.27 3	<sup>190</sup> Re(3.2 h)	186.718(27.8), 605.24(14.9), 557.972(14.3)
• 1036.05 20	2.42 14	<sup>190</sup> Ir(11.78 d)	186.718(52.4), 605.24(39.9), 518.55(34.0)
1036.08 15	0.19 3	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
1036.1 4	0.24 9	<sup>76</sup> Rb(39.1 s)	2571.3(47), 424.0(43.4), 355.6(8.2)
1036.1 4	2.02 19	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
1036.1		<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
• 1036.1 3	0.015 2	<sup>240</sup> Am(50.8 h)	987.76(73.2), 888.80(25.1), 98.860(1.5)
1036.13 7	0.234 12	<sup>89</sup> Br(4.40 s)	1097.82(6.00), 997.93(4.26), 953.53(4.26)
1036.16 7	0.198 10	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1036.2 10	2.6 3	<sup>196</sup> Tl(1.84 h)	426.0(84), 610.5(11.9), 635.5(9.8)
1036.2 10	†10 10	<sup>196</sup> Tl(1.41 h)	426.0(†540), 635.5(†304), 695.6(†243)
1036.2 8	0.008 3	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1036.3 3	2.05 17	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1036.3 3	0.12 6	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1036.3 2	†22 1	<sup>139</sup> I(2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
1036.3 3	0.123 11	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1036.38 9	0.0162 11	<sup>73</sup> Se(7.15 h)	360.80(108), 67.03(78), 865.09(0.584)
1036.4 1	3.6 18	<sup>141</sup> Gd(24.5 s)	351.1(89), 223.9(64), 574.9(51)
1036.4 3	10.3 2	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 115.05(8.6)
1036.4 6	0.35 6	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1036.48 24	0.30 4	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1036.5 3	>0.21	<sup>83</sup> Se(22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
1036.5 3	0.38 8	<sup>83</sup> Se(22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
1036.5 3	0.0030 20	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
1036.6 2	12.8 6	<sup>102</sup> Cd(5.5 m)	481.0(63), 505.1(9.6), 414.8(7.6)
1036.6 2	0.126 12	<sup>147</sup> Pr(13.4 m)	77.9921(15), 314.675(13.2), 641.380(10.0)
1036.6 5	0.170 21	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1036.6 2	†3.3 3	<sup>185</sup> Hg(21.6 s)	222.8(†100.0), 258.7(†98), 212.5(†58)
1036.63 17	0.00100 25	<sup>123</sup> I(13.27 h)	158.97(83), 528.96(1.39), 440.02(0.428)
1036.7	†1.6 4	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
1036.72 15	0.59 9	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
• 1036.75 20	0.040 12	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1036.9 9	†0.7 4	<sup>131</sup> Sn(56.0 s)	1226.03(†100), 450.03(†90), 798.50(†86)
1036.9 3	0.8	<sup>145</sup> La(24.8 s)	70.0(11), 355.8(3.8), 118.2(3.6)
1036.92 9	0.32 3	<sup>132</sup> La(4.8 h)	464.55(76), 567.14(15.7), 1909.91(9.0)
• 1037.0 4	0.00047 14	<sup>131</sup> Ba(11.50 d)	496.326(47), 123.805(28.97), 216.078(19.66)
1037.0 3	†2.9 3	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1037	0.053 5	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
• 1037.07	0.07	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1037.07 7	0.62 7	<sup>167</sup> Yb(17.5 m)	113.34(55.3), 106.18(22.5), 176.25(21)
1037.08 59	0.079 24	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1037.1 4	0.18 6	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
1037.1 4	0.125 13	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1037.2 6	0.0210 19	<sup>72</sup> Ga(14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)
1037.2 3	0.044 14	<sup>94</sup> Tc(52.0 m)	871.082(94), 1868.68(5.7), 1522.11(4.5)
1037.2 2	†271 48	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
1037.2 3	0.19 3	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1037.28 9	0.39 5	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
1037.3 1	6.6 6	<sup>96</sup> Rb(0.199 s)	815.0(78.00), 692.0(8.0), 813.2(7.0)
1037.3 1	3.2	<sup>97</sup> Rb(169.9 ms)	815.0(100), 692.0(16.5), 414.3(15.0)
1037.32 30	2.00 20	<sup>124</sup> In(2.4 s)	1131.64(100), 969.94(52), 1072.85(47)
1037.4 5	3.28 21	<sup>232</sup> Np(14.7 m)	327.3(52), 819.187(33.3), 866.760(24.4)
1037.43 10	1.19 6	<sup>77</sup> Rb(3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
1037.43 14	0.40 5	<sup>197</sup> Pb(43 m)	385.85(74), 387.72(25.1), 222.45(24.6)
• 1037.49 13	0.047 23	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1037.5 6	1.0 3	<sup>178</sup> Re(13.2 m)	237.3(45), 105.9(23.0), 939.1(8.9)
• 1037.530 150.2017 25		<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1037.56 7	0.603 15	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
• 1037.599 2697.6 5		<sup>48</sup> Sc(43.67 h)	1312.096(100.1), 983.517(100.1), 175.361(7.48)
1037.62 4	0.55 3	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
1037.63 7	0.29 2	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1037.69 8	0.27 11	<sup>203</sup> Po(36.7 m)	908.64(55), 1090.95(19.2), 893.49(18.7)
• 1037.76 15	1.045 12	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1037.8 7	1.8 3	<sup>98</sup> Ag(46.7 s)	863.1(100), 678.5(85), 570.93(53)
1037.8 1	101 5	<sup>138</sup> Pr(2.12 h)	788.742(100), 302.7(80), 390.9(6.1)
1037.8 4	0.027 6	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1037.81 8	0.384 19	<sup>187</sup> Ir(10.5 h)	912.95(4.79), 427.12(4.12), 400.89(3.94)
1037.83 8	0.103 8	<sup>85</sup> Br(2.90 m)	802.41(2.56), 924.63(1.63), 919.06(0.65)
1037.840 6	0.040 5	<sup>56</sup> Mn(2.5785 h)	846.771(98.9), 1810.772(27.2), 2113.123(14.3)
• 1037.840 6	13.99 10	<sup>56</sup> Co(77.27 d)	846.771(100), 1238.282(67.6), 2598.459(17.28)
1037.9 3	0.073 9	<sup>112</sup> Ag(3.130 h)	617.27(43), 1387.67(5.4), 606.49(3.1)
1037.9 2	0.018 6	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1037.93 6	4.16 21	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
1038		<sup>112</sup> In(14.97 m)	617.27(4.6), 606.49(1.111), 1253.43(0.218)
1038.0 3	0.96 14	<sup>117</sup> Ag(5.34 s)	135.4(48), 386.8(39.9), 298.1(21.1)
1038 1	>0.35	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
1038.0 1	†0.8 2	<sup>160</sup> Lu(36.1 s)	243.2(†100), 395.4(†21.0), 577.2(†10.7)
1038.0 10	0.15 3	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
1038.0 6	0.011 6	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1038.1 2	†0.57 12	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1038.1 5	0.056 15	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
• 1038.11 4	0.114 9	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1038.18 5	0.0067 5	<sup>133</sup> La(3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
1038.2 7	0.20 3	<sup>159</sup> Eu(18.1 m)	67.8(19), 78.6(9.1), 95.7(7.0)
1038.2 5	0.46 8	<sup>161</sup> Yb(4.2 m)	78.20(34), 599.88(25.9), 631.45(13.9)
1038.2 5	0.036 14	<sup>211</sup> Rn(14.6 h)	674.1(45), 1362.9(32.5), 678.4(28.9)
1038.3 5	0.030 12	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1038.3 6	0.053 5	<sup>207</sup> Po(5.80 h)	992.33(59.3), 742.64(28.2), 911.79(16.95)
1038.3 3	0.65 5	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1038.33 10	0.0071 5	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
• 1038.35 20	0.024 3	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1038.44 6	0.586 9	$^{105}\text{Cd}(55.5 \text{ m})$	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1038.48 4	0.050 8	$^{135}\text{Ce}(17.7 \text{ h})$	265.56(41.8), 300.07(23.5), 606.76(18.8)
1038.5 4	1.2 4	$^{81}\text{Ge}(7.6 \text{ s})$	335.98(58.9), 792.94(34), 1495.53(19.9)
1038.5 4	1.3 4	$^{81}\text{Ge}(7.6 \text{ s})$	93.10(26), 335.98(12.8), 197.30(12.3)
1038.5 1	0.077 6	$^{119}\text{I}(19.1 \text{ m})$	257.52(87), 635.86(2.69), 320.53(2.17)
1038.5 8	1.5 4	$^{121}\text{Cd}(8.3 \text{ s})$	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
• 1038.55 25	0.087 9	$^{83}\text{Sr}(32.41 \text{ h})$	762.65(30), 381.53(14.1), 418.37(4.41)
• 1038.56 8	0.31 3	$^{194}\text{Au}(38.02 \text{ h})$	328.455(60), 293.545(10.2), 1468.91(6.3)
• 1038.571 261.00 1		$^{134}\text{Cs}(2.062 \text{ y})$	604.699(97.56), 795.845(85.44), 569.315(15.43)
1038.571 260.00377 25		$^{134}\text{La}(6.45 \text{ m})$	604.699(5.05), 1554.934(0.414), 563.227(0.359)
1038.63 7	0.218 8	$^{90}\text{Rb}(158 \text{ s})$	831.69(28), 1060.70(6.69), 4365.90(5.6)
1038.68 12	0.61 11	$^{100}\text{Y}(735 \text{ ms})$	212.531(73), 118.59(15.4), 665.98(7.7)
1038.7		$^{185}\text{Ir}(14.4 \text{ h})$	254.4(13.3), 1828.8(10), 60.0(5.7)
1038.757 120.323 12		$^{173}\text{Hf}(23.6 \text{ h})$	123.672(83), 296.974(33.9), 139.634(12.7)
1038.760 218.01 9		$^{135}\text{I}(6.57 \text{ h})$	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
1038.8 1	0.29 3	$^{109}\text{Ru}(34.5 \text{ s})$	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1038.85 25	1.0 3	$^{165}\text{Tb}(2.11 \text{ m})$	1178.53(13.2), 538.51(7.2), 1292.05(7.0)
1038.9 4	0.25 5	$^{122}\text{Cs}(21.0 \text{ s})$	331.1(48), 512.0(3.8), 817.9(3.09)
1038.93 18	0.157 23	$^{174}\text{Ta}(1.05 \text{ h})$	206.50(58), 91.00(16.0), 1205.92(4.9)
1039.0 2	4.51 18	$^{109}\text{Sn}(18.0 \text{ m})$	1099.4(30), 649.90(28.0), 1321.3(11.9)
1039	†1.0	$^{120}\text{I}(81.0 \text{ m})$	560.44(†137), 1523.0(†21.1), 640.85(†17.1)
1039.0 15	1.1 9	$^{151}\text{Ho}(35.2 \text{ s})$	527.4(63), 775.53(9.2), 209.5(5.69)
1039.0 4	†195 71	$^{157}\text{Ho}(12.6 \text{ m})$	279.97(†47600), 341.16(†37000), 193.41(†15200)
1039.04 3	6.4 20	$^{86}\text{Nb}(88 \text{ s})$	751.74(97.8), 914.81(78.1), 1003.24(37.4)
1039.06 10	0.005 2	$^{29}\text{Al}(6.56 \text{ m})$	1273.367(90.6), 2425.907(5.7), 2028.12(3.7)
1039.1 4	2.2 4	$^{29}\text{S}(187 \text{ ms})$	1383.51(19), 1953.83(17.02), 2422.5(15.5)
1039.1 3	0.89 13	$^{149}\text{Dy}(4.20 \text{ m})$	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1039.1 1	†0.9 2	$^{172}\text{Ir}(2.0 \text{ s})$	227.8(†100.0), 378.4(†62.0), 448.4(†40.5)
1039.11 8	0.417 19	$^{90}\text{Kr}(32.32 \text{ s})$	1118.69(39.0), 121.82(35.5), 539.49(30.8)
1039.13 15	0.83 7	$^{186}\text{Ir}(2.0 \text{ h})$	137.155(27), 767.508(21.2), 630.354(18.0)
• 1039.149 100.138 7		$^{172}\text{Tm}(63.6 \text{ h})$	78.7435(6.5), 1093.657(6.0), 1387.093(5.6)
• 1039.149 100.070 6		$^{172}\text{Lu}(6.70 \text{ d})$	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1039.20 8	†0.65 5	$^{70}\text{Ga}(21.14 \text{ m})$	176.17(†0.29)
1039.20 8	81 3	$^{70}\text{As}(52.6 \text{ m})$	1114.1(21.8), 668.3(21.8), 743.56(21.5)
1039.2 5	0.0083 18	$^{152}\text{Eu}(9.274 \text{ h})$	841.586(14.6), 963.37(12.01), 121.7824(7.21)
1039.2 3	>0.11	$^{242}\text{Np}(2.2 \text{ m})$	735.93(5), 780.44(2.76), 1473.1(2.34)
• 1039.264 6	2.777 25	$^{95}\text{Tc}(61 \text{ d})$	204.117(63.25), 582.082(29.96), 835.149(26.63)
1039.30 5	7	$^{66}\text{Cu}(5.088 \text{ m})$	833.50(0.16), 1333.00(0.0028), 1872.94(<0.0)
1039.30 5	37	$^{66}\text{Ga}(9.49 \text{ h})$	2752.01(23.38), 833.50(5.89), 2189.85(5.60)
1039.3 5	0.17 4	$^{156}\text{Ho}(56 \text{ m})$	266.35(54.7), 137.83(51), 366.25(10.73)
• 1039.34 6	0.0090 8	$^{71}\text{As}(65.28 \text{ h})$	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1039.4 2	>0.028	$^{105}\text{Cd}(55.5 \text{ m})$	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1039.4 3	0.09	$^{142}\text{La}(91.1 \text{ m})$	641.285(47), 2397.8(13.3), 2542.7(10.00)
1039.5 5	1.5 4	$^{113}\text{Te}(1.7 \text{ m})$	814.4(22), 1018.1(13.0), 1181.0(12.3)
1039.59 3	0.484 17	$^{88}\text{Kr}(2.84 \text{ h})$	2392.11(34.6), 196.301(25.98), 2195.842(13.18)
1039.6 4	0.20 8	$^{30}\text{Al}(3.60 \text{ s})$	2235.24(65), 1263.23(40), 3498.37(32)
1039.6 3	1.34 25	$^{104}\text{In}(1.8 \text{ m})$	658.0(100), 834.1(99), 878.1(29.4)
1039.6 4	1.0 2	$^{130}\text{Sb}(6.3 \text{ m})$	839.49(100), 793.53(86), 182.36(41)
1039.65 15	0.046 9	$^{228}\text{Ac}(6.15 \text{ h})$	911.205(26.6), 968.971(16.2), 338.322(11.3)
1039.65 15	0.14 3	$^{228}\text{Pa}(22 \text{ h})$	911.205(4.19), 463.005(1.250), 964.770(4.25)
1039.7 5	†0.36 9	$^{160}\text{Ho}(5.02 \text{ h})$	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1039.7 3	0.146 21	$^{183}\text{Ir}(58 \text{ m})$	392.52(10.4), 228.70(6.9), 87.67(5.6)
1039.7 2	†2.4 3	$^{201}\text{Po}(15.3 \text{ m})$	890.1(†100), 240.1(†71.0), 904.2(†54.8)
1039.8 3	1.63 12	$^{149}\text{Dy}(4.20 \text{ m})$	100.8(15.2), 789.4(11.8), 1776.3(11.1)

•  $t_{1/2} > 1 \text{ d}$



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1039.88 3	0.668 21	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1039.9 8	0.74 25	<sup>121</sup> Cd(13.5 s)	324.976(49.5), 1040.26(16.8), 349.937(12.9)
1039.9	0.087 14	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
1039.9 4	†3.1 7	<sup>185</sup> Pt(33.0 m)	229.60(†100), 135.3(†80), 197.4(†74)
1039.902 17		<sup>52</sup> Fe(8.275 h)	168.684(99.2), 377.738(1.68)
1039.97 5	2.18 24	<sup>79</sup> Ga(2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
1039.97 5	0.48 12	<sup>79</sup> Ga(2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
1040 1	1.66 11	<sup>29</sup> Na(44.9 ms)	54.6(<41), 2560(36), 1638.0(5.9)
1040 1	10.6 6	<sup>30</sup> Na(48 ms)	336(2.65), 1638.0(0.80), 2211.3(0.50)
1040.0 5	>7	<sup>70</sup> As(52.6 m)	1039.20(81), 1114.1(21.8), 668.3(21.8)
1040	0.08 3	<sup>142</sup> Ba(10.6 m)	255.300(20.5), 1204.3(14.23), 895.2(13.9)
1040.0 5	1.9 5	<sup>176</sup> Re(5.3 m)	240.17(48), 109.08(25.0), 848.7(4.0)
1040.01 4	9.6 3	<sup>204</sup> Po(3.53 h)	883.984(29.9), 270.068(27.8), 1016.31(24.1)
1040.02 6	6.5 7	<sup>120</sup> I(53 m)	560.44(100), 601.11(87), 614.62(67)
1040.1 1	0.341 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1040.2 1	56 6	<sup>84</sup> Y(40 m)	793.3(99), 974.6(75), 660.9(15.7)
1040.2 2	†23 3	<sup>103</sup> Mo(67.5 s)	83.4(†100), 423.91(†69), 45.8(†57)
1040.2 4	0.12 4	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1040.2 12	0.007 3	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1040.25 10	1.91 19	<sup>134</sup> I(52.6 m)	847.025(95.4), 884.090(64.9), 1072.547(15.0)
1040.26 15	16.8 10	<sup>121</sup> Cd(13.5 s)	324.976(49.5), 349.937(12.9), 1483.23(8.2)
1040.3 2	0.030 4	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
1040.3 2	†3.4 9	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
1040.3 5	†5.6 17	<sup>194</sup> Tl(33.0 m)	428.0(†100), 636.5(†23), 645.20(†13)
1040.4 2	9.9 6	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1040.4 5	†1.6 4	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
• 1040.4 4	0.40 4	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1040.4 2	0.073 12	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 1040.4	2.8×10 <sup>-6</sup>	<sup>253</sup> Es(20.47 d)	41.79(0.050), 389.11(0.0264), 387.1(0.00810)
1040.41 15	0.0011	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
• 1040.43 5	0.501 5	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
• 1040.43 5	0.645 12	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1040.50 15	0.320 21	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1040.5 8	0.0085 17	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1040.5 3	†18 4	<sup>193</sup> Hg(3.80 h)	861.11(†100), 1118.84(†64), 789.21(†36)
1040.58 4	1.33 6	<sup>80</sup> Ga(1.697 s)	659.14(78.0), 1083.47(48.4), 1109.36(18.6)
• 1040.6 4	0.0018 7	<sup>195</sup> Hg(41.6 h)	261.75(30.9), 560.27(7), 387.87(2.15)
1040.63 6	3.15 20	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
1040.65 4	1.46 4	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1040.7 5	0.07 4	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
1040.7 4	0.50 7	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1040.7 5	0.13	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1040.7 5	0.32	<sup>154</sup> Pm(2.68 m)	184.810(32), 81.99(15.4), 546.66(14.5)
1040.7		<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
1040.7 3	0.24 3	<sup>188</sup> Hg(3.25 m)	66.7(63), 190.1(4.40), 82.7(2.6)
1040.7 10	0.51 17	<sup>191</sup> Hg(50.8 m)	252.5(57), 420.1(18.6), 578.6(17.6)
1040.73 6	0.96 19	<sup>128</sup> Sb(10.4 m)	753.82(96.4), 743.22(96), 314.12(89)
1040.75 9	0.29 4	<sup>183</sup> Os(9.9 h)	1101.94(49.0), 1107.92(22.36), 1034.85(6.02)
1040.8 2	0.076 11	<sup>69</sup> As(15.2 m)	232.69(11), 145.95(4.96), 86.78(3.44)
1040.8 3	0.222 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1040.9 3	0.158 25	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1040.92 15	0.046 9	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1040.93 22	0.037 3	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
• 1040.99 3	0.351 11	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1041.0 3	0.073 10	$^{123}\text{Xe}(2.08 \text{ h})$	148.9(49), 178.1(14.9), 330.2(8.6)
1041.0 4	0.142 25	$^{152}\text{Tb}(4.2 \text{ m})$	344.281(20.8), 411.115(18.8), 471.9(12.2)
1041.1 5	1.12 20	$^{121}\text{In}(3.88 \text{ m})$	60.34(20), 1100.7(0.92), 1121.2(0.51)
1041.2 4	0.056 8	$^{101}\text{Pd}(8.47 \text{ h})$	296.29(19), 590.44(12.06), 269.67(6.43)
1041.21 6	0.53 3	$^{81}\text{Rb}(4.576 \text{ h})$	190.38(64.0), 446.15(23.2), 510.31(5.3)
1041.278 220.19 7		$^{244}\text{Am}(26 \text{ m})$	1084.181(0.37), 941.95(0.36), 1062.953(0.28)
1041.3 2	9.6 10	$^{68}\text{Cu}(3.75 \text{ m})$	1339.96(12.0), 1077.35(12), 152.0(5.5)
1041.3 3	†2.3 4	$^{183}\text{Hg}(9.4 \text{ s})$	60.5(†100), 159.91(†21), 172.70(†17)
1041.35 5	3.03 25	$^{143}\text{Gd}(112 \text{ s})$	271.94(84), 588.00(15.7), 798.89(10.7)
1041.4 3	2.22 23	$^{118}\text{I}(8.5 \text{ m})$	605.71(99), 600.71(92), 614.42(65)
1041.4 6	0.32 6	$^{136}\text{Nd}(50.65 \text{ m})$	108.90(32), 40.2(18.9), 574.8(10.4)
1041.4 3	0.063 17	$^{138}\text{Cs}(33.41 \text{ m})$	1435.795(76.3), 462.796(30.7), 1009.78(29.8)
1041.4 2	9 4	$^{140}\text{Gd}(15.8 \text{ s})$	174.8(76), 749.9(70), 379.0(38)
1041.5 3	18 2	$^{132}\text{Sb}(4.10 \text{ m})$	696.8(100), 973.9(100), 150.6(66)
1041.5 6	0.157 16	$^{136}\text{Pr}(13.1 \text{ m})$	552.16(76), 539.75(52), 1092.3(18.5)
1041.52 8	7.83 21	$^{18}\text{Ne}(1672 \text{ ms})$	659.25(0.132), 1700.72(0.056), 1080.51(0.0021)
1041.6 8	0.54 11	$^{228}\text{Fr}(39 \text{ s})$	473.7(10.2), 474.0(7.6), 410.40(6.3)
1041.7 4	0.16 5	$^{99}\text{Sr}(0.269 \text{ s})$	125.118(16.1), 536.12(14.0), 1198.12(9.2)
1041.7 5	0.11 3	$^{109}\text{Rh}(80 \text{ s})$	326.868(54), 426.135(7.7), 178.034(7.6)
1041.7 3	0.30 4	$^{210}\text{At}(8.1 \text{ h})$	1181.39(99.3), 245.31(79), 1483.39(46.5)
1041.7 2	0.032 10	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
1041.7 2	†1.20×10 <sup>3</sup>	$^{234}\text{Pa}(1.17 \text{ m})$	1001.03(†837000), 766.38(†294000), 742.81(†80000)
• 1041.7 2	0.15 2	$^{234}\text{Np}(4.4 \text{ d})$	1558.31(18.72), 1527.21(11.2), 1601.80(9.1)
• 1041.7 2	2.2×10 <sup>-7</sup>	$^{238}\text{Pu}(87.74 \text{ y})$	43.498(0.0395), 99.853(0.00735), 152.720(0.000937)
1041.77 10	0.076 10	$^{87}\text{Br}(55.60 \text{ s})$	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1041.80 15	0.22 3	$^{91}\text{Kr}(8.57 \text{ s})$	108.788(43.5), 506.592(19.1), 612.87(7.7)
1041.8 3	0.096 18	$^{142}\text{Eu}(2.34 \text{ s})$	768.1(10), 1658.1(1.75), 1754.1(1.49)
1041.8 1	9.9 6	$^{145}\text{Gd}(23.0 \text{ m})$	1757.9(34.2), 1880.6(32.6), 808.4(8.6)
1041.81 5	1.07 8	$^{77}\text{Zn}(2.08 \text{ s})$	189.49(28.1), 473.94(19.7), 1832.0(12.4)
1041.9 2	0.215 20	$^{154}\text{Tb}(9.4 \text{ h})$	123.071(30), 247.925(22.1), 540.18(20)
1041.9 2		$^{154}\text{Tb}(21.5 \text{ h})$	123.071(26), 1274.436(10.5), 2187.10(9.9)
1041.9 5	0.18 3	$^{226}\text{Fr}(48 \text{ s})$	253.73(22.3), 186.05(16.3), 253.9(2.5)
1041.91 8	0.355 15	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1041.95 5	2.54 11	$^{107}\text{Ru}(3.75 \text{ m})$	194.05(9.9), 847.93(5.3), 462.61(3.66)
1041.95 3	0.028 3	$^{149}\text{Nd}(1.728 \text{ h})$	211.309(25.9), 114.314(19.2), 270.166(10.7)
1041.99 5	2.19 10	$^{91}\text{Rb}(58.4 \text{ s})$	93.628(33.7), 2564.19(12.5), 3599.67(10.4)
1042.0 4	0.77 4	$^{86}\text{Se}(15.3 \text{ s})$	2441.1(43.0), 2660.0(21.6), 48.3(15.4)
1042.0 10	0.28 7	$^{105}\text{Cd}(55.5 \text{ m})$	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1042.0 1	3.08 18	$^{188}\text{Tl}(71 \text{ s})$	412.7(88), 592.0(61), 504.2(23.3)
1042 2	†2.6	$^{244}\text{Bk}(4.35 \text{ h})$	891.5(†100), 217.6(†88), 921.5(†19)
1042.12 15	1.20 10	$^{124}\text{In}(3.17 \text{ s})$	1131.64(68), 3214.15(21.5), 997.79(21.1)
1042.3 3	0.101 22	$^{179}\text{Re}(19.5 \text{ m})$	430.221(28), 289.968(26.9), 1680.244(13.0)
1042.35 23	1.19 11	$^{83}\text{Se}(22.3 \text{ m})$	356.687(70), 510.17(43), 224.8(32.7)
1042.39 8	0.29 3	$^{207}\text{At}(1.80 \text{ h})$	814.41(44.5), 588.33(19.2), 300.654(12.8)
1042.4 8	0.015 5	$^{245}\text{Pu}(10.5 \text{ h})$	327.428(25.4), 560.13(5.4), 308.222(4.9)
1042.6 5	†3.6 7	$^{101}\text{Nb}(7.1 \text{ s})$	276.10(†100), 157.466(†32), 13.5(†32)
1042.6 6	0.25 7	$^{157}\text{Tm}(3.63 \text{ m})$	455.00(9.3), 385.5(8.8), 348.40(8.4)
1042.66 9	0.138 22	$^{163}\text{Tm}(1.810 \text{ h})$	104.320(18.6), 69.229(11.6), 241.305(10.9)
1042.7 4	0.025 15	$^{95}\text{Rb}(377.5 \text{ ms})$	352.02(49), 204.02(15.1), 680.7(14.8)
1042.7 5	0.072 21	$^{103}\text{Tc}(54.2 \text{ s})$	346.380(17.5), 136.079(16.6), 562.90(7.0)
1042.7 10	0.21 8	$^{105}\text{Cd}(55.5 \text{ m})$	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1042.7 2	0.55 9	$^{109}\text{Ru}(34.5 \text{ s})$	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1042.7 4	1.01 8	$^{161}\text{Yb}(4.2 \text{ m})$	78.20(34), 599.88(25.9), 631.45(13.9)
1042.7 5	0.08 8	$^{172}\text{Ta}(36.8 \text{ m})$	214.02(46), 95.23(17.5), 1109.27(12.4)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1042.8 3	0.85 14	<sup>45</sup> Ar(21.48 s)	1020.04(34.0), 3703.2(33.3), 61.35(25.0)
1042.8 10	0.23 5	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1042.9 3	0.91 23	<sup>75</sup> Rb(19.0 s)	178.98(<63), 178.97(>51), 187.21(8.7)
1043 1	†8	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
1043.02 4	0.0082 8	<sup>133</sup> La(3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
1043.05 10	0.81 8	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
• 1043.05 4	0.0774 21	<sup>165</sup> Tm(30.06 h)	242.917(35.5), 47.155(16.9), 297.369(12.71)
1043.1 3	0.127 25	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
1043.1 3	2.6×10 <sup>-5</sup>	<sup>139</sup> Ba(83.06 m)	165.864(0.23), 1420.5(0.26), 1254.7(0.026)
1043.1 1	0.038 5	<sup>141</sup> Pm(20.90 m)	1223.26(4.74), 886.22(2.44), 193.68(1.61)
• 1043.17 13	0.288 11	<sup>206</sup> Po(8.8 d)	1032.26(32.9), 511.36(24.1), 286.410(23.8)
1043.2 8	1.6 4	<sup>69</sup> Ni(11.4 s)	1871.1(40.9), 679.7(39.7), 1213.0(39.3)
1043.2 5	1.8 13	<sup>105</sup> Mo(35.6 s)	85.4(25.0), 76.50(19.3), 147.8(14.8)
• 1043.20 8	0.152 12	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1043.2 8	1.09 22	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1043.2 3	0.082 25	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
1043.29 11	0.059 11	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1043.3 2	†2.6 2	<sup>75</sup> Ga(126 s)	253.0(†100), 574.8(†31.6), 885.6(†11.1)
1043.3 6	0.12 4	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1043.3 1	0.241 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1043.3 2	0.140 25	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
1043.4 6	0.076 22	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1043.45 20	0.109 18	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1043.5 2	†0.46 7	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1043.59 8	1.27 16	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
1043.6 4	0.30 3	<sup>76</sup> Ga(32.6 s)	562.93(66), 545.51(26.0), 1108.41(15.8)
1043.65 7	0.057 3	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1043.7 5	2.70 5	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1043.7 3	0.35 6	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1043.7 4	0.52 7	<sup>159</sup> Eu(18.1 m)	67.8(19), 78.6(9.1), 95.7(7.0)
• 1043.72 3	1.291 9	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1043.75 12	0.007	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
1043.8 3	†95 71	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
1043.95	0.24	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1043.96 14	0.076 6	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
• 1044.002 5	27.23 25	<sup>82</sup> Br(35.30 h)	776.517(83.5), 554.348(70.8), 619.106(43.4)
1044.002 5	0.0008 5	<sup>82</sup> Rb(1.273 m)	776.517(13), 1395.139(0.471), 698.374(0.133)
1044.002 5	32.068 8	<sup>82</sup> Rb(6.472 h)	776.517(84), 554.348(62.4), 619.106(37.976)
• 1044.03 10	0.348 12	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1044.03 9	0.63 7	<sup>205</sup> Po(1.66 h)	872.39(37), 1001.21(28.8), 849.83(25.5)
1044.04 6	0.073 11	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1044.2 1	4.7 3	<sup>92</sup> Kr(1.840 s)	142.307(64), 1218.6(60), 812.6(14.6)
• 1044.2 5	0.135 21	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1044.2 4	0.0085 14	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1044.3 6	0.06 2	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1044.3 3	0.10 5	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
1044.3	0.006 3	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1044.30 22	0.00055 10	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1044.32 4	0.58 8	<sup>204</sup> At(9.2 m)	684.341(95), 516.318(90), 426.253(67.5)
1044.40 10	0.41 3	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1044.4 15	0.006 3	<sup>157</sup> Dy(8.14 h)	326.16(92), 182.20(1.84), 83.01(0.62)
1044.4 4	6.4 3	<sup>170</sup> Ho(2.76 m)	258.2(37.0), 931.3(36.1), 181.6(23.8)
1044.4 2	0.031	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1044.4099 60.237 4		$^{182}\text{Ta}(114.43 \text{ d})$	67.75001(41.2), 1121.3007(34.9), 1221.4066(26.98)
1044.4099 60.175 22		$^{182}\text{Re}(12.7 \text{ h})$	67.75001(38.2), 1121.3007(32), 1221.4066(24.8)
• 1044.4099 60.285 10		$^{182}\text{Re}(64.0 \text{ h})$	229.3220(26), 67.75001(22.2), 1121.3007(22.0)
1044.42 20 0.44 9		$^{122}\text{In}(10.3 \text{ s})$	1140.55(98), 1001.58(50.7), 1190.58(20.5)
1044.49 0.66 20		$^{35}\text{K}(190 \text{ ms})$	2982.67(50.8), 2589.80(26.4), 1750.6(14.2)
1044.50 15 0.96 10		$^{137}\text{Nd}(38.5 \text{ m})$	75.5(17.0), 580.6(13), 306.60(10.0)
1044.5 5 0.19 8		$^{144}\text{La}(40.8 \text{ s})$	397.440(94.3), 541.20(39.2), 844.8(22.3)
1044.5 10 0.3 2		$^{181}\text{Os}(105 \text{ m})$	238.75(44), 826.77(20), 118.03(12.9)
1044.53 8 $\dagger$ 7.9 6		$^{184}\text{Ir}(3.09 \text{ h})$	263.97( $\dagger$ 100), 119.80( $\dagger$ 45), 390.38( $\dagger$ 38)
1044.7 2 $\dagger$ 13.8 9		$^{129}\text{Ba}(2.17 \text{ h})$	182.30( $\dagger$ 100), 1459.1( $\dagger$ 50.0), 202.38( $\dagger$ 33.7)
1044.7 1 0.064 10		$^{181}\text{Au}(11.4 \text{ s})$	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1044.7 3 $\dagger$ 59 6		$^{193}\text{Tl}(21.6 \text{ m})$	324.37( $\dagger$ 100), 676.10( $\dagger$ 48), 1579.3( $\dagger$ 45)
1044.7 4 0.059 18		$^{211}\text{Rn}(14.6 \text{ h})$	674.1(45), 1362.9(32.5), 678.4(28.9)
1044.72 4 3.5 4		$^{125}\text{Cd}(0.57 \text{ s})$	1027.53(25.8), 1173.16(25.1), 736.65(12.6)
• 1044.845 190.0189 16		$^{71}\text{As}(65.28 \text{ h})$	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1044.88 12 1.7 3		$^{123}\text{Cd}(2.10 \text{ s})$	371.32(51), 1052.28(24.8), 1438.13(8.3)
1044.9 2 0.51 13		$^{74}\text{Br}(25.4 \text{ m})$	634.78(64), 219.05(18.1), 634.26(14.1)
1044.9 2 0.36 5		$^{74}\text{Br}(46 \text{ m})$	634.78(91), 728.37(35.6), 634.26(16.4)
1044.9 5 0.07 3		$^{99}\text{Nb}(2.6 \text{ m})$	97.785(7), 253.50(3.64), 2641.3(3.64)
1044.9 6 1.0 3		$^{116}\text{Cs}(3.84 \text{ s})$	393.5(<0.09), 524.3(76), 615.1(30.4)
1044.9 4 0.27 4		$^{127}\text{Sn}(2.10 \text{ h})$	1114.3(39), 1095.6(20), 823.1(10.9)
1045 1 >1.4		$^{104}\text{Sn}(20.8 \text{ s})$	132.7(56), 912.6(42), 401.2(16.2)
1045.0 0.009 6		$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1045.0 10 0.21 7		$^{198}\text{Tl}(5.3 \text{ h})$	411.8044(82), 675.8874(11), 636.4(10.1)
• 1045.05 24 0.025 14		$^{140}\text{La}(1.6781 \text{ d})$	1596.210(95), 487.021(45.5), 815.772(23.28)
1045.08 6 0.018 3		$^{246}\text{Am}(25.0 \text{ m})$	1078.86(27.7), 798.80(25), 1062.04(17.1)
1045.1 3 0.23 6		$^{75}\text{Zn}(10.2 \text{ s})$	228.67(28.9), 432.29(20.2), 155.94(17.2)
1045.11 20 0.303 20		$^{163}\text{Yb}(11.05 \text{ m})$	860.28(10.1), 63.62(6.5), 123.21(1.98)
• 1045.131 3 1.84 4		$^{124}\text{Sb}(60.20 \text{ d})$	602.730(97.8), 1690.980(47.3), 722.786(10.76)
• 1045.131 3 0.42 3		$^{124}\text{I}(4.18 \text{ d})$	602.730(60), 1690.980(10.41), 722.786(9.98)
1045.2 7 0.10 4		$^{111}\text{Pd}(5.5 \text{ h})$	70.44(8.3), 391.25(5.4), 632.80(3.6)
1045.2 3 0.04 5		$^{129}\text{In}(0.61 \text{ s})$	2118.0(45), 1865.0(32), 769.3(9.1)
1045.2 2 0.30 9		$^{173}\text{Ta}(3.14 \text{ h})$	172.2(18), 69.70(5.9), 90.3(5.0)
1045.24 9 0.81 4		$^{110}\text{In}(4.9 \text{ h})$	657.7622(98.3), 884.685(92.9), 937.493(68.4)
1045.3 3 0.049 25		$^{230}\text{Ac}(122 \text{ s})$	454.95(8), 508.20(5.15), 1243.9(3.50)
1045.40 18 0.25 5		$^{103}\text{Cd}(7.3 \text{ m})$	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1045.4 6 0.028 6		$^{214}\text{Bi}(19.9 \text{ m})$	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1045.5 3 0.071 20		$^{183}\text{Hf}(1.067 \text{ h})$	783.754(66), 73.174(38), 459.069(27)
1045.5 10 0.46 3		$^{198}\text{Tl}(5.3 \text{ h})$	411.8044(82), 675.8874(11), 636.4(10.1)
1045.58 22 0.011 6		$^{73}\text{Se}(39.8 \text{ m})$	67.03(2.59), 253.70(2.356), 84.0(2.03)
1045.6 10 0.37 19		$^{149}\text{Er}(8.9 \text{ s})$	1171.0(9.4), 171.5(6.5), 343.9(6.3)
1045.60 15 0.00050 8		$^{165}\text{Dy}(2.334 \text{ h})$	94.700(3.58), 361.68(0.84), 633.415(0.568)
1045.6 10 0.63 17		$^{191}\text{Hg}(50.8 \text{ m})$	252.5(57), 420.1(18.6), 578.6(17.6)
1045.648 200.170 4		$^{166}\text{Tm}(7.70 \text{ h})$	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1045.66 6 0.018 3		$^{246}\text{Am}(25.0 \text{ m})$	1078.86(27.7), 798.80(25), 1062.04(17.1)
1045.7 2 0.51 4		$^{94}\text{Rb}(2.702 \text{ s})$	1309.1(87), 836.9(87.10), 1577.5(31.8)
1045.7 5 0.93 12		$^{128}\text{La}(5.0 \text{ m})$	284.00(87), 479.24(54), 643.65(14.7)
1045.7 2 2.6 3		$^{151}\text{Ho}(35.2 \text{ s})$	527.4(63), 775.53(9.2), 209.5(5.69)
1045.7 4 0.11 5		$^{185}\text{Au}(4.25 \text{ m})$	310.6(13), 243.1(6.6), 77.7(6)
1045.72 10 1.26 7		$^{150}\text{Tb}(3.48 \text{ h})$	638.05(72), 496.3(14.8), 792.5(4.39)
1045.73 4 <0.01		$^{52}\text{V}(3.75 \text{ m})$	1434.068(100), 1333.649(0.588), 1530.67(0.116)
• 1045.73 4 $\dagger$ <0.04		$^{52}\text{Mn}(5.591 \text{ d})$	1434.068( $\dagger$ 100.0), 935.538( $\dagger$ 94.9), 744.233( $\dagger$ 90.6)
1045.83 8 0.0133 16		$^{106}\text{Rh}(29.80 \text{ s})$	511.842(20), 621.94(9.93), 1050.39(1.56)
1045.83 8 30.4 15		$^{106}\text{Rh}(131 \text{ m})$	511.842(85), 717.24(28.9), 450.97(24.2)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1045.83 8	29.6 10	<sup>106</sup> Ag(8.28 d)	511.842(88), 717.24(28.9), 450.97(28.2)
1045.873 120.35 4		<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
1045.873 120.0083 20		<sup>150</sup> Eu(12.8 h)	333.971(4.0), 406.52(2.81), 1165.739(0.257)
• 1045.873 121.00 7		<sup>150</sup> Eu(35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
1045.9	0.28	<sup>148</sup> Dy(3.1 m)	620.24(96), 1247.2(1.4), 178.3(0.5)
1045.9	0.035 18	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1045.9 3	0.42 3	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
1045.92 12	1.04 16	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1046		<sup>130</sup> Pr(40.0 s)	951.9, 499.0, 1405
1046.0 6	0.19 6	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
1046 1	0.25	<sup>186</sup> Ta(10.5 m)	197.93(50), 214.87(42.3), 510.82(37.5)
• 1046.07 7	0.077 4	<sup>165</sup> Tm(30.06 h)	242.917(35.5), 47.155(16.9), 297.369(12.71)
1046.08 6	1.02 9	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
1046.1 8	0.038 13	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
1046.16 6	0.0038 8	<sup>179</sup> Lu(4.59 h)	214.335(11.3), 214.930(0.46), 123.3790(0.45)
1046.3	0.34 4	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
1046.3 3	0.16 3	<sup>210</sup> At(8.1 h)	1181.39(99.3), 245.31(79), 1483.39(46.5)
1046.31 1	0.297 11	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1046.4 5	0.09 3	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
1046.4 2	†1.8 2	<sup>104</sup> Nb(0.92 s)	192.2(†100), 368.4(†20), 620.2(†19.2)
• 1046.4 3	0.090 7	<sup>131</sup> Ba(11.50 d)	496.326(47), 123.805(28.97), 216.078(19.66)
1046.4 4	†0.8 3	<sup>131</sup> Pr(1.53 m)	266.13(†100), 72.82(†64), 387.56(†38)
1046.4 2	1.49 13	<sup>141</sup> Sm(10.2 m)	403.8(43), 438.8(37.7), 1292.6(6.8)
1046.40 10	0.043 14	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
1046.45 22	0.31 4	<sup>204</sup> Po(3.53 h)	883.984(29.9), 270.068(27.8), 1016.31(24.1)
1046.5 3	0.44 4	<sup>99</sup> Pd(21.4 m)	136.00(73), 263.60(15.2), 673.38(6.9)
1046.5 2	0.0118 17	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1046.5 4	2.8 3	<sup>130</sup> Sb(6.3 m)	839.49(100), 793.53(86), 182.36(41)
1046.56 3	3.40 21	<sup>132</sup> La(4.8 h)	464.55(76), 567.14(15.7), 1909.91(9.0)
1046.56 3	5.8 9	<sup>132</sup> La(24.3 m)	464.55(22), 663.07(11.6), 285.6(7)
1046.57 14	0.120 12	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
1046.58 5	†17 1	<sup>102</sup> Tc(4.35 m)	475.070(†115), 628.05(†35.3), 631.28(†21.3)
• 1046.58 5	33.9 20	<sup>102</sup> Rh(2.9 y)	475.070(95), 631.28(55.9), 697.49(43.9)
• 1046.58 5	†0.44 3	<sup>102</sup> Rh(207 d)	475.070(†47), 628.05(†4.6), 1103.16(†2.99)
1046.6 3	0.54 6	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
• 1046.60 25	0.087 5	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1046.62 10	0.097 18	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
• 1046.68 3	0.134 3	<sup>57</sup> Ni(35.60 h)	1377.63(81.7), 127.164(16.7), 1919.52(12.26)
1046.7	0.23	<sup>199</sup> Po(4.13 m)	1002.19(19), 1034.3(16), 362.01(7)
• 1046.78 4	0.0120 9	<sup>143</sup> Ce(33.039 h)	293.266(42.80), 57.356(11.7), 664.571(5.69)
1046.8 10	†3.6 5	<sup>93</sup> Tc(43.5 m)	2644.55(†42.7), 943.33(†8.7), 3129.0(†6.4)
1046.8	0.20	<sup>133</sup> Pr(6.5 m)	134.3(14), 74.0(10), 315.6(10)
• 1046.8 5	0.043 10	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1046.9 5	0.18	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
1046.9 2	0.128 15	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1046.9 3	0.57 4	<sup>188</sup> Hg(3.25 m)	66.7(63), 190.1(4.40), 82.7(2.6)
1046.99 11	†1.93 19	<sup>188</sup> Au(8.84 m)	265.63(†100), 340.04(†23.9), 605.5(†16.3)
1047.044 200.95 19		<sup>196</sup> Ir(52 s)	355.684(19), 779.630(10.4), 446.613(4.5)
1047.07 6	0.094 6	<sup>145</sup> Ce(3.01 m)	724.33(59), 62.54(13.33), 1148.03(9.15)
1047.1 5	0.34	<sup>86</sup> Se(15.3 s)	2441.1(43.0), 2660.0(21.6), 48.3(15.4)
1047.1 3	†10.0 6	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
• 1047.177 130.0500 25		<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1047.177 130.137 20		<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1047.177	130.92 8	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
1047.3 1	†1.57 9	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1047.3 20	7.2 7	<sup>212</sup> Fr(20.0 m)	1273.8(46), 227.72(43), 1185.6(14.1)
1047.35 8	4.2 3	<sup>99</sup> Sr(0.269 s)	125.118(16.1), 536.12(14.0), 1198.12(9.2)
1047.4 2	0.90 7	<sup>65</sup> Ga(15.2 m)	115.09(54), 61.20(11.4), 153.0(8.9)
1047.42 18	0.021 3	<sup>85</sup> Br(2.90 m)	802.41(2.56), 924.63(1.63), 919.06(0.65)
1047.5 10	0.23 8	<sup>80</sup> Ga(1.697 s)	659.14(78.0), 1083.47(48.4), 1109.36(18.6)
1047.5 4	3.5 4	<sup>128</sup> Sb(9.01 h)	753.82(100), 743.22(100), 314.12(61)
1047.5 3	0.111 16	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1047.5 5	0.33 4	<sup>186</sup> Ir(16.64 h)	296.911(64.0), 137.155(42), 434.849(34.4)
1047.5 2	†1.2 2	<sup>203</sup> At(7.4 m)	639.4(†100), 641.5(†55.8), 738.1(†38.4)
1047.51 5	0.00225 18	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
1047.51 5	0.10	<sup>250</sup> Es(2.22 h)	989.12(13.3), 1031.85(10.6), 828.82(5.5)
• 1047.55 10	0.056 6	<sup>206</sup> Bi(6.243 d)	803.10(99), 881.01(66.2), 516.18(40.7)
• 1047.570	200.188 5	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
• 1047.57 2	0.05 3	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
• 1047.60 3	1.324 14	<sup>131</sup> Ba(11.50 d)	496.326(47), 123.805(28.97), 216.078(19.66)
1047.6 5	0.70 4	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
1047.6 3	0.083 12	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1047.62 10	0.0071 7	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1047.7 4	1.0 2	<sup>104</sup> In(1.8 m)	658.0(100), 834.1(99), 878.1(29.4)
1047.70 4	0.017 5	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1047.7 3	0.57 4	<sup>188</sup> Hg(3.25 m)	66.7(63), 190.1(4.40), 82.7(2.6)
1047.8 1	†2.6 3	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1047.8 1	1.21 15	<sup>160</sup> Ho(25.6 m)	728.18(46.9), 879.383(26.6), 962.317(25.6)
1047.9 5	0.6 3	<sup>105</sup> Tc(7.6 m)	143.26(16), 107.945(14.1), 321.50(11.1)
1047.94 23	0.046 5	<sup>81</sup> Rb(4.576 h)	190.38(64.0), 446.15(23.2), 510.31(5.3)
1048 1	0.02 1	<sup>87</sup> Zr(1.68 h)	1227(1.0), 1209.8(0.33), 1024(0.28)
1048.0 5	0.32 4	<sup>96</sup> Rh(9.90 m)	832.57(100), 685.49(95.7), 631.71(74.5)
1048	†2.3	<sup>107</sup> Sn(2.90 m)	1129.2(†100), 678.5(†100), 1540.6(†30)
1048 1	2.8	<sup>124</sup> Ba(11.9 m)	169.3(20), 1216(12), 188.98(10)
• 1048.073	20†80 3	<sup>136</sup> Cs(13.16 d)	818.514(†100), 340.547(†42.3), 1235.362(†20.1)
1048.09 9	0.29 5	<sup>199</sup> Pb(90 m)	366.90(44.2), 353.39(9.5), 1135.04(7.8)
1048.1 5	†0.9 5	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
1048.1 5	0.95 10	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
1048.11 5	0.68 3	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1048.14 11	2.25 20	<sup>206</sup> At(30.0 m)	700.66(98), 477.10(86), 395.54(48)
1048.2 3	0.062 12	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1048.2 4	0.44 22	<sup>170</sup> Ho(2.76 m)	258.2(37.0), 931.3(36.1), 181.6(23.8)
1048.22 29	0.09 4	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
1048.30 19	6.2 18	<sup>110</sup> Rh(28.5 s)	373.80(91), 546.90(42.4), 687.70(25.8)
1048.31 24	0.92 6	<sup>95</sup> Y(10.3 m)	954.00(16), 2175.6(7.00), 3576.0(6.4)
1048.4 5	0.095 16	<sup>227</sup> Fr(2.47 m)	90.035(39), 585.804(29.5), 64.267(14.5)
• 1048.44 6	3.19 5	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
1048.5 5	0.55 5	<sup>117</sup> Xe(61 s)	28.5(7.0), 221.3(10.0), 32.3(7.6)
1048.5 3	0.012 6	<sup>167</sup> Yb(17.5 m)	113.34(55.3), 106.18(22.5), 176.25(21)
1048.5 10	0.30 24	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
1048.5 4	0.30 8	<sup>193</sup> Hg(11.8 h)	257.97(61), 407.63(25), 573.25(14.2)
1048.6 3	0.044 15	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1048.6 3	5.3 5	<sup>127</sup> In(1.09 s)	1597.7(49), 646.1(6.2), 805.1(5.6)
• 1048.6 6	0.069 21	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1048.6 3	0.27 3	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1048.61 4	0.0261 12	<sup>194</sup> Ir(19.15 h)	328.455(13.1), 293.545(2.55), 645.157(1.17)
• 1048.61 4	0.85 5	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1048.70 10	0.24 3	$^{98}\text{Nb}$ (51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1048.75 25	0.112 19	$^{158}\text{Tm}$ (3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
1048.75 12	0.00188 20	$^{161}\text{Gd}$ (3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1048.8 5	0.0044 11	$^{63}\text{Zn}$ (38.47 m)	669.62(8), 962.06(6.5), 1412.08(0.75)
1048.8 10	0.29 3	$^{228}\text{Fr}$ (39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1048.89 15	$\dagger$ 2.9 6	$^{189}\text{Hg}$ (7.6 m)	320.99( $\dagger$ 100), 78.21( $\dagger$ 63), 565.42( $\dagger$ 48)
1048.9 3	0.137 15	$^{123}\text{Xe}$ (2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
• 1049.043 255.38 19	0.72 14	$^{150}\text{Eu}$ (35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
1049.1 7	$\dagger$ 7	$^{128}\text{La}$ (5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1049.1	$\dagger$ 7	$^{148}\text{Cs}$ (158 ms)	141.7( $\dagger$ 100), 687.2( $\dagger$ 23), 545.5( $\dagger$ 20)
1049.2	0.076 13	$^{143}\text{Cs}$ (1.78 s)	195.554(13), 232.421(8.32), 306.424(6.80)
1049.2 4	0.09 4	$^{146}\text{Ba}$ (2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1049.2 1	0.20 3	$^{204}\text{Bi}$ (11.22 h)	899.15(98), 374.72(82), 984.02(59)
1049.2 5	0.064 7	$^{208}\text{At}$ (1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1049.2 3	1.10 8	$^{230}\text{Fr}$ (19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
1049.21 9	87 3	$^{196}\text{Bi}$ (308 s)	689.00(35.5), 776.6(9.1), 1449.7(6.9)
1049.21 9	$\dagger$ 21.1 8	$^{196}\text{Bi}$ (240 s)	371.93( $\dagger$ 20.8), 689.00( $\dagger$ 19.2), 59.23( $\dagger$ 14.4)
1049.27 25	0.020 6	$^{195}\text{Hg}$ (9.9 h)	779.80(7), 61.46(6.2), 585.13(1.99)
• 1049.4 1	0.0174 7	$^{154}\text{Eu}$ (8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1049.48 12	0.142 10	$^{88}\text{Kr}$ (2.84 h)	2392.11(34.6), 196.301(25.98), 2195.842(13.18)
1049.5 2	0.089 15	$^{151}\text{Nd}$ (12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1049.6 10	0.29	$^{67}\text{As}$ (42.5 s)	122.7(19.2), 120.8(9.3), 243.6(7.8)
1049.6 4	1.17 6	$^{109}\text{In}$ (4.2 h)	203.5(74), 623.7(5.5), 1148.9(4.3)
1049.6 4	0.046 12	$^{132}\text{I}$ (2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
1049.6 3	$\dagger$ 0.51 21	$^{194}\text{Bi}$ (92 s)	965.4( $\dagger$ 100.0), 575.1( $\dagger$ 98.0), 280.1( $\dagger$ 73.7)
1049.7 1	98	$^{52}\text{Sc}$ (8.2 s)	1267.9(39), 1032.3(13.7), 1214.5(11.7)
1049.7 6	0.081 13	$^{115}\text{Ag}$ (20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1049.7 3	0.050 25	$^{152}\text{Pm}$ (4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
1049.7 4	$\dagger$ 8	$^{154}\text{Nd}$ (25.9 s)	151.703( $\dagger$ 800), 799.55( $\dagger$ 600), 180.693( $\dagger$ 510)
1049.7 13	0.097 18	$^{167}\text{Lu}$ (51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1049.8 1	$\dagger$ 1.8 3	$^{160}\text{Lu}$ (36.1 s)	243.2( $\dagger$ 100), 395.4( $\dagger$ 21.0), 577.2( $\dagger$ 10.7)
1049.82 8	0.346 19	$^{101}\text{Mo}$ (14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
1049.83 4	0.113 6	$^{151}\text{Tb}$ (17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1049.87 22	1.53 8	$^{164}\text{Tm}$ (5.1 m)	208.08(14.6), 314.97(10), 240.49(7.5)
1049.9 1	0.045 3	$^{113}\text{Ag}$ (5.37 h)	298.58(10), 258.8(1.64), 316.3(1.343)
1049.93 3	1.13 3	$^{153}\text{Dy}$ (6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1050		$^{55}\text{V}$ (6.54 s)	517.71(73), 880.70(18.1), 921.10(4.6)
1050.0 2	$\dagger$ 1.8 2	$^{104}\text{Nb}$ (0.92 s)	192.2( $\dagger$ 100), 368.4( $\dagger$ 20), 620.2( $\dagger$ 19.2)
1050.0 4	0.00020 3	$^{107}\text{Cd}$ (6.50 h)	93.124(1.45), 828.93(0.17), 796.462(0.0665)
1050 1		$^{119}\text{Te}$ (16.03 h)	644.01(84), 699.85(10.1), 1749.65(3.95)
1050.0	$\dagger$ 3.1 10	$^{131}\text{Ce}$ (10.3 m)	169.42( $\dagger$ 100), 414.25( $\dagger$ 68), 119.18( $\dagger$ 44)
1050	$\dagger$ 0.08 1	$^{136}\text{Pm}$ (107 s)	373.8( $\dagger$ 100), 602.7( $\dagger$ 38.4), 857.2( $\dagger$ 23.4)
1050.0 3	0.017 7	$^{155}\text{Dy}$ (9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1050 1	0.21 11	$^{164}\text{Tb}$ (3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1050.06 14	1.95 6	$^{172}\text{Ta}$ (36.8 m)	214.02(46), 95.23(17.5), 1109.27(12.4)
1050.1 4	6.9 6	$^{176}\text{Tm}$ (1.9 m)	189.57(44.5), 1069.3(34), 381.8(21.8)
1050.11 9	0.042 4	$^{119}\text{I}$ (19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
1050.15 4	$\dagger$ 1.15 4	$^{148}\text{Tb}$ (60 m)	784.430( $\dagger$ 119.0), 489.049( $\dagger$ 28.0), 1079.025( $\dagger$ 16.2)
1050.18 28	0.18 4	$^{174}\text{Ta}$ (1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1050.2 2	0.34 7	$^{108}\text{In}$ (58.0 m)	875.46(100), 632.96(100), 242.84(41)
1050.2 1	6.6 5	$^{119}\text{Cd}$ (2.69 m)	292.9(36.8), 343.0(16.9), 1609.7(10.9)
1050.2 2	$\dagger$ 100	$^{151}\text{Yb}$ (1.6 s)	1245.6( $\dagger$ 100), 624.8( $\dagger$ 100), 1332.2( $\dagger$ 100)
1050.2 2	$\dagger$ 1.7 2	$^{172}\text{Ir}$ (2.0 s)	227.8( $\dagger$ 100.0), 378.4( $\dagger$ 62.0), 448.4( $\dagger$ 40.5)
1050.2 5	$\dagger$ 0.9 4	$^{198}\text{Tl}$ (1.87 h)	636.4( $\dagger$ 202), 411.8044( $\dagger$ 202), 587.2( $\dagger$ 185)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1050.21 5	0.00069 8	$^{129}\text{Te}$ (69.6 m)	27.81(16.3), 459.60(7.70), 487.39(1.42)
• 1050.21 5	0.0178 14	$^{129}\text{Te}$ (33.6 d)	695.88(2.988), 729.57(0.70), 556.65(0.118)
1050.3 2	0.048 11	$^{107}\text{Ru}$ (3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
1050.3 2	0.039 10	$^{167}\text{Yb}$ (17.5 m)	113.34(55.3), 106.18(22.5), 176.25(21)
1050.39 5	1.56 3	$^{106}\text{Rh}$ (29.80 s)	511.842(20), 621.94(9.93), 616.174(0.75)
1050.39 5	0.167 5	$^{106}\text{Ag}$ (23.96 m)	511.842(17.0), 621.94(0.316), 873.48(0.199)
• 1050.39 5	0.26 13	$^{106}\text{Ag}$ (8.28 d)	511.842(88), 1045.83(29.6), 717.24(28.9)
• 1050.40 10	0.99 3	$^{170}\text{Lu}$ (2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1050.43 18	0.59 7	$^{151}\text{Dy}$ (17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1050.5 8	0.7 3	$^{131}\text{Sb}$ (23.03 m)	943.4(47), 933.1(26.1), 642.30(23)
1050.55	0.56 8	$^{44}\text{K}$ (22.13 m)	1157.031(58), 2150.76(22.7), 2518.95(9.69)
1050.59 17	†4.7 5	$^{165}\text{Lu}$ (10.74 m)	132.49(†100), 120.60(†100), 174.25(†47.0)
• 1050.6 2	0.0012 5	$^{71}\text{As}$ (65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
• 1050.6 3	0.113 5	$^{83}\text{Sr}$ (32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1050.6 3	0.034 14	$^{93}\text{Sr}$ (7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
1050.6	0.37	$^{148}\text{Pr}$ (2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
1050.69 3	81.0 25	$^{118}\text{In}$ (4.45 m)	1229.68(96), 683.08(54.3), 445.99(5.53)
1050.69 3	1.37 14	$^{118}\text{In}$ (8.5 s)	1229.68(1.4), 253.68(1.30), 41.0(0.25)
1050.69 3	97 6	$^{118}\text{Sb}$ (5.00 h)	1229.68(100), 253.68(99), 41.0(30.0)
1050.73 4	6.91 11	$^{72}\text{Ga}$ (14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)
• 1050.73 4	0.984 21	$^{72}\text{As}$ (26.0 h)	834.01(80), 629.95(7.92), 1463.95(1.107)
1050.75 5	2.61 11	$^{95}\text{Ru}$ (1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
1050.8 3	1.5	$^{145}\text{La}$ (24.8 s)	70.0(11), 355.8(3.8), 118.2(3.6)
1050.8 3	>1.5	$^{145}\text{La}$ (24.8 s)	70.0(11), 355.8(3.8), 118.2(3.6)
1050.8 4	0.10 3	$^{156}\text{Ho}$ (56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1050.8 3	0.158 23	$^{181}\text{Au}$ (11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1050.9 4	0.33 4	$^{146}\text{Ba}$ (2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1050.95 29	0.0053 7	$^{91}\text{Mo}$ (15.49 m)	1636.99(0.329), 1581.04(0.226), 2631.97(0.118)
1051.0	0.47 8	$^{40}\text{Cl}$ (1.35 m)	1460.830(79), 2839.8(30.4), 2621.5(15.4)
1051.0 5	0.030 15	$^{151}\text{Nd}$ (12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1051.0 5	0.0004 2	$^{171}\text{Er}$ (7.516 h)	308.31(64.4), 295.901(28.9), 111.621(20.5)
1051.0 8	†8.5 19	$^{195}\text{Pb}$ (15 m)	883.1(†100), 393.7(†42), 871.0(†36)
1051.0 10	0.095 15	$^{208}\text{Rn}$ (24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
• 1051.0 1	0.0165 19	$^{232}\text{Pa}$ (1.31 d)	969.315(41.6), 894.351(19.8), 150.059(10.8)
1051.03 11	0.108 16	$^{176}\text{Ta}$ (8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1051.1 3	0.050 19	$^{133}\text{Te}$ (12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
1051.2 3	†0.40 6	$^{129}\text{Ba}$ (2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
1051.3	3.9	$^{44}\text{Ar}$ (11.87 m)	182.6(66), 1703.4(57), 1886.0(31)
1051.3 8	0.0051 17	$^{245}\text{Pu}$ (10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1051.4 5	0.32 10	$^{115}\text{Te}$ (5.8 m)	723.569(30), 1380.58(23.0), 1326.83(22.7)
1051.4 2	0.062 10	$^{234}\text{Pa}$ (6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1051.41 20	0.49 5	$^{105}\text{In}$ (5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1051.412 5	0.175 3	$^{145}\text{Pr}$ (5.984 h)	748.278(0.5250), 675.795(0.514), 72.500(0.261)
• 1051.43 8	0.051 6	$^{153}\text{Tb}$ (2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1051.5 6	0.15 3	$^{117}\text{Cs}$ (8.4 s)	204.8(15.0), 29.7(9.9), 205.6(6.8)
1051.5 5	0.011 3	$^{151}\text{Tb}$ (17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1051.5 2	†13	$^{256}\text{Es}$ (7.6 h)	861.8(†100), 231.1(†61), 172.6(†49)
1051.53 4	0.213 8	$^{90}\text{Nb}$ (14.60 h)	1129.224(92.7), 2318.968(82.03), 141.178(66.8)
1051.57 15	0.025 8	$^{157}\text{Eu}$ (15.18 h)	63.929(23.0), 410.723(17.5), 370.509(11.0)
1051.6 5	†0.63 21	$^{183}\text{Hg}$ (9.4 s)	60.5(†100), 159.91(†21), 172.70(†17)
1051.6 7	0.55 10	$^{201}\text{Bi}$ (108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1051.7 2	0.47 7	$^{76}\text{Ga}$ (32.6 s)	562.93(66), 545.51(26.0), 1108.41(15.8)
1051.7 3	0.075 12	$^{93}\text{Kr}$ (1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
1051.7 1	3.79 20	$^{117}\text{Cd}$ (2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1051.7 1		$^{117}\text{Cd}$ (3.36 h)	1997.33(26), 1065.98(23.1), 564.397(14.7)
1051.7 1	0.239 13	$^{143}\text{Cs}$ (1.78 s)	195.554(13), 232.421(8.32), 306.424(6.80)
1051.7 3	2.8 6	$^{159}\text{Sm}$ (11.37 s)	189.79(46), 861.97(18.2), 254.43(9.8)
• 1051.73 10	0.0033 4	$^{171}\text{Lu}$ (8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
1051.8 3	0.100 10	$^{141}\text{Pm}$ (20.90 m)	1223.26(4.74), 886.22(2.44), 193.68(1.61)
1051.8 3	†0.48 19	$^{189}\text{Hg}$ (7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1051.90 3	0.067 8	$^{135}\text{Ce}$ (17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
1051.90 11	0.0044 13	$^{149}\text{Nd}$ (1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
1051.9 7	0.48 24	$^{175}\text{Ta}$ (10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1051.96 9	1.10 10	$^{141}\text{Xe}$ (1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1051.96 3	0.340 14	$^{214}\text{Bi}$ (19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1052.0 2	1.22 20	$^{126}\text{Ba}$ (100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
1052.0 3	0.20 3	$^{141}\text{Eu}$ (40.0 s)	394.0(9), 384.5(5.6), 382.9(2.97)
1052.0 5	0.057 11	$^{151}\text{Tb}$ (17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1052.0	0.11	$^{159}\text{Er}$ (36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
1052.0 2	0.6 1	$^{193}\text{Hg}$ (11.8 h)	257.97(61), 407.63(25), 573.25(14.2)
• 1052.10 4	0.43 3	$^{69}\text{Ge}$ (39.05 h)	1107.01(36), 574.17(13.3), 872.14(11.9)
• 1052.11 20	0.034 10	$^{188}\text{Ir}$ (41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
1052.2 3	0.067 19	$^{134}\text{I}$ (52.6 m)	847.025(95.4), 884.090(64.9), 1072.547(15.0)
1052.2 7	0.050 20	$^{163}\text{Yb}$ (11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1052.28 3	24.8 16	$^{123}\text{Cd}$ (2.10 s)	371.32(51), 1438.13(8.3), 1842.86(7.7)
1052.28 3	0.31 3	$^{123}\text{Cd}$ (1.82 s)	1165.86(25.7), 1027.45(22.6), 2102.81(12.5)
1052.296 270.556 13		$^{133}\text{I}$ (20.8 h)	529.872(87.0), 875.329(4.51), 1298.223(2.35)
1052.3 3	†2.9 5	$^{152}\text{Tb}$ (17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
1052.3 3	0.07 4	$^{152}\text{Tb}$ (4.2 m)	344.281(20.8), 411.115(18.8), 471.9(12.2)
1052.37 13	0.104 15	$^{163}\text{Tm}$ (1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1052.4 2	0.0093 17	$^{121}\text{I}$ (2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1052.4 2	0.398 14	$^{146}\text{Ba}$ (2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1052.4 4	0.42 11	$^{157}\text{Pm}$ (10.56 s)	160.61(35), 188.052(13.5), 571.27(5.39)
1052.4 2	0.12 3	$^{173}\text{Ta}$ (3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
1052.4 10	0.20 3	$^{228}\text{Fr}$ (39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1052.45 25	0.09 4	$^{158}\text{Tm}$ (3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
1052.46 7	0.319 19	$^{79}\text{Ga}$ (2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
1052.48 16	0.116 12	$^{192}\text{Au}$ (4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1052.5 5	0.18 3	$^{177}\text{W}$ (135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
1052.51 19	1.15 6	$^{103}\text{Cd}$ (7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1052.54 15	0.0313 11	$^{77}\text{Ge}$ (11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
1052.6 7	0.38 15	$^{96}\text{Sr}$ (1.07 s)	122.297(76.50), 809.401(71.9), 931.7(11.8)
1052.6 2	0.46	$^{146}\text{Cs}$ (0.343 s)	181.02(57.0), 557.76(9.18), 332.38(6.44)
1052.66 9	0.28 5	$^{199}\text{Pb}$ (90 m)	366.90(44.2), 353.39(9.5), 1135.04(7.8)
1052.7 1	0.73 17	$^{117}\text{Cd}$ (2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
1052.7 3	2.02 11	$^{144}\text{La}$ (40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
1052.7 2	0.043 7	$^{176}\text{Ta}$ (8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1052.79 20	†29	$^{154}\text{Nd}$ (25.9 s)	151.703(†800), 799.55(†600), 180.693(†510)
1052.8 9	0.00031 13	$^{139}\text{Ba}$ (83.06 m)	165.864(0.23), 1420.5(0.26), 1254.7(0.026)
1052.8 5	7.4 4	$^{199}\text{Bi}$ (27 m)	560.1(22.0), 424.85(22), 841.7(11)
1052.86 13	0.31 5	$^{202}\text{Bi}$ (1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
1052.96 8	0.112 19	$^{98}\text{Nb}$ (51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1052.96 10	0.21 3	$^{224}\text{Fr}$ (3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
1052.99 16	†9.5 14	$^{181}\text{Pt}$ (51 s)	289.29(†100), 111.97(†100), 230.15(†92)
1053.0 3	0.60 10	$^{97}\text{Rb}$ (169.9 ms)	167.1(26), 585.2(21.0), 600.5(10.6)
1053.0 10	0.0042 25	$^{111}\text{Pd}$ (23.4 m)	580.00(0.8), 70.44(0.78), 1459.0(0.56)
1053.0 5	0.22	$^{125}\text{Cd}$ (0.57 s)	1027.53(25.8), 1173.16(25.1), 736.65(12.6)
1053.04 7	0.63 4	$^{143}\text{La}$ (14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1053.06 5	0.50 4	<sup>126</sup> In(1.60 s)	1141.11(55.9), 3344.61(21.6), 969.61(14.9)
1053.09 20	0.014 4	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1053.09 20	0.020 6	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
1053.1 2	0.15 3	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
1053.15 20	10.2 6	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1053.2	2.0 14	<sup>36</sup> Si(0.45 s)	175.0(68), 249.9(68), 878.2(44)
1053.2	†11.8	<sup>158</sup> Ho(21.3 m)	406.14(†100), 838.9(†84.3), 1484.1(†66.2)
• 1053.21	0.13	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1053.3	0.06 3	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1053.3	0.05 3	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1053.39 20	0.15 4	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
1053.4 1	0.93 8	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1053.4 4	0.09 5	<sup>141</sup> Eu(40.0 s)	394.0(9), 384.5(5.6), 382.9(2.97)
1053.4 15	0.16 16	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1053.5 3	9.7 10	<sup>114</sup> Rh(1.85 s)	332.9(87), 519.8(48.4), 618.7(31)
1053.5 5	0.09	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
1053.53 29	†1.8	<sup>197</sup> Ir(5.8 m)	469.72(†100), 430.56(†61), 815.92(†45)
1053.6 4	3.5 7	<sup>97</sup> Pd(3.10 m)	265.26(56), 475.2(26.7), 792.70(13.8)
1053.7 5	0.38	<sup>45</sup> Ar(21.48 s)	1020.04(34.0), 3703.2(33.3), 61.35(25.0)
1053.70 10	1.59 7	<sup>83</sup> Se(70.1 s)	1030.86(21.2), 356.687(18), 987.96(16.1)
1053.70 6	1.49 3	<sup>88</sup> Br(16.5 s)	775.28(63), 802.14(13.13), 1440.69(4.72)
1053.70 24	1.47 10	<sup>97</sup> Rh(30.7 m)	421.55(75), 840.13(12.0), 878.80(9.0)
1053.7 3	0.17 6	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
1053.7 3	†176 33	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
1053.7 5	0.51 19	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1053.7 3	0.00045 10	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
• 1053.7	0.112 22	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
• 1053.77 21	0.96 14	<sup>106</sup> Ag(8.28 d)	511.842(88), 1045.83(29.6), 717.24(28.9)
1053.8 5	3.7 9	<sup>98</sup> Y(2.0 s)	1223.0(80), 620.505(63), 647.58(53)
1053.8 1	0.55 8	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
1053.9 1	13.7 11	<sup>100</sup> Ag(2.01 m)	665.54(99), 750.67(78), 773.20(24.2)
1053.9 7	0.22 6	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1053.9 7	0.13 6	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
1054.0 5	0.17 7	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1054	10	<sup>120</sup> I(53 m)	560.44(100), 601.11(87), 614.62(67)
• 1054.0 2	0.009 4	<sup>124</sup> Sb(60.20 d)	602.730(97.8), 1690.980(47.3), 722.786(10.76)
• 1054.0 2	0.121 6	<sup>124</sup> I(4.18 d)	602.730(60), 1690.980(10.41), 722.786(9.98)
1054.1 3	0.26 13	<sup>63</sup> Ga(32.4 s)	637.04(11), 627.10(10.3), 192.94(5.7)
1054.11 20	0.019 6	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1054.11 20	0.14 4	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
1054.2 2	1.01 9	<sup>75</sup> Zn(10.2 s)	228.67(28.9), 432.29(20.2), 155.94(17.2)
1054.2 4	0.63 6	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
1054.22 4	1.07 8	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
• 1054.28 5	0.134 15	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1054.3 3	100 6	<sup>90</sup> Tc(49.2 s)	948.1(100), 944.7(36.6), 809.8(34.3)
1054.3 5	0.032 18	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1054.3 12	0.29 6	<sup>170</sup> Ta(6.76 m)	100.8(21.0), 221.2(15.7), 860.4(7.39)
1054.32 15	0.159 19	<sup>138</sup> Cs(33.41 m)	1435.795(76.3), 462.796(30.7), 1009.78(29.8)
• 1054.35 24	0.0021 13	<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
1054.4 10	4.4 7	<sup>166</sup> Ta(34.4 s)	158.5(53), 311.8(28.2), 810.1(9.8)
1054.4 3	†1.1 2	<sup>182</sup> Au(21 s)	154.76(†100), 264.33(†40.0), 855.41(†14.5)
1054.44	0.087 8	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
• 1054.45 10	0.204 6	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1054.53 7	1.63 9	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1054.54 20	0.031 10	$^{86}\text{Kr}$ (2.84 h)	2392.11(34.6), 196.301(25.98), 2195.842(13.18)
1054.55 23	0.106 12	$^{93}\text{Kr}$ (1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
1054.6 1	0.224 3	$^{91}\text{Sr}$ (9.63 h)	1024.3(33), 749.8(23.61), 652.9(8.0)
1054.6 3	3.6 4	$^{129}\text{In}$ (0.61 s)	2118.0(45), 1865.0(32), 769.3(9.1)
1054.7 3	3.7 6	$^{72}\text{Br}$ (78.6 s)	862.03(70), 1316.70(17.3), 454.70(13.1)
1054.7 3	0.059 12	$^{93}\text{Rb}$ (5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1054.7 6	0.9 4	$^{166}\text{Lu}$ (1.41 m)	228.12(15), 102.38(13), 285.07(11.0)
1054.7 3	0.36 4	$^{190}\text{Au}$ (42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
1054.7 3	$\dagger$ 3.2 3	$^{201}\text{Po}$ (15.3 m)	890.1( $\dagger$ 100), 240.1( $\dagger$ 71.0), 904.2( $\dagger$ 54.8)
1054.72 10	1.79 16	$^{68}\text{As}$ (151.6 s)	1015.96(78), 761.61(33.8), 651.12(32.1)
1054.8 4	$\dagger$ 14 3	$^{111}\text{Ru}$ (2.12 s)	303.8( $\dagger$ 100), 211.7( $\dagger$ 77.7), 382.0( $\dagger$ 41.3)
• 1054.94 13	0.038 7	$^{153}\text{Tb}$ (2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1055 1		$^{77}\text{Ge}$ (11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
1055	0.0009	$^{155}\text{Sm}$ (22.3 m)	104.3346(74.6), 245.771(3.7), 141.4428(1.98)
1055.0 3	0.058 6	$^{192}\text{Au}$ (4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1055 2	0.0006 3	$^{219}\text{Rn}$ (3.96 s)	271.23(10.8), 401.81(6.37), 130.59(0.119)
• 1055.0 10		$^{233}\text{U}$ (1.592 $\times$ 10 <sup>5</sup> y)	2.44(0.0862), 97.134(0.020), 54.699(0.0182)
• 1055.0 4	0.068 4	$^{232}\text{Pa}$ (1.31 d)	969.315(41.6), 894.351(19.8), 150.059(10.8)
1055.1	$\dagger$ 4.1	$^{144}\text{Gd}$ (4.5 m)	333.3( $\dagger$ 100), 2432.6( $\dagger$ 94.8), 629.5( $\dagger$ 32.4)
1055.1	0.026 9	$^{149}\text{Tb}$ (4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1055.13 11	0.34 3	$^{93}\text{Sr}$ (7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
1055.2	0.092 18	$^{141}\text{Ba}$ (18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
• 1055.23	<0.0	$^{170}\text{Lu}$ (2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1055.3 2	0.7	$^{116}\text{Te}$ (2.49 h)	93.70(31.4), 628.63(3.22), 102.97(1.95)
1055.4 4	5.7 4	$^{97}\text{Pd}$ (3.10 m)	265.26(56), 475.2(26.7), 792.70(13.8)
1055.4 4	0.110 10	$^{143}\text{Ba}$ (14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
• 1055.4 4	0.014 6	$^{172}\text{Lu}$ (6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1055.5 4	0.8 6	$^{102}\text{Ag}$ (12.9 m)	556.52(91), 719.40(58), 1744.99(17.3)
1055.5 4	0.23 8	$^{127}\text{Sn}$ (2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
1055.6 6	0.030 8	$^{85}\text{Y}$ (4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
1055.6 2	$\dagger$ 2.55 21	$^{185}\text{Hg}$ (21.6 s)	222.8( $\dagger$ 100.0), 258.7( $\dagger$ 98), 212.5( $\dagger$ 58)
1055.6 4	$\dagger$ 4.2 5	$^{191}\text{Tl}$ (5.22 m)	452.6( $\dagger$ 100), 470.1( $\dagger$ 98), 391.6( $\dagger$ 96)
1055.761 300.0312 16		$^{165}\text{Dy}$ (2.334 h)	94.700(3.58), 361.68(0.84), 633.415(0.568)
1055.8 3	0.85 10	$^{57}\text{Cr}$ (21.1 s)	83.16(8.3), 850.2(8.2), 1752.1(5)
1055.8 3	0.38 4	$^{118}\text{I}$ (13.7 m)	605.71(86.0), 545.12(10.9), 600.71(10.2)
1055.8	1.1	$^{147}\text{Ba}$ (0.893 s)	167.4(11), 105.2(4.8), 196.1(4.8)
1055.8	0.12 4	$^{149}\text{Tb}$ (4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1055.8 3	0.96 12	$^{154}\text{Ho}$ (11.76 m)	334.6(84), 412.4(15.0), 873.4(12.5)
• 1055.8 4	0.08 3	$^{169}\text{Lu}$ (34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1055.8 3	0.65 5	$^{177}\text{W}$ (135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
• 1055.9 2	0.0007 4	$^{71}\text{As}$ (65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
• 1056.197 490.00101 10		$^{99}\text{Mo}$ (65.94 h)	739.50(12.1), 181.063(6.08), 140.511(4.52)
1056.2 4	0.105 14	$^{187}\text{Au}$ (8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
1056.2 2	$\dagger$ 0.5 1	$^{203}\text{At}$ (7.4 m)	639.4( $\dagger$ 100), 641.5( $\dagger$ 55.8), 738.1( $\dagger$ 38.4)
1056.2 2	1.07 15	$^{232}\text{Ac}$ (119 s)	665.0(15.3), 1899(8.9), 1959(5.4)
1056.2 4	0.0059 10	$^{251}\text{Fm}$ (5.30 h)	880.8(2.19), 453.1(1.45), 405.6(0.99)
1056.23 5	0.00022 6	$^{187}\text{W}$ (23.72 h)	685.774(27.3), 479.531(21.8), 72.001(11.14)
1056.24 11	0.466 24	$^{141}\text{Cs}$ (24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1056.26 10	0.172 22	$^{153}\text{Dy}$ (6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1056.4 5	0.37 9	$^{117}\text{Ag}$ (72.8 s)	135.4(23), 337.7(10.3), 157.1(7.9)
1056.4 6	2.1 5	$^{166}\text{Lu}$ (2.65 m)	228.12(77.3), 337.50(41), 367.95(31.4)
1056.5 2	3.0 3	$^{81}\text{Ge}$ (7.6 s)	335.98(58.9), 792.94(34), 1495.53(19.9)
1056.5 2	3.1 3	$^{81}\text{Ge}$ (7.6 s)	93.10(26), 335.98(12.8), 197.30(12.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1056.55 <sup>25</sup>	0.17 <sup>3</sup>	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
1056.58 <sup>7</sup>	4	<sup>143</sup> Sm(8.83 m)	1514.98(1.39), 1173.18(0.88), 1403.06(0.74)
1056.59 <sup>12</sup>	0.74 <sup>4</sup>	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
1056.6 <sup>6</sup>	0.184 <sup>20</sup>	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1056.7 <sup>1</sup>	29 <sup>3</sup>	<sup>108</sup> In(58.0 m)	875.46(100), 632.96(100), 242.84(41)
1056.7 <sup>3</sup>	0.029 <sup>4</sup>	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
1056.76 <sup>72</sup>	0.07 <sup>3</sup>	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1056.79 <sup>2</sup>	0.0015 <sup>8</sup>	<sup>95</sup> Tc(20.0 h)	765.794(93.82), 1073.71(3.74), 947.67(1.951)
• 1056.79 <sup>2</sup>	0.0089 <sup>3</sup>	<sup>95</sup> Tc(61 d)	204.117(63.25), 582.082(29.96), 835.149(26.63)
1056.8 <sup>3</sup>	16.5 <sup>18</sup>	<sup>183</sup> Lu(58 s)	1125.3(25.0), 168.1(7.5), 248.4(5.0)
1056.818 <sup>4</sup>	99.979 <sup>2</sup>	<sup>20</sup> O(13.51 s)	3488.16(0.017), 2431.48(0.0059), 2179.02(0.0022)
1056.9 <sup>3</sup>	0.039 <sup>15</sup>	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1057.0 <sup>5</sup>	0.08	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1057.0 <sup>10</sup>	0.80 <sup>23</sup>	<sup>191</sup> Hg(50.8 m)	252.5(57), 420.1(18.6), 578.6(17.6)
1057.0 <sup>5</sup>	0.112 <sup>15</sup>	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1057.01 <sup>4</sup>	100	<sup>88</sup> Nb(14.5 m)	1082.53(103), 671.20(64), 502.91(60)
1057.01 <sup>4</sup>	89.3 <sup>36</sup>	<sup>88</sup> Nb(7.8 m)	1082.53(53.9), 399.41(45.7), 450.52(26.6)
1057.06 <sup>10</sup>	0.00357 <sup>20</sup>	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1057.07 <sup>14</sup>	0.49 <sup>5</sup>	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1057.08 <sup>26</sup>	†0.36 <sup>4</sup>	<sup>71</sup> Se(4.74 m)	147.50(†211), 1095.26(†43.6), 830.33(†43.2)
1057.1 <sup>2</sup>	3.27 <sup>21</sup>	<sup>141</sup> Sm(10.2 m)	403.8(43), 438.8(37.7), 1292.6(6.8)
1057.188 <sup>163.08</sup>	13	<sup>186</sup> Ir(16.64 h)	296.911(64.0), 137.155(42), 434.849(34.4)
1057.2 <sup>4</sup>	0.023 <sup>12</sup>	<sup>89</sup> Rb(15.15 m)	1031.94(58), 1248.19(42.6), 2196.02(13.3)
1057.2 <sup>4</sup>	1.9 <sup>6</sup>	<sup>122</sup> In(10.8 s)	1140.55(100), 1001.58(98.4), 103.74(81)
1057.2 <sup>5</sup>	0.09 <sup>3</sup>	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1057.2 <sup>2</sup>	0.162 <sup>25</sup>	<sup>155</sup> Ho(48 m)	240.19(12.5), 136.30(5.00), 45.38(5)
1057.2	†13 <sup>3</sup>	<sup>155</sup> Tm(21.6 s)	226.8(†100), 531.7(†20), 88.1(†17)
1057.20 <sup>25</sup>	0.30 <sup>10</sup>	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
1057.25 <sup>12</sup>	0.57 <sup>13</sup>	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
1057.29 <sup>15</sup>	†1.5 <sup>4</sup>	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1057.3 <sup>5</sup>	0.025 <sup>6</sup>	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1057.3 <sup>3</sup>	0.57 <sup>14</sup>	<sup>152</sup> Pm(7.52 m)	244.6989(78), 121.7824(45), 340.48(31.3)
1057.3 <sup>2</sup>	0.053 <sup>14</sup>	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
1057.4 <sup>4</sup>	0.29 <sup>5</sup>	<sup>136</sup> I(83.4 s)	1313.02(67), 1321.08(24.8), 2289.6(10.4)
1057.4 <sup>1</sup>	3.5 <sup>4</sup>	<sup>190</sup> Au(42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
• 1057.4 <sup>2</sup>	4.5×10 <sup>-8</sup> <sup>7</sup>	<sup>239</sup> Pu(24110 y)	51.624(0.007100), 38.661(0.000500), 129.297(0.00631)
1057.5 <sup>3</sup>	0.99 <sup>13</sup>	<sup>100</sup> Cd(49.1 s)	936.55(66), 139.71(6.7), 582.5(6.3)
1057.5 <sup>2</sup>	0.89 <sup>10</sup>	<sup>121</sup> Cd(13.5 s)	324.976(49.5), 1040.26(16.8), 349.937(12.9)
1057.6 <sup>2</sup>	2.0 <sup>4</sup>	<sup>83</sup> As(13.4 s)	734.60(43), 1113.10(14.7), 2076.70(11.9)
1057.6 <sup>5</sup>	0.20 <sup>5</sup>	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
1057.62 <sup>10</sup>	0.243 <sup>19</sup>	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
• 1057.62 <sup>10</sup>	2.3 <sup>4</sup>	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1057.67 <sup>4</sup>	0.692 <sup>23</sup>	<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1057.7 <sup>3</sup>	0.161 <sup>25</sup>	<sup>140</sup> Pm(9.2 s)	773.74(5.0), 477.1(2.6), 1204.8(1.9)
• 1057.70 <sup>15</sup>	0.213 <sup>7</sup>	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1057.73 <sup>7</sup>	†104 <sup>9</sup>	<sup>164</sup> Tm(2.0 m)	91.40(†1500), 1154.66(†366), 768.91(†279)
1057.75 <sup>20</sup>	0.19 <sup>4</sup>	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1057.8 <sup>1</sup>	0.017 <sup>5</sup>	<sup>90</sup> Nb(14.60 h)	1129.224(92.7), 2318.968(82.03), 141.178(66.8)
1057.8 <sup>4</sup>	0.018 <sup>9</sup>	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
1057.8 <sup>5</sup>	0.012 <sup>7</sup>	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1057.8 <sup>7</sup>	3.4 <sup>9</sup>	<sup>168</sup> Ta(2.0 m)	124.0(35.6), 261.6(22.7), 751.4(7.3)
• 1057.8 <sup>1</sup>	0.29 <sup>3</sup>	<sup>177</sup> Ta(56.56 h)	112.9498(7.2), 208.3664(0.94), 745.9(0.207)
1057.8 <sup>3</sup>	0.125 <sup>21</sup>	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1057.8 <sup>1</sup>	0.97 <sup>9</sup>	<sup>188</sup> Tl(71 s)	412.7(88), 592.0(61), 504.2(23.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1057.8 3	0.018	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1057.823 160.524 13		<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1057.9 2	1.73 8	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1058.0 3	0.055 13	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1058.1	>0.010	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1058.2 4	†3.3 12	<sup>131</sup> Ce(10.3 m)	169.42(†100), 414.25(†68), 119.18(†44)
1058.3 2	0.054 5	<sup>113</sup> Sb(6.67 m)	497.96(80), 332.41(14.8), 88.25(2.7)
1058.34 18	0.27 4	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1058.34 18	0.83 9	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
1058.39 10	2.3 3	<sup>118</sup> Ag(3.76 s)	487.77(60), 677.13(11.9), 2788.7(11.8)
1058.39 10	14.8 16	<sup>118</sup> Ag(2.0 s)	487.77(57), 677.13(53), 770.90(11.8)
1058.4 4	0.09	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1058.4 1	†0.086 23	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1058.5	5.3 3	<sup>36</sup> P(5.6 s)	3290.7(100), 901.8(70.4), 1638.2(35.3)
1058.5 4	2.69 22	<sup>97</sup> Pd(3.10 m)	265.26(56), 475.2(26.7), 792.70(13.8)
1058.5 5	0.9 3	<sup>105</sup> Tc(7.6 m)	143.26(16), 107.945(14.1), 321.50(11.1)
1058.50 20	0.80 7	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1058.5 2	0.09	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
1058.6 2	3.62 21	<sup>81</sup> Ge(7.6 s)	335.98(58.9), 792.94(34), 1495.53(19.9)
1058.6 8	0.030 16	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1058.64 10	†0.10 5	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
• 1058.7 5	0.010 5	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1058.71 17	0.31 4	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
• 1058.71 10	3.9 4	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
• 1058.75 12	0.0118 13	<sup>145</sup> Eu(5.93 d)	893.73(66), 653.512(15.0), 1658.53(14.9)
1058.77	0.10	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1058.78 16	†3.2 7	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1058.8 4	0.9 3	<sup>122</sup> Cs(4.5 m)	331.1(94), 497.1(79), 638.5(63)
1058.8 3	0.10 3	<sup>134</sup> I(52.6 m)	847.025(95.4), 884.090(64.9), 1072.547(15.0)
• 1058.817 160.0246 8		<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1058.90 15	0.27 3	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
1058.9 3	0.192 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1058.9 2	0.108 18	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1059 1	0.019 19	<sup>125</sup> Sn(9.52 m)	332.10(97.2), 1404.0(0.70), 589.6(0.20)
1059 3	0.23 8	<sup>185</sup> Ta(49.4 m)	177.59(25.7), 173.68(22.6), 65.86(3.9)
• 1059.041 120.0729 24		<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
1059.1	0.42	<sup>147</sup> Ba(0.893 s)	167.4(11), 105.2(4.8), 196.1(4.8)
1059.1 3	0.191 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1059.2 5	5.1 5	<sup>120</sup> I(53 m)	560.44(100), 601.11(87), 614.62(67)
1059.2 15	0.32 10	<sup>222</sup> Fr(14.2 m)	206.15(51), 111.12(12.5), 242.12(1.89)
1059.21 18	†10 4	<sup>102</sup> Y(0.36 s)	151.73(†100), 326.64(†53), 1091.3(†42)
1059.21 18	†29 3	<sup>102</sup> Y(0.30 s)	151.73(†100), 1211.08(†40), 743.01(†17)
1059.3 1	0.84 8	<sup>143</sup> Gd(112 s)	271.94(84), 588.00(15.7), 798.89(10.7)
1059.3 2		<sup>146</sup> Tb(8 s)	1972.0(12)
1059.38 10	3.86 7	<sup>194</sup> Pb(12.0 m)	581.82(18.8), 1519.45(16.4), 203.82(16.2)
1059.38 5	3.4 4	<sup>206</sup> At(30.0 m)	700.66(98), 477.10(86), 395.54(48)
1059.4 3	0.064 12	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1059.4 4	0.019 8	<sup>111</sup> Sn(35.3 m)	1152.98(2.7), 1914.70(1.99), 761.97(1.48)
1059.4 5	0.41 8	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
1059.4 2	†6.0 5	<sup>136</sup> Pm(107 s)	373.8(†100), 602.7(†38.4), 857.2(†23.4)
1059.4 2	13.7 8	<sup>136</sup> Pm(107 s)	373.8(15.0), 602.7(12.3), 857.2(12.72)
1059.4 2	†2	<sup>139</sup> I(2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
1059.4 8	†1.09×10 <sup>3</sup>	<sup>229</sup> Pa(1.17 m)	1001.03(†837000), 766.38(†294000), 742.81(†80000)
1059.435 240.118 6		<sup>180</sup> Re(2.44 m)	902.795(90), 103.557(22.2), 825.357(9.9)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1059.45 15	0.56 4	$^{209}\text{Rn}(28.5 \text{ m})$	408.32(50.3), 745.78(22.8), 337.45(14.5)
1059.51 7	6.4 4	$^{100}\text{Y}(735 \text{ ms})$	212.531(73), 118.59(15.4), 665.98(7.7)
1059.55 18	$\dagger 5.3 8$	$^{181}\text{Pt}(51 \text{ s})$	289.29( $\dagger 100$ ), 111.97( $\dagger 100$ ), 230.15( $\dagger 92$ )
1059.55 21	0.28 4	$^{183}\text{Ir}(58 \text{ m})$	392.52(10.4), 228.70(6.9), 87.67(5.6)
1059.6 4	0.014 8	$^{66}\text{Ge}(2.26 \text{ h})$	43.89(28.7), 381.85(28), 272.97(10.4)
1059.60 20	0.027 7	$^{105}\text{Ru}(4.44 \text{ h})$	724.21(47), 469.37(17.5), 676.36(15.7)
• 1059.64 16		$^{206}\text{Bi}(6.243 \text{ d})$	803.10(99), 881.01(66.2), 516.18(40.7)
• 1059.69 4	2.02 5	$^{131}\text{Te}(30 \text{ h})$	773.67(49.9), 852.21(27.0), 793.75(18.10)
1059.7 7	0.50 10	$^{201}\text{Bi}(108 \text{ m})$	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1059.75	0.285 17	$^{24}\text{Al}(2.053 \text{ s})$	1368.633(96.0), 7069.50(43.0), 2754.028(41.2)
1059.8 10	0.013 4	$^{111}\text{Pd}(23.4 \text{ m})$	580.00(0.8), 70.44(0.78), 1459.0(0.56)
1059.8 5	0.06 6	$^{133}\text{Te}(55.4 \text{ m})$	912.671(55.28), 647.51(19.4), 863.955(15.6)
1059.80 20	0.14 5	$^{159}\text{Tm}(9.13 \text{ m})$	38.35(5.8), 84.8(5.8), 271.30(5.1)
1059.9 3	0.017 6	$^{139}\text{Cs}(9.27 \text{ m})$	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
1059.92 4	2.72 14	$^{122}\text{In}(10.3 \text{ s})$	1140.55(98), 1001.58(50.7), 1190.58(20.5)
1060 2	0.044 22	$^{76}\text{Br}(16.2 \text{ h})$	559.101(74), 657.041(15.9), 1853.67(14.7)
1060.0 10	0.28 11	$^{97}\text{Rh}(46.2 \text{ m})$	189.21(49), 2245.6(14), 421.55(12.7)
1060	0.18	$^{125}\text{Cs}(45 \text{ m})$	526(24), 111.8(9), 412(5)
1060.06 10	0.028 9	$^{157}\text{Eu}(15.18 \text{ h})$	63.929(23.0), 410.723(17.5), 370.509(11.0)
1060.07 17	0.017 5	$^{130}\text{I}(12.36 \text{ h})$	536.09(99), 668.54(96), 739.48(82)
1060.07 6	0.138 6	$^{133}\text{I}(20.8 \text{ h})$	529.872(87.0), 875.329(4.51), 1298.223(2.35)
1060.11 18	0.40 12	$^{204}\text{Bi}(11.22 \text{ h})$	899.15(98), 374.72(82), 984.02(59)
• 1060.13 6	0.136 12	$^{153}\text{Tb}(2.34 \text{ d})$	212.038(31.0), 170.504(6.8), 109.758(6.4)
• 1060.22 2	0.0364 13	$^{143}\text{Ce}(33.039 \text{ h})$	293.266(42.80), 57.356(11.7), 664.571(5.69)
1060.28 11	1.31 8	$^{166}\text{Lu}(2.65 \text{ m})$	228.12(77.3), 337.50(41), 367.95(31.4)
1060.28 11	0.55 22	$^{166}\text{Lu}(1.41 \text{ m})$	228.12(15), 102.38(13), 285.07(11.0)
• 1060.28 4	1.91 6	$^{169}\text{Lu}(34.06 \text{ h})$	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1060.3 4	0.27 10	$^{121}\text{Cs}(155 \text{ s})$	153.9(15.2), 239.6(7.7), 427.1(3.63)
1060.3 4	0.21 8	$^{121}\text{Cs}(122 \text{ s})$	179.4(30.2), 196.0(24.1), 459.7(12.0)
1060.3 4	0.20 11	$^{185}\text{Au}(4.25 \text{ m})$	310.6(13), 243.1(6.6), 77.7(6)
1060.3 2	$\dagger < 45$	$^{238}\text{Pa}(2.3 \text{ m})$	1015.3( $\dagger < 100$ ), 1014.6( $\dagger < 100$ ), 635.18( $\dagger 88$ )
1060.38 15	0.80 7	$^{124}\text{In}(3.17 \text{ s})$	1131.64(68), 3214.15(21.5), 997.79(21.1)
1060.38 22	5.7 8	$^{181}\text{Os}(105 \text{ m})$	238.75(44), 826.77(20), 118.03(12.9)
1060.4 5	0.46 14	$^{157}\text{Tm}(3.63 \text{ m})$	455.00(9.3), 385.5(8.8), 348.40(8.4)
1060.4 4	0.29 3	$^{159}\text{Eu}(18.1 \text{ m})$	67.8(19), 78.6(9.1), 95.7(7.0)
1060.5 4	0.012 4	$^{66}\text{Ga}(9.49 \text{ h})$	1039.30(37), 2752.01(23.38), 833.50(5.89)
1060.5 8	0.25 3	$^{89}\text{Nb}(1.9 \text{ h})$	1627.20(3.4), 1833.46(3.16), 3092.7(3.0)
1060.5 4	0.11 7	$^{205}\text{Po}(1.66 \text{ h})$	872.39(37), 1001.21(28.8), 849.83(25.5)
1060.53 13	0.38 4	$^{93}\text{Kr}(1.286 \text{ s})$	253.42(41.2), 323.89(24.1), 266.83(20.6)
• 1060.58 20	0.246 22	$^{170}\text{Lu}(2.00 \text{ d})$	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
• 1060.6 3	0.0018 5	$^{76}\text{As}(26.32 \text{ h})$	559.101(45), 657.041(6.2), 1216.104(3.42)
1060.6 2	$\dagger 6.3 12$	$^{131}\text{Ce}(10.3 \text{ m})$	169.42( $\dagger 100$ ), 414.25( $\dagger 68$ ), 119.18( $\dagger 44$ )
1060.6 3	$\dagger 7$	$^{154}\text{Nd}(25.9 \text{ s})$	151.703( $\dagger 800$ ), 799.55( $\dagger 600$ ), 180.693( $\dagger 510$ )
1060.69 15	0.089 10	$^{87}\text{Br}(55.60 \text{ s})$	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1060.70 4	7.7 3	$^{90}\text{Rb}(258 \text{ s})$	831.69(94), 1375.36(16.7), 3317.00(14.4)
1060.70 4	6.69 22	$^{90}\text{Rb}(158 \text{ s})$	831.69(28), 4365.90(5.6), 4135.51(4.70)
1060.7 4	0.78 10	$^{123}\text{Xe}(2.08 \text{ h})$	148.9(49), 178.1(14.9), 330.2(8.6)
• 1060.75 15	0.20 3	$^{99}\text{Rh}(16.1 \text{ d})$	528.24(33), 353.05(30.0), 89.65(29.0)
1060.8 10	$\dagger 9$	$^{99}\text{Rb}(59 \text{ ms})$	90.8( $\dagger 100$ ), 125.2( $\dagger 40$ ), 1071.6( $\dagger 26$ )
1060.9 15	0.22 6	$^{74}\text{Kr}(11.50 \text{ m})$	89.65(31), 203.0(18.0), 296.67(9.9)
1060.9 10	0.28 11	$^{97}\text{Rh}(46.2 \text{ m})$	189.21(49), 2245.6(14), 421.55(12.7)
1060.9 3	0.42 12	$^{101}\text{Zr}(2.1 \text{ s})$	119.3(10.8), 205.6(6.0), 912.2(3.48)
• 1060.92 4	0.044 5	$^{205}\text{Bi}(15.31 \text{ d})$	1764.36(1.368), 703.44(31), 987.62(0.585)
1060.927 150.072 22		$^{184}\text{Ta}(8.7 \text{ h})$	414.03(72), 252.848(43), 920.932(32.0)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1060.927	150.0026 5	$^{184}\text{Re}$ (38.0 d)	903.279(37.9), 792.071(37.5), 111.208(17.1)
1060.98 3	$\dagger < 45$	$^{238}\text{Pa}$ (2.3 m)	1015.3( $\dagger < 100$ ), 1014.6( $\dagger < 100$ ), 635.18( $\dagger 88$ )
1061.1 2	0.06 6	$^{117}\text{Cd}$ (2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
1061.11 4	0.0235 7	$^{159}\text{Ho}$ (33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
• 1061.2 4	0.16 3	$^{147}\text{Gd}$ (38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1061.25 13	0.103 9	$^{98}\text{Nb}$ (51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1061.3 3	0.090 9	$^{120}\text{Xe}$ (40 m)	25.1(30), 72.6(9), 178.1(6.8)
1061.3 4	0.9 3	$^{156}\text{Tm}$ (83.8 s)	344.55(86), 452.85(17.2), 585.93(14.6)
• 1061.35	0.22 4	$^{170}\text{Lu}$ (2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1061.36 8	0.118 22	$^{179}\text{Re}$ (19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
1061.39 9	0.137 20	$^{154}\text{Tb}$ (9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1061.39 9	4.1 7	$^{154}\text{Tb}$ (22.7 h)	247.925(79), 346.643(69), 1419.81(46)
• 1061.39 10	0.314 5	$^{170}\text{Lu}$ (2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1061.40 30	0.019 9	$^{105}\text{Cd}$ (55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1061.4 3	0.156 14	$^{146}\text{Ba}$ (2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
• 1061.48 4	0.0528 8	$^{192}\text{Ir}$ (73.831 d)	316.50791(82.81), 468.07152(47.83), 308.45692(30.00)
1061.48 4	0.928 23	$^{192}\text{Au}$ (4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1061.5 7	0.070 23	$^{103}\text{Cd}$ (7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1061.5 4	7.1 7	$^{116}\text{Cs}$ (3.84 s)	393.5( $< 0.09$ ), 524.3(76), 615.1(30.4)
1061.5 2	0.099 25	$^{129}\text{La}$ (11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
1061.5 4		$^{142}\text{La}$ (91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1061.59 5	0.243 11	$^{151}\text{Tb}$ (17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1061.6 4	0.61 10	$^{115}\text{Te}$ (5.8 m)	723.569(30), 1380.58(23.0), 1326.83(22.7)
1061.6 2	0.085 5	$^{133}\text{La}$ (3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
1061.6 1	0.062 9	$^{149}\text{Tb}$ (4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1061.6 4	2.69 10	$^{150}\text{Pr}$ (6.19 s)	130.2(32), 722.5(7.0), 852.7(6.1)
1061.6	$\dagger 1.5$	$^{152}\text{Tb}$ (17.5 h)	344.281( $\dagger 1500$ ), 586.294( $\dagger 223$ ), 271.135( $\dagger 203$ )
1061.6 4	0.051 18	$^{161}\text{Er}$ (3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1061.6 2	0.029 7	$^{240}\text{Np}$ (7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
1061.61 1	1.19 12	$^{133}\text{Te}$ (12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
1061.61 9	0.000762	$^{256}\text{Lu}$ (3.635 h)	88.34(0.55640), 1159.28(0.00139), 201.83( $> 0.0007$ )
1061.61 9	0.5	$^{176}\text{Ta}$ (8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1061.68 16	0.270 23	$^{158}\text{Eu}$ (45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
1061.69 10	5.5 5	$^{72}\text{Br}$ (78.6 s)	862.03(70), 1316.70(17.3), 454.70(13.1)
1061.70 5	0.150 3	$^{77}\text{Ge}$ (11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
1061.7 5	0.20 6	$^{208}\text{At}$ (1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
• 1061.8 3	0.039 8	$^{153}\text{Tb}$ (2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1061.83 7	0.96 6	$^{141}\text{Cs}$ (24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1061.86 10	$\dagger 2.29 \times 10^3$	$^{234}\text{Pa}$ (1.17 m)	1001.03( $\dagger 837000$ ), 766.38( $\dagger 294000$ ), 742.81( $\dagger 80000$ )
1061.89 6	1.66 17	$^{133}\text{Te}$ (55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
1061.9 4	0.68 20	$^{78}\text{Ga}$ (5.09 s)	619.40(77), 1186.42(20.1), 567.06(18.2)
1061.9 5	0.11 5	$^{150}\text{Tb}$ (3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
1061.9 11	$> 0.12$	$^{175}\text{Ta}$ (10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1061.95 7	$\dagger 3.6 4$	$^{184}\text{Ir}$ (3.09 h)	263.97( $\dagger 100$ ), 119.80( $\dagger 45$ ), 390.38( $\dagger 38$ )
1062.0 10	0.050 12	$^{127}\text{Ba}$ (12.7 m)	180.8(12), 114.8(9.3), 66.06(2.12)
1062.04 4	17.1 4	$^{246}\text{Am}$ (25.0 m)	1078.86(27.7), 798.80(25), 1036.00(12.6)
• 1062.04 4	2.9 2	$^{246}\text{Bk}$ (1.80 d)	798.80(61), 1081.40(5.8), 833.60(5.0)
1062.09 3	0.386 12	$^{155}\text{Dy}$ (9.9 h)	226.918(68.4), 184.564(3.37), 1089.8( $> 2.8$ )
1062.1 5	$\dagger 2 1$	$^{134}\text{Pr}$ (11 m)	293.5( $\dagger 100$ ), 299.0( $\dagger 100$ ), 1196.8( $\dagger 100$ )
1062.1 5	$\dagger 2 1$	$^{134}\text{Pr}$ (17 m)	1964.1( $\dagger 100$ ), 1904.3( $\dagger 100$ ), 1579.9( $\dagger 100$ )
1062.14 5	0.0320 4	$^{106}\text{Rh}$ (29.80 s)	511.842(20), 621.94(9.93), 1050.39(1.56)
1062.14 11	$\dagger 0.64 13$	$^{184}\text{Ir}$ (3.09 h)	263.97( $\dagger 100$ ), 119.80( $\dagger 45$ ), 390.38( $\dagger 38$ )
1062.17 26	$\dagger 1.9$	$^{197}\text{Ir}$ (5.8 m)	469.72( $\dagger 100$ ), 430.56( $\dagger 61$ ), 815.92( $\dagger 45$ )
1062.2 3		$^{146}\text{Dy}$ (29 s)	2156.8, 1915.7, 1876.7

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1062.4	>0.010	$^{214}\text{Bi}(19.9\text{ m})$	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1062.41 2	0.0041 8	$^{135}\text{Xe}(9.14\text{ h})$	249.770(90), 608.151(2.90), 408.009(0.359)
1062.5 6	0.20 5	$^{136}\text{Nd}(50.65\text{ m})$	108.90(32), 40.2(18.9), 574.8(10.4)
1062.5 3	1.01 10	$^{151}\text{Dy}(17.9\text{ m})$	386.10(19.4), 49.46(18.0), 546.31(14.3)
1062.5 3	$\dagger 0.23 5$	$^{160}\text{Ho}(5.02\text{ h})$	728.18( $\dagger 100$ ), 879.383( $\dagger 65.9$ ), 962.317( $\dagger 59.1$ )
1062.55 15	0.011 3	$^{228}\text{Ac}(6.15\text{ h})$	911.205(26.6), 968.971(16.2), 338.322(11.3)
1062.60 10	0.047 16	$^{83}\text{Y}(7.08\text{ m})$	35.50(0.44), 882.1(6.30), 489.90(5.53)
1062.79 15	0.070 9	$^{201}\text{Pb}(9.33\text{ h})$	331.19(79), 361.27(9.9), 945.96(7.4)
1062.8 2	0.74 15	$^{95}\text{Rb}(377.5\text{ ms})$	352.02(49), 204.02(15.1), 680.7(14.8)
1062.8 2	$\dagger 1.4$	$^{96}\text{Rb}(0.199\text{ s})$	352.02( $\dagger 700$ ), 204.02( $\dagger 200$ ), 680.7( $\dagger 121$ )
1062.8	0.43	$^{95}\text{Sr}(23.90\text{ s})$	685.6(23), 2717.3(4.6), 2933.1(4.1)
1062.8 3	23.9 16	$^{109}\text{Sb}(17.0\text{ s})$	925.4(32), 664.5(20.1), 1495.8(9.6)
1062.8 3	$\dagger 3.6 9$	$^{171}\text{Hf}(12.1\text{ h})$	122.0( $\dagger 100$ ), 662.2( $\dagger 83$ ), 347.18( $\dagger 47$ )
1062.8 1	0.248 25	$^{199}\text{Tl}(7.42\text{ h})$	455.46(12.4), 208.20597(12.3), 247.26(9.3)
1062.84 18	0.139 20	$^{202}\text{Bi}(1.72\text{ h})$	960.67(99), 422.18(83.7), 657.49(60.6)
1062.9 3	0.50 14	$^{101}\text{Sr}(118\text{ ms})$	128.34(18.0), 1124.82(10.9), 510.73(8.5)
1062.9 1	0.19 2	$^{107}\text{Tc}(21.2\text{ s})$	102.70(21.0), 177.00(9.2), 106.31(7.6)
1062.9 6	0.36 9	$^{144}\text{La}(40.8\text{ s})$	397.440(94.3), 541.20(39.2), 844.8(22.3)
1062.953 180.28 9		$^{244}\text{Am}(26\text{ m})$	1084.181(0.37), 941.95(0.36), 1041.278(0.19)
1063.0 2	0.308 19	$^{98}\text{Nb}(51.3\text{ m})$	787.374(93), 722.645(73.8), 1168.830(17.8)
1063.0 2	0.210 21	$^{136}\text{Pr}(13.1\text{ m})$	552.16(76), 539.75(52), 1092.3(18.5)
• 1063.0 5		$^{146}\text{Eu}(4.59\text{ d})$	747.2(98), 633.03(43), 634.07(37)
1063.0 3	$\dagger 2.5 5$	$^{152}\text{Tm}(8.0\text{ s})$	807.9( $\dagger 100$ ), 715.9( $\dagger 13$ ), 672.5( $\dagger 9.5$ )
1063.0 12	2.0 11	$^{168}\text{Ta}(2.0\text{ m})$	124.0(35.6), 261.6(22.7), 751.4(7.3)
1063.0 8	0.017 6	$^{177}\text{Yb}(1.911\text{ h})$	150.392(20.3), 1080.21(5.6), 1241.2(3.47)
1063.0 8	$\dagger 2.9 9$	$^{191}\text{Tl}(5.22\text{ m})$	452.6( $\dagger 100$ ), 470.1( $\dagger 98$ ), 391.6( $\dagger 96$ )
1063.07 7	$\dagger 2.50 17$	$^{158}\text{Ho}(11.3\text{ m})$	218.21( $\dagger 100.0$ ), 98.91( $\dagger 70$ ), 945.7( $\dagger 37$ )
1063.1 1	0.027 6	$^{87}\text{Kr}(76.3\text{ m})$	402.586(49.6), 2554.8(9.2), 845.43(7.34)
1063.1 4	0.070 16	$^{89}\text{Kr}(3.15\text{ m})$	220.948(20.1), 586.03(16.6), 904.27(7.2)
1063.1 3	0.058 17	$^{153}\text{Dy}(6.4\text{ h})$	80.723(11.10), 213.754(10.90), 99.659(10.51)
1063.14 30	0.13 3	$^{195}\text{Tl}(1.16\text{ h})$	563.52(10.5), 884.47(10.0), 1363.88(8.4)
• 1063.19 5	0.0050 10	$^{48}\text{V}(15.9735\text{ d})$	983.517(99.98), 1312.096(97.5), 944.104(7.76)
1063.2	2.36 16	$^{40}\text{Cl}(1.35\text{ m})$	1460.830(79), 2839.8(30.4), 2621.5(15.4)
1063.2 2	2.2 5	$^{63}\text{Ga}(32.4\text{ s})$	637.04(11), 627.10(10.3), 192.94(5.7)
1063.2 4	$\dagger 2 1$	$^{129}\text{Sb}(17.7\text{ m})$	759.8( $\dagger 100.0$ ), 657.78( $\dagger 92$ ), 433.76( $\dagger 73$ )
1063.27 18	$\dagger 5.0 4$	$^{182}\text{Ir}(15\text{ m})$	273.23( $\dagger 100$ ), 126.79( $\dagger 77$ ), 236.3( $\dagger 21.0$ )
1063.27 15	0.99 15	$^{183}\text{Ir}(58\text{ m})$	392.52(10.4), 228.70(6.9), 87.67(5.6)
1063.3 3	$\dagger 267 48$	$^{157}\text{Ho}(12.6\text{ m})$	279.97( $\dagger 47600$ ), 341.16( $\dagger 37000$ ), 193.41( $\dagger 15200$ )
1063.3		$^{199}\text{Po}(4.13\text{ m})$	1002.19(19), 1034.3(16), 362.01(7)
1063.37 15	1.24 9	$^{107}\text{In}(32.4\text{ m})$	204.97(47), 505.51(11.9), 320.92(10.2)
• 1063.380 9	0.156 5	$^{147}\text{Eu}(24.1\text{ d})$	197.299(27), 121.220(22.9), 677.516(9.8)
1063.4 7	0.14 8	$^{111}\text{Pd}(5.5\text{ h})$	70.44(8.3), 391.25(5.4), 632.80(3.6)
1063.4 2	0.00072 12	$^{161}\text{Gd}(3.66\text{ m})$	360.94(0.59), 314.92(22.7), 102.315(13.9)
1063.5 2	0.60 11	$^{108}\text{In}(58.0\text{ m})$	875.46(100), 632.96(100), 242.84(41)
1063.50 15	1.09 10	$^{121}\text{Ag}(0.78\text{ s})$	314.55(32.1), 353.43(19.9), 500.61(9.3)
1063.5 3	0.13 5	$^{129}\text{In}(0.61\text{ s})$	2118.0(45), 1865.0(32), 769.3(9.1)
1063.5 2	$\dagger 100$	$^{198}\text{Bi}(693\text{ s})$	197.6( $\dagger 80$ ), 562.4( $\dagger 79$ ), 317.9( $\dagger 37.5$ )
1063.64 12	3.57 11	$^{83}\text{Se}(70.1\text{ s})$	1030.86(21.2), 356.687(18), 987.96(16.1)
• 1063.662 4	74.5 2	$^{207}\text{Bi}(31.55\text{ y})$	569.702(97.74), 1770.237(6.87), 1442.20(0.130)
1063.662 4		$^{211}\text{Po}(25.2\text{ s})$	897.80(1.65), 569.702
1063.70 20	0.145 23	$^{103}\text{Tc}(54.2\text{ s})$	346.380(17.5), 136.079(16.6), 562.90(7.0)
1063.7 2		$^{106}\text{In}(6.2\text{ m})$	632.66(100), 861.16(92), 997.87(48)
1063.7 2		$^{106}\text{In}(5.2\text{ m})$	632.66(92), 1714.90(17.1), 861.16(10.6)
1063.7 3	0.08 8	$^{112}\text{Ag}(3.130\text{ h})$	617.27(43), 1387.67(5.4), 606.49(3.1)

•  $t_{1/2} > 1\text{ d}$



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1063.7 4	0.012 6	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
1063.76 3	3.3 2	<sup>100</sup> Nb(1.5 s)	535.60(45.7), 528.24(9.1), 159.547(8.8)
1063.76 3	5.0 10	<sup>100</sup> Nb(2.99 s)	535.60(97.0), 600.5(65.0), 1280.6(23.8)
1063.77 11	0.6 4	<sup>197</sup> Pb(8 m)	385.85(50), 761.14(13.3), 375.48(12.8)
1063.77 11	0.7 4	<sup>197</sup> Pb(43 m)	385.85(74), 387.72(25.1), 222.45(24.6)
1063.8 10	0.07 3	<sup>99</sup> Pd(21.4 m)	136.00(73), 263.60(15.2), 673.38(6.9)
1063.9 3	†1.4 2	<sup>104</sup> Nb(0.92 s)	192.2(†100), 368.4(†20), 620.2(†19.2)
• 1063.9 2	0.9 6	<sup>126</sup> Sb(12.46 d)	695.03(100), 666.331(100), 414.81(83.3)
1063.9 2	0.51 9	<sup>126</sup> Sb(19.15 m)	414.81(86), 666.331(86), 695.03(82)
• 1063.90 15	0.025 5	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1064.0 10	0.12 6	<sup>89</sup> Br(4.40 s)	1097.82(6.00), 997.93(4.26), 953.53(4.26)
1064.0 7	0.171 21	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1064.0 2	0.062 7	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1064.0 10	0.144 15	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
1064.03 12	0.086 11	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1064.08 10	0.714 25	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
1064.1 3	0.40 5	<sup>92</sup> Ru(3.65 m)	213.81(96), 259.32(92), 134.57(65.5)
1064.1 6	0.092 14	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1064.1 3	0.07 1	<sup>143</sup> La(14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)
1064.11 10	5.5 5	<sup>83</sup> Se(22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
1064.2 3	0.21 3	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
• 1064.2 4	0.0013 3	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
1064.2	0.20	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
1064.26 8	1.99 22	<sup>125</sup> Cd(0.57 s)	1027.53(25.8), 1173.16(25.1), 736.65(12.6)
1064.3 4	0.66 7	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
1064.3 3	0.30 24	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
1064.3 4	†7.1 5	<sup>193</sup> Tl(21.6 m)	324.37(†100), 1044.7(†59), 676.10(†48)
1064.32 6	0.0051 8	<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
1064.32 4	0.95 12	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
1064.37 9	0.37 3	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
1064.4 21	0.04 4	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
1064.42 6	0.74 6	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
1064.47 3	0.153 17	<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
1064.5 5	0.15 5	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1064.54 7	0.898 19	<sup>142</sup> Cs(1.70 s)	359.598(27.2), 1326.46(12.92), 966.89(9.0)
1064.6 2	0.38 8	<sup>83</sup> Se(22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
1064.6 2	0.24	<sup>116</sup> Te(2.49 h)	93.70(31.4), 628.63(3.22), 102.97(1.95)
1064.6 7	0.39 8	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
1064.6 2	>0.06	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
1064.6 2	†5.38 20	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1064.62 7	0.79 7	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1064.7 5	0.98 4	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
1064.7 1	0.81 17	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1064.7 3	9.5 11	<sup>180</sup> Ir(1.5 m)	276.4(56), 132.2(38.1), 699.0(13.4)
1064.75 15	0.075 10	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1064.80 6	0.69 4	<sup>80</sup> Ga(1.697 s)	659.14(78.0), 1083.47(48.4), 1109.36(18.6)
1064.8 3	0.50 12	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
1064.8 5	0.51 23	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1064.8 3	†1.19 24	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1064.85 5	4.7 3	<sup>126</sup> In(1.64 s)	1141.11(100), 908.58(99), 111.79(88)
1064.896 200.048 4		<sup>61</sup> Cu(3.333 h)	282.956(12.2), 656.008(10.77), 67.412(4.23)
1064.9 5	0.13 4	<sup>80</sup> As(15.2 s)	666.14(42), 1644.8(7.5), 1207.12(4.3)
1064.9 20	0.31 5	<sup>196</sup> Tl(1.84 h)	426.0(84), 610.5(11.9), 635.5(9.8)
1065 1	0.037 9	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1065.0 4	0.037	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1065.0 2	0.32 4	<sup>236</sup> Pa(9.1 m)	642.35(37.0), 687.59(9.9), 1762.7(6.0)
1065.04 8	0.09	<sup>174</sup> Tm(5.4 m)	366.526(92), 992.128(87), 272.918(86)
• 1065.04 8	0.0164 21	<sup>174</sup> Lu(3.31 y)	76.471(5.9), 1241.847(5.14), 1318.296(0.035)
1065.07 8	1.55 12	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
• 1065.09 5	0.47 4	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1065.1 1	1.28 8	<sup>73</sup> Ga(4.86 h)	297.32(79.8), 325.70(11.17), 739.42(4.23)
1065.1 1	0.027 7	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
• 1065.15 5	4.922 19	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
• 1065.15 5	10.77 5	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1065.17 5	0.136 11	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1065.17 5	0.081 6	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
1065.2	0.43	<sup>148</sup> Pr(2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
1065.3 4	0.131 17	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1065.32 20	0.0025 12	<sup>139</sup> Pr(4.41 h)	1347.33(0.47), 1630.67(0.343), 255.11(0.236)
1065.43 6	0.0159 11	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1065.49 3	2.75 22	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
1065.5 3	0.57 8	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
1065.5 5	0.030	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
1065.5 3	0.041 16	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
1065.55 6	80000	<sup>119</sup> In(18.0 m)	1249.71(†44000), 1163.85(†32000), 1089.9(†15000)
1065.55 7	1.70 9	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
1065.60 20	0.131 19	<sup>103</sup> Tc(54.2 s)	346.380(17.5), 136.079(16.6), 562.90(7.0)
1065.6 5	0.112 21	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
1065.72 16	0.41 3	<sup>164</sup> Lu(3.14 m)	123.3(34.0), 740.52(12.2), 262.22(10.8)
1065.77 5	1.8 3	<sup>180</sup> Lu(5.7 m)	407.94(43.0), 1199.7(24.3), 1106.00(22.7)
1065.8 1	†0.64 9	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1065.85 15	0.0007	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
1065.9 4	0.16 3	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
1065.98 3	23.1 5	<sup>117</sup> Cd(3.36 h)	1997.33(26), 564.397(14.7), 1432.91(13.4)
• 1065.98 4	0.109 5	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1066.0 3	0.27 8	<sup>122</sup> In(10.3 s)	1140.55(98), 1001.58(50.7), 1190.58(20.5)
1066.00 16	0.45 5	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
1066.0 3	8.1 5	<sup>171</sup> Re(15.2 s)	568.4(16.1), 102.0(9.7), 434.9(7.6)
1066.0 3	0.046 17	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1066.1 5	0.174 8	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1066.20 9	0.6	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1066.22 12	0.00144 15	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1066.23 9	†2.25 16	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
1066.3 4	0.062 17	<sup>94</sup> Y(18.7 m)	918.74(56), 1138.88(6.0), 550.88(4.9)
• 1066.3 3	0.10 3	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
1066.3 3	0.09 3	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1066.3	0.6	<sup>145</sup> Ba(4.31 s)	96.6(17), 91.9(7), 65.9(5)
1066.3 2	0.039	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
1066.3 4	0.22 3	<sup>198</sup> Tl(5.3 h)	411.8044(82), 675.8874(11), 636.4(10.1)
1066.37 9	0.26 5	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1066.38 2	0.63 4	<sup>145</sup> Cs(0.594 s)	175.36(20), 198.93(10.9), 112.46(10.71)
1066.48 20	1.35 13	<sup>99</sup> Sr(0.269 s)	125.118(16.1), 536.12(14.0), 1198.12(9.2)
1066.49 8	0.197 17	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1066.55 27	1.4 3	<sup>164</sup> Tm(5.1 m)	208.08(14.6), 314.97(10), 240.49(7.5)
1066.57 6	0.18 10	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1066.57 6	0.030 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1066.6 2	0.054 9	<sup>137</sup> Xe(3.818 m)	455.490(31), 848.95(0.62), 1783.43(0.415)
1066.6	0.101 18	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1066.60 20	0.048 9	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
• 1066.75 3	0.390 9	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1066.8 3	†37 4	<sup>87</sup> Nb(2.6 m)	200.95(†100), 470.63(†73), 1884.5(†35)
1066.8 10	0.05 3	<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
1066.8 3	0.006 3	<sup>131</sup> Te(25.0 m)	149.716(69), 452.323(18.18), 1146.96(4.95)
1066.8 3	0.013 4	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
1066.8 3		<sup>146</sup> Dy(29 s)	2156.8, 1915.7, 1876.7
1066.88 24	0.070 13	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1066.9 3	0.0067 17	<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
1066.9 3	3.12 8	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
1066.9 8	0.028 11	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1066.93 30	0.30	<sup>137</sup> I(24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
1066.96 8	0.383 21	<sup>81</sup> Sr(22.3 m)	153.54(33.8), 147.76(30.1), 443.34(17.5)
1067.0 2	0.042 5	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
1067.0 3	5.1 7	<sup>127</sup> Cd(0.43 s)	1235.07(8.3), 376.28(7.5), 523.60(5.15)
1067.0 8	†10.4 19	<sup>195</sup> Pb(15 m)	883.1(†100), 393.7(†42), 871.0(†36)
1067.06 19	0.027 5	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
1067.1 6	0.039 10	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
1067.1 5	0.013 4	<sup>111</sup> Pd(23.4 m)	580.00(0.8), 70.44(0.78), 1459.0(0.56)
1067.1 3		<sup>118</sup> Ag(3.76 s)	487.77(60), 677.13(11.9), 2788.7(11.8)
• 1067.10 5	10	<sup>125</sup> Sn(9.64 d)	1089.15(4.59), 822.48(4.28), 915.55(4.13)
1067.1 3	0.058 17	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1067.16 10	0.40 4	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
• 1067.19 6	2.812 25	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1067.3 4	1.0 6	<sup>102</sup> Ag(12.9 m)	556.52(91), 719.40(58), 1744.99(17.3)
1067.32 20	5.6 9	<sup>166</sup> Lu(2.12 m)	1427.18(23.0), 2098.6(16.1), 1256.64(15.2)
1067.34 20	2.5 3	<sup>166</sup> Lu(2.65 m)	228.12(77.3), 337.50(41), 367.95(31.4)
1067.36 5	0.705 8	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1067.4 2	0.049 9	<sup>137</sup> Xe(3.818 m)	455.490(31), 848.95(0.62), 1783.43(0.415)
1067.5 10	<0.00003	<sup>16</sup> N(7.13 s)	6128.63(67.0), 7115.15(4.9), 2741.5(0.82)
1067.5 6	0.47 9	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
1067.5 4		<sup>157</sup> Pm(10.56 s)	160.61(35), 188.052(13.5), 571.27(5.39)
1067.5 2	0.11 3	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
1067.5 3	0.034	<sup>180</sup> Ir(1.5 m)	276.4(56), 132.2(38.1), 699.0(13.4)
1067.55 10	0.556 17	<sup>162</sup> Tb(7.60 m)	260.070(37.2), 807.53(42.8), 888.20(38.7)
1067.56 24	0.017 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1067.6	0.14	<sup>111</sup> Sb(75 s)	154.48(71), 489.1(42), 1032.6(10.0)
1067.7 4	0.068 16	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1067.7 16	0.52 24	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1067.79 10	0.66 3	<sup>77</sup> Rb(3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
1067.79 19	0.112 14	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
1067.8 7	0.0006 3	<sup>62</sup> Cu(9.74 m)	1172.9(0.34), 875.68(0.150), 2301.8(0.0414)
1067.87 1	0.04 4	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
1067.88 17	6.3 4	<sup>195</sup> Pb(15.0 m)	383.64(106.9), 394.21(44), 878.40(24.2)
1068.0 5	0.09 4	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1068.0 1	0.247 25	<sup>129</sup> La(11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
1068.0 10	0.10 4	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1068.0 1	3.2 3	<sup>140</sup> Eu(1.51 s)	530.7(29), 459.9(3.19), 2064.9(0.93)
1068.0 1	0.80 3	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1068 2	†0.077 19	<sup>196</sup> Ir(1.40 h)	393.346(†105.2), 521.175(†104), 447.1(†102.1)
1068.1 3	4.7 3	<sup>94</sup> Rh(70.6 s)	1430.50(100), 756.23(51), 1072.50(30.7)
1068.10 10	0.44 4	<sup>126</sup> In(1.60 s)	1141.11(55.9), 3344.61(21.6), 969.61(14.9)
1068.1 12	0.162 18	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1068.1 6	0.6	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1068.1 3	0.066 25	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
1068.12 15	0.00142 8	<sup>123</sup> I(13.27 h)	158.97(83), 528.96(1.39), 440.02(0.428)
1068.18 3	0.575 21	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1068.19 12	0.42 3	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1068.20 30	0.43 8	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1068.2 4	0.007 3	<sup>167</sup> Yb(17.5 m)	113.34(55.3), 106.18(22.5), 176.25(21)
1068.2 5	0.00059 9	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
1068.2 5	>0.10	<sup>250</sup> Es(2.22 h)	989.12(13.3), 1031.85(10.6), 828.82(5.5)
• 1068.25 10	0.093 8	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1068.3 3	†2.7 5	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
1068.3 5	0.16 5	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
1068.3 5	†0.20 3	<sup>188</sup> Au(8.84 m)	265.63(†100), 340.04(†23.9), 605.5(†16.3)
• 1068.32 7	0.0337 17	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1068.4 11	0.21 11	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1068.4 6	0.048 14	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
1068.47 10	0.40 4	<sup>194</sup> Pb(12.0 m)	581.82(18.8), 1519.45(16.4), 203.82(16.2)
1068.51 11	0.61 5	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
• 1068.54 8	0.318 19	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1068.7 9		<sup>144</sup> Cs(1.01 s)	199.326(†100.0), 639.00(†21.2), 758.96(†20.6)
• 1068.7 3	0.037 12	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1068.73 22	†0.71 24	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1068.8 3	0.52 7	<sup>99</sup> Ag(124 s)	264.41(65), 832.29(13.5), 805.07(12.5)
1068.8 2	†4.0 15	<sup>129</sup> Sb(17.7 m)	759.8(†100.0), 657.78(†92), 433.76(†73)
1068.8 5		<sup>130</sup> Pr(40.0 s)	951.9, 499.0, 1405
1068.8 3	†3.2 7	<sup>159</sup> Yb(1.58 m)	166.16(†500), 177.12(†159), 390.20(†113)
• 1068.8 4	0.0054 5	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1068.9	0.17 3	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1068.9	0.08	<sup>148</sup> Dy(3.1 m)	620.24(96), 1247.2(1.4), 178.3(0.5)
1069.0 3	0.087 22	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
1069.00 20	0.18 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1069.01 5	1.10 6	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
• 1069.09 5	0.1008 12	<sup>160</sup> Tb(72.3 d)	879.383(30.01), 298.580(25.51), 966.171(25.21)
1069.09 5	†8.6 7	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1069.09 5	4.0 3	<sup>160</sup> Ho(25.6 m)	728.18(46.9), 879.383(26.6), 962.317(25.6)
1069.1 4	1.08 13	<sup>63</sup> Co(27.4 s)	87.13(48.7), 981.7(2.11), 155.6(1.60)
1069.1 6	0.11 3	<sup>117</sup> Cs(8.4 s)	204.8(15.0), 29.7(9.9), 205.6(6.8)
1069.1 2	†2.4 3	<sup>136</sup> Pm(107 s)	373.8(†100), 602.7(†38.4), 857.2(†23.4)
1069.1 2	2.6 4	<sup>136</sup> Pm(107 s)	373.8(15.0), 602.7(12.3), 857.2(12.72)
1069.1 7	0.42 4	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
1069.24 7	0.216 12	<sup>89</sup> Br(4.40 s)	1097.82(6.00), 997.93(4.26), 953.53(4.26)
1069.24 6	0.65 5	<sup>100</sup> Sr(202 ms)	963.85(22.0), 898.50(18.9), 65.46(15.2)
1069.25 6	0.031 5	<sup>180</sup> Re(2.44 m)	902.795(90), 103.557(22.2), 825.357(9.9)
1069.30	2.3 4	<sup>25</sup> Ne(602 ms)	89.53(95.5), 979.77(18.1), 2202(1.1)
1069.3 3	34 5	<sup>176</sup> Tm(1.9 m)	189.57(44.5), 381.8(21.8), 82.13(11.6)
• 1069.35 10	7.2 5	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1069.4 5	0.09 5	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1069.42 10	0.0603 23	<sup>81</sup> Rb(4.576 h)	190.38(64.0), 446.15(23.2), 510.31(5.3)
1069.49 10	1.99 10	<sup>121</sup> Cd(8.3 s)	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
1069.5 3	0.41 3	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
1069.6	0.026 9	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1069.7 5	0.65 26	<sup>88</sup> Nb(7.8 m)	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
1069.8 3	2.9 7	<sup>176</sup> Re(5.3 m)	240.17(48), 109.08(25.0), 848.7(4.0)
1069.8 6	0.7	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
• 1069.82 4	0.219 7	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1069.9 3	0.43 6	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1069.9 6	0.047 11	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1069.95 8	1.14 11	<sup>201</sup> Pb(9.33 h)	331.19(79), 361.27(9.9), 945.96(7.4)
1069.96 8	0.28 4	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1070.0 1	0.0019 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
1070	0.64 6	<sup>150</sup> Pr(6.19 s)	130.2(32), 722.5(7.0), 852.7(6.1)
1070 10	12 5	<sup>210</sup> Tl(1.30 m)	799.7(99), 298(79), 1316(21)
1070.03 13	0.071 9	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1070.1 5	1.1 5	<sup>125</sup> Cd(0.65 s)	436.29(37), 1099.48(22.3), 2147.19(19.1)
1070.1 3	0.158 23	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1070.1	0.070 23	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1070.2 3	0.92 10	<sup>65</sup> Ge(30.9 s)	649.7(33), 62.0(27), 809.1(21.5)
1070.2 5	0.99 10	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
1070.2 7	0.194 25	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1070.2 5	0.119 25	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
1070.3 5	0.3 1	<sup>76</sup> Kr(14.8 h)	315.7(39), 270.2(21.1), 45.48(19.5)
1070.3 6	†1.2 5	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
1070.3 6	0.0035 21	<sup>167</sup> Yb(17.5 m)	113.34(55.3), 106.18(22.5), 176.25(21)
1070.3 2	0.11 3	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
1070.36 8	1.83 5	<sup>96</sup> Rh(9.90 m)	832.57(100), 685.49(95.7), 631.71(74.5)
1070.4 2	4.5 3	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
• 1070.40 3	0.027 6	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1070.4 4	0.13 7	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
1070.47 9	0.037 19	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
• 1070.5 4	0.025 12	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1070.57 5	0.037 19	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1070.6 3	1.23 11	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1070.7 3	0.69 10	<sup>127</sup> In(1.09 s)	1597.7(49), 646.1(6.2), 805.1(5.6)
1070.737 130.079 3		<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
1070.8 1	1.21 6	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
• 1070.80 12	0.0117 18	<sup>165</sup> Tm(30.06 h)	242.917(35.5), 47.155(16.9), 297.369(12.71)
• 1070.81 7	0.400 19	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1070.85 10	0.0178 11	<sup>125</sup> Xe(16.9 h)	188.418(54), 243.378(30.1), 54.968(6.81)
1070.9 1		<sup>107</sup> Tc(21.2 s)	102.70(21.0), 177.00(9.2), 106.31(7.6)
1070.9 4	†3	<sup>131</sup> Ce(10.3 m)	169.42(†100), 414.25(†68), 119.18(†44)
• 1070.90 30	0.0524 18	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1070.9	†1.7 3	<sup>178</sup> Ir(12 s)	266.1(†100.0), 131.6(†79), 363.1(†39.9)
• 1070.97 15	0.061 10	<sup>79</sup> Kr(35.04 h)	261.29(13), 397.54(9.3), 606.09(8.12)
1071 2	†3.2	<sup>107</sup> Sn(2.90 m)	1129.2(†100), 678.5(†100), 1540.6(†30)
1071		<sup>132</sup> Pr(1.6 m)	325.5(†100), 496.9(†25), 822.4(†17.3)
1071		<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
• 1071.002 250.144 10		<sup>150</sup> Eu(35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
1071.1 7	0.17 8	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1071.18 12	0.20 6	<sup>186</sup> Ir(16.64 h)	296.911(64.0), 137.155(42), 434.849(34.4)
1071.2 2	>0.07	<sup>129</sup> La(11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
1071.2 3	0.00063 11	<sup>188</sup> Re(16.98 h)	155.032(14.9), 632.99(1.25), 477.99(1.0)
1071.4	0.13	<sup>92</sup> Rb(4.492 s)	814.98(33), 2820.6(6.2), 569.8(5.6)
1071.4 3	0.27 8	<sup>122</sup> In(10.3 s)	1140.55(98), 1001.58(50.7), 1190.58(20.5)
1071.4 4	0.26 9	<sup>188</sup> Tl(71 s)	412.7(88), 592.0(61), 504.2(23.3)
1071.47 14	0.89 8	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
1071.5 4	0.00035 6	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1071.6 10	†26	<sup>99</sup> Rb(59 ms)	90.8(†100), 125.2(†40), 981.4(†21)
1071.65 5	1.280 19	<sup>103</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1071.7 3	0.89 7	<sup>99</sup> Pd(21.4 m)	136.00(73), 263.60(15.2), 673.38(6.9)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1071.7 4	1.5 4	$^{113}\text{Te}$ (1.7 m)	814.4(22), 1018.1(13.0), 1181.0(12.3)
1071.70 21	12.9 9	$^{115}\text{Te}$ (6.7 m)	770.40(34.2), 723.569(18), 1504.10(10.2)
1071.70 21	0.24	$^{115}\text{Te}$ (5.8 m)	723.569(30), 1380.58(23.0), 1326.83(22.7)
1071.7 4	2.2 2	$^{130}\text{Sb}$ (6.3 m)	839.49(100), 793.53(86), 182.36(41)
1071.73 21	>3.7	$^{168}\text{Lu}$ (6.7 m)	198.82(28), 979.22(20), 896.12(15)
1071.76 18	0.515 23	$^{103}\text{Cd}$ (7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1071.77 3	0.49 8	$^{100}\text{Nb}$ (1.5 s)	535.60(45.7), 528.24(9.1), 159.547(8.8)
1071.77 3	5.7 13	$^{100}\text{Nb}$ (2.99 s)	535.60(97.0), 600.5(65.0), 1280.6(23.8)
1071.8 1	$\dagger$ 46 5	$^{171}\text{Hf}$ (12.1 h)	122.0( $\dagger$ 100), 662.2( $\dagger$ 83), 347.18( $\dagger$ 47)
1071.8 3	0.159 15	$^{205}\text{At}$ (26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
1071.8 5	0.29 4	$^{208}\text{At}$ (1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1071.85 15	2.3 3	$^{184}\text{Au}$ (53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
• 1071.88 16		$^{206}\text{Bi}$ (6.243 d)	803.10(99), 881.01(66.2), 516.18(40.7)
• 1071.9 10	0.0012 5	$^{99}\text{Mo}$ (65.94 h)	739.50(12.1), 181.063(6.08), 140.511(4.52)
1071.94 13	0.293 18	$^{141}\text{Cs}$ (24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1072.0 8	0.28	$^{101}\text{Cd}$ (1.2 m)	98.0(47), 1722.5(11), 1259.3(8)
1072 1	0.05 3	$^{109}\text{Rh}$ (80 s)	326.868(54), 426.135(7.7), 178.034(7.6)
1072.0 1	0.025 6	$^{127}\text{Cs}$ (6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
1072.2		$^{70}\text{Cu}$ (4.5 s)	884.9(54), 1876(2.2), 1654.1
1072.2		$^{70}\text{Cu}$ (47 s)	884.9(100), 901.7(87), 1251.7(57)
1072.20 16	0.030 3	$^{85}\text{Br}$ (2.90 m)	802.41(2.56), 924.63(1.63), 919.06(0.65)
1072.2 5	$\dagger$ 294 88	$^{105}\text{Ag}$ (7.23 m)	319.14( $\dagger$ 63000), 306.25( $\dagger$ 12800), 442.37( $\dagger$ 5900)
1072.2 8	0.09 5	$^{142}\text{La}$ (91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
• 1072.2	0.0035 14	$^{154}\text{Eu}$ (8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1072.2 3	0.28 9	$^{154}\text{Ho}$ (3.10 m)	334.6(94), 412.4(79), 477.1(55)
1072.2 3	1.00 13	$^{154}\text{Ho}$ (11.76 m)	334.6(84), 412.4(15.0), 873.4(12.5)
1072.2 1	0.017 3	$^{240}\text{Np}$ (7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
1072.3 3	0.030 7	$^{79}\text{Rb}$ (22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
• 1072.3 2	0.030 5	$^{131}\text{Te}$ (30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
1072.3 1	2.8 2	$^{145}\text{Gd}$ (23.0 m)	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
1072.30 6	0.062 14	$^{179}\text{Re}$ (19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
• 1072.35 4	0.302 6	$^{205}\text{Bi}$ (15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1072.36 4	0.020 15	$^{116}\text{In}$ (54.41 m)	1293.54(84.4), 1097.3(56.2), 416.86(28.9)
1072.36 4	28 2	$^{116}\text{Sb}$ (60.3 m)	1293.54(100), 972.550(72), 542.872(52)
1072.37 13	0.35 4	$^{154}\text{Tb}$ (9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1072.4 5	0.3 1	$^{97}\text{Sr}$ (426 ms)	1905.0(25), 953.8(21.4), 652.2(11.4)
1072.4 2	4.3 6	$^{232}\text{Ac}$ (119 s)	665.0(15.3), 1899(8.9), 1959(5.4)
1072.41 15	$\dagger$ 27 5	$^{189}\text{Au}$ (28.7 m)	713.17( $\dagger$ 100), 812.68( $\dagger$ 63), 447.65( $\dagger$ 55)
1072.50 20	30.7 10	$^{94}\text{Rh}$ (70.6 s)	1430.50(100), 756.23(51), 311.70(12)
1072.5 10	0.55 3	$^{114}\text{Sb}$ (3.49 m)	1299.90(99), 887.60(17.4), 327.18(7.0)
1072.547 30	15.0 8	$^{134}\text{I}$ (52.6 m)	847.025(95.4), 884.090(64.9), 595.362(11.2)
1072.6	$\dagger$ 100	$^{130}\text{Ce}$ (25 m)	997.7( $\dagger$ 100), 920.5( $\dagger$ 100), 851.5( $\dagger$ 80)
1072.6 2	1.8 9	$^{141}\text{Gd}$ (24.5 s)	351.1(89), 223.9(64), 574.9(51)
1072.6 2	1.0 5	$^{141}\text{Gd}$ (14 s)	215.8(54), 525.9(17), 336.2(17.1)
1072.6 4	$\dagger$ 124 52	$^{157}\text{Ho}$ (12.6 m)	279.97( $\dagger$ 47600), 341.16( $\dagger$ 37000), 193.41( $\dagger$ 15200)
1072.6 3	$\dagger$ 0.30 3	$^{184}\text{Ir}$ (3.09 h)	263.97( $\dagger$ 100), 119.80( $\dagger$ 45), 390.38( $\dagger$ 38)
1072.63 8	0.83 13	$^{202}\text{Bi}$ (1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
1072.641 8	0.022 3	$^{199}\text{Pt}$ (30.80 m)	542.993(15), 493.772(5.59), 317.056(4.95)
1072.67 25	0.017 4	$^{183}\text{Os}$ (13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1072.7 3	0.204 17	$^{103}\text{Ag}$ (65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
1072.7 5	0.24 6	$^{109}\text{Sn}$ (18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
1072.7 6	1.7 4	$^{116}\text{Cs}$ (3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
1072.7 3	$\dagger$ 0.75 10	$^{129}\text{Ba}$ (2.17 h)	182.30( $\dagger$ 100), 1459.1( $\dagger$ 50.0), 202.38( $\dagger$ 33.7)
1072.8 2	$\dagger$ 2.2 2	$^{104}\text{Nb}$ (0.92 s)	192.2( $\dagger$ 100), 368.4( $\dagger$ 20), 620.2( $\dagger$ 19.2)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1072.85 7	47 4	$^{124}\text{In}(2.4 \text{ s})$	1131.64(100), 969.94(52), 102.91(45)
1072.9 2	0.029 8	$^{101}\text{Pd}(8.47 \text{ h})$	296.29(19), 590.44(12.06), 269.67(6.43)
• 1072.96 5	0.079 13	$^{82}\text{Br}(35.30 \text{ h})$	776.517(83.5), 554.348(70.8), 619.106(43.4)
1072.96 5	0.00205 10	$^{82}\text{Br}(6.13 \text{ m})$	776.517(0.26), 698.374(0.0340), 1474.88(0.0198)
1072.96 5	0.73 5	$^{82}\text{Rb}(6.472 \text{ h})$	776.517(84), 554.348(62.4), 619.106(37.976)
1073.0 1	0.016 6	$^{127}\text{Cs}(6.25 \text{ h})$	411.95(62.8), 124.70(11.37), 462.31(5.07)
1073.0 2	3.6	$^{151}\text{Er}(23.5 \text{ s})$	638.3(36), 667.2(17), 256.4(15.9)
1073.1 1	0.120 10	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1073.11 4	0.328 11	$^{69}\text{As}(15.2 \text{ m})$	232.69(11), 145.95(4.96), 86.78(3.44)
1073.2 1	0.84 6	$^{109}\text{Ru}(34.5 \text{ s})$	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1073.2 1	6.37	$^{149}\text{Ho}(21.1 \text{ s})$	1090.7(74.8), 1583.6(4.48), 1736.8(3.80)
1073.20 17	†7.7 8	$^{159}\text{Yb}(1.58 \text{ m})$	166.16(†500), 177.12(†159), 390.20(†113)
1073.24 10	2.17 14	$^{157}\text{Pm}(10.56 \text{ s})$	160.61(35), 188.052(13.5), 571.27(5.39)
1073.3 12	0.29 3	$^{133}\text{Ce}(4.9 \text{ h})$	477.22(39), 510.36(20.7), 58.39(19.2)
1073.3 5	†4.4 17	$^{194}\text{Tl}(33.0 \text{ m})$	428.0(†100), 636.5(†23), 645.20(†13)
1073.31 8	0.45 3	$^{100}\text{Sr}(202 \text{ ms})$	963.85(22.0), 898.50(18.9), 65.46(15.2)
1073.36 12	†8.6 14	$^{131}\text{Sn}(56.0 \text{ s})$	1226.03(†100), 450.03(†90), 798.50(†86)
• 1073.4 2	0.0019 4	$^{71}\text{As}(65.28 \text{ h})$	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1073.4 3		$^{146}\text{Dy}(29 \text{ s})$	2156.8, 1915.7, 1876.7
1073.465 250.033 3		$^{61}\text{Cu}(3.333 \text{ h})$	282.956(12.2), 656.008(10.77), 67.412(4.23)
1073.48 16	0.13 1	$^{141}\text{Cs}(24.94 \text{ s})$	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1073.5	>0.00027	$^{179}\text{Lu}(4.59 \text{ h})$	214.335(11.3), 214.930(0.46), 123.3790(0.45)
1073.54 10	0.31	$^{165}\text{Yb}(9.9 \text{ m})$	80.11(49), 68.86(9.1), 1090.28(4.4)
1073.56 5	3.5 3	$^{164}\text{Lu}(3.14 \text{ m})$	123.3(34.0), 740.52(12.2), 262.22(10.8)
1073.56 13	0.6	$^{165}\text{Yb}(9.9 \text{ m})$	80.11(49), 68.86(9.1), 1090.28(4.4)
1073.6 9	0.028 8	$^{124}\text{Cs}(30.8 \text{ s})$	353.9(40), 914.8(4.0), 492.6(3.6)
1073.6 2	0.0160 19	$^{212}\text{Bi}(60.55 \text{ m})$	727.330(6.58), 1620.50(1.49), 785.37(1.102)
1073.6 2	0.103 10	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
1073.70 21	0.0009 5	$^{110}\text{Ag}(24.6 \text{ s})$	657.7622(4.5), 815.35(0.0382), 1125.700(0.0153)
1073.70 21	0.098 9	$^{110}\text{In}(69.1 \text{ m})$	657.7622(98), 2129.53(2.13), 2211.49(1.76)
1073.71 2	3.74 4	$^{95}\text{Tc}(20.0 \text{ h})$	765.794(93.82), 947.67(1.951), 869.60(0.317)
1073.74 6	0.951 25	$^{88}\text{Br}(16.5 \text{ s})$	775.28(63), 802.14(13.13), 1440.69(4.72)
• 1073.79 3	1.12 7	$^{169}\text{Lu}(34.06 \text{ h})$	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1073.87 4	0.106 18	$^{75}\text{Br}(96.7 \text{ m})$	286.572(88), 141.3147(6.6), 427.883(4.4)
1073.9 10	0.26 3	$^{140}\text{Cs}(63.7 \text{ s})$	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1074.0	0.09 5	$^{44}\text{K}(22.13 \text{ m})$	1157.031(58), 2150.76(22.7), 2518.95(9.69)
1074.0 5	0.044 22	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1074.0 3	0.037 9	$^{153}\text{Dy}(6.4 \text{ h})$	80.723(11.10), 213.754(10.90), 99.659(10.51)
1074.0 3	0.60 10	$^{184}\text{Au}(53.0 \text{ s})$	162.97(50), 272.98(40), 362.47(17.5)
1074.0 10	0.044 16	$^{198}\text{Tl}(5.3 \text{ h})$	411.8044(82), 675.8874(11), 636.4(10.1)
1074		$^{238}\text{Pa}(2.3 \text{ m})$	1015.3(†<100), 1014.6(†<100), 635.18(†88)
1074.03 3	0.170 17	$^{191}\text{Au}(3.18 \text{ h})$	586.45(17), 277.88(7.2), 674.19(6.8)
1074.10 10	1.77 27	$^{88}\text{Nb}(14.5 \text{ m})$	1082.53(103), 1057.01(100), 671.20(64)
1074.2 5	0.09 3	$^{100}\text{Cd}(49.1 \text{ s})$	936.55(66), 139.71(6.7), 582.5(6.3)
1074.2 4	2.5 3	$^{139}\text{Nd}(29.7 \text{ m})$	405.12(7), 669.0(1.52), 916.9(1.52)
1074.2	2.30 13	$^{150}\text{Pr}(6.19 \text{ s})$	130.2(32), 722.5(7.0), 852.7(6.1)
1074.25 21	0.53 8	$^{183}\text{Ir}(58 \text{ m})$	392.52(10.4), 228.70(6.9), 87.67(5.6)
1074.31 11	0.75 8	$^{197}\text{Pb}(43 \text{ m})$	385.85(74), 387.72(25.1), 222.45(24.6)
1074.4 2	0.014 3	$^{119}\text{I}(19.1 \text{ m})$	257.52(87), 635.86(2.69), 320.53(2.17)
1074.41 15	0.010 3	$^{228}\text{Ac}(6.15 \text{ h})$	911.205(26.6), 968.971(16.2), 338.322(11.3)
1074.5 3	2.36 22	$^{129}\text{In}(0.61 \text{ s})$	2118.0(45), 1865.0(32), 769.3(9.1)
1074.5 2	0.69 5	$^{152}\text{Tb}(4.2 \text{ m})$	344.281(20.8), 411.115(18.8), 471.9(12.2)
1074.6 2	†2.0 10	$^{172}\text{Ir}(2.0 \text{ s})$	227.8(†100.0), 378.4(†62.0), 448.4(†40.5)
1074.6 1	0.200 18	$^{209}\text{At}(5.41 \text{ h})$	545.0(91), 781.9(83.5), 790.2(63.5)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1074.68 10	0.75 6	<sup>230</sup> Pa(17.4 d)	951.95(1.65), 918.48(8.2), 454.95(6.27)
1074.7 3	0.84 13	<sup>18</sup> N(624 ms)	1981.95(83.2), 821.76(49.0), 1651.61(48.9)
1074.7 5	†1.7 3	<sup>102</sup> Tc(4.35 m)	475.070(†115), 628.05(†35.3), 631.28(†21.3)
1074.7 3	1.9 4	<sup>112</sup> Rh(6.8 s)	348.70(87), 560.5(49), 1098.6(39)
1074.9 6	0.29	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1074.93 18	1.0 3	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
1075.0 1	0.071 9	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1075.0 4	†1.5 4	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1075.0 4	1.1 8	<sup>196</sup> Bi(308 s)	1049.21(87), 689.00(35.5), 776.6(9.1)
• 1075.0	5.0×10 <sup>-6</sup>	<sup>253</sup> Es(20.47 d)	41.79(0.050), 389.11(0.0264), 387.1(0.00810)
• 1075.10 10	0.011 5	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1075.13 3	0.80 4	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1075.18 46	0.074 22	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1075.2 3	†3	<sup>131</sup> Ce(10.3 m)	169.42(†100), 414.25(†68), 119.18(†44)
1075.2 3	3.49 25	<sup>139</sup> Nd(5.50 h)	113.94(40), 737.96(35), 982.2(26.4)
1075.2 2	0.12 6	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
1075.3 3	2.1 4	<sup>104</sup> Ag(69.2 m)	555.796(92.6), 767.72(65.7), 941.7(25.0)
1075.3 1	0.61 4	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
1075.30 12	3.06 7	<sup>172</sup> Ta(36.8 m)	214.02(46), 95.23(17.5), 1109.27(12.4)
1075.31 18	0.63 6	<sup>146</sup> Cs(0.343 s)	181.02(57.0), 557.76(9.18), 332.38(6.44)
1075.44 25	0.88 15	<sup>125</sup> Cd(0.57 s)	1027.53(25.8), 1173.16(25.1), 736.65(12.6)
1075.5 5	0.4 2	<sup>130</sup> Sb(39.5 m)	793.53(100), 839.49(100), 331.05(78)
1075.543 280.0616 16		<sup>125</sup> Xe(16.9 h)	188.418(54), 243.378(30.1), 54.968(6.81)
1075.8 10	2.9 4	<sup>69</sup> Se(27.4 s)	97.98(66), 66.4(24.8), 691.8(16.6)
1075.87 3	0.126 3	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1075.9 3	0.83 10	<sup>65</sup> Ge(30.9 s)	649.7(33), 62.0(27), 809.1(21.5)
1075.9 3	0.226 23	<sup>96</sup> Rb(0.199 s)	815.0(78.00), 692.0(8.0), 813.2(7.0)
1075.90 25	0.28 8	<sup>193</sup> Hg(11.8 h)	257.97(61), 407.63(25), 573.25(14.2)
1075.95 4	0.021 3	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
1076.0 2	0.051 7	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
1076.0 1	0.09 2	<sup>107</sup> Tc(21.2 s)	102.70(21.0), 177.00(9.2), 106.31(7.6)
1076 1	0.040 20	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
1076.0 3	0.053 13	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
• 1076	0.338 7	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
• 1076.1 4	0.0066 25	<sup>79</sup> Kr(35.04 h)	261.29(13), 397.54(9.3), 606.09(8.12)
1076.2 4	†7.4 24	<sup>152</sup> Pr(3.24 s)	164.2(†100), 284.9(†81.0), 72.40(†38.9)
1076.2	0.10	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1076.2	0.08	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
1076.2 7	0.32 3	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
• 1076.240 180.79 4		<sup>172</sup> Tm(63.6 h)	78.7435(6.5), 1093.657(6.0), 1387.093(5.6)
1076.3 3	8.8 14	<sup>82</sup> As(13.6 s)	654.6(72), 343.5(58), 1895.4(39)
1076.3 3	1.19 20	<sup>82</sup> As(19.1 s)	654.6(15), 1731.3(4.1), 755.2(1.81)
1076.30 10	0.52 7	<sup>99</sup> Ag(124 s)	264.41(65), 832.29(13.5), 805.07(12.5)
1076.3 4	0.42 14	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
• 1076.30 6	10.5 3	<sup>182</sup> Re(64.0 h)	229.3220(26), 67.75001(22.2), 1121.3007(22.0)
1076.35 24	0.378 15	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1076.38 22	0.088 16	<sup>138</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
1076.4 1	0.48 3	<sup>143</sup> La(14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)
1076.48 20	0.24 3	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1076.50 20	0.93 6	<sup>91</sup> Tc(3.14 m)	2450.90(13.5), 1639.90(9.2), 1605.20(7.77)
1076.5 1	0.45 3	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1076.5 5	0.07	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1076.5 5	†3.0 13	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
1076.50 17	†<8.6	<sup>181</sup> Pt(51 s)	289.29(†100), 111.97(†100), 230.15(†92)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1076.6 2	0.15 3	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
• 1076.6 4	0.016 6	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
• 1076.64 4	9	<sup>86</sup> Rb(18.631 d)	
1076.64 4	83	<sup>86</sup> Y(14.74 h)	627.72(32.6), 1153.01(30.5), 777.35(22.4)
1076.64 4	0.69 7	<sup>86</sup> Y(48 m)	627.21(0.69), 1153.01(0.69), 98.68
1076.66 10	0.0310 24	<sup>168</sup> Ho(2.99 m)	741.356(36.6), 821.164(34.5), 815.990(18.6)
1076.7	1.0	<sup>44</sup> Ar(11.87 m)	182.6(66), 1703.4(57), 1886.0(31)
1076.7 4	0.27 10	<sup>121</sup> Cs(155 s)	153.9(15.2), 239.6(7.7), 427.1(3.63)
1076.7 4	0.21 8	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
1076.88	14.8 3	<sup>24</sup> Al(2.053 s)	1368.633(96.0), 7069.50(43.0), 2754.028(41.2)
1076.9 2		<sup>106</sup> In(6.2 m)	632.66(100), 861.16(92), 997.87(48)
1076.9 2		<sup>106</sup> In(5.2 m)	632.66(92), 1714.90(17.1), 861.16(10.6)
1076.9 2	0.0081 16	<sup>179</sup> Lu(4.59 h)	214.335(11.3), 214.930(0.46), 123.3790(0.45)
1076.94 17	0.030 6	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
1077.0 2	†10	<sup>139</sup> I(2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
1077.0 14	0.009 3	<sup>199</sup> Pt(30.80 m)	542.993(15), 493.772(5.59), 317.056(4.95)
• 1077.043 6	6.15 19	<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
1077.12 10	0.132 12	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 1077.2 5	0.053 18	<sup>106</sup> Ag(8.28 d)	511.842(88), 1045.83(29.6), 717.24(28.9)
1077.3 1	†0.18 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1077.35 4	12 5	<sup>68</sup> Cu(3.75 m)	1339.96(12.0), 1041.3(9.6), 152.0(5.5)
1077.35 4	64 4	<sup>68</sup> Cu(31.1 s)	1260.97(12.5), 1883.09(2.4), 1744.16(1.7)
1077.35 4	3.0	<sup>68</sup> Ga(67.629 m)	1883.09(0.130), 1260.97(0.0900), 805.75(0.089)
1077.5 2	2.1 5	<sup>232</sup> Ac(119 s)	665.0(15.3), 1899(8.9), 1959(5.4)
1077.60 17	0.045 5	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1077.6 8	0.042 17	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
1077.6 1	0.99 10	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1077.6 10	0.16 8	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
1077.64 5	0.589 7	<sup>73</sup> Se(39.8 m)	67.03(2.59), 253.70(2.356), 84.0(2.03)
1077.64 25	0.4 3	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
1077.68 3	1.96 13	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1077.73 15	0.32 4	<sup>126</sup> In(1.60 s)	1141.11(55.9), 3344.61(21.6), 969.61(14.9)
1077.8 4	0.090 15	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1077.8 3	0.090 15	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1077.86 16	0.23 3	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
1077.9 5	0.16 4	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
1078.0 3	1.24 6	<sup>109</sup> Sb(17.0 s)	925.4(32), 1062.8(23.9), 664.5(20.1)
• 1078.0 4	$4.0 \times 10^{-5}$ 4	<sup>115</sup> Cd(44.6 d)	933.8(2.000), 1290.580(0.890), 484.470(0.290)
1078.0 2	†1.40 11	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
1078.0 3	0.063 17	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1078.0 5	0.0072 14	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1078.12 5	0.78 5	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
1078.13 15	0.17 11	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
1078.2 4	0.019 9	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1078.2	†0.33 6	<sup>135</sup> Pm(49 s)	198.5(†100), 207.2(†70), 463.5(†62)
• 1078.23 10	0.061 9	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
• 1078.28 4	1.07 4	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1078.3 1	2.51 15	<sup>132</sup> Sn(39.7 s)	340.53(49), 85.58(48.2), 899.04(44.8)
• 1078.3 4	0.034 9	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1078.3 5	†31 3	<sup>195</sup> Bi(183 s)	807.6(†100), 831.7(†100), 776.2(†95)
1078.4 4	0.26 3	<sup>159</sup> Eu(18.1 m)	67.8(19), 78.6(9.1), 95.7(7.0)
1078.5 3	†12.0 6	<sup>32</sup> Ar(98 ms)	1168.4(†32.8), 707.4(†12.1), 461.09(†12.1)
1078.5 3	0.09 9	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
1078.5 1	0.53 6	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1078.59 19	3.0 7	<sup>98</sup> Ag(46.7 s)	863.1(100), 678.5(85), 570.93(53)
1078.6 7	0.15 4	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1078.6 4	2 1	<sup>128</sup> Sb(9.01 h)	753.82(100), 743.22(100), 314.12(61)
1078.6 1	51.6 26	<sup>146</sup> Tb(23 s)	1579.4(100), 1417.2(17.2), 440.9(13.1)
1078.62 10	0.564 19	<sup>212</sup> Bi(60.55 m)	727.330(6.58), 1620.50(1.49), 785.37(1.102)
1078.63 20	†2.2 3	<sup>144</sup> Cs(1.01 s)	199.326(†100.0), 639.00(†21.2), 758.96(†20.6)
1078.7 1	11.5 3	<sup>142</sup> Ba(10.6 m)	255.300(20.5), 1204.3(14.23), 895.2(13.9)
1078.76 3	0.063 7	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
• 1078.8 14	0.006 6	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1078.80 7	0.074 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1078.8 8	0.10 3	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
1078.86 4	27.7 10	<sup>246</sup> Am(25.0 m)	798.80(25), 1062.04(17.1), 1036.00(12.6)
• 1078.86 4	3.70 28	<sup>246</sup> Bk(1.80 d)	798.80(61), 1081.40(5.8), 833.60(5.0)
1078.876 220.474 10		<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1078.88 9	0.10 1	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1078.88 15	0.0015	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
• 1078.91 3	0.43 3	<sup>145</sup> Eu(5.93 d)	893.73(66), 653.512(15.0), 1658.53(14.9)
1079.0 3	0.156 21	<sup>118</sup> I(13.7 m)	605.71(86.0), 545.12(10.9), 600.71(10.2)
1079.0 3		<sup>118</sup> I(8.5 m)	605.71(99), 600.71(92), 614.42(65)
1079.0 3	1.72 17	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1079.025 25†16.2 4		<sup>148</sup> Tb(60 m)	784.430(†119.0), 489.049(†28.0), 631.947(†15.1)
1079.1 10	0.0051 17	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1079.2	0.16	<sup>43</sup> Ar(5.37 m)	975.0(34), 738.1(15), 1439.5(13)
• 1079.24	4.589 18	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
1079.3 3	1.32 11	<sup>95</sup> Rh(5.02 m)	941.6(72), 1352.0(20.8), 677.6(5.80)
1079.3 2	0.32 3	<sup>152</sup> Pm(4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
1079.3	0.10	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
1079.4 3	0.057 21	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1079.5	0.015 7	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1079.5 3	†3.4 5	<sup>181</sup> Pt(51 s)	289.29(†100), 111.97(†100), 230.15(†92)
1079.628 300.092 3		<sup>165</sup> Dy(2.334 h)	94.700(3.58), 361.68(0.84), 633.415(0.568)
1079.63 14	0.55 11	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
1079.67 22	1.62 11	<sup>78</sup> As(90.7 m)	613.725(54), 694.916(16.7), 1308.59(13.0)
1079.67 10	0.52 13	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
1079.7 5	†0.36 15	<sup>188</sup> Au(8.84 m)	265.63(†100), 340.04(†23.9), 605.5(†16.3)
1079.8 3	0.75 7	<sup>98</sup> Rb(114 ms)	144.224(24.5), 1693.3(5.9), 2171.7(5.7)
1079.8 3	†90	<sup>99</sup> Rb(59 ms)	144.224(†900), 289.4(†270), 655.9(†81)
1079.8 5	0.28 10	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
1079.90 7	5.44 14	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 386.97(3.60)
1079.9 4	0.15 3	<sup>139</sup> Pm(4.15 m)	402.8(15), 463.1(4.1), 367.8(3.52)
1080.00 9	0.83 8	<sup>122</sup> In(10.3 s)	1140.55(98), 1001.58(50.7), 1190.58(20.5)
1080.0 3	0.79 24	<sup>148</sup> Pr(2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
1080.09 5	0.237 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1080.09 5	0.030 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1080.1 4	0.46 9	<sup>74</sup> Br(46 m)	634.78(91), 728.37(35.6), 634.26(16.4)
1080.16 9	†1.04 9	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1080.16 6	0.0123 7	<sup>211</sup> Pb(36.1 m)	404.853(3.78), 832.01(3.52), 427.088(1.76)
1080.2 10	0.32 13	<sup>74</sup> Br(25.4 m)	634.78(64), 219.05(18.1), 634.26(14.1)
1080.2 3	0.88 15	<sup>98</sup> Sr(0.653 s)	119.353(73), 444.628(39), 428.4(31)
1080.2 6	0.5	<sup>116</sup> Ag(2.68 m)	513.39(76), 2478.5(12), 699.58(11)
1080.2 4	0.102 8	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1080.21 8	5.6 3	<sup>177</sup> Yb(1.911 h)	150.392(20.3), 1241.2(3.47), 121.6211(3.42)
1080.3 2	23.3 24	<sup>82</sup> As(13.6 s)	654.6(72), 343.5(58), 1895.4(39)
1080.3 2	1.69 14	<sup>82</sup> As(19.1 s)	654.6(15), 1731.3(4.1), 755.2(1.81)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1080.3 3	0.30 4	<sup>167</sup> Dy(6.20 m)	569.7(48), 259.33(27.9), 310.26(25.0)
1080.4 2	0.46 9	<sup>74</sup> Br(46 m)	634.78(91), 728.37(35.6), 634.26(16.4)
1080.4 2	0.18 3	<sup>197</sup> Pb(43 m)	385.85(74), 387.72(25.1), 222.45(24.6)
1080.5 3	0.89 7	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1080.5 5	†0.125 21	<sup>196</sup> Ir(1.40 h)	393.346(†105.2), 521.175(†104), 447.1(†102.1)
1080.51 12	0.0021 3	<sup>18</sup> Ne(1672 ms)	1041.52(7.83), 659.25(0.132), 1700.72(0.056)
1080.57 13	0.30 3	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
1080.6 7	0.041 14	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
1080.6 3	0.275 20	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
1080.6 1	0.052 5	<sup>141</sup> Pm(20.90 m)	1223.26(4.74), 886.22(2.44), 193.68(1.61)
1080.61 8	0.192 12	<sup>89</sup> Br(4.40 s)	1097.82(6.00), 997.93(4.26), 953.53(4.26)
1080.64 6	0.123 9	<sup>187</sup> Ir(10.5 h)	912.95(4.79), 427.12(4.12), 400.89(3.94)
• 1080.68 4	0.906 25	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1080.7 4	7.1 7	<sup>116</sup> Cs(3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
1080.7	†5.0 5	<sup>178</sup> Ir(12 s)	266.1(†100.0), 131.6(†79), 363.1(†39.9)
1080.7 3	†29 4	<sup>193</sup> Hg(3.80 h)	861.11(†100), 1118.84(†64), 789.21(†36)
1080.72 11	0.490 24	<sup>81</sup> Sr(22.3 m)	153.54(33.8), 147.76(30.1), 443.34(17.5)
1080.82 8	0.241 5	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
1080.83 8	0.074 11	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1080.88 8	1.00 8	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
1080.96 19	0.025 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1081 1	†3.4 7	<sup>103</sup> Mo(67.5 s)	83.4(†100), 423.91(†69), 45.8(†57)
• 1081.0 6	0.073 21	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1081.0 3	†4.4 19	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
1081.0 5	†3.1 6	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
1081.0 15		<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1081.0 4	0.08 2	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
1081.04 11	0.0033 5	<sup>133</sup> La(3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
1081.05 5	0.0201 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
1081.1 2	0.26 4	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1081.11 5	0.0161 11	<sup>128</sup> Cs(3.66 m)	442.901(26.8), 526.557(2.41), 1140.079(1.168)
• 1081.2 5		<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1081.21 19	2.5 8	<sup>45</sup> Ar(21.48 s)	1020.04(34.0), 3703.2(33.3), 61.35(25.0)
• 1081.29 4	0.618 17	<sup>82</sup> Br(35.30 h)	776.517(83.5), 554.348(70.8), 619.106(43.4)
1081.29 4	0.00044	<sup>82</sup> Br(6.13 m)	776.517(0.26), 698.374(0.0340), 1474.88(0.0198)
1081.29 4	0.00027 13	<sup>82</sup> Rb(1.273 m)	776.517(13), 1395.139(0.471), 698.374(0.133)
1081.29 4	1.31 4	<sup>82</sup> Rb(6.472 h)	776.517(84), 554.348(62.4), 619.106(37.976)
1081.3 2	0.79 4	<sup>146</sup> Pr(24.15 m)	453.88(48.0), 1523.7(15.6), 735.72(7.5)
• 1081.35 10	1.60 3	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
1081.38 20	0.52 3	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1081.4 3	0.023 6	<sup>89</sup> Rb(15.15 m)	1031.94(58), 1248.19(42.6), 2196.02(13.3)
1081.4 3	1.75 19	<sup>151</sup> Ho(35.2 s)	527.4(63), 775.53(9.2), 209.5(5.69)
1081.4 3	0.063 17	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1081.40 6	0.69 6	<sup>155</sup> Ho(48 m)	240.19(12.5), 136.30(5.00), 45.38(5)
1081.40 6	0.34 5	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
• 1081.40 6	5.8 4	<sup>246</sup> Bk(1.80 d)	798.80(61), 833.60(5.0), 1124.29(4.4)
1081.45 2	0.044 6	<sup>178</sup> Lu(28.4 m)	93.180(6.0), 1340.8(3.22), 1310.05(1.40)
1081.45 2	0.0180 8	<sup>178</sup> Ta(9.31 m)	93.180(1.78), 1350.68(1.18), 1340.8(1.027)
• 1081.46 8	0.029 10	<sup>150</sup> Eu(35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
1081.5 5	0.13 7	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
• 1081.58 3	0.0181 7	<sup>149</sup> Gd(9.28 d)	149.735(48.2), 298.634(28.6), 346.651(23.9)
1081.66 11	1.03 10	<sup>67</sup> Ge(18.9 m)	167.01(84), 1472.48(4.9), 910.92(3.1)
• 1081.7 3	5×10 <sup>-8</sup> 3	<sup>242</sup> Cm(162.8 d)	44.08(0.0325), 101.90(0.0025), 157.42(0.0014)
1081.8 4	0.035 8	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1081.8 19	0.030 18	$^{194}\text{Au}$ (38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
1081.9 4	0.165 24	$^{107}\text{In}$ (32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
1081.9 4	0.043 7	$^{138}\text{Pr}$ (1.45 m)	788.742(2.4), 688.2(0.82), 1551.1(0.42)
1081.9 3	0.19 3	$^{141}\text{Eu}$ (40.0 s)	394.0(9), 384.5(5.6), 382.9(2.97)
• 1082.0 10	0.00061 24	$^{99}\text{Mo}$ (65.94 h)	739.50(12.1), 181.063(6.08), 140.511(4.52)
1082.0 5	0.11	$^{154}\text{Pm}$ (1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1082 1	0.11 5	$^{209}\text{Rn}$ (28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
• 1082.096 170.189 4		$^{148}\text{Eu}$ (54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1082.1 7	2.5 4	$^{85}\text{Se}$ (31.7 s)	345.2(<0.23), 3396.6(7.4), 1427.2(7.0)
1082.1 3	†233 48	$^{157}\text{Ho}$ (12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
• 1082.10 30	0.026 3	$^{170}\text{Lu}$ (2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1082.19 20	0.34 6	$^{128}\text{In}$ (0.84 s)	1168.80(40), 935.20(6.5), 1089.53(6.0)
1082.19 20	1.0 2	$^{128}\text{In}$ (0.72 s)	831.54(100), 1168.80(100), 120.54(11.1)
1082.2 1	0.31 5	$^{109}\text{Ru}$ (34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1082.20 27	0.13 3	$^{141}\text{Xe}$ (1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1082.2 4	0.59 19	$^{157}\text{Tm}$ (3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1082.29 8	0.0207 13	$^{91}\text{Mo}$ (15.49 m)	1636.99(0.329), 1581.04(0.226), 2631.97(0.118)
1082.29 8	0.50 3	$^{91}\text{Mo}$ (65.0 s)	1507.93(24.3), 1208.09(18.7), 2240.87(0.73)
1082.3 3	2.65 9	$^{83}\text{Se}$ (22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
1082.3 2	0.0093 17	$^{121}\text{I}$ (2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1082.33 8	2.48 22	$^{100}\text{Y}$ (735 ms)	212.531(73), 118.59(15.4), 665.98(7.7)
1082.36 4	0.121 5	$^{183}\text{Os}$ (13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1082.4 20	0.029 5	$^{145}\text{Gd}$ (23.0 m)	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
1082.5 4	0.110 8	$^{143}\text{Ba}$ (14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1082.5 3	0.24 4	$^{183}\text{Au}$ (42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
1082.53 4	103 4	$^{88}\text{Nb}$ (14.5 m)	1057.01(100), 671.20(64), 502.91(60)
1082.53 4	53.9 25	$^{88}\text{Nb}$ (7.8 m)	1057.01(89.3), 399.41(45.7), 450.52(26.6)
1082.56 16	0.061 14	$^{105}\text{Cd}$ (55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1082.6 4	0.141 25	$^{84}\text{Br}$ (31.80 m)	881.610(42), 1897.761(14.7), 3927.5(6.8)
1082.60 20	1.8 4	$^{102}\text{Nb}$ (4.3 s)	296.611(79), 1633.10(41), 551.54(30)
1082.6 4	0.014 5	$^{180}\text{Re}$ (2.44 m)	902.795(90), 103.557(22.2), 825.357(9.9)
1082.6 5	0.076 12	$^{208}\text{At}$ (1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1082.70 20	0.0080 19	$^{105}\text{Ru}$ (4.44 h)	724.21(47), 469.37(17.5), 676.36(15.7)
1082.7 6	0.55 9	$^{144}\text{La}$ (40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
1082.7 5	0.030 15	$^{151}\text{Nd}$ (12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1082.7 2	0.57 4	$^{205}\text{At}$ (26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
1082.8 5	0.50 8	$^{121}\text{Xe}$ (40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
1082.9 1	†0.27 5	$^{160}\text{Ho}$ (5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1082.9 4	0.14 5	$^{177}\text{W}$ (135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
1082.90 20	0.069 9	$^{195}\text{Hg}$ (9.9 h)	779.80(7), 61.46(6.2), 585.13(1.99)
1083.0 7	†8	$^{87}\text{Nb}$ (2.6 m)	200.95(†100), 470.63(†73), 1066.8(†37)
1083.0 3	†2.0 6	$^{103}\text{Nb}$ (1.5 s)	102.64(†100), 641.1(†55), 538.5(†34.0)
1083.0 2	†1.8 2	$^{104}\text{Nb}$ (0.92 s)	192.2(†100), 368.4(†20), 620.2(†19.2)
1083.0 3	0.27 4	$^{167}\text{Lu}$ (51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1083.0 8	0.16 7	$^{175}\text{Ta}$ (10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1083.0 7	0.27 14	$^{207}\text{Rn}$ (9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
1083.1 10	0.20 5	$^{138}\text{Pr}$ (2.12 h)	1037.8(101), 788.742(100), 302.7(80)
1083.2 3	2.8 7	$^{81}\text{Ge}$ (7.6 s)	335.98(58.9), 792.94(34), 1495.53(19.9)
1083.2 10	0.28 3	$^{228}\text{Fr}$ (39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1083.2 1	0.50 3	$^{234}\text{Pa}$ (6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1083.2 1	†8.9×10 <sup>2</sup>	$^{234}\text{Pa}$ (1.17 m)	1001.03(†837000), 766.38(†294000), 742.81(†80000)
1083.22 6	0.83 5	$^{81}\text{Ga}$ (1.221 s)	216.47(37.4), 828.26(22.1), 711.18(17.6)
1083.3 3	0.66 8	$^{149}\text{Dy}$ (4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1083.30 8	0.35 4	$^{174}\text{Ta}$ (1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1083.341 370.18 3		$^{150}\text{Pm}(2.68 \text{ h})$	333.971(68), 1324.51(17.5), 1165.739(15.8)
• 1083.341 370.163 10		$^{150}\text{Eu}(35.8 \text{ y})$	333.971(96), 439.401(80.4), 584.274(52.6)
1083.4 0.26		$^{83}\text{As}(13.4 \text{ s})$	734.60(43), 1113.10(14.7), 2076.70(11.9)
1083.4 2 0.353 13		$^{143}\text{Cs}(1.78 \text{ s})$	195.554(13), 232.421(8.32), 306.424(6.80)
1083.42 6 0.81 4		$^{93}\text{Kr}(1.286 \text{ s})$	253.42(41.2), 323.89(24.1), 266.83(20.6)
1083.46 5		$^{168}\text{Lu}(5.5 \text{ m})$	1483.65(†100), 228.58(†97), 111.8(†68)
1083.46 5 5.4 6		$^{168}\text{Lu}(6.7 \text{ m})$	198.82(28), 979.22(20), 896.12(15)
1083.47 4 48.4 16		$^{80}\text{Ga}(1.697 \text{ s})$	659.14(78.0), 1109.36(18.6), 523.18(10.1)
1083.5 3 †2.5 5		$^{189}\text{Hg}(7.6 \text{ m})$	320.99(†100), 78.21(†63), 565.42(†48)
1083.6 5 0.081 18		$^{141}\text{Eu}(40.0 \text{ s})$	394.0(9), 384.5(5.6), 382.9(2.97)
1083.6 8 0.086 16		$^{226}\text{Fr}(48 \text{ s})$	253.73(22.3), 186.05(16.3), 253.9(2.5)
1083.7 4 0.009 3		$^{119}\text{I}(19.1 \text{ m})$	257.52(87), 635.86(2.69), 320.53(2.17)
1083.75 14 0.26 9		$^{133}\text{Sb}(2.5 \text{ m})$	1096.22(43.0), 817.8(18.5), 2755(12.5)
1083.8 7 0.52 17		$^{129}\text{Sb}(4.40 \text{ h})$	812.8(43), 914.6(20.0), 544.7(17.9)
1083.85 5 0.493 15		$^{129}\text{Te}(69.6 \text{ m})$	27.81(16.3), 459.60(7.70), 487.39(1.42)
• 1083.864 340.0115 8		$^{71}\text{As}(65.28 \text{ h})$	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1083.9 5 0.60 9		$^{109}\text{Sn}(18.0 \text{ m})$	1099.4(30), 649.90(28.0), 1321.3(11.9)
1083.9 5 0.034 7		$^{245}\text{Pu}(10.5 \text{ h})$	327.428(25.4), 560.13(5.4), 308.222(4.9)
1084.0 3 0.49 3		$^{147}\text{Pr}(13.4 \text{ m})$	77.9921(15), 314.675(13.2), 641.380(10.0)
1084.0 3 0.028 7		$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 1084 1 0.244 8		$^{152}\text{Eu}(13.542 \text{ y})$	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
1084.0 4 †50		$^{238}\text{Pa}(2.3 \text{ m})$	1015.3(†<100), 1014.6(†<100), 635.18(†88)
1084.1 5 †3.7 6		$^{152}\text{Tb}(17.5 \text{ h})$	344.281(†1500), 586.294(†223), 271.135(†203)
1084.181 140.37 12		$^{244}\text{Am}(26 \text{ m})$	941.95(0.36), 1062.953(0.28), 1041.278(0.19)
1084.21 14 0.37 4		$^{154}\text{Tb}(9.4 \text{ h})$	123.071(30), 247.925(22.1), 540.18(20)
1084.25 23 3.12 18		$^{106}\text{In}(5.2 \text{ m})$	632.66(92), 1714.90(17.1), 861.16(10.6)
1084.25 5 0.376 19		$^{146}\text{La}(6.27 \text{ s})$	258.47(64), 924.58(7.45), 702.28(6.43)
1084.29 12 0.37 4		$^{154}\text{Tb}(9.4 \text{ h})$	123.071(30), 247.925(22.1), 540.18(20)
1084.29 12		$^{154}\text{Tb}(21.5 \text{ h})$	123.071(26), 1274.436(10.5), 2187.10(9.9)
1084.3 5 0.73 12		$^{117}\text{Xe}(61 \text{ s})$	28.5(7.0), 221.3(10.0), 32.3(7.6)
1084.3 6 0.75 14		$^{144}\text{La}(40.8 \text{ s})$	397.440(94.3), 541.20(39.2), 844.8(22.3)
1084.3 4 †3.0 4		$^{182}\text{Au}(21 \text{ s})$	154.76(†100), 264.33(†40.0), 855.41(†14.5)
1084.32 3 5.0 4		$^{123}\text{Cd}(2.10 \text{ s})$	371.32(51), 1052.28(24.8), 1438.13(8.3)
1084.33 5 †6.6 3		$^{188}\text{Au}(8.84 \text{ m})$	265.63(†100), 340.04(†23.9), 605.5(†16.3)
1084.39 16 †9.7 9		$^{159}\text{Yb}(1.58 \text{ m})$	166.16(†500), 177.12(†159), 390.20(†113)
1084.4 3 0.25 5		$^{95}\text{Rb}(377.5 \text{ ms})$	352.02(49), 204.02(15.1), 680.7(14.8)
1084.4 3		$^{146}\text{Dy}(29 \text{ s})$	2156.8, 1915.7, 1876.7
1084.4 3 0.21 7		$^{156}\text{Tm}(83.8 \text{ s})$	344.55(86), 452.85(17.2), 585.93(14.6)
1084.5 1 0.016 3		$^{113}\text{Ag}(5.37 \text{ h})$	298.58(10), 258.8(1.64), 316.3(1.343)
1084.5 5 0.60 8		$^{117}\text{I}(2.22 \text{ m})$	325.9(75), 274.4(20.4), 661.5(5.1)
1084.5 10 †1.2 5		$^{171}\text{Hf}(12.1 \text{ h})$	122.0(†100), 662.2(†83), 347.18(†47)
1084.5 7 0.03 3		$^{192}\text{Au}(4.94 \text{ h})$	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1084.6 4 0.75 9		$^{117}\text{Cs}(8.4 \text{ s})$	204.8(15.0), 29.7(9.9), 205.6(6.8)
1084.6 1 3.81 20		$^{200}\text{Po}(11.5 \text{ m})$	671.0(34.0), 617.7(19.7), 434.4(9.3)
1084.7 1 0.44 7		$^{109}\text{Ru}(34.5 \text{ s})$	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1084.7 2 0.0170 14		$^{151}\text{Tb}(17.609 \text{ h})$	287.357(28.3), 251.863(26.3), 108.088(24.3)
1084.8 6 †1.2 6		$^{101}\text{Nb}(7.1 \text{ s})$	276.10(†100), 157.466(†32), 13.5(†32)
1084.8 3 0.50 8		$^{184}\text{Au}(53.0 \text{ s})$	162.97(50), 272.98(40), 362.47(17.5)
1084.826 170.363 8		$^{166}\text{Tm}(7.70 \text{ h})$	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1084.9 5 0.0069 23		$^{79}\text{Rb}(22.9 \text{ m})$	688.1(23), 182.77(19.2), 143.41(13.9)
1084.9 5 0.43 4		$^{127}\text{Ba}(12.7 \text{ m})$	180.8(12), 114.8(9.3), 66.06(2.12)
1084.98 10 0.031 5		$^{95}\text{Ru}(1.643 \text{ h})$	336.43(70.2), 1096.76(21.0), 626.77(17.8)
1085 †1.2		$^{107}\text{Sn}(2.90 \text{ m})$	1129.2(†100), 678.5(†100), 1540.6(†30)
1085 2 †3		$^{189}\text{Au}(28.7 \text{ m})$	713.17(†100), 812.68(†63), 447.65(†55)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1085.1	0.15 5	$^{209}\text{Rn}(28.5 \text{ m})$	408.32(50.3), 745.78(22.8), 337.45(14.5)
1085.1 3	1.61 12	$^{127}\text{In}(3.66 \text{ s})$	252.3(38), 3074(2.85), 948.4(2.73)
1085.15 6	1.52 5	$^{246}\text{Am}(25.0 \text{ m})$	1078.86(27.7), 798.80(25), 1062.04(17.1)
• 1085.15 6	0.38 4	$^{246}\text{Bk}(1.80 \text{ d})$	798.80(61), 1081.40(5.8), 833.60(5.0)
1085.19 3	6.05 13	$^{77}\text{Ge}(11.30 \text{ h})$	264.44(54), 211.03(30.8), 215.50(28.6)
1085.3 8	0.041 7	$^{71}\text{Zn}(3.96 \text{ h})$	386.28(93), 487.38(62), 620.18(57)
1085.3 2	0.018 4	$^{119}\text{I}(19.1 \text{ m})$	257.52(87), 635.86(2.69), 320.53(2.17)
1085.3 6	0.49 4	$^{167}\text{Lu}(51.5 \text{ m})$	29.66(14.4), 239.22(8.6), 213.19(3.6)
• 1085.3 1	0.0232 19	$^{232}\text{Pa}(1.31 \text{ d})$	969.315(41.6), 894.351(19.8), 150.059(10.8)
1085.3 1	0.99 5	$^{232}\text{Np}(14.7 \text{ m})$	327.3(52), 819.187(33.3), 866.760(24.4)
1085.40 20	0.0047 14	$^{105}\text{Ru}(4.44 \text{ h})$	724.21(47), 469.37(17.5), 676.36(15.7)
1085.4	0.039	$^{148}\text{Dy}(3.1 \text{ m})$	620.24(96), 1247.2(1.4), 178.3(0.5)
1085.4 2	0.027 7	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
1085.4 2	†480 90	$^{234}\text{Pa}(1.17 \text{ m})$	1001.03(†837000), 766.38(†294000), 742.81(†80000)
• 1085.4 2	0.019 4	$^{234}\text{Np}(4.4 \text{ d})$	1558.31(18.72), 1527.21(11.2), 1601.80(9.1)
• 1085.4 2	$9.2 \times 10^{-8}$	$^{238}\text{Pu}(87.74 \text{ y})$	43.498(0.0395), 99.853(0.00735), 152.720(0.000937)
1085.43 13	0.47 5	$^{133}\text{Ce}(4.9 \text{ h})$	477.22(39), 510.36(20.7), 58.39(19.2)
1085.5	0.05 3	$^{149}\text{Tb}(4.118 \text{ h})$	352.24(29.43), 164.98(26.4), 388.57(18.37)
1085.5 2	0.30 9	$^{173}\text{Ta}(3.14 \text{ h})$	172.2(18), 69.70(5.9), 90.3(5.0)
• 1085.526 200.062 11		$^{110}\text{Ag}(249.79 \text{ d})$	657.7622(94.0), 884.685(72.2), 937.493(34.13)
1085.526 201.37 5		$^{110}\text{In}(4.9 \text{ h})$	657.7622(98.3), 884.685(92.9), 937.493(68.4)
1085.58 13	0.039 7	$^{110}\text{In}(69.1 \text{ m})$	657.7622(98), 2129.53(2.13), 2211.49(1.76)
1085.58 9	6.76 23	$^{172}\text{Ta}(36.8 \text{ m})$	214.02(46), 95.23(17.5), 1109.27(12.4)
• 1085.60 14	0.019 4	$^{153}\text{Tb}(2.34 \text{ d})$	212.038(31.0), 170.504(6.8), 109.758(6.4)
1085.6 1	†1.06 9	$^{158}\text{Ho}(11.3 \text{ m})$	218.21(†100.0), 98.91(†70), 945.7(†37)
1085.6 4	0.084 21	$^{187}\text{Au}(8.4 \text{ m})$	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
1085.7 3	0.42 8	$^{118}\text{Cs}(14 \text{ s})$	337.4(100), 472.8(37.4), 586.6(15.4)
1085.8 6	0.12 6	$^{101}\text{Zr}(2.1 \text{ s})$	119.3(10.8), 205.6(6.0), 912.2(3.48)
1085.8 4	2.54 20	$^{153}\text{Ho}(2.0 \text{ m})$	295.8(67), 637.0(5.36), 688.5(3.7)
1085.8 3	0.00033	$^{173}\text{Hf}(23.6 \text{ h})$	123.672(83), 296.974(33.9), 139.634(12.7)
1085.8 4	†0.22 3	$^{184}\text{Ir}(3.09 \text{ h})$	263.97(†100), 119.80(†45), 390.38(†38)
1085.8 7	0.23 3	$^{199}\text{Bi}(27 \text{ m})$	560.1(22.0), 424.85(22), 841.7(11)
1085.9 3	0.117 22	$^{91}\text{Kr}(8.57 \text{ s})$	108.788(43.5), 506.592(19.1), 612.87(7.7)
1085.9 2	†17 3	$^{103}\text{Mo}(67.5 \text{ s})$	83.4(†100), 423.91(†69), 45.8(†57)
1085.9 7	†0.27 14	$^{120}\text{I}(81.0 \text{ m})$	560.44(†137), 1523.0(†21.1), 640.85(†17.1)
1085.9 3	1.64 14	$^{154}\text{Ho}(11.76 \text{ m})$	334.6(84), 412.4(15.0), 873.4(12.5)
1085.90 22	1.3 4	$^{181}\text{Os}(105 \text{ m})$	238.75(44), 826.77(20), 118.03(12.9)
1085.914 3	0.042 8	$^{152}\text{Pm}(4.1 \text{ m})$	121.7824(15.7), 841.586(2.17), 961.06(1.92)
1085.914 3	1.26 11	$^{152}\text{Pm}(7.52 \text{ m})$	244.6989(78), 121.7824(45), 340.48(31.3)
• 1085.914 3	9.92 15	$^{152}\text{Eu}(13.542 \text{ y})$	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
1086.1	0.025 8	$^{82}\text{Rb}(6.472 \text{ h})$	776.517(84), 554.348(62.4), 619.106(37.976)
1086.1 4	0.13 3	$^{121}\text{Ag}(0.78 \text{ s})$	314.55(32.1), 353.43(19.9), 500.61(9.3)
1086.2 4	0.079 20	$^{132}\text{I}(2.295 \text{ h})$	667.718(99), 772.60(75.6), 954.55(17.6)
1086.2 6	†1.6 8	$^{193}\text{Tl}(21.6 \text{ m})$	324.37(†100), 1044.7(†59), 676.10(†48)
• 1086.20 20	0.048 7	$^{195}\text{Hg}(41.6 \text{ h})$	261.75(30.9), 560.27(7), 387.87(2.15)
• 1086.30 25	0.035 5	$^{83}\text{Sr}(32.41 \text{ h})$	762.65(30), 381.53(14.1), 418.37(4.41)
1086.3 4	0.027 9	$^{120}\text{Xe}(40 \text{ m})$	25.1(30), 72.6(9), 178.1(6.8)
• 1086.3 2	0.033 5	$^{124}\text{Sb}(60.20 \text{ d})$	602.730(97.8), 1690.980(47.3), 722.786(10.76)
• 1086.3 2	0.018 6	$^{124}\text{I}(4.18 \text{ d})$	602.730(60), 1690.980(10.41), 722.786(9.98)
1086.3 1	0.0057 6	$^{127}\text{Cs}(6.25 \text{ h})$	411.95(62.8), 124.70(11.37), 462.31(5.07)
1086.3 3	†5.8 9	$^{152}\text{Tb}(17.5 \text{ h})$	344.281(†1500), 586.294(†223), 271.135(†203)
1086.3 3	†1.2 2	$^{172}\text{Ir}(2.0 \text{ s})$	227.8(†100.0), 378.4(†62.0), 448.4(†40.5)
1086.4 6	0.085 19	$^{107}\text{In}(32.4 \text{ m})$	204.97(47), 505.51(11.9), 320.92(10.2)
1086.4 6	0.09 3	$^{159}\text{Er}(36 \text{ m})$	624.5(33), 649.1(23.4), 205.92(9.7)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1086.5 5	3.1 9	$^{110}\text{Rh}(28.5 \text{ s})$	373.80(91), 546.90(42.4), 687.70(25.8)
1086.5 2	0.247 25	$^{129}\text{La}(11.6 \text{ m})$	278.6(25), 110.5(16.9), 457.0(8.0)
1086.52 9	0.0278 17	$^{121}\text{I}(12.12 \text{ h})$	212.189(84), 532.08(6.07), 598.74(1.47)
• 1086.6 2	0.540 20	$^{146}\text{Eu}(4.59 \text{ d})$	747.2(98), 633.03(43), 634.07(37)
1086.6 3	0.34 5	$^{181}\text{Au}(11.4 \text{ s})$	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1086.66 18	$>8.0 \times 10^{-5}$	$^{187}\text{W}(23.72 \text{ h})$	685.774(27.3), 479.531(21.8), 72.001(11.14)
1086.7 8	0.070 14	$^{90}\text{Rb}(258 \text{ s})$	831.69(94), 1375.36(16.7), 3317.00(14.4)
1086.7 3	0.22 5	$^{105}\text{Mo}(35.6 \text{ s})$	85.4(25.0), 76.50(19.3), 147.8(14.8)
1086.7 5	0.26 10	$^{140}\text{Xe}(13.60 \text{ s})$	805.52(20), 1413.66(12.2), 1315.05(8.2)
1086.77 21	0.56 14	$^{181}\text{Re}(19.9 \text{ h})$	365.57(56), 360.70(20), 639.30(6.4)
1086.78 8	0.034 7	$^{73}\text{Se}(39.8 \text{ m})$	67.03(2.59), 253.70(2.356), 84.0(2.03)
1086.79 7	0.050 19	$^{78}\text{Rb}(17.66 \text{ m})$	454.97(63), 692.86(12.56), 562.15(11.41)
1086.79 7	0.70 4	$^{78}\text{Rb}(5.74 \text{ m})$	454.97(81), 664.44(38.3), 1109.72(13.12)
1086.8 5	0.0012 7	$^{82}\text{Rb}(1.273 \text{ m})$	776.517(13), 1395.139(0.471), 698.374(0.133)
• 1086.9 3	0.0336 13	$^{170}\text{Lu}(2.00 \text{ d})$	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1086.9 4	0.068 17	$^{191}\text{Au}(3.18 \text{ h})$	586.45(17), 277.88(7.2), 674.19(6.8)
1086.90 20	0.057 16	$^{195}\text{Tl}(1.16 \text{ h})$	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1086.9 5	0.33 6	$^{230}\text{Fr}(19.1 \text{ s})$	711.0(13.6), 129.1(11.0), 728.4(7.3)
1087 1	0.0120 18	$^{81}\text{Rb}(30.5 \text{ m})$	49.56(0.78), 643.6(0.115), 1194.9(0.112)
1087.0 2	0.086 19	$^{134}\text{I}(52.6 \text{ m})$	847.025(95.4), 884.090(64.9), 1072.547(15.0)
1087 1		$^{171}\text{Ta}(23.3 \text{ m})$	49.6(†100), 506.4(†54), 501.8(†22.6)
1087.02 6	0.22 3	$^{210}\text{At}(8.1 \text{ h})$	1181.39(99.3), 245.31(79), 1483.39(46.5)
1087.06 10	0.27 3	$^{207}\text{At}(1.80 \text{ h})$	814.41(44.5), 588.33(19.2), 300.654(12.8)
1087.1 5	†41 18	$^{100}\text{Rh}(4.6 \text{ m})$	539.59(†5900), 687.0(†3500), 1827.2(†1410)
1087.1 4	0.038 7	$^{143}\text{La}(14.2 \text{ m})$	620.3(2.34), 643.75(1.55), 621.4(1.52)
1087.1 5	0.008 3	$^{151}\text{Tb}(17.609 \text{ h})$	287.357(28.3), 251.863(26.3), 108.088(24.3)
1087.2 10	0.23 8	$^{103}\text{Cd}(7.3 \text{ m})$	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1087.3 3	0.25 5	$^{95}\text{Rb}(377.5 \text{ ms})$	352.02(49), 204.02(15.1), 680.7(14.8)
1087.3 3	†2.1	$^{96}\text{Rb}(0.199 \text{ s})$	352.02(†700), 204.02(†200), 680.7(†121)
1087.3 1	0.76 17	$^{143}\text{Gd}(112 \text{ s})$	271.94(84), 588.00(15.7), 798.89(10.7)
1087.3 1	0.84 17	$^{143}\text{Gd}(112 \text{ s})$	271.94(84), 588.00(15.7), 798.89(10.7)
1087.3 3	0.42 6	$^{149}\text{Dy}(4.20 \text{ m})$	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1087.3 5		$^{192}\text{Au}(4.94 \text{ h})$	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1087.38 6	0.20 3	$^{153}\text{Dy}(6.4 \text{ h})$	80.723(11.10), 213.754(10.90), 99.659(10.51)
1087.4	$>0.010$	$^{214}\text{Bi}(19.9 \text{ m})$	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1087.6 5	0.041 8	$^{86}\text{Y}(14.74 \text{ h})$	1076.64(83), 627.72(32.6), 1153.01(30.5)
1087.6 2	1.53 11	$^{108}\text{In}(39.6 \text{ m})$	632.96(76), 1986.8(12.4), 3452.2(9.2)
1087.6 2	0.55 11	$^{108}\text{In}(58.0 \text{ m})$	875.46(100), 632.96(100), 242.84(41)
1087.6 5	0.020 6	$^{151}\text{Tb}(17.609 \text{ h})$	287.357(28.3), 251.863(26.3), 108.088(24.3)
1087.6 5	3.0 8	$^{183}\text{Lu}(58 \text{ s})$	1125.3(25.0), 1056.8(16.5), 168.1(7.5)
1087.6 6	0.39	$^{203}\text{Bi}(11.76 \text{ h})$	820.3(30), 825.2(14.6), 896.9(13)
• 1087.6904 29.159 2		$^{198}\text{Au}(2.69517 \text{ d})$	411.8044(96), 675.8874(0.804)
1087.6904 29.42 25		$^{198}\text{Tl}(5.3 \text{ h})$	411.8044(82), 675.8874(11), 636.4(10.1)
1087.7 5	0.0070 23	$^{81}\text{Rb}(4.576 \text{ h})$	190.38(64.0), 446.15(23.2), 510.31(5.3)
1087.7 3	1.4 3	$^{98}\text{Pd}(17.7 \text{ m})$	112.0(58), 662.2(19.7), 106.75(13.9)
• 1087.70 10	1.19 5	$^{125}\text{Sn}(9.64 \text{ d})$	1067.10(10), 1089.15(4.59), 822.48(4.28)
1087.7 11	0.12 8	$^{175}\text{Ta}(10.5 \text{ h})$	207.4(14.0), 348.5(12.0), 266.9(10.8)
1087.71 10	0.0122 17	$^{133}\text{I}(20.8 \text{ h})$	529.872(87.0), 875.329(4.51), 1298.223(2.35)
1087.76 15	0.68 10	$^{206}\text{At}(30.0 \text{ m})$	700.66(98), 477.10(86), 395.54(48)
1087.8 3	†0.86 24	$^{189}\text{Hg}(7.6 \text{ m})$	320.99(†100), 78.21(†63), 565.42(†48)
1087.82 25	0.31 3	$^{156}\text{Ho}(56 \text{ m})$	266.35(54.7), 137.83(51), 366.25(10.73)
1087.9 5	0.34 3	$^{226}\text{Fr}(48 \text{ s})$	253.73(22.3), 186.05(16.3), 253.9(2.5)
• 1087.94 6	3.85 17	$^{105}\text{Ag}(41.29 \text{ d})$	344.520(41), 280.41(30.2), 644.55(11.1)
1087.94 6	†<119	$^{105}\text{Ag}(7.23 \text{ m})$	319.14(†63000), 306.25(†12800), 442.37(†5900)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1088.0 5	0.20 6	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
1088.06 15	0.086 10	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1088.07 10	0.36 3	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1088.16 11	2.09 18	<sup>197</sup> Pb(8 m)	385.85(50), 761.14(13.3), 375.48(12.8)
1088.18 5	0.0061 13	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1088.19 11	0.56 9	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
1088.2 5	0.46 14	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1088.2 5	2.5 4	<sup>174</sup> Re(2.40 m)	243.4(37), 113.0(19.8), 1002.9(5.62)
1088.2 3	0.07	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
1088.21 15	0.130 25	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
• 1088.23 8	0.101 16	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1088.3 3	5.5 5	<sup>176</sup> Tm(1.9 m)	189.57(44.5), 1069.3(34), 381.8(21.8)
1088.3 2	0.032 3	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
1088.4 7	0.058 11	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1088.40 30	0.80 13	<sup>115</sup> Te(5.8 m)	723.569(30), 1380.58(23.0), 1326.83(22.7)
1088.4 1	8.9 6	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1088.4 1	0.015 3	<sup>141</sup> Pm(20.90 m)	1223.26(4.74), 886.22(2.44), 193.68(1.61)
• 1088.46 6	0.198 21	<sup>182</sup> Re(64.0 h)	229.3220(26), 67.75001(22.2), 1121.3007(22.0)
1088.52 3	0.0057 3	<sup>145</sup> Pr(5.984 h)	748.278(0.5250), 675.795(0.514), 72.500(0.261)
1088.6 1	0.418 22	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
1088.6 5	0.046 12	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
• 1088.6 4	0.0014 4	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
• 1088.64 10	0.6	<sup>123</sup> Sn(129.2 d)	1030.23(0.0310), 1021.00(0.00193), 160.33(0.00191)
1088.70 10	0.0031 11	<sup>139</sup> Pr(4.41 h)	1347.33(0.47), 1630.67(0.343), 255.11(0.236)
1088.7 2	0.11 3	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
• 1088.80 20	0.30 3	<sup>99</sup> Rh(16.1 d)	528.24(33), 353.05(30.0), 89.65(29.0)
1088.8 3	3.7 9	<sup>122</sup> Cs(4.5 m)	331.1(94), 497.1(79), 638.5(63)
1088.80 9	0.86 6	<sup>201</sup> Pb(9.33 h)	331.19(79), 361.27(9.9), 945.96(7.4)
1088.86 8		<sup>168</sup> Lu(5.5 m)	1483.65(†100), 228.58(†97), 111.8(†68)
1088.86 8		<sup>168</sup> Lu(6.7 m)	198.82(28), 979.22(20), 896.12(15)
1088.9 4	0.58 4	<sup>91</sup> Tc(3.14 m)	2450.90(13.5), 1639.90(9.2), 1605.20(7.77)
1088.90 14	0.22 5	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
1088.9 1	0.312 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1089.0 9	1.2 4	<sup>69</sup> Ni(11.4 s)	1871.1(40.9), 679.7(39.7), 1213.0(39.3)
1089.0 10	0.088 22	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
• 1089.03 24	0.0500 10	<sup>56</sup> Co(77.27 d)	846.771(100), 1238.282(67.6), 2598.459(17.28)
1089.06 10	0.20	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1089.08 15	†3.4 4	<sup>144</sup> Cs(1.01 s)	199.326(†100.0), 639.00(†21.2), 758.96(†20.6)
1089.1 5	0.39	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
1089.1 4	0.35 4	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
• 1089.15 10	4.59 16	<sup>125</sup> Sn(9.64 d)	1067.10(10), 822.48(4.28), 915.55(4.13)
• 1089.154 180.205 5		<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1089.2 3	3.2 4	<sup>72</sup> Br(78.6 s)	862.03(70), 1316.70(17.3), 454.70(13.1)
1089.2 3	0.29 5	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1089.4 2	17.1 9	<sup>94</sup> Rb(2.702 s)	1309.1(87), 836.9(87.10), 1577.5(31.8)
1089.4 2	0.14	<sup>95</sup> Rb(377.5 ms)	836.9(2.9), 1309.1(0.12), 845(0.12)
1089.4 4	0.68 14	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1089.411 28†3.19 7		<sup>148</sup> Tb(60 m)	784.430(†119.0), 489.049(†28.0), 1079.025(†16.2)
1089.43 6	0.028 5	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1089.5 4	3.7 4	<sup>130</sup> Sb(39.5 m)	793.53(100), 839.49(100), 331.05(78)
1089.53 10	6.0 4	<sup>128</sup> In(0.84 s)	1168.80(40), 935.20(6.5), 2104.07(5.3)
1089.6 3	0.40 20	<sup>118</sup> Cs(14 s)	337.4(100), 472.8(37.4), 586.6(15.4)
1089.6 5	0.14 5	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1089.7 5	†1.3 4	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1089.700	151.710 21	<sup>152</sup> Eu(13.542 y)	344.281(26.58), 778.91(12.96), 411.115(2.231)
1089.700	15†23.7 17	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
1089.700	150.70 5	<sup>152</sup> Tb(4.2 m)	344.281(20.8), 411.115(18.8), 471.9(12.2)
• 1089.7 3	0.00108 20	<sup>192</sup> Ir(73.831 d)	316.50791(82.81), 468.07152(47.83), 308.45692(30.00)
1089.7 3	0.035 4	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1089.8 10	0.12 8	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
1089.8	>2.8	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1090.0(>2.8)
1089.85 5	3.2 3	<sup>124</sup> In(3.17 s)	1131.64(68), 3214.15(21.5), 997.79(21.1)
1089.864	350.0653 22	<sup>125</sup> Xe(16.9 h)	188.418(54), 243.378(30.1), 54.968(6.81)
1089.88 10	0.00168 21	<sup>145</sup> Pr(5.984 h)	748.278(0.5250), 675.795(0.514), 72.500(0.261)
1089.9 4	0.059 11	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
1089.9 3	15000 4	<sup>119</sup> In(18.0 m)	1065.55(†80000), 1249.71(†44000), 1163.85(†32000)
1089.9 7	0.14	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1089.9 2	1.16 9	<sup>180</sup> Lu(5.7 m)	407.94(43.0), 1199.7(24.3), 1106.00(22.7)
1089.986	200.106 5	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1090 1	0.42 4	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
1090.0 3	1.3 4	<sup>152</sup> Ho(49.5 s)	647.2(92), 613.8(88.4), 683.3(88)
1090.0	>2.8	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1090		<sup>190</sup> Ir(3.25 h)	616.08(93.10), 502.53(92.31), 361.136(89.57)
• 1090.03 11	0.023 5	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1090.1 4	0.16 5	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
1090.13 16	1.85 20	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
1090.20 10	0.0116 23	<sup>81</sup> Rb(4.576 h)	190.38(64.0), 446.15(23.2), 510.31(5.3)
1090.2 3	†124 29	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
1090.2 2	†0.55 9	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1090.2		<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
1090.22	0.140 7	<sup>24</sup> Al(2.053 s)	1368.633(96.0), 7069.50(43.0), 2754.028(41.2)
1090.28 8	4.4 3	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 118.06(2.39)
1090.3 3	0.0116 23	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
1090.3 10	0.65 25	<sup>198</sup> Tl(5.3 h)	411.8044(82), 675.8874(11), 636.4(10.1)
1090.39 6	0.0197 22	<sup>187</sup> Ir(10.5 h)	912.95(4.79), 427.12(4.12), 400.89(3.94)
• 1090.49 1	0.0156 16	<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1090.5 2	0.11 6	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
1090.5 5	0.0026 7	<sup>211</sup> Pb(36.1 m)	404.853(3.78), 832.01(3.52), 427.088(1.76)
1090.5 2	0.07 3	<sup>240</sup> Np(61.9 m)	566.34(25.3), 973.9(23.8), 600.57(18.4)
• 1090.5 2	0.0031 6	<sup>240</sup> Am(50.8 h)	987.76(73.2), 888.80(25.1), 98.860(1.5)
1090.53 12	0.062 14	<sup>88</sup> Kr(2.84 h)	2392.11(34.6), 196.301(25.98), 2195.842(13.18)
1090.54 9	0.09	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
1090.7 7	6.9 7	<sup>117</sup> Te(62 m)	719.7(65), 1716.4(15.9), 2300.0(11.2)
1090.7 2	0.71 5	<sup>143</sup> Gd(39 s)	258.81(75), 204.77(19.4), 463.7(9.9)
1090.7	74.8	<sup>149</sup> Ho(21.1 s)	1073.2(6.37), 1583.6(4.48), 1736.8(3.80)
1090.70 6	0.0214 11	<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1090.75 17	0.157 16	<sup>81</sup> Sr(22.3 m)	153.54(33.8), 147.76(30.1), 443.34(17.5)
1090.8 4	0.066 20	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
• 1090.8 2	0.198 10	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1090.94 13	0.076 11	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1090.95 7	19.2 11	<sup>203</sup> Po(36.7 m)	908.64(55), 893.49(18.7), 214.78(14.3)
1090.97 10	0.0081 8	<sup>139</sup> Ba(83.06 m)	165.864(0.23), 1420.5(0.26), 1254.7(0.026)
1091 1	56 3	<sup>97</sup> Y(1.17 s)	1103.0(92.6), 161.4(71.8), 970.0(39.9)
1091.00 30	0.028 9	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1091.01 4	0.33 3	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1091.04 9	0.079 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1091.058	2.42 5	<sup>39</sup> Cl(55.6 m)	1267.185(54), 250.332(46.3), 1517.508(39.2)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1091.2 8	0.09	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1091.2 3	0.18 7	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
1091.3 5	†42 4	<sup>102</sup> Y(0.36 s)	151.73(†100), 326.64(†53), 579.4(†35)
1091.3 4	0.042 25	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1091.3 9	0.18 4	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1091.3 10	1.2 3	<sup>191</sup> Hg(50.8 m)	252.5(57), 420.1(18.6), 578.6(17.6)
• 1091.331	170.149 6	<sup>196</sup> Au(6.183 d)	355.684(87), 332.983(22.9), 521.175(0.389)
1091.349	120.49 14	<sup>96</sup> Nb(23.35 h)	778.224(96.45), 568.80(58.0), 459.88(26.62)
• 1091.349	121.10 8	<sup>96</sup> Tc(4.28 d)	778.224(100), 849.929(98), 812.581(82)
1091.349	120.060 5	<sup>96</sup> Tc(51.5 m)	778.224(1.9), 1200.231(1.08), 480.705(0.311)
1091.4 2	†3.0 10	<sup>129</sup> Sb(17.7 m)	759.8(†100.0), 657.78(†92), 433.76(†73)
1091.4 7	>0.0014	<sup>139</sup> Pr(4.41 h)	1347.33(0.47), 1630.67(0.343), 255.11(0.236)
1091.5 3	0.50	<sup>186</sup> Ta(10.5 m)	197.93(50), 214.87(42.3), 510.82(37.5)
1091.5	†>0.05	<sup>196</sup> Ir(1.40 h)	393.346(†105.2), 521.175(†104), 447.1(†102.1)
1091.5 7	0.62 12	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1091.51 8	0.034 6	<sup>118</sup> In(8.5 s)	1229.68(1.4), 1050.69(1.37), 253.68(1.30)
1091.51 8	3.6 3	<sup>118</sup> Sb(5.00 h)	1229.68(100), 253.68(99), 1050.69(97)
1091.61 14	0.34 3	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
1091.66 5	4.65 19	<sup>79</sup> Ga(2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
1091.67 3	7.75 20	<sup>122</sup> In(10.3 s)	1140.55(98), 1001.58(50.7), 1190.58(20.5)
1091.7 2	0.47 8	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1091.7 2	0.74 8	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1091.7 4	0.007 3	<sup>195</sup> Hg(9.9 h)	779.80(7), 61.46(6.2), 585.13(1.99)
1091.72 7	0.119 24	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
1091.8	†25	<sup>101</sup> Rb(32 ms)	271.2(†100), 251.6(†31), 1362.9(†14)
1091.8 3	0.054 13	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1091.8 5	0.54 13	<sup>153</sup> Ho(2.0 m)	295.8(67), 637.0(5.36), 688.5(3.7)
1091.8 3	0.202 21	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
1091.81 14	0.19 3	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
1091.90 5	†100 3	<sup>82</sup> Ge(4.60 s)	843.24(†9.3), 248.84(†4.0), 951.8(†1.7)
1091.9 6	†0.8 4	<sup>138</sup> Pm(3.24 m)	520.9(†100), 729.0(†37.8), 493.1(†21.6)
1091.9 2	2.59 17	<sup>141</sup> Sm(10.2 m)	403.8(43), 438.8(37.7), 1292.6(6.8)
1091.91 8	0.00101 8	<sup>165</sup> Dy(2.334 h)	94.700(3.58), 361.68(0.84), 633.415(0.568)
1092.0 10	0.17 5	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1092.0 2	0.034 7	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1092.08 38	0.19 5	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1092.1 3	0.56 6	<sup>97</sup> Rh(30.7 m)	421.55(75), 840.13(12.0), 878.80(9.0)
1092.1 5	1.01 10	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
1092.1 6	0.17	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1092.2 6	0.54 15	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
1092.2 5	4.44 7	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
1092.23 12	0.0481 25	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
1092.3 2	18.5 9	<sup>136</sup> Pr(13.1 m)	552.16(76), 539.75(52), 461.0(7.7)
1092.3 3	0.0197 17	<sup>162</sup> Tb(7.60 m)	260.070(37.2), 807.53(42.8), 888.20(38.7)
1092.3 4	0.112 14	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1092.4 6	0.063 19	<sup>83</sup> Y(7.08 m)	35.50(0.44), 882.1(6.30), 489.90(5.53)
1092.5 6	0.14 4	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1092.5 10	<0.007	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
1092.61 17	†1.9 4	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1092.68 13	0.69 4	<sup>86</sup> Y(14.74 h)	1076.64(83), 627.72(32.6), 1153.01(30.5)
1092.7 4	4.4 18	<sup>108</sup> Rh(6.0 m)	433.937(88), 581.1(60), 947.27(49)
1092.7 5	0.22 6	<sup>121</sup> Ag(0.78 s)	314.55(32.1), 353.43(19.9), 500.61(9.3)
1092.7 4	0.12 6	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
1092.8	0.24 3	<sup>40</sup> Cl(1.35 m)	1460.830(79), 2839.8(30.4), 2621.5(15.4)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1092.8 4	0.34 3	<sup>121</sup> In(23.1 s)	925.57(87), 261.96(7.9), 657.32(7.1)
1092.8 4	0.045 6	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1092.8 5	1.22 7	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1092.82 15	0.199 21	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1092.82 11	3.3 3	<sup>197</sup> Pb(8 m)	385.85(50), 761.14(13.3), 375.48(12.8)
1092.9 1	0.45 5	<sup>104</sup> Tc(18.3 m)	358.0(89), 530.5(15.6), 535.1(14.7)
1092.9 9	†1.4 5	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
1092.9	†47	<sup>256</sup> Es(7.6 h)	861.8(†100), 231.1(†61), 172.6(†49)
1093.0 10	0.27 8	<sup>83</sup> Se(2.23 m)	356.687(70), 510.17(43), 224.8(32.7)
1093 1	0.039 19	<sup>125</sup> Sn(9.52 m)	332.10(97.2), 1404.0(0.70), 589.6(0.20)
1093.0 3	0.18 3	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
1093.0 4	†0.9 3	<sup>185</sup> Pt(33.0 m)	229.60(†100), 135.3(†80), 197.4(†74)
1093.1 1	0.98 8	<sup>77</sup> Zn(2.08 s)	189.49(28.1), 473.94(19.7), 1832.0(12.4)
1093.10 10	†5.5 13	<sup>83</sup> Ge(1.85 s)	306.51(†100.0), 1193.77(†20.5), 1525.50(†13.6)
1093.1 5	0.31 7	<sup>98</sup> Rb(114 ms)	144.224(24.5), 1693.3(5.9), 2171.7(5.7)
1093.13 7	5.5 6	<sup>108</sup> In(58.0 m)	875.46(100), 632.96(100), 242.84(41)
1093.14 9	0.098 8	<sup>90</sup> Nb(14.60 h)	1129.224(92.7), 2318.968(82.03), 141.178(66.8)
1093.2 3	5.0 5	<sup>132</sup> Sb(2.79 m)	973.9(99), 696.8(86), 989.6(14.9)
1093.2	0.09 5	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
1093.2 3	0.031 6	<sup>249</sup> Es(102.2 m)	379.5(40.4), 813.2(9.2), 375.1(3.3)
1093.3 7	3.9 8	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
1093.3 2	†15 2	<sup>191</sup> Pb(2.18 m)	387.1(†100), 712.2(†46), 613.5(†40)
• 1093.31 10	0.070 7	<sup>206</sup> Bi(6.243 d)	803.10(99), 881.01(66.2), 516.18(40.7)
1093.4 3	2.79 24	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
1093.42 46	†7 3	<sup>164</sup> Tm(2.0 m)	91.40(†1500), 1154.66(†366), 768.91(†279)
1093.5 8	0.075 14	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
1093.5 1	1.20 10	<sup>242</sup> Np(2.2 m)	735.93(5), 780.44(2.76), 1473.1(2.34)
1093.52 9	0.0063 4	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1093.6 2	2.63 11	<sup>101</sup> Ag(11.1 m)	261.0(53), 588.0(10.0), 667.3(9.8)
1093.6 3	14.1 14	<sup>118</sup> I(8.5 m)	605.71(99), 600.71(92), 614.42(65)
1093.6 3	0.070 8	<sup>143</sup> La(14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)
1093.6 7	0.35	<sup>154</sup> Tb(22.7 h)	247.925(79), 346.643(69), 1419.81(46)
• 1093.657 136.0 3		<sup>172</sup> Tm(63.6 h)	78.7435(6.5), 1387.093(5.6), 1529.72(5.1)
• 1093.657 1362.5 13		<sup>172</sup> Lu(6.70 d)	900.724(29.8), 181.528(20.6), 810.064(16.63)
1093.70 10	0.036 3	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1093.7 3	0.125 21	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1093.7 7	0.014 5	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1093.778 160.00541 16		<sup>145</sup> Pr(5.984 h)	748.278(0.5250), 675.795(0.514), 72.500(0.261)
1093.8 4	0.15 4	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
1093.87 9	0.410 25	<sup>138</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
1093.9 5	0.12	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
1093.9 2	0.40 3	<sup>208</sup> Tl(3.053 m)	2614.533(99), 583.191(84.5), 510.77(22.6)
1094.00 7	1.74 10	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
1094	0.0033 10	<sup>105</sup> Ru(4.44 h)	724.21(47), 469.37(17.5), 676.36(15.7)
1094.0 3	0.32 5	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1094.0 7	0.099 23	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1094.1 1	2.81 12	<sup>142</sup> Ba(10.6 m)	255.300(20.5), 1204.3(14.23), 895.2(13.9)
1094.2 1	0.23 2	<sup>107</sup> Tc(21.2 s)	102.70(21.0), 177.00(9.2), 106.31(7.6)
1094.20 6	0.090 4	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1094.2 1	0.029 8	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1094.2 5	0.21 5	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
1094.2	0.14 5	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
1094.2 2	0.020 3	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
• 1094.2 2	0.016 1	<sup>240</sup> Am(50.8 h)	987.76(73.2), 888.80(25.1), 98.860(1.5)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1094.22 15	0.022 14	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
1094.29 20	0.028 8	<sup>130</sup> I(12.36 h)	536.09(99), 668.54(96), 739.48(82)
1094.3 5	0.773 19	<sup>118</sup> In(4.45 m)	1229.68(96), 1050.69(81.0), 683.08(54.3)
1094.3 3	0.026 9	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
• 1094.37	0.029	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1094.4 1	1.10 9	<sup>75</sup> Zn(10.2 s)	228.67(28.9), 432.29(20.2), 155.94(17.2)
1094.4 3	0.22 4	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
1094.4	0.08	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
1094.5 4	†4.4 13	<sup>193</sup> Hg(3.80 h)	861.11(†100), 1118.84(†64), 789.21(†36)
1094.5		<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
1094.5	†5	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
1094.60 20	1.05 6	<sup>88</sup> Nb(7.8 m)	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
1094.6 6	0.24 10	<sup>167</sup> Dy(6.20 m)	569.7(48), 259.33(27.9), 310.26(25.0)
1094.60 11	0.23 3	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1094.7 3	3.7 4	<sup>127</sup> In(1.09 s)	1597.7(49), 646.1(6.2), 805.1(5.6)
1094.8 3	0.05 3	<sup>66</sup> Ge(2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
1094.8 2	1.20 10	<sup>159</sup> Eu(18.1 m)	67.8(19), 78.6(9.1), 95.7(7.0)
1094.8 3	1.98 20	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
1094.89 12	0.68 10	<sup>206</sup> At(30.0 m)	700.66(98), 477.10(86), 395.54(48)
1094.9 2	†0.95 14	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1094.97 20	0.52 7	<sup>101</sup> Sr(118 ms)	128.34(18.0), 1124.82(10.9), 510.73(8.5)
1095.0 3	0.074 25	<sup>129</sup> La(11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
1095.0 3	0.30 4	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1095.0 2	†0.51 10	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1095.0 5	†1.0 3	<sup>180</sup> Au(8.1 s)	153.3(†100), 524.3(†29), 257.6(†26)
1095.04 25	0.111 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1095.1 6	0.24 7	<sup>99</sup> Pd(21.4 m)	136.00(73), 263.60(15.2), 673.38(6.9)
1095.1 3	0.010 4	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
1095.13 15	0.165 22	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1095.16 15	0.093 10	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1095.19 2	1.4 5	<sup>118</sup> In(4.45 m)	1229.68(96), 1050.69(81.0), 683.08(54.3)
1095.26 5	†43.6 6	<sup>71</sup> Se(4.74 m)	147.50(†211), 830.33(†43.2), 1242.59(†31.9)
1095.3 3	0.074 20	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1095.3 10	†1.9 7	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
1095.36 11	0.54 17	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1095.43 8	0.21 3	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
• 1095.490 104.08 6		<sup>71</sup> As(65.28 h)	174.954(82.00), 499.876(3.624), 326.785(3.034)
1095.5 3	2.13 21	<sup>81</sup> Ge(7.6 s)	335.98(58.9), 792.94(34), 1495.53(19.9)
1095.5 3	2.25 23	<sup>81</sup> Ge(7.6 s)	93.10(26), 335.98(12.8), 197.30(12.3)
1095.5 1	1.28 4	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1095.5 3	0.50 11	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
1095.52 15	0.61 6	<sup>99</sup> Sr(0.269 s)	125.118(16.1), 536.12(14.0), 1198.12(9.2)
1095.6 4	20 4	<sup>127</sup> Sn(2.10 h)	1114.3(39), 823.1(10.9), 805.9(8.4)
1095.6		<sup>127</sup> Sn(4.13 m)	490.9(90), 1348.0(4.8), 1564.0(4.0)
1095.6 5	0.011 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1095.677 220.133 11		<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1095.677 220.031 13		<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
1095.7 5	0.30 6	<sup>63</sup> Co(27.4 s)	87.13(48.7), 981.7(2.11), 155.6(1.60)
1095.7 4	0.014 9	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1095.7 3	3.5 4	<sup>129</sup> In(0.61 s)	2118.0(45), 1865.0(32), 769.3(9.1)
1095.7 11	0.32 8	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
• 1095.75 10	2.24 3	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
1095.8 4	0.48 18	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
1095.8 5		<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1095.84 6	4.4	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1095.84 6	0.41	<sup>154</sup> Pm(2.68 m)	184.810(32), 81.99(15.4), 546.66(14.5)
1095.86 4	$>8.0 \times 10^{-5}$	<sup>187</sup> W(23.72 h)	685.774(27.3), 479.531(21.8), 72.001(11.14)
1095.95 4	0.0012 6	<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
1096.0 3	0.34 5	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1096.0 5	0.77 11	<sup>203</sup> Po(36.7 m)	908.64(55), 1090.95(19.2), 893.49(18.7)
1096.0 2	0.14 3	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1096.02 15	0.87 4	<sup>78</sup> Rb(5.74 m)	454.97(81), 664.44(38.3), 1109.72(13.12)
1096.02 22	0.44 4	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1096.04 15	6.1 3	<sup>121</sup> Cd(13.5 s)	324.976(49.5), 1040.26(16.8), 349.937(12.9)
1096.1 3	0.126 12	<sup>147</sup> Pr(13.4 m)	77.9921(15), 314.675(13.2), 641.380(10.0)
1096.1 3	1.76 6	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1096.1 5	$\dagger$ 0.15 3	<sup>184</sup> Ir(3.09 h)	263.97( $\dagger$ 100), 119.80( $\dagger$ 45), 390.38( $\dagger$ 38)
1096.1 2	$\dagger$ 31 3	<sup>195</sup> Bi(183 s)	807.6( $\dagger$ 100), 831.7( $\dagger$ 100), 776.2( $\dagger$ 95)
1096.15 24	0.032 11	<sup>132</sup> La(4.8 h)	464.55(76), 567.14(15.7), 1909.91(9.0)
1096.17 6	0.00093 19	<sup>155</sup> Sm(22.3 m)	104.3346(74.6), 245.771(3.7), 141.4428(1.98)
1096.2 5	0.51 14	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1096.22 3	43.0 13	<sup>133</sup> Sb(2.5 m)	817.8(18.5), 2755(12.5), 836.88(11.1)
1096.3		<sup>106</sup> Sn(115 s)	386.8( $\dagger$ 100), 477.5( $\dagger$ 62), 253.30( $\dagger$ 57)
1096.30 5	0.48 9	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1096.3 5	0.13 4	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
• 1096.4 4	0.03 3	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
• 1096.47 7	0.0135 14	<sup>165</sup> Tm(30.06 h)	242.917(35.5), 47.155(16.9), 297.369(12.71)
1096.48 4	0.552 20	<sup>130</sup> I(12.36 h)	536.09(99), 668.54(96), 739.48(82)
1096.48 4	0.0025 3	<sup>130</sup> I(9.0 m)	536.09(16), 586.05(1.07), 1614.10(0.447)
1096.5 5	0.22 10	<sup>121</sup> Ag(0.78 s)	314.55(32.1), 353.43(19.9), 500.61(9.3)
1096.50 20	1.7 4	<sup>123</sup> Ag(0.309 s)	263.87(35.9), 409.79(13.2), 591.30(8.2)
1096.5 5	0.8 2	<sup>130</sup> Sb(39.5 m)	793.53(100), 839.49(100), 331.05(78)
1096.5 4	0.38 8	<sup>139</sup> Nd(29.7 m)	405.12(7), 1074.2(2.5), 669.0(1.52)
1096.54 6	0.00064 16	<sup>188</sup> Re(16.98 h)	155.032(14.9), 632.99(1.25), 477.99(1.0)
• 1096.54 6	1.46 12	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
1096.58 8	0.072 5	<sup>96</sup> Tc(51.5 m)	778.224(1.9), 1200.231(1.08), 480.705(0.311)
1096.61 5	4.5 3	<sup>77</sup> Zn(2.08 s)	189.49(28.1), 473.94(19.7), 1832.0(12.4)
1096.62	0.12	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
• 1096.67 5	0.00159 14	<sup>149</sup> Gd(9.28 d)	149.735(48.2), 298.634(28.6), 346.651(23.9)
1096.7 5	$\dagger$ 4 2	<sup>100</sup> Y(0.94 s)	212.531( $\dagger$ 100), 351.960( $\dagger$ 33), 878.54( $\dagger$ 18)
1096.71 9	0.400 24	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1096.71 9	$\dagger$ 86	<sup>94</sup> Rb(2.702 s)	432.61( $\dagger$ 9000), 213.429( $\dagger$ 6000), 986.05( $\dagger$ 4100)
1096.76 6	21.0 10	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 626.77(17.8), 1178.66(5.16)
1096.8 3	0.075 17	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1096.8 3	0.119 17	<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
1096.8	0.37	<sup>199</sup> Po(4.13 m)	1002.19(19), 1034.3(16), 362.01(7)
1096.86 10	0.090 14	<sup>135</sup> I(6.57 h)	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
1096.9 2	$\dagger$ 24 5	<sup>91</sup> Ru(7.6 s)	393.7( $\dagger$ 100), 892.8( $\dagger$ 15), 204.0( $\dagger$ 6)
1096.9 4	0.044 8	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
1096.9 1	0.202 13	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
1096.9 5	0.16	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1096.9 8	0.00106 19	<sup>171</sup> Er(7.516 h)	308.31(64.4), 295.901(28.9), 111.621(20.5)
1096.9 8	0.81 4	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1096.99 8	0.0026	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
1097.0 2	0.014 3	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
• 1097 1	0.004 3	<sup>124</sup> Sb(60.20 d)	602.730(97.8), 1690.980(47.3), 722.786(10.76)
1097	0.010	<sup>148</sup> Dy(3.1 m)	620.24(96), 1247.2(1.4), 178.3(0.5)
1097.03 6	0.0185 7	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1097.1 2	0.30 13	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1097.1 10	0.034 14	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
1097.1 1	28.7 14	<sup>152</sup> Pm(7.52 m)	244.6989(78), 121.7824(45), 340.48(31.3)
1097.14 9	0.128 24	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
• 1097.18 3	0.124 4	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1097.2 8	0.038 19	<sup>83</sup> Y(7.08 m)	35.50(0.44), 882.1(6.30), 489.90(5.53)
1097.2 2	0.019 9	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
• 1097.20 23	0.023 5	<sup>140</sup> La(1.6781 d)	1596.210(95), 487.021(45.5), 815.772(23.28)
1097.24 10	0.065 11	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1097.25 20	†0.71 19	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1097.26 9	0.45 5	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1097.3 2	0.028 4	<sup>115</sup> Sb(32.1 m)	497.358(98), 489.27(1.3), 1236.52(0.58)
1097.3 2	56.2 11	<sup>116</sup> In(54.41 m)	1293.54(84.4), 416.86(28.9), 2112.1(15.5)
1097.3 3	0.31 3	<sup>238</sup> Am(98 m)	962.77(28), 918.69(23.0), 561.11(10.9)
1097.37 7	0.055 5	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1097.4 7	0.093 23	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1097.41 8	0.086 14	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1097.46 5	0.0571 17	<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1097.5 2	0.00200	<sup>171</sup> 107Cd(6.50 h)	93.124(1.45), 828.93(0.17), 796.462(0.0665)
1097.5 3	0.35 5	<sup>118</sup> I(13.7 m)	605.71(86.0), 545.12(10.9), 600.71(10.2)
1097.5 3	0.57 11	<sup>118</sup> I(8.5 m)	605.71(99), 600.71(92), 614.42(65)
1097.5 5	0.69 16	<sup>126</sup> Ba(100 m)	233.6(19.6), 257.6(7.6), 241.0(6.0)
1097.5 6	†1.2 4	<sup>138</sup> Pm(3.24 m)	520.9(†100), 729.0(†37.8), 493.1(†21.6)
1097.55 25	0.236 21	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
1097.59 11	0.299 17	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1097.6 1	10.7 18	<sup>141</sup> Gd(24.5 s)	351.1(89), 223.9(64), 574.9(51)
1097.6 2	0.14 4	<sup>224</sup> Fr(3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
1097.7 3	1.92 19	<sup>112</sup> Sb(51.4 s)	1257.05(96), 990.70(14.3), 670.0(3.7)
1097.7	0.58 9	<sup>140</sup> Eu(1.51 s)	530.7(29), 1068.0(3.2), 459.9(3.19)
1097.8 2	0.70 6	<sup>61</sup> Fe(5.98 m)	1205.07(44), 1027.42(42.7), 297.90(22.2)
1097.8 5	0.27 5	<sup>88</sup> Nb(7.8 m)	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
1097.8 5	†53 18	<sup>100</sup> Rh(4.6 m)	539.59(†5900), 687.0(†3500), 1827.2(†1410)
1097.8 2	11.7 19	<sup>122</sup> Cs(4.5 m)	331.1(94), 497.1(79), 638.5(63)
1097.8 7	0.253 22	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
1097.82 3	6.00 18	<sup>89</sup> Br(4.40 s)	997.93(4.26), 953.53(4.26), 4166.3(3.8)
1097.82 3	0.91 8	<sup>90</sup> Br(1.92 s)	411.49(3.88), 962.71(1.25), 997.93(0.33)
1097.9 7	0.017 5	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1097.92 7	0.110 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1097.97 13	98.5 23	<sup>50</sup> Mn(1.75 m)	783.29(100), 1443.28(69), 1282.36(33)
1098.0 6	0.084 16	<sup>45</sup> K(17.3 m)	174.276(74.4), 1705.6(53), 2353.6(14.12)
• 1098	>1.9×10 <sup>-5</sup>	<sup>95</sup> Tc(61 d)	204.117(63.25), 582.082(29.96), 835.149(26.63)
1098 1	2.3 8	<sup>98</sup> Cd(9.2 s)	347.18(78), 1176.1(66.3), 107.28(43.7)
1098.0 5	0.47	<sup>101</sup> Cd(1.2 m)	98.0(47), 1722.5(11), 1259.3(8)
1098.0 5	0.38	<sup>101</sup> Cd(1.2 m)	98.0(47), 1722.5(11), 1259.3(8)
1098.0 2	0.20 4	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1098.0 10	0.007 3	<sup>111</sup> Pd(23.4 m)	580.00(0.8), 70.44(0.78), 1459.0(0.56)
1098.0 15	1.2	<sup>124</sup> Ba(11.9 m)	169.3(20), 1216(12), 188.98(10)
1098.0 5	0.5	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
1098.0 3	12 3	<sup>152</sup> Ho(161.8 s)	613.8(73), 613.8(14), 838.0(10)
1098.02 22	0.42 4	<sup>186</sup> Au(10.7 m)	191.56(62), 298.67(25.4), 764.89(10.5)
• 1098.05 10	0.256 8	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1098.1 5	0.064 24	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
• 1098.2 2	0.0036 5	<sup>76</sup> As(26.32 h)	559.101(45), 657.041(6.2), 1216.104(3.42)
1098.2	>0.22	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1098.2 3	0.244 24	$^{161}\text{Er}$ (3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1098.25 2	0.172 7	$^{131}\text{Te}$ (25.0 m)	149.716(69), 452.323(18.18), 1146.96(4.95)
1098.26 23	$\dagger 2.3 \times 10^3$	$^{105}\text{Ag}$ (7.23 m)	319.14( $\dagger 63000$ ), 306.25( $\dagger 12800$ ), 442.37( $\dagger 5900$ )
• 1098.26 7	13.50 15	$^{206}\text{Bi}$ (6.243 d)	803.10(99), 881.01(66.2), 516.18(40.7)
1098.33 23	0.38 4	$^{105}\text{In}$ (5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1098.36 16	0.00054 9	$^{250}\text{Bk}$ (3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
1098.37 2	1.5 3	$^{118}\text{In}$ (4.45 m)	1229.68(96), 1050.69(81.0), 683.08(54.3)
1098.37 2	0.10 4	$^{118}\text{In}$ (5.0 s)	1229.68(5.0), 528.83(0.7), 1173.59(0.43)
1098.37 2	0.079 22	$^{118}\text{Sb}$ (3.6 m)	1229.68(2.5), 1267.23(0.511), 528.83(0.472)
1098.4 8	0.29 19	$^{128}\text{Sb}$ (10.4 m)	753.82(96.4), 743.22(96), 314.12(89)
1098.4 6	0.46 14	$^{157}\text{Tm}$ (3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1098.5 10	0.12 6	$^{111}\text{Pd}$ (5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
1098.51 5	0.52 5	$^{96}\text{Rh}$ (9.90 m)	832.57(100), 685.49(95.7), 631.71(74.5)
1098.51 5	8.9 4	$^{96}\text{Rh}$ (1.51 m)	832.57(39), 1692.2(7.0), 685.49(3.6)
1098.51 7	1.83 11	$^{201}\text{Pb}$ (9.33 h)	331.19(79), 361.27(9.9), 945.96(7.4)
1098.6 3	39 3	$^{112}\text{Rh}$ (6.8 s)	348.70(87), 560.5(49), 359.7(30)
1098.6 10	0.18 4	$^{140}\text{Cs}$ (63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
• 1098.64 7	0.122 3	$^{71}\text{As}$ (65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1098.64 4	9	$^{115}\text{Te}$ (6.7 m)	770.40(34.2), 723.569(18), 1071.70(12.9)
1098.64 4	16.3 10	$^{115}\text{Te}$ (5.8 m)	723.569(30), 1380.58(23.0), 1326.83(22.7)
1098.7 6	17.3 10	$^{96}\text{Pd}$ (122 s)	124.70(65), 762.3(50.0), 499.7(17.9)
1098.77 11	0.214 16	$^{138}\text{Xe}$ (14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
1098.8 4	0.27 3	$^{161}\text{Tm}$ (33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
1098.82 12	$\dagger 6.1 6$	$^{71}\text{Se}$ (4.74 m)	147.50( $\dagger 211$ ), 1095.26( $\dagger 43.6$ ), 830.33( $\dagger 43.2$ )
• 1098.9 5	0.012 9	$^{153}\text{Tb}$ (2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1099.0 3	4.5 4	$^{70}\text{As}$ (52.6 m)	1039.20(81), 1114.1(21.8), 668.3(21.8)
1099.06 23	0.57 11	$^{141}\text{Xe}$ (1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1099.1 9	0.14 8	$^{142}\text{Cs}$ (1.70 s)	359.598(27.2), 1326.46(12.92), 966.89(9.0)
• 1099.251 4	56.5 15	$^{59}\text{Fe}$ (44.503 d)	1291.596(43.2), 192.349(3.08), 142.652(1.02)
1099.32 7	1.67 6	$^{103}\text{Cd}$ (7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1099.38 3	0.52 3	$^{163}\text{Tm}$ (1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1099.4 3	30	$^{109}\text{Sn}$ (18.0 m)	649.90(28.0), 1321.3(11.9), 331.1(9.7)
1099.4 5	0.062 6	$^{139}\text{Xe}$ (39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1099.48 3	22.3 18	$^{125}\text{Cd}$ (0.65 s)	436.29(37), 2147.19(19.1), 1700.96(10.8)
• 1099.5 3	0.0058 25	$^{82}\text{Br}$ (35.30 h)	776.517(83.5), 554.348(70.8), 619.106(43.4)
1099.5 3	0.75 3	$^{82}\text{Rb}$ (6.472 h)	776.517(84), 554.348(62.4), 619.106(37.976)
1099.5 3	0.44 5	$^{127}\text{In}$ (1.09 s)	1597.7(49), 646.1(6.2), 805.1(5.6)
1099.5 2	0.96 6	$^{190}\text{Au}$ (42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
1099.560 190.245 6		$^{61}\text{Cu}$ (3.333 h)	282.956(12.2), 656.008(10.77), 67.412(4.23)
1099.6 4	1.02 15	$^{99}\text{Pd}$ (21.4 m)	136.00(73), 263.60(15.2), 673.38(6.9)
1099.6 7	0.47 9	$^{103}\text{Cd}$ (7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1099.6 3	0.173 24	$^{153}\text{Dy}$ (6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1099.68 11	0.111 12	$^{81}\text{Rb}$ (4.576 h)	190.38(64.0), 446.15(23.2), 510.31(5.3)
1099.68 11	0.075 3	$^{81}\text{Rb}$ (30.5 m)	49.56(0.78), 643.6(0.115), 1194.9(0.112)
1099.7 4	$\dagger 5 2$	$^{114}\text{Te}$ (15.2 m)	90.28( $\dagger 100$ ), 83.8( $\dagger 67$ ), 1417.6( $\dagger 32$ )
1099.7 5	0.095 16	$^{124}\text{Cs}$ (30.8 s)	353.9(40), 914.8(4.0), 492.6(3.6)
1099.88 4	0.099 10	$^{87}\text{Br}$ (55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
• 1099.89 11	0.063 7	$^{169}\text{Lu}$ (34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1099.9 2	4.4 5	$^{190}\text{Tl}$ (3.7 m)	416.4(91), 625.4(82), 731.1(37)
1099.9 2	7.1 16	$^{190}\text{Tl}$ (2.6 m)	416.4(79), 625.4(11.1), 683.5(8.7)
1099.95 13	0.108 15	$^{151}\text{Nd}$ (12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1099.99 2	0.192 10	$^{133}\text{La}$ (3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
1100 1	0.12 5	$^{95}\text{Ru}$ (1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
1100.0 2	0.0076 17	$^{121}\text{I}$ (2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1100.0 3	13 7	<sup>146</sup> Ho(3.6 s)	682.9(100), 925.3(69), 673.7(55)
1100.00 8	1.37 7	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1100.0 3	0.00050 17	<sup>173</sup> Hf(23.6 h)	123.672(83), 296.974(33.9), 139.634(12.7)
1100.07 12	0.69 6	<sup>134</sup> I(52.6 m)	847.025(95.4), 884.090(64.9), 1072.547(15.0)
1100.10 28	0.151 20	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
1100.1 4	0.270 18	<sup>147</sup> Pr(13.4 m)	77.9921(15), 314.675(13.2), 641.380(10.0)
1100.1	>0.22	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1100.16 2	0.29 2	<sup>213</sup> Bi(45.59 m)	440.46(26.1), 292.80(0.429), 807.36(0.292)
1100.20 24	0.57 10	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
1100.3 2	2.3 3	<sup>81</sup> Ge(7.6 s)	335.98(58.9), 792.94(34), 1495.53(19.9)
1100.3 30	0.042 14	<sup>94</sup> Tc(52.0 m)	871.082(94), 1868.68(5.7), 1522.11(4.5)
1100.33 10	2.34 13	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1100.42 30	0.046	<sup>137</sup> I(24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
1100.5 5	0.13 3	<sup>63</sup> Fe(6.1 s)	994.8(14.0), 1427.2(4.6), 1299.0(1.23)
• 1100.5 4	$8.0 \times 10^{-5}$ 4	<sup>123</sup> Sn(129.2 d)	1088.64(0.6), 1030.23(0.0310), 1021.00(0.00193)
1100.60 15	1.63 9	<sup>180</sup> Lu(5.7 m)	407.94(43.0), 1199.7(24.3), 1106.00(22.7)
1100.63 12	0.181 16	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1100.7 5	0.92 25	<sup>121</sup> In(3.88 m)	60.34(20), 1041.1(1.12), 1121.2(0.51)
1100.7 8	0.047	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1100.77 3	0.049 5	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
1100.8 1	0.126 13	<sup>143</sup> Cs(1.78 s)	195.554(13), 232.421(8.32), 306.424(6.80)
1100.9 3	4.6 4	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1101.0 6	†0.77 12	<sup>120</sup> I(81.0 m)	560.44(†137), 1523.0(†21.1), 640.85(†17.1)
1101.0 3	0.50	<sup>124</sup> Sb(93 s)	645.855(25), 602.730(25), 498.3(25)
1101.0 3	1.47 13	<sup>129</sup> In(0.61 s)	2118.0(45), 1865.0(32), 769.3(9.1)
1101.0 4	0.7 3	<sup>129</sup> Sn(6.9 m)	1161.31(56.0), 1128.44(50), 760.8(16.8)
1101.0 3	2.92 13	<sup>148</sup> Ho(9.59 s)	1687.5(82.47), 660.8(58.94), 504.3(18.62)
1101.12 2	0.18 4	<sup>145</sup> Cs(0.594 s)	175.36(20), 198.93(10.9), 112.46(10.71)
1101.14 20	0.27 8	<sup>142</sup> Cs(1.70 s)	359.598(27.2), 1326.46(12.92), 966.89(9.0)
1101.18 24	0.64 5	<sup>111</sup> Sn(35.3 m)	1152.98(2.7), 1914.70(1.99), 761.97(1.48)
1101.2 6	0.76 18	<sup>110</sup> Sb(23.0 s)	1211.87(92), 985.03(31.2), 1243.6(13.4)
1101.2 2	1.55 12	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
1101.26 4	0.148 20	<sup>66</sup> Ge(2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
1101.267 125.39 18		<sup>74</sup> Ga(8.12 m)	595.847(91), 2353.46(44.5), 608.353(14.3)
• 1101.267 120.0071 18		<sup>74</sup> As(17.77 d)	595.847(59), 608.353(0.552), 1204.208(0.285)
1101.29	0.012 12	<sup>44</sup> K(22.13 m)	1157.031(58), 2150.76(22.7), 2518.95(9.69)
1101.4 3	0.48 7	<sup>136</sup> I(83.4 s)	1313.02(67), 1321.08(24.8), 2289.6(10.4)
1101.4	1.1	<sup>200</sup> Bi(36.4 m)	1026.5(100), 462.34(98), 419.70(91)
1101.45 8	0.023 4	<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
1101.45 15	0.31 8	<sup>204</sup> At(9.2 m)	684.341(95), 516.318(90), 426.253(67.5)
1101.5 2	†10 1	<sup>153</sup> Yb(4.2 s)	547.4(†100), 674.1(†61), 369.6(†32)
1101.58 3	1.62 3	<sup>135</sup> I(6.57 h)	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
• 1101.59 4	0.338 16	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1101.6 10	0.11 4	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1101.7 5		<sup>102</sup> Ag(7.7 m)	556.52(48), 1834.7(9.8), 2054.4(6.6)
• 1101.70 10	0.95 3	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1101.8 1	0.0110 12	<sup>126</sup> Cs(1.64 m)	388.633(41), 491.243(5.0), 925.24(4.56)
1101.8 8	0.39 19	<sup>128</sup> Sb(10.4 m)	753.82(96.4), 743.22(96), 314.12(89)
• 1101.80 11	0.042 6	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
1101.8	0.06	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
1101.8	0.023 12	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1101.8 4	0.19 3	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
1101.9 10	0.011 3	<sup>107</sup> Rh(21.7 m)	302.77(66), 392.47(8.8), 312.21(4.8)
1101.9 1	9.7 5	<sup>119</sup> Cd(2.20 m)	1025.0(24.8), 2021.3(22.6), 720.7(17.9)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1101.9 3	0.136 17	<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
1101.9 3	†2.8 10	<sup>192</sup> Bi(37 s)	853.8(†100.0), 501.8(†80), 504.3(†39)
1101.94 4	49.0 5	<sup>183</sup> Os(9.9 h)	1107.92(22.36), 1034.85(6.02), 484.40(2.21)
1102		<sup>112</sup> In(14.97 m)	617.27(4.6), 606.49(1.111), 1253.43(0.218)
1102.0 3	0.114 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1102.00 15	0.27 4	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1102.02 23	0.198 25	<sup>86</sup> Y(14.74 h)	1076.64(83), 627.72(32.6), 1153.01(30.5)
1102.06 36	0.049 9	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1102.1 5	1.25 10	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
1102.12 17	0.101 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1102.14 5	0.50 8	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
• 1102.149 182.54 6		<sup>121</sup> Te(154 d)	37.138(0.94), 998.291(0.0796), 909.847(0.0703)
1102.18 15	0.76 8	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
1102.20 3	3.09 21	<sup>123</sup> Cd(1.82 s)	1165.86(25.7), 1027.45(22.6), 2102.81(12.5)
1102.2 2	0.100 16	<sup>142</sup> Eu(2.34 s)	768.1(10), 1658.1(1.75), 1754.1(1.49)
1102.24 17	0.107 13	<sup>138</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
1102.3 20	0.0023 11	<sup>157</sup> Dy(8.14 h)	326.16(92), 182.20(1.84), 83.01(0.62)
1102.39 8	0.169 9	<sup>187</sup> Ir(10.5 h)	912.95(4.79), 427.12(4.12), 400.89(3.94)
1102.40 20	1.5 4	<sup>102</sup> Nb(4.3 s)	296.611(79), 1633.10(41), 551.54(30)
1102.42 10	0.0165 16	<sup>137</sup> Xe(3.818 m)	455.490(31), 848.95(0.62), 1783.43(0.415)
1102.5	0.026 9	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1102.5 3	0.23 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1102.5 2	0.0035 10	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
1102.54 22	0.065 12	<sup>118</sup> In(4.45 m)	1229.68(96), 1050.69(81.0), 683.08(54.3)
1102.60 7	3.25 13	<sup>99</sup> Ag(124 s)	264.41(65), 832.29(13.5), 805.07(12.5)
• 1102.60 3	0.583 3	<sup>160</sup> Tb(72.3 d)	879.383(30.01), 298.580(25.51), 966.171(25.21)
1102.60 3	†0.45 9	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1102.60 3	0.21 4	<sup>160</sup> Ho(25.6 m)	728.18(46.9), 879.383(26.6), 962.317(25.6)
1102.6 3	0.195 24	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1102.6 9	†2.3 7	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
• 1102.64 15	0.0111 23	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1102.66 10	0.476 19	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1102.7 12	†1.7 9	<sup>160</sup> Tm(9.4 m)	125.8(†100), 728.5(†37), 264.1(†27)
1102.8 10	0.29 6	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
1102.8 3	†6.3 19	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 955.08(†50)
• 1102.90 20	0.0288 21	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
• 1102.9 2	0.0288 21	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1102.9 6	0.31 10	<sup>121</sup> Cd(8.3 s)	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
1102.9 7	0.37 3	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
1102.93 30	0.14 6	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1103.0 2	5.1 4	<sup>97</sup> Y(3.75 s)	3287.6(18.1), 3401.3(14.1), 1996.6(7.4)
1103.0 2	92.6 21	<sup>97</sup> Y(1.17 s)	161.4(71.8), 1091(56), 970.0(39.9)
1103 2	0.28 9	<sup>104</sup> Ag(69.2 m)	555.796(92.6), 767.72(65.7), 941.7(25.0)
1103.0 5	0.072 20	<sup>224</sup> Fr(3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
1103.0 3	0.00036 14	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
1103.0 3	0.09 3	<sup>250</sup> Es(2.22 h)	989.12(13.3), 1031.85(10.6), 828.82(5.5)
1103.1 4	>1.3	<sup>102</sup> Zr(2.9 s)	599.60(13.9), 535.30(10.6), 64.50(8.9)
• 1103.12 25	0.0059 7	<sup>145</sup> Eu(5.93 d)	893.73(66), 653.512(15.0), 1658.53(14.9)
1103.16 4	†16.7 13	<sup>102</sup> Tc(4.35 m)	475.070(†115), 628.05(†35.3), 631.28(†21.3)
1103.16 4	0.38 7	<sup>102</sup> Tc(5.28 s)	475.070(7), 468.59(0.88), 865.5(0.87)
• 1103.16 4	4.6 3	<sup>102</sup> Rh(2.9 y)	475.070(95), 631.28(55.9), 697.49(43.9)
• 1103.16 4	†2.99 10	<sup>102</sup> Rh(207 d)	475.070(†47), 628.05(†4.6), 468.59(†2.99)
1103.18 20	0.90 6	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1103.18 12	0.73 6	<sup>134</sup> I(52.6 m)	847.025(95.4), 884.090(64.9), 1072.547(15.0)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1103.2 3	0.15 11	<sup>205</sup> Po(1.66 h)	872.39(37), 1001.21(28.8), 849.83(25.5)
• 1103.25 2	0.415 4	<sup>143</sup> Ce(33.039 h)	293.266(42.80), 57.356(11.7), 664.571(5.69)
1103.29 6	3.7 4	<sup>130</sup> Sb(6.3 m)	839.49(100), 793.53(86), 182.36(41)
1103.3 1	0.050 4	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
1103.35 25	0.42 4	<sup>112</sup> Ag(3.130 h)	617.27(43), 1387.67(5.4), 606.49(3.1)
1103.4 6	0.23 7	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
1103.4 1	5.40 16	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1103.45 15	†1.34 20	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
1103.5 5	0.0008 4	<sup>134</sup> La(6.45 m)	604.699(5.05), 1554.934(0.414), 563.227(0.359)
1103.5	0.00054 23	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
1103.52 18	0.69 17	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
1103.52 20	0.0046 7	<sup>211</sup> Pb(36.1 m)	404.853(3.78), 832.01(3.52), 427.088(1.76)
1103.6 4	0.44 8	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
1103.63 13	0.38 6	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
1103.64 30	0.057	<sup>137</sup> I(24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
1103.7 4	0.27 3	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
1103.7 3	0.09 5	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1103.9 3	0.11 6	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
1103.9 8	0.0154 24	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1103.9 8	0.019 6	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
1103.92 7	0.343 19	<sup>90</sup> Kr(32.32 s)	1118.69(39.0), 121.82(35.5), 539.49(30.8)
1103.964 120	0.026 4	<sup>199</sup> Pt(30.80 m)	542.993(15), 493.772(5.59), 317.056(4.95)
• 1104.0 5	0.013 6	<sup>79</sup> Kr(35.04 h)	261.29(13), 397.54(9.3), 606.09(8.12)
1104.00 20	10.1 11	<sup>102</sup> Sr(69 ms)	243.80(53), 150.15(18.0), 93.89(13.4)
1104.0 10	0.36 12	<sup>242</sup> Np(5.5 m)	785.7(60), 944.8(37.8), 159.0(19.2)
1104.05 3	0.0259 10	<sup>194</sup> Ir(19.15 h)	328.455(13.1), 293.545(2.55), 645.157(1.17)
• 1104.05 3	1.98 12	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
1104.1 3	0.48 9	<sup>160</sup> Tm(74.5 s)	264.1(9), 125.8(6.5), 375.8(2.4)
1104.14 11	0.043 22	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
1104.16 15	†4.0 6	<sup>181</sup> Pt(51 s)	289.29(†100), 111.97(†100), 230.15(†92)
• 1104.162 260	0.0115 8	<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1104.23 7	0.0340 11	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
1104.3 2	0.21 6	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
1104.3 10	0.21 9	<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
1104.3 10	1.17 21	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1104.31 76	0.048 24	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1104.31 5	0.988 22	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
• 1104.321 160	0.367 8	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1104.38 5	1.28 5	<sup>79</sup> Ga(2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
1104.5 3	23 5	<sup>116</sup> Rh(0.9 s)	340.5(90), 639.4(52), 538.4(40)
1104.5 10	0.20 5	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1104.55 22	0.019 3	<sup>168</sup> Ho(2.99 m)	741.356(36.6), 821.164(34.5), 815.990(18.6)
1104.6 3	0.5 3	<sup>168</sup> Lu(6.7 m)	198.82(28), 979.22(20), 896.12(15)
1104.69 23	0.15 3	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
1104.7 3	0.56 21	<sup>183</sup> Os(9.9 h)	1101.94(49.0), 1107.92(22.36), 1034.85(6.02)
1104.8 10	0.09 4	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1104.8 8	0.047	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1104.8 2	0.070 17	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
1104.8 3	0.08 4	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1104.93 9	0.43 4	<sup>81</sup> Ga(1.221 s)	216.47(37.4), 828.26(22.1), 711.18(17.6)
1104.99 36	0.034 8	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1105.0 7	1.0 3	<sup>98</sup> Ag(46.7 s)	863.1(100), 678.5(85), 570.93(53)
1105.0 3	0.041 9	<sup>139</sup> Pm(4.15 m)	402.8(15), 463.1(4.1), 367.8(3.52)
1105		<sup>217</sup> Ac(740 ns)	498

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1105.2		<sup>234</sup> Np(4.4 d)	1558.31(18.72), 1527.21(11.2), 1601.80(9.1)
1105.0 5	>0.0007	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
1105.06 15	0.33 6	<sup>148</sup> La(1.05 s)	158.468(55.6), 989.85(9.3), 760.30(8.6)
1105.06 7	0.199 16	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
1105.2 2		<sup>69</sup> As(15.2 m)	232.69(11), 145.95(4.96), 86.78(3.44)
1105.2 3	0.99 10	<sup>98</sup> Rb(114 ms)	144.224(24.5), 1693.3(5.9), 2171.7(5.7)
1105.20 10	1.21 8	<sup>128</sup> In(0.84 s)	1168.80(40), 935.20(6.5), 1089.53(6.0)
1105.2 2	0.090 9	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
1105.24 9	†7.8 8	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
1105.3		<sup>81</sup> Se(18.45 m)	275.988(0.7), 290.03(0.55), 828.27(0.280)
1105.3 3	2.72 21	<sup>139</sup> Nd(5.50 h)	113.94(40), 737.96(35), 982.2(26.4)
1105.3 4	†1.4 3	<sup>144</sup> Cs(1.01 s)	199.326(†100.0), 639.00(†21.2), 758.96(†20.6)
1105.3 1	0.724 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1105.43 19	0.043 22	<sup>244</sup> Am(26 m)	1084.181(0.37), 941.95(0.36), 1062.953(0.28)
1105.5 15		<sup>196</sup> Tl(1.84 h)	426.0(84), 610.5(11.9), 635.5(9.8)
1105.57 8	0.55 7	<sup>119</sup> Te(16.03 h)	644.01(84), 699.85(10.1), 1749.65(3.95)
1105.6 5	0.09 4	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1105.6 3	0.101 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1105.6 21	0.06	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
1105.6 8	0.63 4	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1105.65 11	†0.87 5	<sup>148</sup> Tb(60 m)	784.430(†119.0), 489.049(†28.0), 1079.025(†16.2)
1105.66 25	0.07 3	<sup>122</sup> In(10.3 s)	1140.55(98), 1001.58(50.7), 1190.58(20.5)
1105.66 25	1.8 5	<sup>122</sup> In(10.8 s)	1140.55(100), 1001.58(98.4), 103.74(81)
1105.7 3	0.74 11	<sup>102</sup> Tc(5.28 s)	475.070(7), 468.59(0.88), 865.5(0.87)
• 1105.7 3	†0.40 3	<sup>102</sup> Rh(207 d)	475.070(†47), 628.05(†4.6), 1103.16(†2.99)
1105.7	0.35	<sup>199</sup> Po(4.13 m)	1002.19(19), 1034.3(16), 362.01(7)
1105.8 10	†5	<sup>99</sup> Rb(59 ms)	90.8(†100), 125.2(†40), 1071.6(†26)
1105.80 20	0.028 5	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1105.8 8	0.06 4	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1105.8 3	2.0 4	<sup>180</sup> Ir(1.5 m)	276.4(56), 132.2(38.1), 699.0(13.4)
1105.8 3	†1.3 3	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1105.84 13	0.00132 12	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1105.9 4	†1.2 4	<sup>185</sup> Pt(33.0 m)	229.60(†100), 135.3(†80), 197.4(†74)
1105.9 20	0.57 9	<sup>196</sup> Tl(1.84 h)	426.0(84), 610.5(11.9), 635.5(9.8)
1105.92 10	0.027 3	<sup>179</sup> Lu(4.59 h)	214.335(11.3), 214.930(0.46), 123.3790(0.45)
1105.93 14	0.026 4	<sup>131</sup> La(59 m)	108.081(25.0), 417.783(18.0), 365.162(16.9)
1106.0 5	0.042 21	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
1106.0 2	0.112 19	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 1106.00 12	0.053 5	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1106.1	0.42 11	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1106.00 15	22.7 8	<sup>180</sup> Lu(5.7 m)	407.94(43.0), 1199.7(24.3), 215.256(22.1)
1106.01 6		<sup>108</sup> Rh(16.8 s)	433.937(43), 618.84(15.0), 497.22(5.2)
1106.01 6	0.00165 15	<sup>108</sup> Ag(2.37 m)	433.937(0.50), 618.84(0.261), 1007.22(0.0139)
• 1106.11 6	0.152 14	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1106.19 2	0.124 7	<sup>178</sup> Lu(28.4 m)	93.180(6.0), 1340.8(3.22), 1310.05(1.40)
1106.19 2	0.536 12	<sup>178</sup> Ta(9.31 m)	93.180(1.78), 1350.68(1.18), 1340.8(1.027)
1106.2 6	0.29 3	<sup>109</sup> In(4.2 h)	203.5(74), 623.7(5.5), 1148.9(4.3)
1106.2 2	2.91 19	<sup>152</sup> Tb(4.2 m)	344.281(20.8), 411.115(18.8), 471.9(12.2)
1106.2 3	0.057 16	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
1106.25 14	39.2 24	<sup>48</sup> Mn(158.1 ms)	752.15(99.7), 3676.2(30.4), 3934.1(22.9)
1106.25 8	0.177 18	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1106.26 25	0.10 3	<sup>44</sup> K(22.13 m)	1157.031(58), 2150.76(22.7), 2518.95(9.69)
1106.3 7	0.047 11	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1106.3 5	4.1 4	<sup>148</sup> Pr(2.0 m)	301.702(95), 450.58(50), 697.61(40)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1106.4 3	†2.5 5	<sup>152</sup> Tm(8.0 s)	807.9(†100), 715.9(†13), 672.5(†9.5)
• 1106.4	1.4×10 <sup>-6</sup>	<sup>253</sup> Es(20.47 d)	41.79(0.050), 389.11(0.0264), 387.1(0.00810)
1106.5 5	0.4 3	<sup>125</sup> Cd(0.57 s)	1027.53(25.8), 1173.16(25.1), 736.65(12.6)
1106.5 2	1.5 4	<sup>152</sup> Ho(49.5 s)	647.2(92), 613.8(88.4), 683.3(88)
1106.5 6	0.58 19	<sup>178</sup> Re(13.2 m)	237.3(45), 105.9(23.0), 939.1(8.9)
1106.5 3	0.47 6	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
1106.6 6	0.028 15	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1106.7 2	†10.0 11	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
1106.8 4	0.037 19	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1106.8 2	0.65 7	<sup>200</sup> Po(11.5 m)	671.0(34.0), 617.7(19.7), 434.4(9.3)
1106.82 8	11.6 4	<sup>45</sup> Ar(21.48 s)	1020.04(34.0), 3703.2(33.3), 61.35(25.0)
• 1106.863	170.0313 11	<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
1106.88 2	49	<sup>96</sup> Y(9.6 s)	1750.42(89), 915.0(60), 617.1(56)
1106.9 6	1.00 20	<sup>124</sup> In(2.4 s)	1131.64(100), 969.94(52), 1072.85(47)
1106.9 2	0.082 10	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
• 1106.93 8	0.0049 8	<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1107.0 10	0.7 4	<sup>71</sup> Zn(3.96 h)	386.28(93), 487.38(62), 620.18(57)
1107.0 3	0.21 3	<sup>121</sup> Ag(0.78 s)	314.55(32.1), 353.43(19.9), 500.61(9.3)
1107.0 7	0.30 4	<sup>135</sup> Te(19.0 s)	603.5(37.0), 266.8(10.36), 870.3(7.73)
1107 1	0.09 4	<sup>135</sup> Pr(24 m)	296.12(24), 82.64(13.7), 213.45(13.0)
1107.0 5	0.13 9	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1107.0 3	0.099 21	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
• 1107.01 6	36	<sup>69</sup> Ge(39.05 h)	574.17(13.3), 872.14(11.9), 1336.72(4.5)
1107.1 1	13.2 4	<sup>100</sup> Rh(20.8 h)	539.59(78.4), 2376.1(35.3), 1553.4(21)
1107.1 3	0.11 3	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1107.16 5	0.474 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1107.2 3	0.48 9	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
1107.3 2	8	<sup>143</sup> Eu(2.63 m)	1536.8(3.29), 1912.7(2.13), 107.69(2.09)
• 1107.4	0.049	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1107.5 1	2.0 3	<sup>71</sup> Zn(3.96 h)	386.28(93), 487.38(62), 620.18(57)
1107.5 3	0.00037	<sup>96</sup> Tc(51.5 m)	778.224(1.9), 1200.231(1.08), 480.705(0.311)
• 1107.60 18	0.00040 16	<sup>121</sup> Te(154 d)	1102.149(2.54), 37.138(0.94), 998.291(0.0796)
1107.6 5	0.40 12	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1107.63 7	4.28 20	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
• 1107.63 7	2.15 4	<sup>158</sup> Tb(180 y)	944.09(44), 962.06(20.3), 79.5104(11.6)
• 1107.67 3	0.130 4	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1107.7 7	0.48 9	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
• 1107.7 5	0.011 6	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1107.72 17	†5	<sup>181</sup> Pt(51 s)	289.29(†100), 111.97(†100), 230.15(†92)
1107.73 7	0.56 3	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
• 1107.74 4	0.099 9	<sup>205</sup> Bi(15.31 d)	1764.36(1.368), 703.44(31), 987.62(0.585)
1107.78 10	2.93 18	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1107.8 6	0.77 9	<sup>186</sup> Ir(16.64 h)	296.911(64.0), 137.155(42), 434.849(34.4)
1107.81 9	0.25	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1107.85	0.67 5	<sup>44</sup> K(22.13 m)	1157.031(58), 2150.76(22.7), 2518.95(9.69)
1107.9 3	7.8 17	<sup>70</sup> Cu(47 s)	884.9(100), 901.7(87), 1251.7(57)
1107.92 8	0.0510 23	<sup>81</sup> Rb(4.576 h)	190.38(64.0), 446.15(23.2), 510.31(5.3)
1107.92 4	22.36 20	<sup>183</sup> Os(9.9 h)	1101.94(49.0), 1034.85(6.02), 484.40(2.21)
1108.0 4	0.68 17	<sup>154</sup> Ho(11.76 m)	334.6(84), 412.4(15.0), 873.4(12.5)
1108.0 7	0.037 10	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1108.0 12	0.185 11	<sup>177</sup> Yb(1.911 h)	150.392(20.3), 1080.21(5.6), 1241.2(3.47)
1108.0 2	0.092 18	<sup>197</sup> Tl(2.84 h)	425.84(12.9), 152.22(7.2), 1411.34(4.5)
1108.1 5	3.94 19	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1108.1 3	0.54 5	<sup>231</sup> Np(48.8 m)	370.9(10), 348.4(3.63), 263.8(2.84)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1108.2 3	0.064 6	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1108.28 18	0.39 3	<sup>138</sup> I(6.49 s)	588.825(56), 875.23(9.2), 2262.19(3.86)
1108.3 9	0.42	<sup>101</sup> Cd(1.2 m)	98.0(47), 1722.5(11), 1259.3(8)
1108.3 5	†6 4	<sup>106</sup> Nb(1.02 s)	171.548(†100), 350.70(†39), 714.00(†30)
1108.3 4	†6.7 16	<sup>111</sup> Ru(2.12 s)	303.8(†100), 211.7(†77.7), 382.0(†41.3)
1108.3 5	0.112 25	<sup>127</sup> Ba(12.7 m)	180.8(12), 114.8(9.3), 66.06(2.12)
• 1108.3 3	0.03 1	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
1108.3 3	†0.71 3	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
1108.4 3	†1.4 3	<sup>83</sup> Ge(1.85 s)	306.51(†100.0), 1193.77(†20.5), 1525.50(†13.6)
1108.4 2	1.25 12	<sup>141</sup> Sm(22.6 m)	196.88(74), 431.6(40.4), 777.6(20.3)
1108.41 8	15.8 3	<sup>76</sup> Ga(32.6 s)	562.93(66), 545.51(26.0), 431.0(9.2)
1108.41 16	†8.9 8	<sup>159</sup> Yb(1.58 m)	166.16(†500), 177.12(†159), 390.20(†113)
1108.5 3	0.216 13	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
1108.63 6	0.051 5	<sup>137</sup> Xe(3.818 m)	455.490(31), 848.95(0.62), 1783.43(0.415)
1108.68 10	7.2 4	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
1108.7 3	0.19 6	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
1108.71 12	0.0026 5	<sup>125</sup> Xe(16.9 h)	188.418(54), 243.378(30.1), 54.968(6.81)
1108.76 12	0.00592 20	<sup>106</sup> Rh(29.80 s)	511.842(20), 621.94(9.93), 1050.39(1.56)
1108.76 12	0.0042 5	<sup>106</sup> Ag(23.96 m)	511.842(17.0), 621.94(0.316), 873.48(0.199)
1108.8	>0.010	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1108.9 1	0.412 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1108.9 4	†0.5 2	<sup>172</sup> Ir(2.0 s)	227.8(†100.0), 378.4(†62.0), 448.4(†40.5)
1108.93 18	0.046 7	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
1108.93 6	0.093 9	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1109 1	0.34 11	<sup>77</sup> Rb(3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
1109 1	0.26 10	<sup>159</sup> Eu(18.1 m)	67.8(19), 78.6(9.1), 95.7(7.0)
1109.0 8	0.24 4	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1109.0 5	0.00679 21	<sup>171</sup> Er(7.516 h)	308.31(64.4), 295.901(28.9), 111.621(20.5)
1109.1 3	0.73 22	<sup>100</sup> Y(735 ms)	212.531(73), 118.59(15.4), 665.98(7.7)
1109.15	>0.028	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
• 1109.180 120.183 4		<sup>152</sup> Eu(13.542 y)	344.281(26.58), 778.91(12.96), 411.115(2.231)
1109.180 12†63 5		<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
1109.180 120.031 25		<sup>152</sup> Tb(4.2 m)	344.281(20.8), 411.115(18.8), 471.9(12.2)
1109.2 8	0.13 8	<sup>90</sup> Rb(258 s)	831.69(94), 1375.36(16.7), 3317.00(14.4)
1109.2 10	0.038 19	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1109.2 1	†0.70 11	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1109.27 9	12.4 5	<sup>172</sup> Ta(36.8 m)	214.02(46), 95.23(17.5), 1330.41(6.76)
1109.3 2	0.16 3	<sup>71</sup> Zn(2.45 m)	511.56(32), 910.27(7.8), 389.88(3.8)
1109.36 4	18.6 6	<sup>80</sup> Ga(1.697 s)	659.14(78.0), 1083.47(48.4), 523.18(10.1)
1109.36 8	0.015 4	<sup>168</sup> Ho(2.99 m)	741.356(36.6), 821.164(34.5), 815.990(18.6)
1109.4	14 2	<sup>145</sup> Tb(29.5 s)	257.8(39), 987.8(37), 537.0(23)
1109.44 14	0.19 3	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1109.48 9	0.0105 7	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1109.48 5	0.115 4	<sup>211</sup> Pb(36.1 m)	404.853(3.78), 832.01(3.52), 427.088(1.76)
1109.5 10	0.09 4	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1109.6 2	0.58 6	<sup>74</sup> Br(25.4 m)	634.78(64), 219.05(18.1), 634.26(14.1)
1109.6 4	†0.38 10	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1109.7 10	0.059 13	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
1109.72 5	1.198 19	<sup>78</sup> Rb(17.66 m)	454.97(63), 692.86(12.56), 562.15(11.41)
1109.72 5	13.12 24	<sup>78</sup> Rb(5.74 m)	454.97(81), 664.44(38.3), 692.86(12.26)
1109.8 3	0.00037	<sup>96</sup> Tc(51.5 m)	778.224(1.9), 1200.231(1.08), 480.705(0.311)
1109.8 3	0.099 19	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
1109.80 17	1.8 6	<sup>193</sup> Hg(11.8 h)	257.97(61), 407.63(25), 573.25(14.2)
1109.9 2	0.12 6	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1109.96 2	0.87 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
• 1109.99 7	0.185 9	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1110	†1.9	<sup>107</sup> Sn(2.90 m)	1129.2(†100), 678.5(†100), 1540.6(†30)
• 1110	0.0028 21	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1110.0 6	1.8 5	<sup>191</sup> Hg(50.8 m)	252.5(57), 420.1(18.6), 578.6(17.6)
1110.20	6.9 20	<sup>210</sup> Tl(1.30 m)	799.7(99), 298(79), 1316(21)
1110.0 2	0.36 5	<sup>242</sup> Np(2.2 m)	735.93(5), 780.44(2.76), 1473.1(2.34)
• 1110.03 16	0.022 3	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1110.082 6	2.23 7	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
• 1110.082 6	0.58 3	<sup>184</sup> Re(169 d)	252.848(10.7), 216.548(9.43), 920.932(8.14)
1110.1	0.16	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
1110.2 1	0.426 5	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1110.2 7	0.29 3	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
1110.2 4	0.13 5	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
1110.25 7	0.171 19	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1110.26 10	0.285 19	<sup>81</sup> Sr(22.3 m)	153.54(33.8), 147.76(30.1), 443.34(17.5)
1110.28 25	0.17 3	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
1110.3	1.1	<sup>43</sup> Ar(5.37 m)	975.0(34), 738.1(15), 1439.5(13)
1110.3 3	0.42 7	<sup>83</sup> Se(22.3 m)	356.687(70), 510.17(43), 224.8(32.7)
1110.3 5	0.20 4	<sup>140</sup> Pm(5.95 m)	1028.19(100), 773.74(100), 419.57(92)
1110.3 1	0.0107 21	<sup>167</sup> Yb(17.5 m)	113.34(55.3), 106.18(22.5), 176.25(21)
1110.4 5	2.9 3	<sup>84</sup> Y(40 m)	793.3(99), 974.6(75), 1040.2(56)
1110.4 4	0.108 11	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
1110.4	1.2	<sup>145</sup> Ba(4.31 s)	96.6(17), 91.9(7), 65.9(5)
1110.4 6	0.032 12	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1110.4 4	0.30 6	<sup>183</sup> Os(9.9 h)	1101.94(49.0), 1107.92(22.36), 1034.85(6.02)
1110.44 19	0.093 19	<sup>97</sup> Zr(16.91 h)	743.36(93), 507.64(5.03), 1147.97(2.61)
1110.5 4	1.06 18	<sup>60</sup> Cu(23.7 m)	1332.501(88), 1791.6(45.4), 826.06(21.7)
1110.5 3	0.13 3	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1110.5 3	0.73 22	<sup>100</sup> Y(735 ms)	212.531(73), 118.59(15.4), 665.98(7.7)
1110.5 8	†4 3	<sup>164</sup> Tm(2.0 m)	91.40(†1500), 1154.66(†366), 768.91(†279)
1110.54 4	0.055 6	<sup>180</sup> Re(2.44 m)	902.795(90), 103.557(22.2), 825.357(9.9)
1110.6 3	0.84 21	<sup>121</sup> Cd(8.3 s)	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
• 1110.6 5	0.010 5	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1110.6 1	0.062 10	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1110.610 100.314 21		<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1110.610 100.450 19		<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
1110.64 6	0.2240 22	<sup>73</sup> Se(7.15 h)	360.80(108), 67.03(78), 865.09(0.584)
• 1110.65 30	0.0121 9	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1110.68 4	2.47 4	<sup>145</sup> Ce(3.01 m)	724.33(59), 62.54(13.33), 1148.03(9.15)
1110.7 2	2.9 2	<sup>94</sup> Rh(70.6 s)	1430.50(100), 756.23(51), 1072.50(30.7)
1110.7 2	4.0 10	<sup>129</sup> Sn(2.23 m)	645.13(100), 80.5(6.6), 913.2(5.0)
1110.75 6	0.803 19	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1110.8 3	0.077 11	<sup>111</sup> Sn(35.3 m)	1152.98(2.7), 1914.70(1.99), 761.97(1.48)
1110.8 4	2.7 5	<sup>178</sup> Re(13.2 m)	237.3(45), 105.9(23.0), 939.1(8.9)
1110.8 5	2.1 4	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
1110.82 5	1.76 9	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
1110.86 5	0.0151 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
1110.9 2	0.086 9	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
1110.9 4	0.022 6	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
1110.9 5	†1.10 15	<sup>182</sup> Ir(15 m)	273.23(†100), 126.79(†77), 236.3(†21.0)
1111.0 2	†1.44 19	<sup>95</sup> Pd(13.3 s)	1350.9(†105), 716.6(†70.63), 381.8(†50.8)
1111.0 3	0.29 7	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
1111.0 4	0.021 7	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1111.0 10	0.26 9	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1111.04 10	1.44 13	<sup>195</sup> Hg(9.9 h)	779.80(7), 61.46(6.2), 585.13(1.99)
1111.10 10	3.12 11	<sup>91</sup> Tc(3.14 m)	2450.90(13.5), 1639.90(9.2), 1605.20(7.77)
1111.1 3	5.0 5	<sup>176</sup> Tm(1.9 m)	189.57(44.5), 1069.3(34), 381.8(21.8)
1111.2 1	26.2 10	<sup>93</sup> Ru(10.8 s)	1396.2(39), 2039.1(9.2), 928.3(1.66)
1111.2 2	1.9 5	<sup>105</sup> Mo(35.6 s)	85.4(25.0), 76.50(19.3), 147.8(14.8)
• 1111.2 8	0.011 9	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
1111.34 3	1.47 12	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
• 1111.4 1	0.0136 19	<sup>125</sup> Sn(9.64 d)	1067.10(10), 1089.15(4.59), 822.48(4.28)
• 1111.40 18	0.015 4	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1111.49 24	0.49 6	<sup>97</sup> Rh(30.7 m)	421.55(75), 840.13(12.0), 878.80(9.0)
1111.5 5	†100 33	<sup>85</sup> As(2.028 s)	3749.4(†23), 461.5(†20), 3345.0(†14.2)
1111.5 2	0.16 5	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1111.50 10	0.00108 9	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
1111.50 10	0.26 4	<sup>250</sup> Es(2.22 h)	989.12(13.3), 1031.85(10.6), 828.82(5.5)
1111.57 25	0.33 3	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1111.6 4	2.07 15	<sup>170</sup> Ho(2.76 m)	258.2(37.0), 931.3(36.1), 181.6(23.8)
1111.64 5	0.191 8	<sup>129</sup> Te(69.6 m)	27.81(16.3), 459.60(7.70), 487.39(1.42)
1111.7	0.014 7	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1111.8 3	0.73 8	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
1111.82 20	0.24 8	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
1111.88 70	0.08 4	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1111.9 3	0.58 12	<sup>98</sup> Pd(17.7 m)	112.0(58), 662.2(19.7), 106.75(13.9)
1111.9 5	0.06 3	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
1111.9 4	0.0022 10	<sup>133</sup> La(3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
1111.9 5	0.054 7	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1112.0 2	1.5 4	<sup>118</sup> Cs(14 s)	337.4(100), 472.8(37.4), 586.6(15.4)
1112.0 8	0.10 4	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
1112.0 3	0.132 13	<sup>186</sup> Hg(1.38 m)	112.1(63), 251.5(55), 191.6(3.7)
1112	†2	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
1112.1 13	0.10 4	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1112.1 2	†0.9 2	<sup>172</sup> Ir(2.0 s)	227.8(†100.0), 378.4(†62.0), 448.4(†40.5)
1112.116 170.033 8		<sup>152</sup> Pm(4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
1112.116 174.0 3		<sup>152</sup> Pm(7.52 m)	244.6989(78), 121.7824(45), 340.48(31.3)
• 1112.116 1713.55 19		<sup>152</sup> Eu(13.542 y)	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
1112.14 8	0.508 25	<sup>187</sup> Ir(10.5 h)	912.95(4.79), 427.12(4.12), 400.89(3.94)
1112.20 15	0.0018 5	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1112.2 14	0.024 11	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1112.2 6	0.7	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1112.30 20	0.71 5	<sup>88</sup> Nb(7.8 m)	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
1112.4 1	0.154 16	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
1112.4 2	0.0093 17	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1112.4 4	0.065 15	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
1112.4 5	0.0028 14	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1112.5 2	†1.27 14	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1112.6 5	3.7 17	<sup>57</sup> Cu(199.4 ms)	
1112.6 3	0.072 12	<sup>147</sup> Pr(13.4 m)	77.9921(15), 314.675(13.2), 641.380(10.0)
1112.6 3	0.22 3	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1112.6 2	†7.1 1	<sup>203</sup> At(7.4 m)	639.4(†100), 641.5(†55.8), 738.1(†38.4)
1112.7 3	1.1 4	<sup>120</sup> In(47.3 s)	1171.3(100), 1023.1(97.4), 197.3(80.6)
• 1112.7 3	0.821 10	<sup>120</sup> Sb(5.76 d)	1171.3(100), 1023.1(99.4), 197.3(87.0)
1112.7	1.0	<sup>125</sup> Cd(0.65 s)	436.29(37), 1099.48(22.3), 2147.19(19.1)
1112.7 4	2 1	<sup>128</sup> Sb(9.01 h)	753.82(100), 743.22(100), 314.12(61)
1112.7 3	0.040 4	<sup>183</sup> Hf(1.067 h)	783.754(66), 73.174(38), 459.069(27)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1112.7 3	0.18 3	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
• 1112.8 5	0.07 3	<sup>79</sup> Kr(35.04 h)	261.29(13), 397.54(9.3), 606.09(8.12)
1112.84 7	†3.03 17	<sup>102</sup> Tc(4.35 m)	475.070(†115), 628.05(†35.3), 631.28(†21.3)
• 1112.84 7	19.0 10	<sup>102</sup> Rh(2.9 y)	475.070(95), 631.28(55.9), 697.49(43.9)
1112.9 1	0.87 6	<sup>75</sup> Zn(10.2 s)	228.67(28.9), 432.29(20.2), 155.94(17.2)
1112.9 5	0.05 5	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1112.9 2	0.051 5	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1112.92 5	0.009 3	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1113.0 4	0.29 3	<sup>73</sup> Zn(23.5 s)	218.1(6.00), 910.5(1.91), 495.6(1.48)
1113 1	0.21 11	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1113.0	†1.62 8	<sup>192</sup> Tl(9.6 m)	422.8(†100), 634.8(†75.9), 786.3(†31.7)
1113.0 2	†4.86 26	<sup>192</sup> Tl(9.6 m)	422.8(†100), 634.8(†75.9), 786.3(†31.7)
1113	†4	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
1113.05 20	0.044 9	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
• 1113.05 5	1.65 8	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1113.08 7	1.93 9	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
1113.10 10	14.7 12	<sup>83</sup> As(13.4 s)	734.60(43), 2076.70(11.9), 2202.90(9.5)
1113.1 3	1.56 15	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
• 1113.10 20	0.101 5	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1113.2 1	1.38 9	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1113.2 5	0.6 5	<sup>125</sup> Cd(0.57 s)	1027.53(25.8), 1173.16(25.1), 736.65(12.6)
1113.2 2	0.018 3	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
1113.3 5	0.14 4	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
• 1113.390 180.446 5		<sup>182</sup> Ta(114.43 d)	67.75001(41.2), 1121.3007(34.9), 1221.4066(26.98)
1113.390 180.35 6		<sup>182</sup> Re(12.7 h)	67.75001(38.2), 1121.3007(32), 1221.4066(24.8)
• 1113.390 184.7 1		<sup>182</sup> Re(64.0 h)	229.3220(26), 67.75001(22.2), 1121.3007(22.0)
1113.4 5	0.104 24	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
1113.4 4	0.074 19	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
1113.49 10	0.0053 8	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1113.5 3	0.0490 14	<sup>163</sup> Er(75.0 m)	436.1(0.0285), 439.94(0.0276), 297.88(0.012)
1113.5	†0.6	<sup>193</sup> Pb(5.8 m)	365.2(†100), 392.2(†20.7), 716.4(†6.7)
1113.6 10	0.04 3	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1113.6 4	0.40 4	<sup>190</sup> Re(3.2 h)	186.718(27.8), 605.24(14.9), 557.972(14.3)
1113.6 1	0.25 3	<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
1113.6 2	0.0067 12	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
1113.7 1	0.055 4	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
1113.8 10	†3.7	<sup>177</sup> Os(2.8 m)	84.7(†100), 125.4(†63), 195.8(†61)
1113.85 24	0.064 12	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1113.9 5	0.091 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1113.9 5	0.189 21	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
• 1113.92 3	0.0222 22	<sup>148</sup> Pm(5.370 d)	1465.12(22), 550.284(22.00), 914.85(11.46)
• 1113.92 3	0.137 4	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1114.1 3	21.8 22	<sup>70</sup> As(52.6 m)	1039.20(81), 668.3(21.8), 743.56(21.5)
• 1114.1 3	0.015 5	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
1114.1 2	0.028 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1114.11 30	0.10 3	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1114.2 1	0.50	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1114.29 10	1.47 7	<sup>138</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
1114.3 4	39 4	<sup>127</sup> Sn(2.10 h)	1095.6(20), 823.1(10.9), 805.9(8.4)
1114.3 3	2.67 10	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1114.32 6	0.092 6	<sup>137</sup> Xe(3.818 m)	455.490(31), 848.95(0.62), 1783.43(0.415)
1114.4 4	0.10 4	<sup>142</sup> Ba(10.6 m)	255.300(20.5), 1204.3(14.23), 895.2(13.9)
1114.4 6	0.30 5	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1114.48 5	0.0118 18	<sup>106</sup> Rh(29.80 s)	511.842(20), 621.94(9.93), 1050.39(1.56)
1114.48 5	0.0062 5	<sup>106</sup> Ag(23.96 m)	511.842(17.0), 621.94(0.316), 873.48(0.199)
• 1114.49 14	0.295 18	<sup>206</sup> Po(8.8 d)	1032.26(32.9), 511.36(24.1), 286.410(23.8)
1114.5 2	†2.12 21	<sup>185</sup> Hg(21.6 s)	222.8(†100.0), 258.7(†98), 212.5(†58)
1114.51 19	0.53 6	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1114.6	1.8	<sup>96</sup> Y(9.6 s)	1750.42(89), 915.0(60), 617.1(56)
1114.60 33	†1.7 5	<sup>165</sup> Lu(10.74 m)	132.49(†100), 120.60(†100), 174.25(†47.0)
1114.7	2.2	<sup>44</sup> Ar(11.87 m)	182.6(66), 1703.4(57), 1886.0(31)
1114.7 1	0.19 3	<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
1114.70 25	0.98 15	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
1114.72 8	0.166 16	<sup>201</sup> Pb(9.33 h)	331.19(79), 361.27(9.9), 945.96(7.4)
1114.80 5	0.103 4	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
1114.8 1	0.134 11	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1114.8	0.38	<sup>149</sup> Ho(21.1 s)	1090.7(74.8), 1073.2(6.37), 1583.6(4.48)
1114.8 4	0.055 17	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1114.8 6	0.055 17	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1114.9 2	0.14 3	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
1115.0 5	0.063 19	<sup>83</sup> Y(7.08 m)	35.50(0.44), 882.1(6.30), 489.90(5.53)
1115.0 5	0.050 13	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
1115.0 8	0.23 13	<sup>121</sup> Cs(155 s)	153.9(15.2), 239.6(7.7), 427.1(3.63)
1115.0 8	0.18 10	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
1115.0 1	0.17 3	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1115.0 9	0.50	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1115.07 11	1.0 3	<sup>164</sup> Lu(3.14 m)	123.3(34.0), 740.52(12.2), 262.22(10.8)
1115.073 160.0023		<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
• 1115.1 3	0.37 4	<sup>79</sup> Kr(35.04 h)	261.29(13), 397.54(9.3), 606.09(8.12)
1115.1 4	0.63 6	<sup>199</sup> Pb(90 m)	366.90(44.2), 353.39(9.5), 1135.04(7.8)
• 1115.12 3	1.576 9	<sup>160</sup> Tb(72.3 d)	879.383(30.01), 298.580(25.51), 966.171(25.21)
1115.12 3	†1.05 14	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1115.16 24	0.79 7	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1115.18 3	4.82 22	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
1115.2 3	0.54 22	<sup>104</sup> In(1.8 m)	658.0(100), 834.1(99), 878.1(29.4)
1115.2	>0.41	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1115.2 4	0.13 5	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
1115.20 2	4.8 3	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1115.25 12	1.37 11	<sup>146</sup> Cs(0.343 s)	181.02(57.0), 557.76(9.18), 332.38(6.44)
1115.25 5	†4.98 19	<sup>188</sup> Au(8.84 m)	265.63(†100), 340.04(†23.9), 605.5(†16.3)
1115.3 5	0.49 9	<sup>67</sup> Ni(21 s)	1937.1(0.64), 821.6(0.47), 2841(0.27)
1115.3 6	2.1 9	<sup>115</sup> Te(6.7 m)	770.40(34.2), 723.569(18), 1071.70(12.9)
1115.3 1	†6.8 5	<sup>160</sup> Lu(36.1 s)	243.2(†100), 395.4(†21.0), 577.2(†10.7)
• 1115.35 26	0.015 6	<sup>150</sup> Eu(35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
1115.36 20	0.25 4	<sup>126</sup> In(1.60 s)	1141.11(55.9), 3344.61(21.6), 969.61(14.9)
1115.4 3	0.061 10	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1115.4 3	†1.14 24	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1115.5 2	†0.95 11	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
1115.5	†2	<sup>131</sup> Ce(10.3 m)	169.42(†100), 414.25(†68), 119.18(†44)
1115.5 3	0.09 5	<sup>211</sup> Rn(14.6 h)	674.1(45), 1362.9(32.5), 678.4(28.9)
1115.53 15	0.019 6	<sup>157</sup> Eu(15.18 h)	63.929(23.0), 410.723(17.5), 370.509(11.0)
• 1115.54 5	0.37 3	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1115.546 4	15.43 9	<sup>65</sup> Ni(2.5172 h)	1481.84(24), 366.27(4.81), 1623.42(0.498)
• 1115.546 4	50.60 24	<sup>65</sup> Zn(244.26 d)	344.95(0.0030), 770.6(0.0030)
1115.7 2	1.25 18	<sup>119</sup> Cd(2.69 m)	292.9(36.8), 343.0(16.9), 1609.7(10.9)
1115.77 22	0.094 14	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
• 1115.78 7	0.050 5	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1115.8 7	0.030 7	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
1115.8 3	0.103 19	<sup>92</sup> Kr(1.840 s)	142.307(64), 1218.6(60), 812.6(14.6)
1115.8 2	3.4 6	<sup>100</sup> Ag(2.01 m)	665.54(99), 750.67(78), 773.20(24.2)
1115.8 2	9 3	<sup>100</sup> Ag(2.24 m)	665.54(86), 750.67(>26), 1693.9(14.7)
1115.8 3	0.45 9	<sup>160</sup> Tm(74.5 s)	264.1(9), 125.8(6.5), 375.8(2.4)
1115.8 9	0.022 7	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
1115.9 2	1.10 10	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
1115.9 2	0.069 9	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
1115.9 20	0.022 16	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1115.96 25	0.23 4	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1116.0 4	2.8 4	<sup>80</sup> Ge(29.5 s)	265.36(27.0), 110.4(6.5), 1564.3(4.9)
1116.0 5	0.23	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
1116.0 10	0.0010 6	<sup>152</sup> Eu(9.274 h)	344.281(2.44), 1314.67(0.956), 970.38(0.604)
1116.22 93	0.06 3	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1116.30 10	0.70 5	<sup>83</sup> Se(70.1 s)	1030.86(21.2), 356.687(18), 987.96(16.1)
1116.3	0.013	<sup>147</sup> Tb(1.83 m)	1397.0(79), 1797.1(14), 1643.0(1.2)
1116.4 1	†3.5 4	<sup>144</sup> Cs(1.01 s)	199.326(†100.0), 639.00(†21.2), 758.96(†20.6)
1116.42 16	0.068 9	<sup>118</sup> In(4.45 m)	1229.68(96), 1050.69(81.0), 683.08(54.3)
1116.48 5	1.05 8	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
• 1116.57 3	0.422 18	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1116.6 3	0.20 3	<sup>77</sup> Zn(2.08 s)	189.49(28.1), 473.94(19.7), 1832.0(12.4)
1116.60 5	1.03 6	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
1116.61 7	1.67 10	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1116.61 17	0.133 12	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1116.63 5	1.20 8	<sup>81</sup> Ga(1.221 s)	216.47(37.4), 828.26(22.1), 711.18(17.6)
1116.65 3	1.955 15	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1116.7 1	2.8 7	<sup>129</sup> Sn(2.23 m)	645.13(100), 80.5(6.6), 913.2(5.0)
1116.7 8	†0.08	<sup>196</sup> Ir(1.40 h)	393.346(†105.2), 521.175(†104), 447.1(†102.1)
1116.71 32	0.09 3	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
1116.77 10	15.5 15	<sup>124</sup> In(2.4 s)	1131.64(100), 969.94(52), 1072.85(47)
1116.77 15	0.131 10	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1116.86 10	†1.3 1	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
1116.88 12	0.086 8	<sup>97</sup> Nb(72.1 m)	658.08(98), 1024.49(1.09), 1268.68(0.148)
1116.9 3		<sup>144</sup> Cs(1.01 s)	199.326(†100.0), 639.00(†21.2), 758.96(†20.6)
1117.0 5	0.044 7	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
1117.0 4	3.01 13	<sup>86</sup> Se(15.3 s)	2441.1(43.0), 2660.0(21.6), 48.3(15.4)
1117.0	†1.5 6	<sup>131</sup> Pr(1.53 m)	266.13(†100), 72.82(†64), 387.56(†38)
1117.0	>0.41	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1117.0 5	2.7 7	<sup>176</sup> Re(5.3 m)	240.17(48), 109.08(25.0), 848.7(4.0)
1117 1	0.32	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1117.0 10	0.13 3	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
1117.01 20	4.4 9	<sup>80</sup> Zn(0.545 s)	712.53(45.1), 715.40(33.8), 964.93(15.6)
1117.1 7	0.07 3	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
1117.1 2	0.07 3	<sup>96</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1117.1 3	0.74 6	<sup>99</sup> Sr(0.269 s)	125.118(16.1), 536.12(14.0), 1198.12(9.2)
1117.15 14	0.00119 20	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1117.2 10	0.22 11	<sup>97</sup> Rh(46.2 m)	189.21(49), 2245.6(14), 421.55(12.7)
1117.297 100.622 19		<sup>180</sup> Re(2.44 m)	902.795(90), 103.557(22.2), 825.357(9.9)
1117.3 4	0.026 9	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
1117.3 5	0.47 12	<sup>161</sup> Yb(4.2 m)	78.20(34), 599.88(25.9), 631.45(13.9)
1117.34 4	0.073 5	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1117.4	0.11	<sup>144</sup> Tb(4.25 s)	743.0(12), 1001.6(7), 959.36(4.7)
1117.4 5	0.74 19	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1117.4 2	0.17 3	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1117.437 100.039 6		$^{110}\text{Ag}(249.79 \text{ d})$	657.7622(94.0), 884.685(72.2), 937.493(34.13)
1117.437 104.23 10		$^{110}\text{In}(4.9 \text{ h})$	657.7622(98.3), 884.685(92.9), 937.493(68.4)
1117.5 0.106 18		$^{149}\text{Tb}(4.118 \text{ h})$	352.24(29.43), 164.98(26.4), 388.57(18.37)
1117.5 7 0.15 6		$^{161}\text{Tm}(33 \text{ m})$	45.54(5.00), 1648.1(9.50), 84.40(9.4)
1117.56 6 9.9 5		$^{79}\text{Ge}(39.0 \text{ s})$	230.62(61), 542.27(32.6), 755(18)
1117.6 2 3.23 24		$^{141}\text{Sm}(22.6 \text{ m})$	196.88(74), 431.6(40.4), 777.6(20.3)
• 1117.61 20 0.030 9		$^{169}\text{Lu}(34.06 \text{ h})$	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1117.64 3 0.056 8		$^{228}\text{Ac}(6.15 \text{ h})$	911.205(26.6), 968.971(16.2), 338.322(11.3)
1117.66 10 3.21 25		$^{197}\text{Pb}(43 \text{ m})$	385.85(74), 387.72(25.1), 222.45(24.6)
1117.7 5 >0.047		$^{142}\text{La}(91.1 \text{ m})$	641.285(47), 2397.8(13.3), 2542.7(10.00)
1117.74 10 0.201 20		$^{165}\text{Yb}(9.9 \text{ m})$	80.11(49), 68.86(9.1), 1090.28(4.4)
1117.75 24		$^{157}\text{Pm}(10.56 \text{ s})$	160.61(35), 188.052(13.5), 571.27(5.39)
1117.8 4 0.054 9		$^{120}\text{Xe}(40 \text{ m})$	25.1(30), 72.6(9), 178.1(6.8)
1117.8 4 †0.7 2		$^{138}\text{Pm}(3.24 \text{ m})$	520.9(†100), 729.0(†37.8), 493.1(†21.6)
1117.82 4 0.032 4		$^{61}\text{Cu}(3.333 \text{ h})$	282.956(12.2), 656.008(10.77), 67.412(4.23)
1117.9 3 0.212 24		$^{161}\text{Er}(3.21 \text{ h})$	826.6(3.0), 211.15(12.2), 592.6(3.7)
• 1117.94 3 0.052 7		$^{172}\text{Tm}(63.6 \text{ h})$	78.7435(6.5), 1093.657(6.0), 1387.093(5.6)
1118.0 1.3		$^{96}\text{Y}(9.6 \text{ s})$	1750.42(89), 915.0(60), 617.1(56)
1118.0 2 4.7 6		$^{108}\text{Tc}(5.17 \text{ s})$	242.25(82), 465.6(14.3), 707.81(11.4)
1118 1 0.0032 8		$^{128}\text{Cs}(3.66 \text{ m})$	442.901(26.8), 526.557(2.41), 1140.079(1.168)
1118.0 5 †12 6		$^{131}\text{Nd}(27 \text{ s})$	87.8(†100), 174.42(†34), 164.09(†25)
1118 †0.07 1		$^{136}\text{Pm}(107 \text{ s})$	373.8(†100), 602.7(†38.4), 857.2(†23.4)
1118.0 1 0.013 3		$^{141}\text{Pm}(20.90 \text{ m})$	1223.26(4.74), 886.22(2.44), 193.68(1.61)
• 1118.0 5		$^{146}\text{Eu}(4.59 \text{ d})$	747.2(98), 633.03(43), 634.07(37)
1118.0 6 †5.9 10		$^{182}\text{Ir}(15 \text{ m})$	273.23(†100), 126.79(†77), 236.3(†21.0)
1118.1 5 3.3 3		$^{70}\text{As}(52.6 \text{ m})$	1039.20(81), 1114.1(21.8), 668.3(21.8)
1118.1 1 1.10 17		$^{107}\text{Tc}(21.2 \text{ s})$	102.70(21.0), 177.00(9.2), 106.31(7.6)
1118.174 180.0250 17		$^{173}\text{Hf}(23.6 \text{ h})$	123.672(83), 296.974(33.9), 139.634(12.7)
1118.2 5 0.36 5		$^{85}\text{Zr}(7.86 \text{ m})$	454.20(45), 416.3(27.0), 1198.4(4.8)
1118.2 3 0.059 10		$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1118.2 3 0.015 15		$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1118.2 3 0.082 24		$^{153}\text{Dy}(6.4 \text{ h})$	80.723(11.10), 213.754(10.90), 99.659(10.51)
1118.2 3 0.176 20		$^{238}\text{Am}(98 \text{ m})$	962.77(28), 918.69(23.0), 561.11(10.9)
• 1118.2 3 $1.7 \times 10^{-7}$ 12 <sup>242</sup>		$^{242}\text{Cm}(162.8 \text{ d})$	44.08(0.0325), 101.90(0.0025), 157.42(0.0014)
• 1118.233 160.109 14		$^{154}\text{Eu}(8.593 \text{ y})$	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1118.233 160.53 12		$^{154}\text{Tb}(9.4 \text{ h})$	123.071(30), 247.925(22.1), 540.18(20)
1118.233 162.41 21		$^{154}\text{Tb}(21.5 \text{ h})$	123.071(26), 1274.436(10.5), 2187.10(9.9)
1118.25 8 0.41 4		$^{207}\text{At}(1.80 \text{ h})$	814.41(44.5), 588.33(19.2), 300.654(12.8)
1118.4 10 0.20 4		$^{99}\text{Rh}(4.7 \text{ h})$	340.71(70), 617.8(12.0), 1261.2(11)
1118.4 5 0.8 2		$^{175}\text{Ta}(10.5 \text{ h})$	207.4(14.0), 348.5(12.0), 266.9(10.8)
1118.4 8 †179 36		$^{177}\text{Re}(14 \text{ m})$	196.85(†1200), 79.65(†1010), 84.3(†890)
1118.44 10 0.63 8		$^{194}\text{Pb}(12.0 \text{ m})$	581.82(18.8), 1519.45(16.4), 203.82(16.2)
• 1118.54 10 0.051 4		$^{153}\text{Tb}(2.34 \text{ d})$	212.038(31.0), 170.504(6.8), 109.758(6.4)
1118.6 5 0.11 4		$^{142}\text{Cs}(1.70 \text{ s})$	359.598(27.2), 1326.46(12.92), 966.89(9.0)
1118.6 6 0.044 6		$^{228}\text{Pa}(22 \text{ h})$	911.205(4.19), 463.005(1.250), 964.770(4.25)
1118.69 5 39.0 9		$^{90}\text{Kr}(32.32 \text{ s})$	121.82(35.5), 539.49(30.8), 242.19(9.9)
1118.7 3 0.24 6		$^{92}\text{Ru}(3.65 \text{ m})$	213.81(96), 259.32(92), 134.57(65.5)
• 1118.77 13 0.0082 14		$^{165}\text{Tm}(30.06 \text{ h})$	242.917(35.5), 47.155(16.9), 297.369(12.71)
1118.8 10 †4.2 8		$^{181}\text{Os}(2.7 \text{ m})$	144.99(†100), 118.03(†28.3), 1468.0(†1.3)
1118.818 180.153 5		$^{183}\text{Os}(13.0 \text{ h})$	381.768(89.6), 114.463(20.63), 167.844(8.81)
1118.82 7 1.14 6		$^{148}\text{Ba}(0.607 \text{ s})$	56.08(29.20), 133.53(3.88), 415.78(3.59)
1118.84 17 †64 9		$^{193}\text{Hg}(3.80 \text{ h})$	861.11(†100), 789.21(†36), 580.97(†32)
1118.88 88 †4 3		$^{164}\text{Tm}(2.0 \text{ m})$	91.40(†1500), 1154.66(†366), 768.91(†279)
• 1118.9 4 0.13 4		$^{194}\text{Au}(38.02 \text{ h})$	328.455(60), 293.545(10.2), 1468.91(6.3)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1118.9 5	0.040 10	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1119	>0.16	<sup>99</sup> Sr(0.269 s)	125.118(16.1), 536.12(14.0), 1198.12(9.2)
1119.0 3	0.54 24	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
1119.0 6	1.11 8	<sup>170</sup> Ta(6.76 m)	100.8(21.0), 221.2(15.7), 860.4(7.39)
1119 1	0.32	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1119 1	0.051 21	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
• 1119.0 10	$8.0 \times 10^{-6}$ 8	<sup>233</sup> U( $1.592 \times 10^5$ y)	2.44(0.0862), 97.134(0.020), 54.699(0.0182)
1119.02 8	0.212 17	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1119.1 4	0.141 25	<sup>84</sup> Br(31.80 m)	881.610(42), 1897.761(14.7), 3927.5(6.8)
1119.1 3	0.53 11	<sup>117</sup> Ag(72.8 s)	135.4(23), 337.7(10.3), 157.1(7.9)
1119.2 4	3.16 15	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
1119.33 6	0.107 6	<sup>137</sup> Xe(3.818 m)	455.490(31), 848.95(0.62), 1783.43(0.415)
1119.4 3	0.45 7	<sup>101</sup> Sr(118 ms)	128.34(18.0), 1124.82(10.9), 510.73(8.5)
1119.4 1	0.61 6	<sup>104</sup> Tc(18.3 m)	358.0(89), 530.5(15.6), 535.1(14.7)
• 1119.40 20	0.179 5	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1119.4 1	0.062 7	<sup>213</sup> Bi(45.59 m)	440.46(26.1), 292.80(0.429), 807.36(0.292)
1119.5	0.13	<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1119.6 7	0.38 10	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1119.6 3	0.110 17	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
1119.6 4	†5 2	<sup>114</sup> Te(15.2 m)	90.28(†100), 83.8(†67), 1417.6(†32)
1119.6 5	0.24	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
1119.6 3	0.14 3	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1119.68	0.017 12	<sup>44</sup> K(22.13 m)	1157.031(58), 2150.76(22.7), 2518.95(9.69)
1119.69 6	2.18 22	<sup>71</sup> Zn(2.45 m)	511.56(32), 910.27(7.8), 389.88(3.8)
1119.7 5	1.68 20	<sup>84</sup> Y(40 m)	793.3(99), 974.6(75), 1040.2(56)
1119.70 20	0.061 9	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1119.7 5	†2	<sup>131</sup> Ce(10.3 m)	169.42(†100), 414.25(†68), 119.18(†44)
1119.7 2	0.55 3	<sup>177</sup> Yb(1.911 h)	150.392(20.3), 1080.21(5.6), 1241.2(3.47)
• 1119.780 130.245 14		<sup>172</sup> Tm(63.6 h)	78.7435(6.5), 1093.657(6.0), 1387.093(5.6)
1119.8 2	0.46 6	<sup>75</sup> Zn(10.2 s)	228.67(28.9), 432.29(20.2), 155.94(17.2)
1119.9	0.11	<sup>43</sup> Ar(5.37 m)	975.0(34), 738.1(15), 1439.5(13)
1119.9 2	0.074 25	<sup>129</sup> La(11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
1119.9 2	0.58 13	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
1120.0 4	0.073 21	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1120.0 3	0.19 4	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1120.0	0.11	<sup>95</sup> Sr(23.90 s)	685.6(23), 2717.3(4.6), 2933.1(4.1)
1120.0 10	0.024 4	<sup>107</sup> Rh(21.7 m)	302.77(66), 392.47(8.8), 312.21(4.8)
1120.0 3	>0.26	<sup>117</sup> Cd(3.36 h)	1997.33(26), 1065.98(23.1), 564.397(14.7)
1120.0 4	0.23 8	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
• 1120	0.026 9	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
• 1120		<sup>210</sup> Bi( $3.04 \times 10^6$ y)	265.832(50), 304.896(28), 649.42(3.8)
1120.05 7	0.24 4	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
1120.1 3	0.14 4	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
1120.1 3	0.12 2	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
1120.1 4	0.7	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1120.11 5	0.075 10	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1120.14 5	0.0232 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
1120.15 9	0.94 5	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
1120.19 15	0.072 9	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1120.2 1	1.86 16	<sup>130</sup> La(8.7 m)	357.4(81.0), 550.7(25.9), 908.0(17.0)
1120.2 5	0.057 11	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1120.2 5	0.14 4	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
1120.287 1014.80 20		<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1238.110(5.86)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1120.3 15	>0.32	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
• 1120.3 4	0.011 1	<sup>240</sup> Am(50.8 h)	987.76(73.2), 888.80(25.1), 98.860(1.5)
• 1120.33 2	0.246 7	<sup>166</sup> Ho(1.20×10 <sup>3</sup> y)	84.410(72.6), 810.276(58.08), 711.683(55.32)
• 1120.387 9	0.183 5	<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
1120.4 2	0.07	<sup>111</sup> Pd(23.4 m)	580.00(0.8), 70.44(0.78), 1459.0(0.56)
1120.4 6	0.06	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1120.4 6	0.105 20	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
1120.41 8	0.95	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1120.42 25	0.028 17	<sup>66</sup> Ge(2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
1120.42 10	0.11 7	<sup>205</sup> Po(1.66 h)	872.39(37), 1001.21(28.8), 849.83(25.5)
1120.5 4	0.83 9	<sup>104</sup> Ag(69.2 m)	555.796(92.6), 767.72(65.7), 941.7(25.0)
1120.53	0.036 8	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
• 1120.545 4	99.987 1	<sup>46</sup> Sc(83.79 d)	889.277(99.984), 2010(0.000013)
1120.6 10	†1.8 7	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
1120.6 8	†1.70×10 <sup>3</sup>	<sup>234</sup> Pa(1.17 m)	1001.03(†837000), 766.38(†294000), 742.81(†80000)
1120.8 3	0.33 9	<sup>76</sup> Rb(39.1 s)	2571.3(47), 424.0(43.4), 355.6(8.2)
1120.8 2	0.183 17	<sup>94</sup> Rb(2.702 s)	1309.1(87), 836.9(87.10), 1577.5(31.8)
1120.8 8	0.088 14	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
1120.8 5	0.025 6	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1120.833 240.0008 3		<sup>179</sup> Lu(4.59 h)	214.335(11.3), 214.930(0.46), 123.3790(0.45)
1120.89 10	0.054 5	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
1120.92 10	0.0042 3	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1120.95 13	0.49 13	<sup>186</sup> Ir(16.64 h)	296.911(64.0), 137.155(42), 434.849(34.4)
1121 1	0.32	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1121.00 7	1.50 8	<sup>199</sup> Pb(90 m)	366.90(44.2), 353.39(9.5), 1135.04(7.8)
1121.1 2	0.069 17	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
1121.1 1	0.67 7	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1121.1 4	0.14 3	<sup>198</sup> Tl(5.3 h)	411.8044(82), 675.8874(11), 636.4(10.1)
1121.1 7	0.46 4	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
1121.1 5	0.23 9	<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
1121.124 5 99.5 9		<sup>50</sup> Sc(102.5 s)	1553.768(100), 523.792(88.7), 2205.722(1.27)
1121.2 5	0.51	<sup>121</sup> In(3.88 m)	60.34(20), 1041.1(1.12), 1100.7(0.92)
1121.2 6	0.047	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1121.29 19	0.157 10	<sup>115</sup> Sb(32.1 m)	497.358(98), 489.27(1.3), 1236.52(0.58)
1121.30 10	0.20 4	<sup>119</sup> Te(16.03 h)	644.01(84), 699.85(10.1), 1749.65(3.95)
• 1121.3007 534.9 1		<sup>182</sup> Ta(114.43 d)	67.75001(41.2), 1221.4066(26.98), 1189.0503(16.23)
1121.3007 532		<sup>182</sup> Re(12.7 h)	67.75001(38.2), 1221.4066(24.8), 1189.0503(15.0)
• 1121.3007 522.0 6		<sup>182</sup> Re(64.0 h)	229.3220(26), 67.75001(22.2), 1221.4066(17.4)
1121.4 10	0.043 22	<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
1121.4 6	>1.0	<sup>176</sup> Tm(1.9 m)	189.57(44.5), 1069.3(34), 381.8(21.8)
• 1121.434 160.0352 25		<sup>184</sup> Re(38.0 d)	903.279(37.9), 792.071(37.5), 111.208(17.1)
1121.5 2	0.10 3	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1121.5 6	†1.05 15	<sup>182</sup> Ir(15 m)	273.23(†100), 126.79(†77), 236.3(†21.0)
1121.6 3	0.09 5	<sup>96</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1121.60 18	0.7	<sup>106</sup> Rh(131 m)	511.842(85), 1045.83(30.4), 717.24(28.9)
• 1121.60 18	0.57 6	<sup>106</sup> Ag(8.28 d)	511.842(88), 1045.83(29.6), 717.24(28.9)
1121.6 3	1.19 18	<sup>190</sup> Tl(3.7 m)	416.4(91), 625.4(82), 731.1(37)
1121.66 10	2.1 3	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1121.68 3	61.2 23	<sup>122</sup> In(10.8 s)	1140.55(100), 1001.58(98.4), 103.74(81)
1121.7	0.31 6	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1121.7 1	0.25 3	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1121.8 3	0.82 11	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1121.9 5	0.0681 10	$^{114}\text{Sb}(3.49 \text{ m})$	1299.90(99), 887.60(17.4), 327.18(7.0)
1121.9 3	1.24 15	$^{121}\text{Cd}(13.5 \text{ s})$	324.976(49.5), 1040.26(16.8), 349.937(12.9)
1121.9 2	$\dagger 1.2 2$	$^{172}\text{Ir}(2.0 \text{ s})$	227.8( $\dagger 100.0$ ), 378.4( $\dagger 62.0$ ), 448.4( $\dagger 40.5$ )
1121.9 3	0.43 6	$^{186}\text{Au}(10.7 \text{ m})$	191.56(62), 298.67(25.4), 764.89(10.5)
• 1121.91 13	0.0209 22	$^{148}\text{Eu}(54.5 \text{ d})$	550.284(98.5), 629.987(71.9), 611.293(20.5)
1122.00 12	0.166 20	$^{165}\text{Yb}(9.9 \text{ m})$	80.11(49), 68.86(9.1), 1090.28(4.4)
1122 3	0.0021 8	$^{185}\text{Ta}(49.4 \text{ m})$	177.59(25.7), 173.68(22.6), 65.86(3.9)
1122.07	11.9 20	$^{40}\text{Sc}(182.3 \text{ ms})$	3736.50(100), 754.73(41), 2044.65(25.4)
1122.08 10	0.288 24	$^{89}\text{Br}(4.40 \text{ s})$	1097.82(6.00), 997.93(4.26), 953.53(4.26)
1122.09 12	3.34 6	$^{156}\text{Ho}(56 \text{ m})$	266.35(54.7), 137.83(51), 366.25(10.73)
1122.1 6		$^{144}\text{Cs}(1.01 \text{ s})$	199.326( $\dagger 100.0$ ), 639.00( $\dagger 21.2$ ), 758.96( $\dagger 20.6$ )
1122.1 1	$\dagger 0.45 9$	$^{160}\text{Ho}(5.02 \text{ h})$	728.18( $\dagger 100$ ), 879.383( $\dagger 65.9$ ), 962.317( $\dagger 59.1$ )
1122.15 4	0.253 11	$^{130}\text{I}(12.36 \text{ h})$	536.09(99), 668.54(96), 739.48(82)
1122.15 4	0.168 6	$^{130}\text{I}(9.0 \text{ m})$	536.09(16), 586.05(1.07), 1614.10(0.447)
1122.15 4	0.073 15	$^{130}\text{Cs}(29.21 \text{ m})$	536.09(3.8), 586.05(0.47), 894.5(0.39)
1122.20 10	1.67 17	$^{106}\text{Tc}(35.6 \text{ s})$	270.07(56), 2239.30(13.6), 1969.40(8.9)
1122.2 4	0.16 4	$^{121}\text{Xe}(40.1 \text{ m})$	252.7(13), 132.8(10.9), 445.2(7.7)
1122.2 2	$\dagger 5.18 12$	$^{129}\text{Ba}(2.17 \text{ h})$	182.30( $\dagger 100$ ), 1459.1( $\dagger 50.0$ ), 202.38( $\dagger 33.7$ )
• 1122.21 7	0.154 19	$^{169}\text{Lu}(34.06 \text{ h})$	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1122.3 3	0.28	$^{111}\text{Sb}(75 \text{ s})$	154.48(71), 489.1(42), 1032.6(10.0)
1122.32 10	0.18 5	$^{98}\text{Nb}(51.3 \text{ m})$	787.374(93), 722.645(73.8), 1168.830(17.8)
1122.38 8	4.06 20	$^{166}\text{Lu}(2.65 \text{ m})$	228.12(77.3), 337.50(41), 367.95(31.4)
1122.47 15	$\dagger 4.8 10$	$^{189}\text{Hg}(7.6 \text{ m})$	320.99( $\dagger 100$ ), 78.21( $\dagger 63$ ), 565.42( $\dagger 48$ )
1122.48 6	3.95 20	$^{93}\text{Sr}(7.423 \text{ m})$	590.238(67), 875.73(24.1), 888.13(21.8)
1122.5 3	5.8 9	$^{114}\text{Rh}(1.85 \text{ s})$	332.9(87), 519.8(48.4), 618.7(31)
1122.5 3	0.34 7	$^{119}\text{Cd}(2.69 \text{ m})$	292.9(36.8), 343.0(16.9), 1609.7(10.9)
• 1122.5 3	0.0157 5	$^{170}\text{Lu}(2.00 \text{ d})$	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1122.53 7	0.27 4	$^{153}\text{Dy}(6.4 \text{ h})$	80.723(11.10), 213.754(10.90), 99.659(10.51)
1122.63 3	4.54 9	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1122.64 6	0.099 5	$^{246}\text{Am}(25.0 \text{ m})$	1078.86(27.7), 798.80(25), 1062.04(17.1)
• 1122.64 6	0.4	$^{246}\text{Bk}(1.80 \text{ d})$	798.80(61), 1081.40(5.8), 833.60(5.0)
1122.73 8	0.35 2	$^{143}\text{La}(14.2 \text{ m})$	620.3(2.34), 643.75(1.55), 621.4(1.52)
1122.8 5	0.16 8	$^{140}\text{Xe}(13.60 \text{ s})$	805.52(20), 1413.66(12.2), 1315.05(8.2)
1122.80 9	0.103 16	$^{176}\text{Ta}(8.09 \text{ h})$	1159.28(25), 88.34(12), 1224.93(6)
1122.80 10	1.102 17	$^{192}\text{Au}(4.94 \text{ h})$	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1122.8 3	0.0007	$^{239}\text{U}(23.45 \text{ m})$	74.664(48), 43.533(4.14), 662.24(0.18)
• 1122.855 150.336 10		$^{150}\text{Eu}(35.8 \text{ y})$	333.971(96), 439.401(80.4), 584.274(52.6)
1122.9 1	0.392 16	$^{142}\text{Ba}(10.6 \text{ m})$	255.300(20.5), 1204.3(14.23), 895.2(13.9)
• 1122.9 1	0.90 5	$^{147}\text{Gd}(38.06 \text{ h})$	229.32(63), 396.00(34.3), 929.01(20.2)
1123 1	$\dagger < 5$	$^{238}\text{Pa}(2.3 \text{ m})$	1015.3( $\dagger < 100$ ), 1014.6( $\dagger < 100$ ), 635.18( $\dagger 88$ )
1123.09 16	5.7 4	$^{154}\text{Tb}(21.5 \text{ h})$	123.071(26), 1274.436(10.5), 2187.10(9.9)
1123.1 5	1.34 5	$^{45}\text{Ar}(21.48 \text{ s})$	1020.04(34.0), 3703.2(33.3), 61.35(25.0)
1123.1 4	0.10 3	$^{167}\text{Lu}(51.5 \text{ m})$	29.66(14.4), 239.22(8.6), 213.19(3.6)
1123.1 2	$\dagger < 5$	$^{238}\text{Pa}(2.3 \text{ m})$	1015.3( $\dagger < 100$ ), 1014.6( $\dagger < 100$ ), 635.18( $\dagger 88$ )
1123.1 2	0.26 5	$^{242}\text{Np}(2.2 \text{ m})$	735.93(5), 780.44(2.76), 1473.1(2.34)
1123.13 15	0.39 5	$^{128}\text{In}(0.84 \text{ s})$	1168.80(40), 935.20(6.5), 1089.53(6.0)
1123.13 15	1.2 2	$^{128}\text{In}(0.72 \text{ s})$	831.54(100), 1168.80(100), 120.54(11.1)
1123.3 5	$\dagger 2.0 5$	$^{152}\text{Tb}(17.5 \text{ h})$	344.281( $\dagger 1500$ ), 586.294( $\dagger 223$ ), 271.135( $\dagger 203$ )
1123.34 14	1.78 8	$^{85}\text{Y}(4.86 \text{ h})$	231.67(22.8), 2123.8(5.0), 767.40(3.6)
1123.37 15	0.50 4	$^{90}\text{Br}(1.92 \text{ s})$	707.05(38.0), 1362.32(11.2), 655.17(7.7)
1123.4 10	1.5 4	$^{164}\text{Tb}(3.0 \text{ m})$	168.838(25.4), 754.80(23.3), 215.07(21)
1123.44 5	0.44 4	$^{146}\text{La}(6.27 \text{ s})$	258.47(64), 924.58(7.45), 702.28(6.43)
1123.47 8	0.0150 23	$^{149}\text{Nd}(1.728 \text{ h})$	211.309(25.9), 114.314(19.2), 270.166(10.7)
1123.5 6	0.9 4	$^{122}\text{Cs}(4.5 \text{ m})$	331.1(94), 497.1(79), 638.5(63)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1123.5 5	0.030 15	$^{151}\text{Nd}$ (12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1123.6 7	0.0007 5	$^{82}\text{Rb}$ (1.273 m)	776.517(13), 1395.139(0.471), 698.374(0.133)
1123.6 2	9.2 6	$^{131}\text{Sb}$ (23.03 m)	943.4(47), 933.1(26.1), 642.30(23)
1123.6 5	0.39 4	$^{137}\text{Pm}$ (2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
1123.62 21	0.50	$^{186}\text{Ta}$ (10.5 m)	197.93(50), 214.87(42.3), 510.82(37.5)
1123.7 12	0.17 17	$^{105}\text{In}$ (5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1123.72 7	0.111 11	$^{63}\text{Zn}$ (38.47 m)	669.62(8), 962.06(6.5), 1412.08(0.75)
• 1123.74 8	0.0030 5	$^{71}\text{As}$ (65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1123.80 15	0.020 4	$^{189}\text{Pt}$ (10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
• 1123.8 3	0.032 7	$^{190}\text{Ir}$ (11.78 d)	186.718(52.4), 605.24(39.9), 518.55(34.0)
1123.83 30	0.194 6	$^{77}\text{Rb}$ (3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
1123.87 50	0.032	$^{137}\text{I}$ (24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
1123.9 3	0.06 4	$^{133}\text{Te}$ (12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
1123.90 16		$^{154}\text{Tb}$ (9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1123.90 16	0.4 4	$^{154}\text{Tb}$ (21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
1123.9 1	1.59 16	$^{203}\text{Po}$ (36.7 m)	908.64(55), 1090.95(19.2), 893.49(18.7)
1123.93	0.30	$^{203}\text{Bi}$ (11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1124 1	1.40 16	$^{51}\text{Sc}$ (12.4 s)	1437.3(52), 2144.1(31.8), 1567.5(14.9)
1124.0 5	0.0011 8	$^{96}\text{Tc}$ (51.5 m)	778.224(1.9), 1200.231(1.08), 480.705(0.311)
1124 1	2.1 7	$^{98}\text{Cd}$ (9.2 s)	347.18(78), 1176.1(66.3), 107.28(43.7)
1124.00 3	3.64 3	$^{135}\text{I}$ (6.57 h)	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
1124.0 17	0.36 4	$^{151}\text{Dy}$ (17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1124 4	0.046 23	$^{193}\text{Au}$ (17.65 h)	186.17(10.1), 255.57(6.7), 268.22(3.9)
1124.1 7	0.15 4	$^{103}\text{Cd}$ (7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
• 1124.2	0.0069 10	$^{154}\text{Eu}$ (8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1124.24 20	0.123 15	$^{163}\text{Yb}$ (11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1124.29 4	0.259 10	$^{246}\text{Am}$ (25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
• 1124.29 4	4.4	$^{246}\text{Bk}$ (1.80 d)	798.80(61), 1081.40(5.8), 833.60(5.0)
1124.4 5	0.23 6	$^{99}\text{Pd}$ (21.4 m)	136.00(73), 263.60(15.2), 673.38(6.9)
1124.5 6	0.009 5	$^{79}\text{Rb}$ (22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
1124.5 2	†2	$^{139}\text{I}$ (2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
1124.5 7	0.14 4	$^{175}\text{Ta}$ (10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1124.6 1	†0.32 9	$^{158}\text{Ho}$ (11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1124.6 4	0.175 21	$^{187}\text{Au}$ (8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
• 1124.65 30	0.0381 13	$^{170}\text{Lu}$ (2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1124.73 8	0.094 9	$^{105}\text{Cd}$ (55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1124.77 10	1.85 20	$^{206}\text{At}$ (30.0 m)	700.66(98), 477.10(86), 395.54(48)
1124.82 11	10.9 5	$^{101}\text{Sr}$ (118 ms)	128.34(18.0), 510.73(8.5), 1211.28(6.1)
1124.9 3	1.0 3	$^{104}\text{In}$ (1.8 m)	658.0(100), 834.1(99), 878.1(29.4)
1124.9 5	0.55 10	$^{128}\text{La}$ (5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1124.9 3	1.0 4	$^{152}\text{Ho}$ (49.5 s)	647.2(92), 613.8(88.4), 683.3(88)
1124.9 5	1.18 6	$^{162}\text{Ho}$ (67.0 m)	185.005(28.6), 1220.0(22.5), 282.864(11.3)
1124.9 2	0.0103 24	$^{201}\text{Pb}$ (9.33 h)	331.19(79), 361.27(9.9), 945.96(7.4)
1124.9 2	0.027 3	$^{251}\text{Fm}$ (5.30 h)	880.8(2.19), 453.1(1.45), 405.6(0.99)
1124.99 5	0.118 3	$^{77}\text{Ge}$ (11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
1125 1	35.2 19	$^{97}\text{Y}$ (1.17 s)	1103.0(92.6), 161.4(71.8), 1091(56)
1125.0 3	0.42 8	$^{101}\text{Ag}$ (11.1 m)	261.0(53), 588.0(10.0), 667.3(9.8)
1125.0 6	0.059 11	$^{137}\text{Pr}$ (1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
1125.0 2	†0.45 9	$^{160}\text{Ho}$ (5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1125.0 2	0.21 4	$^{160}\text{Ho}$ (25.6 m)	728.18(46.9), 879.383(26.6), 962.317(25.6)
1125 1	0.42 11	$^{164}\text{Tb}$ (3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1125.1 3	5.3 6	$^{72}\text{Br}$ (78.6 s)	862.03(70), 1316.70(17.3), 454.70(13.1)
1125.10 6	0.45 6	$^{117}\text{Cd}$ (2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
1125.1 20	0.055 10	$^{208}\text{Rn}$ (24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1125.2 6	0.11 3	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
1125.2 3	0.14 4	<sup>188</sup> Hg(3.25 m)	66.7(63), 190.1(4.40), 82.7(2.6)
1125.20 8	2.30 8	<sup>202</sup> Au(28.8 s)	439.59(10.0), 1306.38(2.25), 1203.7(2.01)
1125.2 1	0.36 7	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
• 1125.22 4	0.106 5	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1125.28 14	0.040 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1125.3 5	0.43 11	<sup>123</sup> Cs(5.94 m)	97.3(23), 596.7(10.1), 83.3(4.1)
1125.3 3	25.0 25	<sup>183</sup> Lu(58 s)	1056.8(16.5), 168.1(7.5), 248.4(5.0)
1125.32 5	0.030 4	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
1125.4 10	0.107 22	<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
1125.4 2	†100 15	<sup>134</sup> Pr(11 m)	293.5(†100), 299.0(†100), 1196.8(†100)
1125.4 5	0.030 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1125.45 9	0.14	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
• 1125.46 4	14.9 3	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
• 1125.48 17	0.213 10	<sup>232</sup> Pa(1.31 d)	969.315(41.6), 894.351(19.8), 150.059(10.8)
1125.48 17	1.46 16	<sup>232</sup> Np(14.7 m)	327.3(52), 819.187(33.3), 866.760(24.4)
1125.5 6	0.0033 12	<sup>73</sup> Se(39.8 m)	67.03(2.59), 253.70(2.356), 84.0(2.03)
1125.5	0.07	<sup>83</sup> As(13.4 s)	734.60(43), 1113.10(14.7), 2076.70(11.9)
• 1125.5 5	0.11 6	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1125.5 3	0.22 4	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
• 1125.55 30	0.0165 24	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1125.69 18	†23.5 20	<sup>159</sup> Yb(1.58 m)	166.16(†500), 177.12(†159), 390.20(†113)
• 1125.7 6	0.014 4	<sup>105</sup> Ag(41.29 d)	344.520(41), 280.41(30.2), 644.55(11.1)
1125.700 230.0153 5		<sup>110</sup> Ag(24.6 s)	657.7622(4.5), 815.35(0.0382), 818.031(0.0090)
• 1125.700 230.036 8		<sup>110</sup> Ag(249.79 d)	657.7622(94.0), 884.685(72.2), 937.493(34.13)
1125.700 231.02 5		<sup>110</sup> In(69.1 m)	657.7622(98), 2129.53(2.13), 2211.49(1.76)
1125.700 230.20 10		<sup>110</sup> In(4.9 h)	657.7622(98.3), 884.685(92.9), 937.493(68.4)
1125.7	1.15	<sup>149</sup> Ho(21.1 s)	1090.7(74.8), 1073.2(6.37), 1583.6(4.48)
1125.7 4	0.0050 20	<sup>208</sup> Tl(3.053 m)	2614.533(99), 583.191(84.5), 510.77(22.6)
1125.7 5	†3.5×10 <sup>3</sup> 6	<sup>234</sup> Pa(1.17 m)	1001.03(†837000), 766.38(†294000), 742.81(†80000)
1125.8 2	0.31 6	<sup>100</sup> Nb(1.5 s)	535.60(45.7), 528.24(9.1), 159.547(8.8)
1125.8 2	†19.6 14	<sup>195</sup> Bi(183 s)	807.6(†100), 831.7(†100), 776.2(†95)
1125.90 20	0.176 17	<sup>112</sup> Ag(3.130 h)	617.27(43), 1387.67(5.4), 606.49(3.1)
• 1125.97 16	0.0027 5	<sup>131</sup> Ba(11.50 d)	496.326(47), 123.805(28.97), 216.078(19.66)
1126.0 1	0.09 1	<sup>107</sup> Tc(21.2 s)	102.70(21.0), 177.00(9.2), 106.31(7.6)
1126.08	7.60 12	<sup>44</sup> K(22.13 m)	1157.031(58), 2150.76(22.7), 2518.95(9.69)
• 1126.08	1.2	<sup>44</sup> Sc(58.6 h)	1001.85(1.2), 1157.031(1.2)
1126.1 3	0.203 20	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
1126.10 20	0.69 20	<sup>102</sup> Nb(4.3 s)	296.611(79), 1633.10(41), 551.54(30)
1126.1 4	1.40 12	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1126.1 1	0.061 3	<sup>113</sup> Ag(5.37 h)	298.58(10), 258.8(1.64), 316.3(1.343)
1126.1 3	0.29 3	<sup>139</sup> Pm(4.15 m)	402.8(15), 463.1(4.1), 367.8(3.52)
1126.16	0.0062 18	<sup>33</sup> Cl(2.511 s)	840.989(0.524), 1967.12(0.458), 2867.59(0.440)
1126.3 3	0.067 12	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
1126.3 5	0.229 22	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1126.3 3	0.00063 15	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1126.34 12	0.163 20	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
1126.4 2	†2.64 16	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
1126.48 16	†1.9 4	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1126.5 4	0.049 20	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
1126.5 8	0.50 4	<sup>170</sup> Ta(6.76 m)	100.8(21.0), 221.2(15.7), 860.4(7.39)
1126.6 8	0.8 4	<sup>122</sup> Cs(4.5 m)	331.1(94), 497.1(79), 638.5(63)
1126.6 4	0.35 9	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1126.62 10	0.53 3	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1126.7 5	0.13 3	<sup>121</sup> Ag(0.78 s)	314.55(32.1), 353.43(19.9), 500.61(9.3)
1126.7 8	†5.5 8	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
1126.7 1	22.1 14	<sup>211</sup> Rn(14.6 h)	674.1(45), 1362.9(32.5), 678.4(28.9)
1126.78 15	0.085 10	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1126.8 2	0.8	<sup>141</sup> Nd(2.49 h)	1292.6(0.46), 1147.2(0.306), 145.4405(0.239)
1126.8 1	1.50 12	<sup>142</sup> Ba(10.6 m)	255.300(20.5), 1204.3(14.23), 895.2(13.9)
1126.8 3	0.37	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1126.80 25	0.16 3	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1126.8 1	0.30 3	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1126.8 1	†5.3×10 <sup>2</sup>	<sup>234</sup> Pa(1.17 m)	1001.03(†837000), 766.38(†294000), 742.81(†80000)
1126.807 250.0718 21		<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1126.9 3	0.40 11	<sup>139</sup> Sm(2.57 m)	273.7(37), 306.7(28.5), 596.3(8.0)
1126.96 14	0.060 4	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1126.965 210.424 19		<sup>96</sup> Nb(23.35 h)	778.224(96.45), 568.80(58.0), 459.88(26.62)
• 1126.965 2115.2 12		<sup>96</sup> Tc(4.28 d)	778.224(100), 849.929(98), 812.581(82)
1127.0 8	0.34 8	<sup>121</sup> Cd(8.3 s)	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
1127.0 2	0.11 3	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
1127.01 12	1.46 3	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
• 1127.1 6		<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1127.1 3	0.48 11	<sup>186</sup> Ir(2.0 h)	137.155(27), 767.508(21.2), 630.354(18.0)
1127.11 7	0.207 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1127.3 5	0.12 4	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
1127.32 10	1.2	<sup>118</sup> Ag(3.76 s)	487.77(60), 677.13(11.9), 2788.7(11.8)
1127.44 11	0.32 5	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
1127.5 4	†1.57 9	<sup>102</sup> Tc(4.35 m)	475.070(†115), 628.05(†35.3), 631.28(†21.3)
1127.5 2	0.25 3	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
1127.59 10	0.17	<sup>137</sup> I(24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
• 1127.69 4	0.084 3	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1127.7 2	0.140 16	<sup>224</sup> Fr(3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
1127.8	0.43	<sup>83</sup> As(13.4 s)	734.60(43), 1113.10(14.7), 2076.70(11.9)
1127.8 3	0.066 25	<sup>152</sup> Pm(4.1 m)	121.7824(15.7), 841.586(2.17), 961.06(1.92)
1127.81 52	†0.8 3	<sup>165</sup> Lu(10.74 m)	132.49(†100), 120.60(†100), 174.25(†47.0)
1127.81 8	0.59 5	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1127.9	0.14	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
1127.9 3	0.13 5	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
• 1127.96 6	1.26 10	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
1128.0 3	0.31 9	<sup>104</sup> Tc(18.3 m)	358.0(89), 530.5(15.6), 535.1(14.7)
1128.00 6	0.404 6	<sup>106</sup> Rh(29.80 s)	511.842(20), 621.94(9.93), 1050.39(1.56)
1128.00 6	13.7 9	<sup>106</sup> Rh(131 m)	511.842(85), 1045.83(30.4), 717.24(28.9)
1128.00 6	0.0721 25	<sup>106</sup> Ag(23.96 m)	511.842(17.0), 621.94(0.316), 873.48(0.199)
• 1128.00 6	11.8 5	<sup>106</sup> Ag(8.28 d)	511.842(88), 1045.83(29.6), 717.24(28.9)
1128.0 2	0.24 4	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1128.1 3	5.4 8	<sup>52</sup> Sc(8.2 s)	1049.7(98), 1267.9(39), 1032.3(13.7)
1128.1 4	0.164 25	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
• 1128.1 2	0.0436 6	<sup>124</sup> I(4.18 d)	602.730(60), 1690.980(10.41), 722.786(9.98)
1128.1	0.18 3	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1128.2 3	1.41 6	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
1128.2 4	0.18 4	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
1128.28 21	0.53 5	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1128.3 3	†5	<sup>181</sup> Pt(51 s)	289.29(†100), 111.97(†100), 230.15(†92)
• 1128.33 15	0.063 7	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
1128.34 9	0.65 8	<sup>77</sup> Zn(2.08 s)	189.49(28.1), 473.94(19.7), 1832.0(12.4)
1128.4 3	0.52 7	<sup>159</sup> Eu(18.1 m)	67.8(19), 78.6(9.1), 95.7(7.0)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1128.42 7	0.064 3	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1128.44 8	50 6	<sup>129</sup> Sn(6.9 m)	1161.31(56.0), 760.8(16.8), 782.48(15)
1128.5 3	0.31 5	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
1128.52 16	†6.3 8	<sup>83</sup> Ge(1.85 s)	306.51(†100.0), 1193.77(†20.5), 1525.50(†13.6)
• 1128.558 7	0.320 4	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1128.558 7	1.58 12	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1128.558 7	0.18 6	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
1128.56 11	0.0031 8	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
1128.6 3	2.0 3	<sup>89</sup> Nb(1.9 h)	1627.20(3.4), 1833.46(3.16), 3092.7(3.0)
1128.6 8	1.0 4	<sup>121</sup> Cd(13.5 s)	324.976(49.5), 1040.26(16.8), 349.937(12.9)
1128.6 3	0.042 9	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
1128.6	†6.3	<sup>144</sup> Gd(4.5 m)	333.3(†100), 2432.6(†94.8), 629.5(†32.4)
1128.6 8	0.068 14	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
1128.7 4	0.012 4	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1128.74 25	0.027 5	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1128.8 2	0.027 3	<sup>113</sup> Sb(6.67 m)	497.96(80), 332.41(14.8), 88.25(2.7)
1128.8 5	0.011 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1128.8 2	2.37 17	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
1128.89 13	1.03 11	<sup>146</sup> Cs(0.343 s)	181.02(57.0), 557.76(9.18), 332.38(6.44)
1128.895 140.18 4		<sup>174</sup> Tm(5.4 m)	366.526(92), 992.128(87), 272.918(86)
1128.9 1	11.1 13	<sup>62</sup> Co(1.50 m)	1172.9(84), 2301.8(14.7), 1985.13(1.6)
1128.9 1	1.28 17	<sup>62</sup> Co(13.91 m)	1172.9(97), 1163.4(67.3), 2003.48(18.4)
1128.9 1	0.0324 17	<sup>62</sup> Cu(9.74 m)	1172.9(0.34), 875.68(0.150), 2301.8(0.0414)
1128.98 11	0.209 21	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1129.0 2	0.17 6	<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
1129 1	0.171 23	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
1129.118 110.446 19		<sup>180</sup> Re(2.44 m)	902.795(90), 103.557(22.2), 825.357(9.9)
1129.2 4	†100	<sup>107</sup> Sn(2.90 m)	678.5(†100), 1540.6(†30), 1001.3(†29)
1129.2 1	0.078 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1129.2 9	0.287 25	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
1129.224 1592.7 4		<sup>90</sup> Nb(14.60 h)	2318.968(82.03), 141.178(66.8), 2186.242(17.96)
1129.3 4	0.016 4	<sup>131</sup> La(59 m)	108.081(25.0), 417.783(18.0), 365.162(16.9)
1129.3 5	0.014 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1129.3 3	0.22 3	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1129.3 4	†0.48 9	<sup>192</sup> Tl(9.6 m)	422.8(†100), 634.8(†75.9), 786.3(†31.7)
1129.32 9	0.075 15	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
• 1129.37 5	0.0057 8	<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1129.4 3	†2.5 12	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 955.08(†50)
1129.4 3	0.22	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
• 1129.41 10	0.135 6	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
• 1129.41 10	0.169 9	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1129.5 8	2.5	<sup>116</sup> Ag(2.68 m)	513.39(76), 2478.5(12), 699.58(11)
1129.5 4	0.0120 17	<sup>162</sup> Tb(7.60 m)	260.070(37.2), 807.53(42.8), 888.20(38.7)
1129.5 4	0.38 4	<sup>162</sup> Ho(67.0 m)	185.005(28.6), 1220.0(22.5), 282.864(11.3)
1129.6 4	0.8 2	<sup>128</sup> Sb(9.01 h)	753.82(100), 743.22(100), 314.12(61)
1129.6 3	†0.86 24	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1129.65	5.3 3	<sup>26</sup> Na(1.072 s)	1808.63(99.0), 2541.2(2.5), 1895.8(2.2)
• 1129.65	2.4 2	<sup>26</sup> Al(7.4×10 <sup>5</sup> y)	1808.63(99.73), 2938.20(0.27)
1129.65 5	1.6	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1129.7 1	0.0044 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
1129.7 2	0.047	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1129.7 2	0.48 4	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1129.7 5	0.20 9	<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
1129.71 17	0.0120 21	<sup>122</sup> I(3.63 m)	564.119(18), 692.794(1.325), 793.278(1.297)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1129.8 6	0.11 4	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
1129.8 1	0.024 3	<sup>145</sup> Gd(23.0 m)	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
1129.8 3	2.28 9	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1129.8 3	1.1 11	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
• 1129.853 160.126 14		<sup>76</sup> As(26.32 h)	559.101(45), 657.041(6.2), 1216.104(3.42)
1129.853 164.59 22		<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
1129.9 3	98 5	<sup>54</sup> Co(1.48 m)	1408.1(100), 411.4(97)
1129.9 3	1.41 13	<sup>57</sup> Cr(21.1 s)	83.16(8.3), 850.2(8.2), 1752.1(5)
1129.9 1	0.0073 3	<sup>107</sup> Cd(6.50 h)	93.124(1.45), 828.93(0.17), 796.462(0.0665)
1129.9 2	†2	<sup>139</sup> I(2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
1129.9 2	0.168 12	<sup>147</sup> Pr(13.4 m)	77.9921(15), 314.675(13.2), 641.380(10.0)
• 1130 1	0.018 14	<sup>76</sup> As(26.32 h)	559.101(45), 657.041(6.2), 1216.104(3.42)
1130 1		<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
1130.0 3	0.47	<sup>101</sup> Cd(1.2 m)	98.0(47), 1722.5(11), 1259.3(8)
1130.06 10	0.33 3	<sup>164</sup> Tm(5.1 m)	208.08(14.6), 314.97(10), 240.49(7.5)
1130.1 3	0.062 8	<sup>197</sup> Tl(2.84 h)	425.84(12.9), 152.22(7.2), 1411.34(4.5)
1130.12 16	0.191 21	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1130.16 7	†4.37 9	<sup>162</sup> Lu(1.37 m)	166.82(†100), 631.87(†26.6), 798.76(†16.9)
1130.2 3	0.074 20	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1130.2 4	0.015 8	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
1130.2 5	0.050 8	<sup>238</sup> Am(98 m)	962.77(28), 918.69(23.0), 561.11(10.9)
1130.224 232.29 7		<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1130.3 6	†1.25 15	<sup>182</sup> Ir(15 m)	273.23(†100), 126.79(†77), 236.3(†21.0)
1130.3 3	†12.3 13	<sup>193</sup> Tl(21.6 m)	324.37(†100), 1044.7(†59), 676.10(†48)
• 1130.41 15	0.0399 24	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1130.49 21	0.41 7	<sup>101</sup> Sr(118 ms)	128.34(18.0), 1124.82(10.9), 510.73(8.5)
1130.5 6	0.09 6	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
1130.5 2	63 4	<sup>123</sup> In(5.98 s)	1019.7(32), 618.8(2.6), 845.5(1.3)
1130.6 3	1.69 19	<sup>117</sup> Ag(5.34 s)	135.4(48), 386.8(39.9), 298.1(21.1)
1130.6 5	0.47 5	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1130.6 1	†3.5 4	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1130.6 1	1.66 17	<sup>160</sup> Ho(25.6 m)	728.18(46.9), 879.383(26.6), 962.317(25.6)
1130.6 4	3.3 4	<sup>178</sup> Re(13.2 m)	237.3(45), 105.9(23.0), 939.1(8.9)
1130.7 3	0.0131 25	<sup>63</sup> Zn(38.47 m)	669.62(8), 962.06(6.5), 1412.08(0.75)
1130.70 6	0.91 4	<sup>80</sup> Ga(1.697 s)	659.14(78.0), 1083.47(48.4), 1109.36(18.6)
1130.8 4	0.044 11	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1130.89 11	0.00036 9	<sup>135</sup> La(19.5 h)	480.51(1.5), 874.51(0.164), 587.83(0.1108)
• 1130.9 1	6.4 5	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1130.95 10	1.06 11	<sup>148</sup> La(1.05 s)	158.468(55.6), 989.85(9.3), 760.30(8.6)
1131.0 4	0.035 7	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
1131.0 3	0.117 16	<sup>96</sup> Rb(0.199 s)	815.0(78.00), 692.0(8.0), 813.2(7.0)
1131.0 2	0.30 6	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
1131 2	<0.2	<sup>123</sup> In(5.98 s)	1130.5(63), 1019.7(32), 618.8(2.6)
1131.0 6	0.17 4	<sup>135</sup> Pr(24 m)	296.12(24), 82.64(13.7), 213.45(13.0)
1131.0 5	†2.9 5	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
1131.0 2	0.062 5	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
1131.1 3	3.6 9	<sup>140</sup> Gd(15.8 s)	174.8(76), 749.9(70), 379.0(38)
1131.2 2	†6.8 10	<sup>131</sup> Ce(10.3 m)	169.42(†100), 414.25(†68), 119.18(†44)
• 1131.262 281.73 8		<sup>165</sup> Tm(30.06 h)	242.917(35.5), 47.155(16.9), 297.369(12.71)
1131.30 43	†1.6 3	<sup>165</sup> Lu(10.74 m)	132.49(†100), 120.60(†100), 174.25(†47.0)
1131.5 3	0.21 3	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1131.51 20	0.161 22	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1131.511 1822.74 14		<sup>135</sup> I(6.57 h)	1260.409(28.90), 1678.027(9.62), 1457.56(8.73)
1131.52 14	0.87 6	<sup>74</sup> Ga(8.12 m)	595.847(91), 2353.46(44.5), 608.353(14.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1131.56 20	0.042 5	<sup>79</sup> Kr(35.04 h)	261.29(13), 397.54(9.3), 606.09(8.12)
1131.6 2	0.064 18	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1131.62 15	0.031 4	<sup>85</sup> Br(2.90 m)	802.41(2.56), 924.63(1.63), 919.06(0.65)
1131.64 5	68 6	<sup>124</sup> In(3.17 s)	3214.15(21.5), 997.79(21.1), 1470.70(6.0)
1131.64 5	100 8	<sup>124</sup> In(2.4 s)	969.94(52), 1072.85(47), 102.91(45)
1131.65 7	0.79 3	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1131.70 30	0.306 20	<sup>114</sup> Sb(3.49 m)	1299.90(99), 887.60(17.4), 327.18(7.0)
1131.7 3	0.118 20	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1131.7 6	0.73 20	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
1131.7 3	0.23 3	<sup>198</sup> Tl(5.3 h)	411.8044(82), 675.8874(11), 636.4(10.1)
1131.72 6	0.45 4	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1131.8	0.41	<sup>43</sup> Ar(5.37 m)	975.0(34), 738.1(15), 1439.5(13)
1131.872 250.242 6		<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1131.88 7	0.0109 12	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
1131.9 8	0.18 11	<sup>61</sup> Zn(89.1 s)	475.0(16.85), 1660.5(7.80), 970.0(2.57)
1131.9 4	1.3 3	<sup>130</sup> Sb(6.3 m)	839.49(100), 793.53(86), 182.36(41)
1131.9 4	0.09 3	<sup>159</sup> Tm(9.13 m)	38.35(5.8), 84.8(5.8), 271.30(5.1)
1132.0 6	0.143 24	<sup>124</sup> Cs(30.8 s)	353.9(40), 914.8(4.0), 492.6(3.6)
1132.0 6	0.12 5	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1132.0 5	0.076 9	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1132	0.0019 4	<sup>155</sup> Sm(22.3 m)	104.3346(74.6), 245.771(3.7), 141.4428(1.98)
• 1132.05 7	0.12 3	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1132.2 3	0.059 5	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
1132.2 3	1.34 12	<sup>148</sup> Pr(2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
1132.2 5	0.014 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1132.2 3	0.12	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1132.24 8	0.243 15	<sup>92</sup> Y(3.54 h)	934.46(13.9), 1405.28(4.8), 561.03(2.40)
• 1132.24 8	0.005	<sup>92</sup> Nb(10.15 d)	934.46(99), 912.73(1.78), 1847.27(0.85)
1132.35 3	0.090 4	<sup>61</sup> Cu(3.333 h)	282.956(12.2), 656.008(10.77), 67.412(4.23)
1132.35 4	0.0838 20	<sup>188</sup> Re(16.98 h)	155.032(14.9), 632.99(1.25), 477.99(1.0)
1132.4 1	0.055 7	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
• 1132.4 4	0.0050 25	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
• 1132.4 2	0.010 3	<sup>232</sup> Pa(1.31 d)	969.315(41.6), 894.351(19.8), 150.059(10.8)
1132.4 2	0.88 10	<sup>232</sup> Np(14.7 m)	327.3(52), 819.187(33.3), 866.760(24.4)
1132.49 11	0.095 9	<sup>118</sup> In(4.45 m)	1229.68(96), 1050.69(81.0), 683.08(54.3)
• 1132.5 4	0.028 10	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
1132.50 20	0.16 5	<sup>193</sup> Hg(11.8 h)	257.97(61), 407.63(25), 573.25(14.2)
1132.55 10	0.102 18	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1132.55 23	0.041 9	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
• 1132.570 100.0856 10		<sup>115</sup> Cd(44.6 d)	933.8(2.000), 1290.580(0.890), 484.470(0.290)
1132.58 20	0.22 7	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
1132.6 3	0.92 11	<sup>119</sup> Cd(2.69 m)	292.9(36.8), 343.0(16.9), 1609.7(10.9)
1132.7 4	0.66 16	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
1132.7 3	0.202 22	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1132.8 3	0.08	<sup>83</sup> Zr(44 s)	55.55(8), 104.97(5.70), 475.1(5.1)
1132.8 1	0.0219 17	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1132.8 3		<sup>157</sup> Pm(10.56 s)	160.61(35), 188.052(13.5), 571.27(5.39)
1132.80 3	0.0194 10	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
1132.80 3	0.69 9	<sup>250</sup> Es(2.22 h)	989.12(13.3), 1031.85(10.6), 828.82(5.5)
• 1132.86	0.067 7	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1132.90 10	0.155 19	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
1132.96 9	0.55 11	<sup>203</sup> Po(36.7 m)	908.64(55), 1090.95(19.2), 893.49(18.7)
1133 2		<sup>13</sup> O(8.58 ms)	3502, 2364.7
1133	0.4 3	<sup>25</sup> Ne(602 ms)	89.53(95.5), 979.77(18.1), 1069.30(2.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1133	33000	$^{135}\text{Xe}(15.29 \text{ m})$	786.836( $\dagger$ 490000), 1358( $\dagger$ 22000), 1192.2( $\dagger$ 4400)
1133.1	0.15	$^{142}\text{Gd}(70.2 \text{ s})$	750.2(11.2), 178.90(11.20), 284.4(6.16)
1133.1.4	0.18	$^{104}\text{Ag}(69.2 \text{ m})$	555.796(92.6), 767.72(65.7), 941.7(25.0)
1133.1.4	0.17	$^{104}\text{Ag}(33.5 \text{ m})$	555.796(91), 1238.0(3.87), 2276.7(2.46)
• 1133.11.7	0.69.3	$^{146}\text{Eu}(4.59 \text{ d})$	747.2(98), 633.03(43), 634.07(37)
• 1133.12.8	0.0467.22	$^{148}\text{Eu}(54.5 \text{ d})$	550.284(98.5), 629.987(71.9), 611.293(20.5)
1133.16.5	0.86.8	$^{204}\text{Bi}(11.22 \text{ h})$	899.15(98), 374.72(82), 984.02(59)
1133.3.10	0.297.25	$^{86}\text{Y}(14.74 \text{ h})$	1076.64(83), 627.72(32.6), 1153.01(30.5)
1133.3.2	1.74.6	$^{135}\text{Te}(19.0 \text{ s})$	603.5(37.0), 266.8(10.36), 870.3(7.73)
1133.3.5	$\dagger$ 1.9.7	$^{191}\text{Tl}(5.22 \text{ m})$	452.6( $\dagger$ 100), 470.1( $\dagger$ 98), 391.6( $\dagger$ 96)
1133.4.6	0.0021.9	$^{73}\text{Se}(39.8 \text{ m})$	67.03(2.59), 253.70(2.356), 84.0(2.03)
1133.4.3	0.22.9	$^{104}\text{Tc}(18.3 \text{ m})$	358.0(89), 530.5(15.6), 535.1(14.7)
1133.4	0.6	$^{144}\text{Tb}(1 \text{ s})$	743.0(21), 1143.9(4.0), 1719.1(1.7)
1133.4.4	$\dagger$ 5.0.15	$^{159}\text{Yb}(1.58 \text{ m})$	166.16( $\dagger$ 500), 177.12( $\dagger$ 159), 390.20( $\dagger$ 113)
1133.4.3	0.217.13	$^{208}\text{At}(1.63 \text{ h})$	686.527(98), 660.040(89), 177.595(48.6)
• 1133.44.5	0.187.16	$^{169}\text{Lu}(34.06 \text{ h})$	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1133.5.4	0.19.4	$^{90}\text{Br}(1.92 \text{ s})$	707.05(38.0), 1362.32(11.2), 655.17(7.7)
1133.5.2	0.110.24	$^{109}\text{Ru}(34.5 \text{ s})$	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1133.5.3	5.9.6	$^{132}\text{Sb}(2.79 \text{ m})$	973.9(99), 696.8(86), 989.6(14.9)
1133.6.6	0.24	$^{116}\text{Ag}(2.68 \text{ m})$	513.39(76), 2478.5(12), 699.58(11)
• 1133.60.10	1.03.3	$^{170}\text{Lu}(2.00 \text{ d})$	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1133.66.3	0.28.3	$^{214}\text{Bi}(19.9 \text{ m})$	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1133.7.4	$\dagger$ 0.19.3	$^{184}\text{Ir}(3.09 \text{ h})$	263.97( $\dagger$ 100), 119.80( $\dagger$ 45), 390.38( $\dagger$ 38)
1133.73.21	0.81.9	$^{195}\text{Pb}(15.0 \text{ m})$	383.64(106.9), 394.21(44), 878.40(24.2)
• 1133.77.20	0.429.25	$^{190}\text{Ir}(11.78 \text{ d})$	186.718(52.4), 605.24(39.9), 518.55(34.0)
1133.8.2	0.140.16	$^{224}\text{Fr}(3.30 \text{ m})$	215.985(33.1), 131.613(16.3), 836.90(9.8)
1134.1	>0.038	$^{162}\text{Ho}(15.0 \text{ m})$	80.660(8.0), 1319.3(3.8), 1372.8(0.81)
1134.08.5	0.185.25	$^{146}\text{La}(6.27 \text{ s})$	258.47(64), 924.58(7.45), 702.28(6.43)
1134.2.5	0.4.2	$^{130}\text{Sb}(39.5 \text{ m})$	793.53(100), 839.49(100), 331.05(78)
• 1134.2.4	0.010.5	$^{131}\text{Te}(30 \text{ h})$	773.67(49.9), 852.21(27.0), 793.75(18.10)
1134.3.3	0.11.4	$^{150}\text{Tb}(3.48 \text{ h})$	638.05(72), 496.3(14.8), 792.5(4.39)
1134.44.6	0.21.3	$^{202}\text{Bi}(1.72 \text{ h})$	960.67(99), 422.18(83.7), 657.49(60.6)
1134.5.3	>0.38	$^{74}\text{Ga}(8.12 \text{ m})$	595.847(91), 2353.46(44.5), 608.353(14.3)
1134.5.4	0.12.4	$^{127}\text{Sn}(2.10 \text{ h})$	1114.3(39), 1095.6(20), 823.1(10.9)
1134.55.18	$\dagger$ 21.3	$^{164}\text{Tm}(2.0 \text{ m})$	91.40( $\dagger$ 1500), 1154.66( $\dagger$ 366), 768.91( $\dagger$ 279)
1134.6.3	$\dagger$ 2.5.3	$^{138}\text{Pm}(3.24 \text{ m})$	520.9( $\dagger$ 100), 729.0( $\dagger$ 37.8), 493.1( $\dagger$ 21.6)
1134.6.5	0.017.5	$^{143}\text{Ba}(14.33 \text{ s})$	211.475(25), 798.79(15.6), 980.45(11.55)
1134.6.3	0.089.22	$^{207}\text{At}(1.80 \text{ h})$	814.41(44.5), 588.33(19.2), 300.654(12.8)
1134.77.10	0.0275.11	$^{77}\text{Ge}(11.30 \text{ h})$	264.44(54), 211.03(30.8), 215.50(28.6)
1134.8.4	0.22.5	$^{141}\text{Xe}(1.73 \text{ s})$	909.23(24.0), 118.705(16.1), 105.937(9.8)
1134.88.15	0.33.11	$^{133}\text{Te}(55.4 \text{ m})$	912.671(55.28), 647.51(19.4), 863.955(15.6)
1135.0.3	6.8.10	$^{52}\text{Sc}(8.2 \text{ s})$	1049.7(98), 1267.9(39), 1032.3(13.7)
1135.0.3	0.22.4	$^{175}\text{Tm}(15.2 \text{ m})$	514.868(65), 941.23(15), 363.942(12.7)
1135.0.2	$\dagger$ 5.2.5	$^{189}\text{Hg}(7.6 \text{ m})$	320.99( $\dagger$ 100), 78.21( $\dagger$ 63), 565.42( $\dagger$ 48)
1135.04.8	7.8.4	$^{199}\text{Pb}(90 \text{ m})$	366.90(44.2), 353.39(9.5), 720.24(6.5)
• 1135.1		$^{170}\text{Lu}(2.00 \text{ d})$	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
• 1135.1.3	0.049.3	$^{240}\text{Am}(50.8 \text{ h})$	987.76(73.2), 888.80(25.1), 98.860(1.5)
1135.2.10	0.012.12	$^{127}\text{Ba}(12.7 \text{ m})$	180.8(12), 114.8(9.3), 66.06(2.12)
1135.2.2	0.80.15	$^{139}\text{Sm}(2.57 \text{ m})$	273.7(37), 306.7(28.5), 596.3(8.0)
1135.2.3	1.60.11	$^{149}\text{Dy}(4.20 \text{ m})$	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1135.2.2	2.2.5	$^{152}\text{Ho}(49.5 \text{ s})$	647.2(92), 613.8(88.4), 683.3(88)
1135.2.4	0.00038.8	$^{161}\text{Gd}(3.66 \text{ m})$	360.94(0.59), 314.92(22.7), 102.315(13.9)
1135.2.3	0.21.3	$^{209}\text{Rn}(28.5 \text{ m})$	408.32(50.3), 745.78(22.8), 337.45(14.5)
1135.24.15	0.0101.16	$^{228}\text{Ac}(6.15 \text{ h})$	911.205(26.6), 968.971(16.2), 338.322(11.3)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1135.28 9	0.34 3	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1135.3 1	1.18 4	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1135.3 5	0.11 4	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
1135.4 4	0.09 5	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
1135.60 25	0.55 11	<sup>159</sup> Tm(9.13 m)	38.35(5.8), 84.8(5.8), 271.30(5.1)
1135.68 11		<sup>106</sup> In(6.2 m)	632.66(100), 861.16(92), 997.87(48)
1135.68 11		<sup>106</sup> In(5.2 m)	632.66(92), 1714.90(17.1), 861.16(10.6)
1135.70 10	2.0 2	<sup>126</sup> In(1.60 s)	1141.11(55.9), 3344.61(21.6), 969.61(14.9)
1135.8 1	0.124 25	<sup>129</sup> La(11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
1135.81 7	0.66 6	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1135.85 12	0.080 4	<sup>131</sup> La(59 m)	108.081(25.0), 417.783(18.0), 365.162(16.9)
1135.9 3	0.067 24	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1135.94 9	0.0021 8	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
1135.96 4	3.28 16	<sup>80</sup> Ga(1.697 s)	659.14(78.0), 1083.47(48.4), 1109.36(18.6)
1136.0		<sup>80</sup> Ge(29.5 s)	265.36(27.0), 110.4(6.5), 1564.3(4.9)
1136 1	0.0042 8	<sup>81</sup> Rb(30.5 m)	49.56(0.78), 643.6(0.115), 1194.9(0.112)
1136.0 1	0.0202 17	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1136.0 3	1.87 18	<sup>129</sup> In(0.61 s)	2118.0(45), 1865.0(32), 769.3(9.1)
1136.00 2	3.01 14	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
• 1136.00 2	0.476 13	<sup>132</sup> Cs(6.479 d)	667.718(98), 630.19(0.95), 505.79(0.73)
1136 1	0.42 4	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
• 1136.0 6	0.009 4	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1136 1	0.32 11	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1136 2	†1.3	<sup>244</sup> Bk(4.35 h)	891.5(†100), 217.6(†88), 921.5(†19)
1136.06 30	0.043	<sup>137</sup> I(24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
1136.1 3	0.077 14	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
• 1136.1	0.0074 10	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1136.160 359.2 5		<sup>134</sup> I(52.6 m)	847.025(95.4), 884.090(64.9), 1072.547(15.0)
1136.4 4	0.0116 23	<sup>81</sup> Rb(4.576 h)	190.38(64.0), 446.15(23.2), 510.31(5.3)
1136.45 15	0.127 10	<sup>115</sup> Sb(32.1 m)	497.358(98), 489.27(1.3), 1236.52(0.58)
1136.46 9	1.03 5	<sup>147</sup> Pr(13.4 m)	77.9921(15), 314.675(13.2), 641.380(10.0)
1136.5 4	†11	<sup>154</sup> Nd(25.9 s)	151.703(†800), 799.55(†600), 180.693(†510)
1136.5 20	0.26 4	<sup>196</sup> Tl(1.84 h)	426.0(84), 610.5(11.9), 635.5(9.8)
1136.5 3	0.068 9	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1136.56 6	0.0046 11	<sup>205</sup> Hg(5.2 m)	203.750(2.2), 415.70(0.0130), 1218.96(0.0062)
1136.58 8	0.201 10	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1136.6	0.11	<sup>95</sup> Sr(23.90 s)	685.6(23), 2717.3(4.6), 2933.1(4.1)
1136.6	0.026 18	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1136.63 11	0.200 14	<sup>81</sup> Sr(22.3 m)	153.54(33.8), 147.76(30.1), 443.34(17.5)
• 1136.75 7	7.66 7	<sup>119</sup> Te(4.70 d)	153.59(66), 1212.73(66), 270.53(28.0)
1136.77 20	0.194 20	<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
1136.8	0.037 9	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
1136.8 3	0.37 3	<sup>198</sup> Tl(5.3 h)	411.8044(82), 675.8874(11), 636.4(10.1)
1136.81 14	1.04 8	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
1136.85 19	0.43	<sup>106</sup> Rh(131 m)	511.842(85), 1045.83(30.4), 717.24(28.9)
• 1136.85 19	0.23 3	<sup>106</sup> Ag(8.28 d)	511.842(88), 1045.83(29.6), 717.24(28.9)
1136.87 12	7.0 7	<sup>72</sup> Br(78.6 s)	862.03(70), 1316.70(17.3), 454.70(13.1)
1136.88 6	12.3 14	<sup>168</sup> Lu(6.7 m)	198.82(28), 979.22(20), 896.12(15)
1137.0 2	0.145 12	<sup>65</sup> Ga(15.2 m)	115.09(54), 61.20(11.4), 153.0(8.9)
1137 1	0.12 6	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
1137.0 3	0.18 3	<sup>142</sup> Cs(1.70 s)	359.598(27.2), 1326.46(12.92), 966.89(9.0)
1137.0 4	0.14	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1137.0 5	5.5 3	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
1137.0 4	0.0140 20	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1137.0 4	0.0073 20	<sup>240</sup> Am(50.8 h)	987.76(73.2), 888.80(25.1), 98.860(1.5)
• 1137.05 30	0.157 5	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1137.07 4	0.68 3	<sup>81</sup> Ga(1.221 s)	216.47(37.4), 828.26(22.1), 711.18(17.6)
1137.09 10	2.14 20	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
1137.10 10	0.374 20	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1137.1 1	1.30 5	<sup>242</sup> Np(2.2 m)	735.93(5), 780.44(2.76), 1473.1(2.34)
1137.14 3	1.12 25	<sup>108</sup> In(58.0 m)	875.46(100), 632.96(100), 242.84(41)
1137.2 2	0.038 9	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1137.2 2	†1	<sup>139</sup> I(2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
1137.2 4	0.023 8	<sup>166</sup> Ho(2.99 m)	741.356(36.6), 821.164(34.5), 815.990(18.6)
1137.24 5	3.88 20	<sup>91</sup> Rb(58.4 s)	93.628(33.7), 2564.19(12.5), 3599.67(10.4)
1137.28 11	0.0170 14	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1137.3 10	0.21 9	<sup>86</sup> Nb(7.8 m)	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
1137.3 5	0.28 17	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
1137.3 10	0.23 3	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1137.3 5	0.010	<sup>249</sup> Es(102.2 m)	379.5(40.4), 813.2(9.2), 375.1(3.3)
1137.34 15	†0.65 4	<sup>71</sup> Se(4.74 m)	147.50(†211), 1095.26(†43.6), 830.33(†43.2)
• 1137.357 160.00042 21	168	<sup>168</sup> Tm(93.1 d)	198.241(52.39), 815.990(48.99), 447.515(23.05)
1137.4 7	0.17 4	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1137.45 35	0.128 14	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
• 1137.5 5	0.0029	<sup>125</sup> Sn(9.64 d)	1067.10(10), 1089.15(4.59), 822.48(4.28)
1137.5 3	0.013 9	<sup>152</sup> Eu(9.274 h)	841.586(14.6), 963.37(12.01), 121.7824(7.21)
1137.5 7	0.22 4	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1137.52 10	0.36 5	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1137.6 7	0.48 16	<sup>121</sup> Ag(0.78 s)	314.55(32.1), 353.43(19.9), 500.61(9.3)
1137.6 5	0.3 2	<sup>130</sup> Sb(39.5 m)	793.53(100), 839.49(100), 331.05(78)
1137.6 2	†19.8 14	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
• 1137.66 13	0.042 3	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1137.7 1	0.120 9	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
1137.7 10	0.16 3	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1137.74 30	0.19 9	<sup>204</sup> At(9.2 m)	684.341(95), 516.318(90), 426.253(67.5)
1137.8 2	0.057 18	<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
1137.9	0.30	<sup>43</sup> Ar(5.37 m)	975.0(34), 738.1(15), 1439.5(13)
1137.9 1	0.0187 12	<sup>126</sup> Cs(1.64 m)	388.633(41), 491.243(5.0), 925.24(4.56)
1138.0 3	0.20 3	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1138.0 5	0.027 8	<sup>111</sup> Sn(35.3 m)	1152.98(2.7), 1914.70(1.99), 761.97(1.48)
1138.0 3	†0.24 7	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1138.0 3	0.21 3	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
1138 3	0.008 3	<sup>185</sup> Ta(49.4 m)	177.59(25.7), 173.68(22.6), 65.86(3.9)
1138.1 3	1.8	<sup>140</sup> Sm(14.82 m)	225.5(>10), 225.4(10), 140.0(5.0)
1138.1 4	0.16 6	<sup>203</sup> Po(36.7 m)	908.64(55), 1090.95(19.2), 893.49(18.7)
1138.1 2		<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
1138.2 5	0.65 17	<sup>45</sup> Ar(21.48 s)	1020.04(34.0), 3703.2(33.3), 61.35(25.0)
1138.2 4	0.29 15	<sup>139</sup> Sm(2.57 m)	273.7(37), 306.7(28.5), 596.3(8.0)
1138.229 260.300 8		<sup>125</sup> Xe(16.9 h)	188.418(54), 243.378(30.1), 54.968(6.81)
1138.26 8	0.000234 15	<sup>176</sup> Lu(3.635 h)	88.34(0.55640), 1159.28(0.00139), 1061.61(0.000762)
1138.26 8	0.7	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1138.27 17	0.34 3	<sup>164</sup> Lu(3.14 m)	123.3(34.0), 740.52(12.2), 262.22(10.8)
1138.3 3	0.178 23	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
1138.40 30	0.47 15	<sup>124</sup> In(3.17 s)	1131.64(68), 3214.15(21.5), 997.79(21.1)
• 1138.4 5	0.0014 4	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1138.4 4	†0.15 3	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
1138.5 5	0.012 6	<sup>89</sup> Rb(15.15 m)	1031.94(58), 1248.19(42.6), 2196.02(13.3)
1138.5 3	0.94 19	<sup>154</sup> Ho(3.10 m)	334.6(94), 412.4(79), 477.1(55)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1138.5 4	20.5 9	<sup>170</sup> Ho(2.76 m)	258.2(37.0), 931.3(36.1), 181.6(23.8)
1138.5 5	0.042 7	<sup>245</sup> Pu(10.5 h)	327.428(25.4), 560.13(5.4), 308.222(4.9)
1138.6 9	0.38 23	<sup>104</sup> In(1.8 m)	658.0(100), 834.1(99), 878.1(29.4)
• 1138.65 10	0.358 11	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1138.7 3	1.5 6	<sup>140</sup> Pm(9.2 s)	773.74(5.0), 477.1(2.6), 1204.8(1.9)
1138.71 15	2.09 20	<sup>106</sup> In(6.2 m)	632.66(100), 861.16(92), 997.87(48)
• 1138.80 10	0.070 4	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1138.88 10	6.0 4	<sup>94</sup> Y(18.7 m)	918.74(56), 550.88(4.9), 1671.41(2.46)
1138.9 3	†4.2 2	<sup>114</sup> Te(15.2 m)	90.28(†100), 83.8(†67), 1417.6(†32)
1138.9 1	0.81 8	<sup>143</sup> Gd(112 s)	271.94(84), 588.00(15.7), 798.89(10.7)
1139.0 2	0.062 9	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 1139 1	0.0013 4	<sup>152</sup> Eu(13.542 y)	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
1139.0 5	0.014 6	<sup>168</sup> Ho(2.99 m)	741.356(36.6), 821.164(34.5), 815.990(18.6)
1139.00 20	0.076 22	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1139.1	†4.1	<sup>144</sup> Gd(4.5 m)	333.3(†100), 2432.6(†94.8), 629.5(†32.4)
1139.1 7	0.24 4	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1139.14 36	0.055 10	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1139.17 18	0.193 17	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
1139.20 29	1.4 3	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1139.2 2	0.23 3	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1139.2 10	0.17 4	<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
1139.2 6	0.20 6	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
1139.2 3	1.45 5	<sup>190</sup> Au(42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
• 1139.28 5	0.091 5	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1139.3		<sup>75</sup> Rb(19.0 s)	178.98(<63), 178.97(>51), 187.21(8.7)
1139.35 10	6.1 4	<sup>121</sup> Cd(8.3 s)	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
1139.4 2	0.196 17	<sup>143</sup> La(14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)
1139.43 3	0.088 8	<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
• 1139.461 190.800 4		<sup>71</sup> As(65.28 h)	174.954(82.00), 1095.490(4.08), 499.876(3.624)
1139.48 5	0.56 6	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
1139.5	0.035 9	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1139.5 1	0.040 6	<sup>167</sup> Yb(17.5 m)	113.34(55.3), 106.18(22.5), 176.25(21)
1139.6 7	0.06 4	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
• 1139.6 5	0.019 5	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1139.7 2	6.49 44	<sup>48</sup> Mn(158.1 ms)	752.15(99.7), 1106.25(39.2), 3676.2(30.4)
1139.7 4	0.044 9	<sup>87</sup> Br(55.60 s)	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1139.7 3	†0.40 4	<sup>104</sup> Nb(0.92 s)	192.2(†100), 368.4(†20), 620.2(†19.2)
1139.7 4	†0.36 12	<sup>188</sup> Au(8.84 m)	265.63(†100), 340.04(†23.9), 605.5(†16.3)
1139.8 1	1.10 9	<sup>75</sup> Zn(10.2 s)	228.67(28.9), 432.29(20.2), 155.94(17.2)
1139.9 5	0.21 3	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
1139.9 2	2.4 5	<sup>152</sup> Ho(49.5 s)	647.2(92), 613.8(88.4), 683.3(88)
1139.9 5	†0.8 3	<sup>185</sup> Pt(33.0 m)	229.60(†100), 135.3(†80), 197.4(†74)
1139.95 8	0.20 3	<sup>71</sup> Zn(3.96 h)	386.28(93), 487.38(62), 620.18(57)
1140.0 4	0.163 19	<sup>164</sup> Tm(5.1 m)	208.08(14.6), 314.97(10), 240.49(7.5)
1140.06 11	1.89 18	<sup>197</sup> Pb(8 m)	385.85(50), 761.14(13.3), 375.48(12.8)
1140.079 230.0103 5		<sup>128</sup> I(24.99 m)	442.901(17), 526.557(1.58), 969.458(0.404)
1140.079 231.168 11		<sup>128</sup> Cs(3.66 m)	442.901(26.8), 526.557(2.41), 969.458(0.630)
1140.1 6	0.18 5	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1140.2 1	†212 18	<sup>100</sup> Rh(4.6 m)	539.59(†5900), 687.0(†3500), 1827.2(†1410)
1140.2 3	0.12 4	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
1140.2 2	0.41 3	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
1140.2 2	10 1	<sup>151</sup> Tm(4.13 s)	801.6(73), 2115.8(13), 1548.6(10)
1140.2 3	0.115 20	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1140.2 3	0.038 6	<sup>186</sup> Hg(1.38 m)	112.1(63), 251.5(55), 191.6(3.7)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1140.3 4	1.00 17	<sup>121</sup> Cs(155 s)	153.9(15.2), 239.6(7.7), 427.1(3.63)
1140.3 4	0.78 13	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
1140.3 1	0.018 8	<sup>129</sup> Ba(2.23 h)	6.545(23.7), 214.30(13.4), 220.83(8.54)
1140.36 5	0.00134 8	<sup>165</sup> Dy(2.334 h)	94.700(3.58), 361.68(0.84), 633.415(0.568)
1140.37 14	0.34 5	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1140.38 9	2.61 6	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
• 1140.404 2	0.150 10	<sup>56</sup> Co(77.27 d)	846.771(100), 1238.282(67.6), 2598.459(17.28)
1140.47 20	0.54 8	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1140.50 6	0.89 5	<sup>90</sup> Rb(258 s)	831.69(94), 1375.36(16.7), 3317.00(14.4)
1140.50 6	0.046 3	<sup>90</sup> Rb(158 s)	831.69(28), 1060.70(6.69), 4365.90(5.6)
1140.5 2	1.9 16	<sup>103</sup> Zr(1.3 s)	248(100), 164.05(94), 126.30(84)
1140.50 7	1.0 7	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1140.5 3	0.80 3	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
1140.5 1	0.56 6	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
• 1140.51 5	0.283 6	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
1140.55 3	29 3	<sup>122</sup> In(1.5 s)	2759.13(3.1), 1013.34(2.7), 2065.62(1.97)
1140.55 3	98 3	<sup>122</sup> In(10.3 s)	1001.58(50.7), 1190.58(20.5), 1163.61(15.4)
1140.55 3	100 10	<sup>122</sup> In(10.8 s)	1001.58(98.4), 103.74(81), 163.48(66)
• 1140.55 3	0.7	<sup>122</sup> Sb(2.70 d)	
1140.59 26	0.11 3	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1140.60 9	0.176 20	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
1140.7 11	0.012 5	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
• 1140.711 9	0.2368 21	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1140.711 9	1.39 12	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1140.711 9	2.3 3	<sup>154</sup> Tb(22.7 h)	247.925(79), 346.643(69), 1419.81(46)
1140.75 4	0.0010 4	<sup>205</sup> Hg(5.2 m)	203.750(2.2), 415.70(0.0130), 1218.96(0.0062)
1140.78 9	0.096 5	<sup>85</sup> Br(2.90 m)	802.41(2.56), 924.63(1.63), 919.06(0.65)
1140.79 20	1.65 13	<sup>100</sup> Cd(49.1 s)	936.55(66), 139.71(6.7), 582.5(6.3)
1140.8 1	0.127 3	<sup>91</sup> Sr(9.63 h)	1024.3(33), 749.8(23.61), 652.9(8.0)
1140.8 3	0.115 20	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1140.9 4	0.07 3	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
1140.9 3	†0.8 2	<sup>138</sup> Pm(3.24 m)	520.9(†100), 729.0(†37.8), 493.1(†21.6)
1140.9 2	†0.18 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1141.0 10	0.41 5	<sup>98</sup> Rh(8.7 m)	652.43(94), 745.36(5.3), 1817.0(4.7)
1141 1	>0.35	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
• 1141.0 5	0.024 12	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
1141	0.050 21	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1141 2	†1.8	<sup>244</sup> Bk(4.35 h)	891.5(†100), 217.6(†88), 921.5(†19)
1141.11 5	55.9 40	<sup>126</sup> In(1.60 s)	3344.61(21.6), 969.61(14.9), 3886.82(4.7)
1141.11 5	100 7	<sup>126</sup> In(1.64 s)	908.58(99), 111.79(88), 1636.50(29.6)
1141.2 2	†2.5 5	<sup>131</sup> Sn(56.0 s)	1226.03(†100), 450.03(†90), 798.50(†86)
1141.2 2		<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
1141.26 15	5.3 3	<sup>150</sup> Pr(6.19 s)	130.2(32), 722.5(7.0), 852.7(6.1)
• 1141.30 20	0.511 16	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1141.3 1	0.33 3	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1141.33 6	1.28 3	<sup>86</sup> Kr(2.84 h)	2392.11(34.6), 196.301(25.98), 2195.842(13.18)
1141.4 4	2.0 4	<sup>130</sup> Sb(39.5 m)	793.53(100), 839.49(100), 331.05(78)
1141.44 5	0.153 23	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
1141.5 41	0.10 8	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
• 1141.6 8	0.37 7	<sup>127</sup> Sb(3.85 d)	685.7(37), 473.0(25.7), 783.7(15.0)
1141.6 4	2.0 8	<sup>129</sup> Sn(6.9 m)	1161.31(56.0), 1128.44(50), 760.8(16.8)
1141.6 2		<sup>131</sup> Sn(56.0 s)	3267.5, 2470.5, 2039.25
1141.6 2	†10.0 20	<sup>131</sup> Sn(56.0 s)	1226.03(†100), 450.03(†90), 798.50(†86)
1141.6 3	0.22 4	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1141.64 9	0.51 3	<sup>138</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
1141.7 8	4.0 3	<sup>65</sup> Co(1.20 s)	310.6(2.90), 963.7(2.6), 1210.9(1.62)
1141.7 3	0.77 19	<sup>128</sup> Sb(10.4 m)	753.82(96.4), 743.22(96), 314.12(89)
1141.7 5	4.0 14	<sup>172</sup> Ho(25 s)	133.6(36), 178.0(23), 757.2(18)
1141.77 8	0.0026 10	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
1141.8 3	2.01 14	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1141.9 5	0.58 10	<sup>117</sup> Ag(5.34 s)	135.4(48), 386.8(39.9), 298.1(21.1)
1141.91 11	0.0346 21	<sup>62</sup> Zn(9.186 h)	596.56(26), 40.84(25.5), 548.35(15.3)
• 1141.96 10	0.041 5	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1142.0 2	1.5 4	<sup>108</sup> In(58.0 m)	875.46(100), 632.96(100), 242.84(41)
1142.0 3	0.0042 17	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1142.0 4	0.19 4	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
1142.0 5	6	<sup>146</sup> La(10.0 s)	258.47(93), 409.86(81), 514.75(31)
1142.0 5	7.0 4	<sup>164</sup> Ta(14.2 s)	211.05(74), 376.8(22), 605.0(14)
1142.02 2	5.6 6	<sup>130</sup> Sb(6.3 m)	839.49(100), 793.53(86), 182.36(41)
1142.2 3	0.14 3	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1142.2 3	0.037 9	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1142.2 2	0.153 13	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
1142.2 1	0.111 11	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
1142.2 5	0.07 3	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1142.25 17	†1.06 8	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
1142.3 10	0.10 3	<sup>86</sup> Y(14.74 h)	1076.64(83), 627.72(32.6), 1153.01(30.5)
1142.3 2	0.33 5	<sup>104</sup> Tc(18.3 m)	358.0(89), 530.5(15.6), 535.1(14.7)
1142.35 7	2.79 14	<sup>92</sup> Sr(2.71 h)	1383.93(90), 953.31(3.52), 430.49(3.28)
• 1142.37 10	0.111 5	<sup>206</sup> Bi(6.243 d)	803.10(99), 881.01(66.2), 516.18(40.7)
1142.4 7	0.12 6	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
1142.43 3	1.67 11	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
1142.45 3	0.1092 25	<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1142.5 12	0.36	<sup>45</sup> Ar(21.48 s)	1020.04(34.0), 3703.2(33.3), 61.35(25.0)
1142.5 3	3.5 4	<sup>190</sup> Tl(3.7 m)	416.4(91), 625.4(82), 731.1(37)
1142.5 3	3.0 3	<sup>190</sup> Tl(2.6 m)	416.4(79), 625.4(11.1), 683.5(8.7)
1142.51 5	0.81 3	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
• 1142.52 10	0.37 7	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
1142.58 12	0.31 3	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1142.58 12	†172	<sup>94</sup> Rb(2.702 s)	432.61(†9000), 213.429(†6000), 986.05(†4100)
1142.6 5	0.15 5	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1142.7 10	0.033 12	<sup>84</sup> Br(31.80 m)	881.610(42), 1897.761(14.7), 3927.5(6.8)
1142.70 20		<sup>106</sup> In(6.2 m)	632.66(100), 861.16(92), 997.87(48)
1142.7 4	0.92 12	<sup>119</sup> Cd(2.20 m)	1025.0(24.8), 2021.3(22.6), 720.7(17.9)
1142.7 4	0.081 18	<sup>120</sup> Xe(40 m)	25.1(30), 72.6(9), 178.1(6.8)
1142.70 17	0.42 4	<sup>186</sup> Au(10.7 m)	191.56(62), 298.67(25.4), 764.89(10.5)
1142.74 9	1.33 22	<sup>133</sup> Te(55.4 m)	912.671(55.28), 647.51(19.4), 863.955(15.6)
1142.8 2	0.27 7	<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
1142.85 15	0.0106 21	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1142.9 3	0.026 7	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1143.0 3	0.72 18	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
1143.0 4	>2.5×10 <sup>-5</sup>	<sup>107</sup> Cd(6.50 h)	93.124(1.45), 828.93(0.17), 796.462(0.0665)
1143.0 4	0.051 24	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1143 2	0.04 3	<sup>135</sup> Pr(24 m)	296.12(24), 82.64(13.7), 213.45(13.0)
• 1143.020 150.029 4		<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1143.1 5	0.176 25	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
1143.15 12	0.00198 20	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1143.2 6	0.23 5	<sup>117</sup> Cs(8.4 s)	204.8(15.0), 29.7(9.9), 205.6(6.8)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1143.3 2	1.35 6	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
1143.4 5	1.5 9	<sup>115</sup> Te(6.7 m)	770.40(34.2), 723.569(18), 1071.70(12.9)
1143.44 8	0.054 5	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1143.5 3	0.14 6	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
1143.5 8	>0.11	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
1143.6 2	1.6 4	<sup>118</sup> Cs(14 s)	337.4(100), 472.8(37.4), 586.6(15.4)
1143.80	0.10	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1143.84 15	1.12 23	<sup>123</sup> Cd(1.82 s)	1165.86(25.7), 1027.45(22.6), 2102.81(12.5)
1143.9	4.0	<sup>144</sup> Tb(1 s)	743.0(21), 1719.1(1.7), 1483.5(1.0)
1143.94 15	0.031 9	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1144	0.15	<sup>81</sup> Ga(1.221 s)	216.47(37.4), 828.26(22.1), 711.18(17.6)
1144 1	0.0029	<sup>233</sup> Th(22.3 m)	86.477(2.7), 29.374(2.5), 459.222(1.4)
1144.09 9	0.29 3	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1144.1 3	0.41 10	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1144.1 5	1.1 3	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1144.13 6	0.033 20	<sup>66</sup> Ge(2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
1144.16 14	0.026 3	<sup>168</sup> Ho(2.99 m)	741.356(36.6), 821.164(34.5), 815.990(18.6)
1144.2 3	0.080 10	<sup>71</sup> Zn(2.45 m)	511.56(32), 910.27(7.8), 389.88(3.8)
1144.2 4	1.55 15	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1144.2 4	>0.047	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1144.22 29	0.76 25	<sup>143</sup> Gd(112 s)	271.94(84), 588.00(15.7), 798.89(10.7)
• 1144.24 15	0.0149 19	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1144.27 20	0.50 8	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
1144.3 3	†1.05 19	<sup>95</sup> Pd(13.3 s)	1350.9(†105), 716.6(†70.63), 381.8(†50.8)
1144.4 1	0.0220 12	<sup>126</sup> Cs(1.64 m)	388.633(41), 491.243(5.0), 925.24(4.56)
1144.449 180.18 3		<sup>75</sup> Br(96.7 m)	286.572(88), 141.3147(6.6), 427.883(4.4)
1144.5 5	0.11 3	<sup>49</sup> Ca(8.715 m)	3084.4(92), 4071.9(7.0), 1408.9(0.63)
1144.5 2	3.3 3	<sup>84</sup> Y(40 m)	793.3(99), 974.6(75), 1040.2(56)
1144.5 5	0.49 12	<sup>166</sup> Lu(2.65 m)	228.12(77.3), 337.50(41), 367.95(31.4)
1144.52 5	8.5 9	<sup>98</sup> Rh(3.5 m)	652.43(96), 745.36(78), 761.84(<8)
• 1144.65 4	0.00108 5	<sup>121</sup> Te(154 d)	1102.149(2.54), 37.138(0.94), 998.291(0.0796)
• 1144.65 20	0.323 5	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1144.7 2	0.41 5	<sup>104</sup> Tc(18.3 m)	358.0(89), 530.5(15.6), 535.1(14.7)
1144.70 30	0.014 5	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1144.70 18	†3.1 3	<sup>165</sup> Lu(10.74 m)	132.49(†100), 120.60(†100), 174.25(†47.0)
1144.75 15	8.2 6	<sup>81</sup> Ge(7.6 s)	335.98(58.9), 792.94(34), 1495.53(19.9)
1144.9 3	0.80 9	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
1144.959 171.67 11		<sup>78</sup> As(90.7 m)	613.725(54), 694.916(16.7), 1308.59(13.0)
1144.959 170.0177 14		<sup>78</sup> Br(6.46 m)	613.725(14), 884.861(0.068), 694.916(0.058)
1145.0 10	0.32 13	<sup>74</sup> Br(25.4 m)	634.78(64), 219.05(18.1), 634.26(14.1)
1145 2	0.059 15	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
1145 1	3.9 10	<sup>106</sup> In(6.2 m)	632.66(100), 861.16(92), 997.87(48)
1145 1	>0.35	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
1145.0 3	0.22 3	<sup>198</sup> Tl(5.3 h)	411.8044(82), 675.8874(11), 636.4(10.1)
1145.0 5	0.35 3	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1145.1 3	0.25 5	<sup>119</sup> Ag(2.1 s)	626.4(13), 366.2(12.1), 399.1(10.9)
1145.1 2	8.7 3	<sup>141</sup> Sm(22.6 m)	196.88(74), 431.6(40.4), 777.6(20.3)
1145.1 3	0.61 12	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1145.20 15	0.27 4	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1145.20 18	†1.8 3	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1145.2 2	0.103 13	<sup>197</sup> Tl(2.84 h)	425.84(12.9), 152.22(7.2), 1411.34(4.5)
1145.3 5	0.71 17	<sup>127</sup> Cd(0.43 s)	1235.07(8.3), 376.28(7.5), 523.60(5.15)
1145.32 3	0.0579 14	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1145.33 30	0.109 16	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1145.34 6	0.24 3	$^{208}\text{Rn}(24.35 \text{ m})$	426.78(7.07), 251.05(5.02), 350.026(3.34)
1145.4	0.11	$^{95}\text{Sr}(23.90 \text{ s})$	685.6(23), 2717.3(4.6), 2933.1(4.1)
1145.43 8	0.00017 8	$^{173}\text{Hf}(23.6 \text{ h})$	123.672(83), 296.974(33.9), 139.634(12.7)
1145.44 18	0.132 19	$^{138}\text{Xe}(14.08 \text{ m})$	258.411(31.5), 434.562(20.3), 1768.26(16.7)
1145.44 13	0.3 3	$^{168}\text{Lu}(6.7 \text{ m})$	198.82(28), 979.22(20), 896.12(15)
1145.47 4	0.010 5	$^{180}\text{Re}(2.44 \text{ m})$	902.795(90), 103.557(22.2), 825.357(9.9)
1145.49 22	1.7 4	$^{187}\text{Pt}(2.35 \text{ h})$	106.46(9), 201.52(6.4), 110.04(5.7)
1145.5 2	0.059 15	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1145.5 3	$\dagger$ 0.27 5	$^{160}\text{Ho}(5.02 \text{ h})$	728.18( $\dagger$ 100), 879.383( $\dagger$ 65.9), 962.317( $\dagger$ 59.1)
1145.50 18	0.00089 20	$^{161}\text{Gd}(3.66 \text{ m})$	360.94(0.59), 314.92(22.7), 102.315(13.9)
1145.6	$\dagger$ 2.6	$^{144}\text{Gd}(4.5 \text{ m})$	333.3( $\dagger$ 100), 2432.6( $\dagger$ 94.8), 629.5( $\dagger$ 32.4)
1145.6 3	0.057 13	$^{153}\text{Dy}(6.4 \text{ h})$	80.723(11.10), 213.754(10.90), 99.659(10.51)
1145.6 5	0.96 9	$^{161}\text{Yb}(4.2 \text{ m})$	78.20(34), 599.88(25.9), 631.45(13.9)
1145.7 3	0.34 7	$^{200}\text{Po}(11.5 \text{ m})$	671.0(34.0), 617.7(19.7), 434.4(9.3)
1145.70 15	0.31 3	$^{208}\text{At}(1.63 \text{ h})$	686.527(98), 660.040(89), 177.595(48.6)
1145.8 8	0.51 9	$^{74}\text{Br}(46 \text{ m})$	634.78(91), 728.37(35.6), 634.26(16.4)
• 1145.80 20	0.408 7	$^{170}\text{Lu}(2.00 \text{ d})$	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1145.8 4	$\dagger$ 4.2 8	$^{193}\text{Tl}(21.6 \text{ m})$	324.37( $\dagger$ 100), 1044.7( $\dagger$ 59), 676.10( $\dagger$ 48)
1145.9	$\dagger$ 0.25 6	$^{135}\text{Pm}(49 \text{ s})$	198.5( $\dagger$ 100), 207.2( $\dagger$ 70), 463.5( $\dagger$ 62)
1145.9 1	0.074 15	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1146.0 3	0.29 6	$^{88}\text{Br}(16.5 \text{ s})$	775.28(63), 802.14(13.13), 1440.69(4.72)
1146.0 15	0.058 25	$^{167}\text{Lu}(51.5 \text{ m})$	29.66(14.4), 239.22(8.6), 213.19(3.6)
1146.1 2	0.85 5	$^{143}\text{La}(14.2 \text{ m})$	620.3(2.34), 643.75(1.55), 621.4(1.52)
1146.1 3	0.14 5	$^{159}\text{Tm}(9.13 \text{ m})$	38.35(5.8), 84.8(5.8), 271.30(5.1)
1146.2 6	0.16 4	$^{87}\text{Br}(55.60 \text{ s})$	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1146.2 1	0.0025 6	$^{127}\text{Cs}(6.25 \text{ h})$	411.95(62.8), 124.70(11.37), 462.31(5.07)
1146.2 5	0.6 2	$^{130}\text{Sb}(39.5 \text{ m})$	793.53(100), 839.49(100), 331.05(78)
1146.3 6	0.15 4	$^{87}\text{Br}(55.60 \text{ s})$	1419.71(22.0), 1476.04(7.9), 1577.60(6.0)
1146.3 4	0.012 4	$^{119}\text{I}(19.1 \text{ m})$	257.52(87), 635.86(2.69), 320.53(2.17)
1146.3	0.36 5	$^{232}\text{Np}(14.7 \text{ m})$	327.3(52), 819.187(33.3), 866.760(24.4)
1146.3 5	0.36 5	$^{232}\text{Np}(14.7 \text{ m})$	327.3(52), 819.187(33.3), 866.760(24.4)
1146.4 2	0.31	$^{43}\text{Ar}(5.37 \text{ m})$	975.0(34), 738.1(15), 1439.5(13)
1146.4 6	0.88 20	$^{72}\text{Cu}(6.6 \text{ s})$	652.4(68), 1004.6(12.0), 1657.7(10.1)
1146.4 9	0.48 25	$^{104}\text{In}(1.8 \text{ m})$	658.0(100), 834.1(99), 878.1(29.4)
1146.4 5	0.35 6	$^{121}\text{Xe}(40.1 \text{ m})$	252.7(13), 132.8(10.9), 445.2(7.7)
1146.4 3		$^{157}\text{Pm}(10.56 \text{ s})$	160.61(35), 188.052(13.5), 571.27(5.39)
1146.4 5	4.50 22	$^{199}\text{Bi}(27 \text{ m})$	560.1(22.0), 424.85(22), 841.7(11)
1146.54 25	0.17 3	$^{204}\text{Bi}(11.22 \text{ h})$	899.15(98), 374.72(82), 984.02(59)
1146.67 3	0.0126 6	$^{250}\text{Bk}(3.217 \text{ h})$	989.12(45), 1031.85(35.6), 1028.65(4.91)
1146.67 3	0.20 3	$^{250}\text{Es}(2.22 \text{ h})$	989.12(13.3), 1031.85(10.6), 828.82(5.5)
1146.7 4	0.143 17	$^{91}\text{Tc}(3.14 \text{ m})$	2450.90(13.5), 1639.90(9.2), 1605.20(7.77)
1146.7 3	0.0076 17	$^{121}\text{I}(2.12 \text{ h})$	212.189(84), 532.08(6.07), 598.74(1.47)
1146.72 11	0.65 7	$^{164}\text{Lu}(3.14 \text{ m})$	123.3(34.0), 740.52(12.2), 262.22(10.8)
• 1146.805 141.96 4		$^{148}\text{Eu}(54.5 \text{ d})$	550.284(98.5), 629.987(71.9), 611.293(20.5)
• 1146.84 3	0.202 4	$^{166}\text{Ho}(1.20 \times 10^3 \text{ y})$	84.410(72.6), 810.276(58.08), 711.683(55.32)
1146.9 4	0.10 3	$^{99}\text{Nb}(2.6 \text{ m})$	97.785(7), 253.50(3.64), 2641.3(3.64)
1146.9 2	$\dagger$ 2	$^{139}\text{I}(2.29 \text{ s})$	527.7( $\dagger$ 100), 571.2( $\dagger$ 98), 536.6( $\dagger$ 67)
1146.90 35	0.107 14	$^{140}\text{Cs}(63.7 \text{ s})$	602.345(71.1), 908.25(11.6), 1200.25(6.39)
• 1146.92 13	0.073 14	$^{169}\text{Lu}(34.06 \text{ h})$	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1146.96 25	0.015 5	$^{90}\text{Rb}(258 \text{ s})$	831.69(94), 1375.36(16.7), 3317.00(14.4)
1146.96 25	0.030 4	$^{90}\text{Rb}(158 \text{ s})$	831.69(28), 1060.70(6.69), 4365.90(5.6)
1146.96 1	4.95 3	$^{131}\text{Te}(25.0 \text{ m})$	149.716(69), 452.323(18.18), 492.66(4.826)
• 1146.97 4	0.015 4	$^{47}\text{Ca}(4.536 \text{ d})$	1297.09(74), 489.23(6.5), 807.86(6.5)
• 1146.998 9	0.00058 21	$^{168}\text{Tm}(93.1 \text{ d})$	198.241(52.39), 815.990(48.99), 447.515(23.05)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1147		<sup>138</sup> Cs(33.41 m)	1435.795(76.3), 462.796(30.7), 1009.78(29.8)
1147.0	0.028 9	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
1147.3	0.008 3	<sup>185</sup> Ta(49.4 m)	177.59(25.7), 173.68(22.6), 65.86(3.9)
• 1147.1 2	0.132 14	<sup>190</sup> Ir(11.78 d)	186.718(52.4), 605.24(39.9), 518.55(34.0)
1147.1 10	0.21 4	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1147.2 15	0.022	<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
1147.2 3	0.96 17	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1147.2 2	0.306 12	<sup>141</sup> Nd(2.49 h)	1126.8(0.8), 1292.6(0.46), 145.4405(0.239)
1147.2 5	0.18 5	<sup>172</sup> Ta(36.8 m)	214.02(46), 95.23(17.5), 1109.27(12.4)
1147.228 150.123 10		<sup>200</sup> Au(48.4 m)	367.943(19), 1225.479(10.7), 1262.950(3.12)
• 1147.228 150.12 4		<sup>200</sup> Tl(26.1 h)	367.943(87), 1205.717(29.9), 579.298(13.8)
1147.3 3	0.156 23	<sup>61</sup> Zn(89.1 s)	475.0(16.85), 1660.5(7.80), 970.0(2.57)
1147.3 4	0.35 8	<sup>63</sup> Ga(32.4 s)	637.04(11), 627.10(10.3), 192.94(5.7)
1147.3 5	0.134 24	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
• 1147.33 10	1.28 3	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1147.36 15	0.073 19	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1147.4 2	†2.7 9	<sup>114</sup> Cs(0.57 s)	449.7(†100), 698.2(†11.8), 618.3(†5.0)
1147.4 5	0.047 16	<sup>227</sup> Fr(2.47 m)	90.035(39), 585.804(29.5), 64.267(14.5)
1147.57 15	0.70 9	<sup>197</sup> Pb(8 m)	385.85(50), 761.14(13.3), 375.48(12.8)
1147.6 3	4.2	<sup>111</sup> Sb(75 s)	154.48(71), 489.1(42), 1032.6(10.0)
1147.6 1	1.36 9	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1147.69 6	7.9	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1147.7	0.35	<sup>133</sup> Pr(6.5 m)	134.3(14), 74.0(10), 315.6(10)
1147.8 5	0.27 5	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
1147.8 5	0.015 7	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1147.8 7	0.6	<sup>151</sup> Ho(35.2 s)	527.4(63), 775.53(9.2), 209.5(5.69)
1147.8 10	0.31 18	<sup>170</sup> Ho(2.76 m)	258.2(37.0), 931.3(36.1), 181.6(23.8)
1147.84 10	20.5 1	<sup>156</sup> Pm(26.70 s)	173.75(52.0), 117.42(13.8), 267.32(13.3)
1147.87 5	7.91 8	<sup>78</sup> Rb(17.66 m)	454.97(63), 692.86(12.56), 562.15(11.41)
1147.87 5	7.75 12	<sup>78</sup> Rb(5.74 m)	454.97(81), 664.44(38.3), 1109.72(13.12)
1147.9 5	1.7 3	<sup>90</sup> Tc(49.2 s)	1054.3(100), 948.1(100), 944.7(36.6)
1147.9 4	0.009 5	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1147.9 3	0.089 24	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1147.9 1	0.394 25	<sup>230</sup> Ac(122 s)	454.95(8), 508.20(5.15), 1243.9(3.50)
1147.97 8	2.61 10	<sup>97</sup> Zr(16.91 h)	743.36(93), 507.64(5.03), 355.40(2.09)
• 1148.0 6	0.05 3	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1148 1	†1.6 6	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
1148.01 26	0.078 3	<sup>51</sup> Mn(46.2 m)	749.07(0.26), 1164.40(0.076), 2001.1(0.0371)
1148.03 4	9.15 12	<sup>145</sup> Ce(3.01 m)	724.33(59), 62.54(13.33), 284.53(8.14)
1148.05 14	0.078 6	<sup>66</sup> Ga(9.49 h)	1039.30(37), 2752.01(23.38), 833.50(5.89)
1148.1 6	0.023 9	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
1148.12 15	0.0061 13	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1148.18 8	1.53 9	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1148.18 8	†5×10 <sup>02</sup>	<sup>94</sup> Rb(2.702 s)	432.61(†9000), 213.429(†6000), 986.05(†4100)
1148.29 9	5.72 10	<sup>207</sup> Po(5.80 h)	992.33(59.3), 742.64(28.2), 911.79(16.95)
1148.3	†75	<sup>130</sup> Ce(25 m)	1072.6(†100), 997.7(†100), 920.5(†100)
1148.3 3	>0.21	<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
1148.3 2	0.046 8	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
• 1148.4 3	0.012 3	<sup>72</sup> As(26.0 h)	834.01(80), 629.95(7.92), 1463.95(1.107)
1148.4 4	0.11 3	<sup>113</sup> Sb(6.67 m)	497.96(80), 332.41(14.8), 88.25(2.7)
1148.4 6	0.10 5	<sup>122</sup> Cs(21.0 s)	331.1(48), 512.0(3.8), 817.9(3.09)
1148.49 13	0.00054 18	<sup>19</sup> O(26.91 s)	197.142(95.9), 1356.843(50.4), 109.894(2.71)
1148.5 10	0.039 4	<sup>107</sup> Rh(21.7 m)	302.77(66), 392.47(8.8), 312.21(4.8)
1148.5 1	4.5 18	<sup>141</sup> Gd(24.5 s)	351.1(89), 223.9(64), 574.9(51)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1148.5 2	1.16 6	<sup>143</sup> La(14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)
• 1148.5 3	0.014 6	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1148.51 6	0.110 7	<sup>131</sup> Te(25.0 m)	149.716(69), 452.323(18.18), 1146.96(4.95)
1148.56 10	0.194 20	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
1148.6 3	0.049 10	<sup>97</sup> Nb(72.1 m)	658.08(98), 1024.49(1.09), 1268.68(0.148)
1148.6 4	0.56 8	<sup>143</sup> Gd(39 s)	258.81(75), 204.77(19.4), 463.7(9.9)
1148.6 5	1.8 3	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1148.62 6	0.0183 15	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
1148.7 1	0.498 18	<sup>142</sup> Ba(10.6 m)	255.300(20.5), 1204.3(14.23), 895.2(13.9)
1148.7 1	0.142 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1148.75 8	0.76 5	<sup>201</sup> Pb(9.33 h)	331.19(79), 361.27(9.9), 945.96(7.4)
1148.8 3	0.78 9	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1148.83 3	0.042 14	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
1148.89 7	0.062 7	<sup>131</sup> Te(25.0 m)	149.716(69), 452.323(18.18), 1146.96(4.95)
• 1148.89 7	<0.6	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
• 1148.89 7	2.0 4	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
1148.9 4	4.3 4	<sup>109</sup> In(4.2 h)	203.5(74), 623.7(5.5), 426.25(4.12)
1148.9 1	0.056 3	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1148.9 4	0.226 14	<sup>146</sup> Pr(24.15 m)	453.88(48.0), 1523.7(15.6), 735.72(7.5)
1149.07 23	1.1 4	<sup>187</sup> Pt(2.35 h)	106.46(9), 201.52(6.4), 110.04(5.7)
• 1149.10 15	0.38 3	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1149.1 7	0.06 3	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1149.18 15	†6 1	<sup>160</sup> Eu(38 s)	173.19(†100), 513.6(†60), 412.56(†56)
1149.2 3	0.140 17	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1149.4 20	0.30 12	<sup>68</sup> Cu(3.75 m)	1339.96(12.0), 1077.35(12), 1041.3(9.6)
1149.4 8	†5.2 23	<sup>152</sup> Pr(3.24 s)	164.2(†100), 284.9(†81.0), 72.40(†38.9)
1149.4 7	†1.1 5	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
1149.50 16	0.0189 25	<sup>63</sup> Zn(38.47 m)	669.62(8), 962.06(6.5), 1412.08(0.75)
1149.56 21		<sup>106</sup> In(6.2 m)	632.66(100), 861.16(92), 997.87(48)
1149.58 2	0.669 25	<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
• 1149.6 5	0.043 7	<sup>69</sup> Ge(39.05 h)	1107.01(36), 574.17(13.3), 872.14(11.9)
1149.66 13	0.98 16	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1149.7 7	0.07 3	<sup>91</sup> Rb(58.4 s)	93.628(33.7), 2564.19(12.5), 3599.67(10.4)
1149.76 9	0.0157 6	<sup>188</sup> Re(16.98 h)	155.032(14.9), 632.99(1.25), 477.99(1.0)
• 1149.76 9	0.53 10	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
1149.8 2	†6	<sup>139</sup> I(2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
1149.8 2	0.65 3	<sup>177</sup> Yb(1.911 h)	150.392(20.3), 1080.21(5.6), 1241.2(3.47)
1149.83 7	7.6 6	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 628.03(6.7)
1149.9 2	2.28 20	<sup>121</sup> Cd(13.5 s)	324.976(49.5), 1040.26(16.8), 349.937(12.9)
1149.94 9	0.0119 6	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1150		<sup>111</sup> Sb(75 s)	154.48(71), 489.1(42), 1032.6(10.0)
1150.0 1	†1.71×10 <sup>3</sup>	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
1150.08 8	0.0231 23	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
1150.1 3	0.70 12	<sup>98</sup> Pd(17.7 m)	112.0(58), 662.2(19.7), 106.75(13.9)
1150.1 4	0.22 11	<sup>203</sup> Po(36.7 m)	908.64(55), 1090.95(19.2), 893.49(18.7)
1150.20 20	0.00306 20	<sup>106</sup> Rh(29.80 s)	511.842(20), 621.94(9.93), 1050.39(1.56)
1150.258 3	0.194 4	<sup>145</sup> Pr(5.984 h)	748.278(0.5250), 675.795(0.514), 72.500(0.261)
1150.3 10		<sup>86</sup> Y(14.74 h)	1076.64(83), 627.72(32.6), 1153.01(30.5)
1150.3 4	1.06 17	<sup>97</sup> Pd(3.10 m)	265.26(56), 475.2(26.7), 792.70(13.8)
1150.35 10	0.20	<sup>137</sup> I(24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
1150.38 13	0.46 4	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1150.4 2	0.54 12	<sup>108</sup> Tc(5.17 s)	242.25(82), 465.6(14.3), 707.81(11.4)
1150.4 3	†2.3 6	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
1150.50 8	0.0101 7	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1150.6 5	0.234 22	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1150.6 3	0.22 5	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1150.64 13	0.070 21	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
• 1150.65 17	2.08 6	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1150.7 15	0.13 7	<sup>65</sup> Ge(30.9 s)	649.7(33), 62.0(27), 809.1(21.5)
1150.7 3	0.23 3	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1150.7 2	4.1 6	<sup>118</sup> I(13.7 m)	605.71(86.0), 545.12(10.9), 600.71(10.2)
1150.7 2	0.86 11	<sup>118</sup> I(8.5 m)	605.71(99), 600.71(92), 614.42(65)
1150.7 7	>0.19	<sup>127</sup> Ba(12.7 m)	180.8(12), 114.8(9.3), 66.06(2.12)
• 1150.7 2	2.08 6	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
• 1150.7 5	0.034 9	<sup>190</sup> Ir(11.78 d)	186.718(52.4), 605.24(39.9), 518.55(34.0)
1150.71 9	0.40 6	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
1150.76 4	0.597 20	<sup>194</sup> Ir(19.15 h)	328.455(13.1), 293.545(2.55), 645.157(1.17)
• 1150.76 4	1.37 8	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
1150.79 10	0.037 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1150.8 5	0.34 12	<sup>157</sup> Tm(3.63 m)	455.00(9.3), 385.5(8.8), 348.40(8.4)
1150.81 6	0.42 21	<sup>123</sup> Cd(1.82 s)	1165.86(25.7), 1027.45(22.6), 2102.81(12.5)
1150.9 2	0.049 25	<sup>129</sup> La(11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
• 1150.90 9	0.86 10	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
1150.9 3	0.21 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1150.9 3	0.0153 6	<sup>188</sup> Re(16.98 h)	155.032(14.9), 632.99(1.25), 477.99(1.0)
1150.9 2	†2.2 2	<sup>203</sup> At(7.4 m)	639.4(†100), 641.5(†55.8), 738.1(†38.4)
1151.0 10	†3	<sup>99</sup> Rb(59 ms)	90.8(†100), 125.2(†40), 1071.6(†26)
1151.0 3		<sup>118</sup> Ag(3.76 s)	487.77(60), 677.13(11.9), 2788.7(11.8)
1151.0 3	0.35 7	<sup>142</sup> Eu(1.22 m)	768.1(100), 1023.3(92.0), 556.6(86.6)
• 1151 1	0.05 3	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1151.0 2	0.0147 20	<sup>251</sup> Fm(5.30 h)	880.8(2.19), 453.1(1.45), 405.6(0.99)
1151.1 6	0.029 19	<sup>125</sup> Sn(9.52 m)	332.10(97.2), 1404.0(0.70), 589.6(0.20)
1151.1 4	0.45 12	<sup>166</sup> Lu(2.65 m)	228.12(77.3), 337.50(41), 367.95(31.4)
1151.15 8	13.2 10	<sup>80</sup> Zn(0.545 s)	712.53(45.1), 715.40(33.8), 964.93(15.6)
1151.2 4	0.123 25	<sup>139</sup> Nd(5.50 h)	113.94(40), 737.96(35), 982.2(26.4)
1151.2 5	0.87 13	<sup>153</sup> Ho(2.0 m)	295.8(67), 637.0(5.36), 688.5(3.7)
• 1151.23 5	0.114 4	<sup>125</sup> Sn(9.64 d)	1067.10(10), 1089.15(4.59), 822.48(4.28)
1151.3 5	†8.3 9	<sup>103</sup> Mo(67.5 s)	83.4(†100), 423.91(†69), 45.8(†57)
• 1151.3 4	0.019 10	<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1151.4 5	0.58	<sup>67</sup> As(42.5 s)	122.7(19.2), 120.8(9.3), 243.6(7.8)
1151.4 9	0.014 7	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
1151.4	0.35 4	<sup>130</sup> La(8.7 m)	357.4(81.0), 550.7(25.9), 908.0(17.0)
1151.4 3	0.032 9	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1151.4 3		<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1151.41 6	1.11 9	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1151.5 10	0.082 17	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1151.51	>0.0029	<sup>135</sup> I(6.57 h)	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
1151.57 7	0.065 3	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1151.6 1	0.034 8	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1151.7 2	0.56 5	<sup>94</sup> Rb(2.702 s)	1309.1(87), 836.9(87.10), 1577.5(31.8)
1151.7 6	0.23	<sup>116</sup> Ag(2.68 m)	513.39(76), 2478.5(12), 699.58(11)
• 1151.70 7	0.21 3	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1151.71 9	0.044 8	<sup>110</sup> In(69.1 m)	657.7622(98), 2129.53(2.13), 2211.49(1.76)
1151.8 3	0.052 10	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1151.8 8	†3.1 9	<sup>160</sup> Tm(9.4 m)	125.8(†100), 728.5(†37), 264.1(†27)
1151.8 5	0.14	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1151.84 5	0.195 4	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
1151.9 4	4.4 4	<sup>29</sup> S(187 ms)	1383.51(19), 1953.83(17.02), 2422.5(15.5)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1151.9 3	0.5 1	<sup>150</sup> Er(18.5 s)	475.8(100), 130.0(2.6), 1014.0(0.9)
1152 1	0.91 21	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1152.0 4	†4.9 9	<sup>193</sup> Tl(21.6 m)	324.37(†100), 1044.7(†59), 676.10(†48)
1152.04 9	0.467 15	<sup>194</sup> Pb(12.0 m)	581.82(18.8), 1519.45(16.4), 203.82(16.2)
1152.05 11	0.44 3	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1152.1 5	†18 9	<sup>17</sup> C(193 ms)	1373.8(†100), 1849.5(†92), 1906.7(†29)
1152.2 4	0.064 16	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1152.2 4	3.0 3	<sup>132</sup> Sb(2.79 m)	973.9(99), 696.8(86), 989.6(14.9)
1152.3 2	0.37 6	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1152.3 4	†0.86 24	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
• 1152.330 260.0085 5		<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
1152.350 161.55 4		<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1152.4 2	0.85 11	<sup>119</sup> Cd(2.69 m)	292.9(36.8), 343.0(16.9), 1609.7(10.9)
1152.4 1	100 8	<sup>147</sup> Tb(1.7 h)	694.4(43), 139.9(27.46), 119.7(6.1)
1152.4	0.20	<sup>159</sup> Er(36 m)	624.5(33), 649.1(23.4), 205.92(9.7)
1152.42 9	2.2 3	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1152.5 2	0.023 3	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
• 1152.5 2	0.0029 13	<sup>148</sup> Pm(5.370 d)	1465.12(22), 550.284(22.00), 914.85(11.46)
1152.5 6	1.96 18	<sup>170</sup> Ho(2.76 m)	258.2(37.0), 931.3(36.1), 181.6(23.8)
1152.593 190.88 9		<sup>29</sup> Al(6.56 m)	1273.367(90.6), 2425.907(5.7), 2028.12(3.7)
1152.593 190.0150 15		<sup>29</sup> P(4.140 s)	1273.367(1.549), 2425.907(0.097), 2028.12(0.063)
1152.8 6	0.20	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1152.9 1	0.41 4	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1152.98 11	2.7	<sup>111</sup> Sn(35.3 m)	1914.70(1.99), 761.97(1.48), 1610.47(1.31)
1153 1	>0.35	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
1153.0 5	0.43 9	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
1153 1	†8.3 12	<sup>244</sup> Bk(4.35 h)	891.5(†100), 217.6(†88), 921.5(†19)
1153.01 4	30.5 9	<sup>86</sup> Y(14.74 h)	1076.64(83), 627.72(32.6), 777.35(22.4)
1153.01 4	0.69 7	<sup>86</sup> Y(48 m)	627.21(0.69), 1076.64(0.69), 98.68
• 1153.1 5	0.0109 25	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1153.2 3	0.143 20	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1153.2 7	0.86 9	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
• 1153.25 25	0.0071 12	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1153.3 3	0.39 6	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1153.3 10	0.040 22	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1153.4 4	0.11 5	<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
1153.43 12	0.00154 20	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1153.45 3	1.05 3	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1153.5 3	0.045 7	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1153.52 4	0.144 11	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1153.6 5	0.032 16	<sup>136</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
1153.6 1	0.126 13	<sup>143</sup> Cs(1.78 s)	195.554(13), 232.421(8.32), 306.424(6.80)
1153.64 7	0.88 6	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
• 1153.67 10	6.79 6	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
• 1153.67 10	0.236 22	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1153.67 18	1.10 8	<sup>172</sup> Ta(36.8 m)	214.02(46), 95.23(17.5), 1109.27(12.4)
1153.675 290.0637 14		<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1153.7 3	†10	<sup>154</sup> Nd(25.9 s)	151.703(†800), 799.55(†600), 180.693(†510)
1153.7 10	†1.9 7	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
1153.79 10	1.07 6	<sup>77</sup> Rb(3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
1153.8 5	0.47	<sup>101</sup> Cd(1.2 m)	98.0(47), 1722.5(11), 1259.3(8)
1153.8 3	0.098 10	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
1153.8 1	0.24 6	<sup>142</sup> Gd(70.2 s)	750.2(11.2), 178.90(11.20), 284.4(6.16)
1153.8 2	†2.1 2	<sup>203</sup> At(7.4 m)	639.4(†100), 641.5(†55.8), 738.1(†38.4)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1153.9 3	0.0054 11	<sup>73</sup> Se(7.15 h)	360.80(108), 67.03(78), 865.09(0.584)
1153.9 3	0.154 15	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1153.9	0.31	<sup>148</sup> Pr(2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
1153.9	0.07	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
1154.0 15		<sup>86</sup> Y(14.74 h)	1076.64(83), 627.72(32.6), 1153.01(30.5)
1154.0 3	0.17 6	<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
1154.10 20	1.6 6	<sup>114</sup> Sb(3.49 m)	1299.90(99), 887.60(17.4), 327.18(7.0)
1154.17 17	0.51 16	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
• 1154.19 13	4.73 4	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
• 1154.19 13	10.37 5	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1154.2 15	0.050 14	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1154.2 4	0.32 8	<sup>190</sup> Au(42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
1154.23 20	0.032 5	<sup>131</sup> La(59 m)	108.081(25.0), 417.783(18.0), 365.162(16.9)
1154.31 17	†1.07 7	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
1154.4		<sup>83</sup> Y(7.08 m)	35.50(0.44), 882.1(6.30), 489.90(5.53)
1154.4 3	0.65 17	<sup>105</sup> Mo(35.6 s)	85.4(25.0), 76.50(19.3), 147.8(14.8)
1154.4 12	0.20 6	<sup>112</sup> Sb(51.4 s)	1257.05(96), 990.70(14.3), 670.0(3.7)
1154.4 3	†8.5 15	<sup>159</sup> Yb(1.58 m)	166.16(†500), 177.12(†159), 390.20(†113)
1154.5 3	0.30 4	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
1154.54 8	0.46 3	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
1154.6 1	0.0050 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
1154.6 2	1.69 12	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
1154.64 16	0.68 5	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
1154.65 11	0.160 22	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1154.66 5	†366 30	<sup>164</sup> Tm(2.0 m)	91.40(†1500), 768.91(†279), 208.08(†254)
1154.68	0.66 4	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
• 1154.7 10	0.03 3	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1154.7 5	†2.5 6	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
1154.77 3	0.0072 4	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
1154.77 3	0.098 20	<sup>250</sup> Es(2.22 h)	989.12(13.3), 1031.85(10.6), 828.82(5.5)
1154.8 5	1.80 18	<sup>89</sup> Mo(2.04 m)	658.6(5.7), 1272.6(3.7), 844.0(3.7)
1154.8 10	1.19 21	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1154.85 9	0.60 4	<sup>80</sup> Ga(1.697 s)	659.14(78.0), 1083.47(48.4), 1109.36(18.6)
1154.86 5	1.94 11	<sup>77</sup> Zn(2.08 s)	189.49(28.1), 473.94(19.7), 1832.0(12.4)
1154.9 5	0.69 10	<sup>84</sup> Y(40 m)	793.3(99), 974.6(75), 1040.2(56)
• 1154.980 150.164 10		<sup>172</sup> Tm(63.6 h)	78.7435(6.5), 1093.657(6.0), 1387.093(5.6)
1155	>0.0049	<sup>90</sup> Nb(14.60 h)	1129.224(92.7), 2318.968(82.03), 141.178(66.8)
1155.0 5	0.13 7	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1155.0 10		<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
1155.0 6		<sup>144</sup> Cs(1.01 s)	199.326(†100.0), 639.00(†21.2), 758.96(†20.6)
1155.0 2	0.55 5	<sup>190</sup> Tl(2.6 m)	416.4(79), 625.4(11.1), 683.5(8.7)
1155.04 24	0.36 7	<sup>157</sup> Sm(482 s)	197.870(56.00), 196.461(16.8), 394.351(11.93)
1155.1 5	0.14 6	<sup>100</sup> Rh(20.8 h)	539.59(78.4), 2376.1(35.3), 1553.4(21)
1155.19 2	1.64 4	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1155.2 8	0.04 2	<sup>123</sup> In(5.98 s)	1130.5(63), 1019.7(32), 618.8(2.6)
• 1155.2 10	0.040 22	<sup>127</sup> Sb(3.85 d)	685.7(37), 473.0(25.7), 783.7(15.0)
• 1155.2 2	0.189 10	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
• 1155.25 30	0.0336 22	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1155.27 10	3.05 7	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
1155.3 3	†1.5 4	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1155.37 17	0.0194 11	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
1155.47 3	2.09 5	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1155.5 1	9.5 17	<sup>129</sup> Sn(6.9 m)	1161.31(56.0), 1128.44(50), 760.8(16.8)
1155.52 18	0.65 8	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1155.6 4	0.025	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
1155.6 5	0.27 3	<sup>190</sup> Re(3.2 h)	186.718(27.8), 605.24(14.9), 557.972(14.3)
1155.6 5	0.015 4	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1155.7 6	0.0105 19	<sup>72</sup> Ga(14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)
1155.7 4	2.7 9	<sup>115</sup> Te(6.7 m)	770.40(34.2), 723.569(18), 1071.70(12.9)
1155.7 2	0.18 3	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1155.7 2	†0.50 9	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1155.7 2	0.23 4	<sup>160</sup> Ho(25.6 m)	728.18(46.9), 879.383(26.6), 962.317(25.6)
1155.7 3	0.47 8	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
1155.72 14	1.09 3	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1155.8 2	†3.4 5	<sup>110</sup> Tc(0.92 s)	240.67(†100), 372.1(†17.0), 613.0(†16.0)
1155.8 2	0.0041 21	<sup>131</sup> Te(25.0 m)	149.716(69), 452.323(18.18), 1146.96(4.95)
1155.8 3	†1.9 8	<sup>131</sup> Pr(1.53 m)	266.13(†100), 72.82(†64), 387.56(†38)
1155.8 5	0.49 5	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
1155.826 280	0.0194 10	<sup>134</sup> La(6.45 m)	604.699(5.05), 1554.934(0.414), 563.227(0.359)
1155.9 1	0.40 5	<sup>236</sup> Pa(9.1 m)	642.35(37.0), 687.59(9.9), 1762.7(6.0)
1156.0 2	1.02 18	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
• 1156	0.131 19	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
1156.0 5	0.00060 15	<sup>171</sup> Er(7.516 h)	308.31(64.4), 295.901(28.9), 111.621(20.5)
1156.0 3	0.42 7	<sup>183</sup> Au(42.0 s)	161.18(9.4), 214.13(5.9), 313.08(5.0)
1156 1	0.007 3	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
• 1156.03 16	0.051 9	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1156.09 10	3.8 3	<sup>197</sup> Pb(8 m)	385.85(50), 761.14(13.3), 375.48(12.8)
1156.1	0.23	<sup>199</sup> Po(4.13 m)	1002.19(19), 1034.3(16), 362.01(7)
1156.28 12	0.00016 12	<sup>106</sup> Rh(29.80 s)	511.842(20), 621.94(9.93), 1050.39(1.56)
1156.3 4	0.0036 10	<sup>91</sup> Mo(15.49 m)	1636.99(0.329), 1581.04(0.226), 2631.97(0.118)
1156.3 1	3.4	<sup>104</sup> Sn(20.8 s)	132.7(56), 912.6(42), 401.2(16.2)
1156.3 3	0.069 25	<sup>133</sup> Te(12.5 m)	312.072(62), 407.63(27.1), 1333.21(10.67)
1156.3 4	0.0010 5	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
1156.3	0.58 10	<sup>150</sup> Pr(6.19 s)	130.2(32), 722.5(7.0), 852.7(6.1)
1156.3 5	0.40 4	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
1156.41 15	8.4 6	<sup>81</sup> Ge(7.6 s)	335.98(58.9), 792.94(34), 1495.53(19.9)
1156.54 7	0.316 25	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
1156.60 6	0.0018 4	<sup>194</sup> Ir(19.15 h)	328.455(13.1), 293.545(2.55), 645.157(1.17)
• 1156.60 6	0.44 4	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
1156.7	0.47 8	<sup>40</sup> Cl(1.35 m)	1460.830(79), 2839.8(30.4), 2621.5(15.4)
1156.7 4	0.29 11	<sup>139</sup> Sm(2.57 m)	273.7(37), 306.7(28.5), 596.3(8.0)
1156.77 7	1.05 4	<sup>58</sup> Mn(65.3 s)	810.764(<0.026), 1323.09(6.44), 459.160(21.4)
1156.8 5	0.20 5	<sup>100</sup> Cd(49.1 s)	936.55(66), 139.71(6.7), 582.5(6.3)
1156.80 14	†6.6 5	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
1156.8 5	0.025 5	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1156.8 4	0.48 24	<sup>154</sup> Ho(11.76 m)	334.6(84), 412.4(15.0), 873.4(12.5)
1156.90 15	0.12 3	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1156.90 15	0.07 3	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1156.9 10		<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
1156.92 18	0.0071 7	<sup>81</sup> Rb(30.5 m)	49.56(0.78), 643.6(0.115), 1194.9(0.112)
1157.0 2	0.4	<sup>96</sup> Rh(9.90 m)	832.57(100), 685.49(95.7), 631.71(74.5)
1157.0 7	1.1 4	<sup>187</sup> Pt(2.35 h)	106.46(9), 201.52(6.4), 110.04(5.7)
1157.031	58	<sup>44</sup> K(22.13 m)	2150.76(22.7), 2518.95(9.69), 1499.43(7.8)
1157.031	99.9	<sup>44</sup> Sc(3.927 h)	1499.43(0.912), 2656.41(0.115), 2144.2(0.0069)
• 1157.031	1.2	<sup>44</sup> Sc(58.6 h)	1001.85(1.2), 1126.08(1.2)
1157.07 10	3.56 16	<sup>121</sup> Ag(0.78 s)	314.55(32.1), 353.43(19.9), 500.61(9.3)
1157.09 11	0.316 24	<sup>93</sup> Kr(1.286 s)	253.42(41.2), 323.89(24.1), 266.83(20.6)
1157.14 15	0.0072 13	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1157.2 4	0.66 11	<sup>99</sup> Pd(21.4 m)	136.00(73), 263.60(15.2), 673.38(6.9)
1157.2 2	0.096 12	<sup>147</sup> Pr(13.4 m)	77.9921(15), 314.675(13.2), 641.380(10.0)
1157.2	1.16 12	<sup>148</sup> Pr(2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
• 1157.2 4	0.0062 16	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1157.3 6	0.8 3	<sup>78</sup> Zn(1.47 s)	224.75(43.9), 181.68(28.1), 860.30(24.5)
1157.3 3	1.16 12	<sup>148</sup> Pr(2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
• 1157.3127 60.59 10		<sup>182</sup> Ta(114.43 d)	67.75001(41.2), 1121.3007(34.9), 1221.4066(26.98)
1157.3127 60.57 6		<sup>182</sup> Re(12.7 h)	67.75001(38.2), 1121.3007(32), 1221.4066(24.8)
• 1157.3127 60.37 4		<sup>182</sup> Re(64.0 h)	229.3220(26), 67.75001(22.2), 1121.3007(22.0)
1157.4 1	2.8 3	<sup>104</sup> Tc(18.3 m)	358.0(89), 530.5(15.6), 535.1(14.7)
1157.40 10	2.8 3	<sup>118</sup> Ag(2.0 s)	487.77(57), 677.13(53), 1058.39(14.8)
1157.4 5	0.16 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1157.41 10	3.4	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1157.47 3	11.3 4	<sup>130</sup> I(12.36 h)	536.09(99), 668.54(96), 739.48(82)
1157.5	0.07	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
1157.52 4	0.0005 3	<sup>15</sup> C(2.449 s)	5297.817(63.2), 8310.15(0.032), 9046.78(0.031)
1157.54 7	0.0072 11	<sup>128</sup> Cs(3.66 m)	442.901(26.8), 526.557(2.41), 1140.079(1.168)
1157.55 9	0.134 16	<sup>201</sup> Pb(9.33 h)	331.19(79), 361.27(9.9), 945.96(7.4)
1157.6 3	0.007 4	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1157.61 4	0.52 6	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
1157.7 5	0.10 3	<sup>99</sup> Nb(2.6 m)	97.785(7), 253.50(3.64), 2641.3(3.64)
1157.7 5	0.22 7	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
1157.8 3	0.51 9	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
1157.95 9	0.020 4	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1158.0 8	0.12 6	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1158.0 7	0.090 24	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
1158.0 6	†0.82 14	<sup>120</sup> I(81.0 m)	560.44(†137), 1523.0(†21.1), 640.85(†17.1)
1158.0 6	2.7 5	<sup>120</sup> I(53 m)	560.44(100), 601.11(87), 614.62(67)
1158 1	0.43	<sup>125</sup> Cs(45 m)	526(24), 111.8(9), 412(5)
1158.0 5	0.013 4	<sup>131</sup> La(59 m)	108.081(25.0), 417.783(18.0), 365.162(16.9)
1158 1	0.22	<sup>142</sup> Gd(70.2 s)	750.2(11.2), 178.90(11.20), 284.4(6.16)
1158.0 5	0.034 9	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1158.0 2	0.05 3	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1158.0 7	0.043 13	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1158.01 18	0.265 23	<sup>80</sup> Ga(1.697 s)	659.14(78.0), 1083.47(48.4), 1109.36(18.6)
• 1158.0817 60.40 6		<sup>182</sup> Ta(114.43 d)	67.75001(41.2), 1121.3007(34.9), 1221.4066(26.98)
1158.0817 60.10 3		<sup>182</sup> Re(12.7 h)	67.75001(38.2), 1121.3007(32), 1221.4066(24.8)
• 1158.0817 60.88 4		<sup>182</sup> Re(64.0 h)	229.3220(26), 67.75001(22.2), 1121.3007(22.0)
• 1158.10 6	†0.60 4	<sup>102</sup> Rh(207 d)	475.070(†47), 628.05(†4.6), 1103.16(†2.99)
1158.2 4	0.0032 11	<sup>73</sup> Se(7.15 h)	360.80(108), 67.03(78), 865.09(0.584)
1158.2 5	0.148 15	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
1158.2 8	0.038 13	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
1158.2 4	1.5 3	<sup>128</sup> Sb(9.01 h)	753.82(100), 743.22(100), 314.12(61)
1158.2 4	1.74 19	<sup>128</sup> Sb(10.4 m)	753.82(96.4), 743.22(96), 314.12(89)
1158.2 6	†7 2	<sup>135</sup> Pm(49 s)	198.5(†100), 207.2(†70), 463.5(†62)
1158.2 1	0.56 8	<sup>143</sup> Gd(112 s)	271.94(84), 588.00(15.7), 798.89(10.7)
• 1158.2 9	0.008 5	<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
1158.3 4	0.76 8	<sup>97</sup> Rh(30.7 m)	421.55(75), 840.13(12.0), 878.80(9.0)
1158.3 5	0.008 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1158.38 4	0.70 18	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
1158.38 4	0.84 20	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
1158.4 2	1.98 21	<sup>83</sup> As(13.4 s)	734.60(43), 1113.10(14.7), 2076.70(11.9)
1158.42 15	0.094	<sup>137</sup> I(24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
1158.44 17	0.280 19	<sup>91</sup> Mo(65.0 s)	1507.93(24.3), 1208.09(18.7), 2240.87(0.73)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1158.45 30	0.0206 13	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1158.47 6	0.0123 10	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
1158.5 3	0.046 4	<sup>77</sup> Kr(74.4 m)	129.64(81), 146.59(37.3), 312.0(3.7)
1158.50 20	0.030 3	<sup>93</sup> Y(10.18 h)	266.9(7.3), 947.1(2.09), 1917.8(1.55)
1158.5 7	0.21 4	<sup>99</sup> Rh(4.7 h)	340.71(70), 617.8(12.0), 1261.2(11)
1158.5 8	0.021 14	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1158.5 3	0.47	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1158.56 9	†4.7 7	<sup>168</sup> Lu(5.5 m)	1483.65(†100), 228.58(†97), 111.8(†68)
1158.6 3	1.8 6	<sup>152</sup> Ho(49.5 s)	647.2(92), 613.8(88.4), 683.3(88)
1158.7 5	0.021 7	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
1158.7 2	1.3	<sup>146</sup> Cs(0.343 s)	181.02(57.0), 557.76(9.18), 332.38(6.44)
1158.73 15	†9	<sup>181</sup> Pt(51 s)	289.29(†100), 111.97(†100), 230.15(†92)
1158.8 7	0.10 5	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
1158.8 2	†124 48	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
1158.80 11	0.84 5	<sup>209</sup> Rn(28.5 m)	408.32(50.3), 745.78(22.8), 337.45(14.5)
1158.90 20	0.52 13	<sup>99</sup> Ag(124 s)	264.41(65), 832.29(13.5), 805.07(12.5)
1158.9 2	0.54 5	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1159 1	0.08 1	<sup>87</sup> Zr(1.68 h)	1227(1.0), 1209.8(0.33), 1024(0.28)
1159		<sup>109</sup> Tc(0.87 s)	194.6(†100), 128.7(†51), 96.2(†48)
1159.0 5	†9 2	<sup>130</sup> Sn(1.7 m)	144.9(†100), 899.2(†49), 84.7(†42)
• 1159.04 6	7.25 3	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1159.05 51	0.08 3	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1159.10 8	0.33 3	<sup>134</sup> I(52.6 m)	847.025(95.4), 884.090(64.9), 1072.547(15.0)
1159.1 3	0.183 24	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1159.18 5	0.0446 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
1159.2 7	0.93 19	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
1159.2 5	†3.1 3	<sup>182</sup> Ir(15 m)	273.23(†100), 126.79(†77), 236.3(†21.0)
1159.2 2	0.0060 20	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
1159.28 9	0.00139 4	<sup>176</sup> Lu(3.635 h)	88.34(0.55640), 1061.61(0.000762), 201.83(>0.0007)
1159.28 9	25	<sup>176</sup> Ta(8.09 h)	88.34(12), 1224.93(6), 201.83(6)
1159.30 17	0.031 4	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
1159.4 3	0.058 12	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1159.4 5	0.062 10	<sup>159</sup> Eu(18.1 m)	67.8(19), 78.6(9.1), 95.7(7.0)
1159.44 4	0.0088 21	<sup>199</sup> Pt(30.80 m)	542.993(15), 493.772(5.59), 317.056(4.95)
1159.49 22	†16.0 19	<sup>102</sup> Y(0.30 s)	151.73(†100), 1211.08(†40), 1059.21(†29)
1159.5 2	†0.60 13	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1159.5 5	0.53 20	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
1159.5	†<5	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
1159.52 10	0.013 3	<sup>155</sup> Sm(22.3 m)	104.3346(74.6), 245.771(3.7), 141.4428(1.98)
1159.68 14	0.020 4	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1159.74 20	†4.8 10	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1159.75 16	0.033	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1159.75	>0.033	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
1159.9 2	0.104 23	<sup>135</sup> I(6.57 h)	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
1159.9 3	†0.23 5	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
• 1159.920 160.100 10		<sup>56</sup> Co(77.27 d)	846.771(100), 1238.282(67.6), 2598.459(17.28)
1159.94 6	0.066 11	<sup>69</sup> As(15.2 m)	232.69(11), 145.95(4.96), 86.78(3.44)
• 1159.97 10	1.48 5	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
• 1160		<sup>124</sup> I(4.18 d)	602.730(60), 1690.980(10.41), 722.786(9.98)
1160.0 2	†5.8 9	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
1160.09 12	0.00157 15	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
• 1160.15 15	0.67 4	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1160.17 9	†1.20 8	<sup>184</sup> Ir(3.09 h)	263.97(†100), 119.80(†45), 390.38(†38)
1160.18 20	0.35 8	<sup>193</sup> Hg(11.8 h)	257.97(61), 407.63(25), 573.25(14.2)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1160.2 4	0.81 17	<sup>127</sup> Cd(0.43 s)	1235.07(8.3), 376.28(7.5), 523.60(5.15)
1160.2 5	1.71 5	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
1160.2 3	0.062 17	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1160.32 10	0.23 4	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1160.33 10	0.63 5	<sup>74</sup> Ga(8.12 m)	595.847(91), 2353.46(44.5), 608.353(14.3)
1160.37 8	0.28 9	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
1160.4 4	2.4 5	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
1160.4 11	2.0 11	<sup>168</sup> Ta(2.0 m)	124.0(35.6), 261.6(22.7), 751.4(7.3)
• 1160.4 5	0.030 9	<sup>190</sup> Ir(11.78 d)	186.718(52.4), 605.24(39.9), 518.55(34.0)
1160.47 25	0.035 6	<sup>89</sup> Rb(15.15 m)	1031.94(58), 1248.19(42.6), 2196.02(13.3)
• 1160.5 3	0.0440 18	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1160.5 4	0.16 5	<sup>156</sup> Tm(83.8 s)	344.55(86), 452.85(17.2), 585.93(14.6)
1160.5 10	0.129 18	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
• 1160.58 6	0.0024 3	<sup>143</sup> Ce(33.039 h)	293.266(42.80), 57.356(11.7), 664.571(5.69)
1160.6 2	0.86 8	<sup>96</sup> Rb(0.199 s)	815.0(78.00), 692.0(8.0), 813.2(7.0)
1160.6 2	0.6	<sup>97</sup> Rb(169.9 ms)	815.0(100), 692.0(16.5), 414.3(15.0)
1160.6 5	†2.02 25	<sup>201</sup> Po(15.3 m)	890.1(†100), 240.1(†71.0), 904.2(†54.8)
1160.8 7	0.12 3	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
1160.8 1	0.148 25	<sup>129</sup> La(11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
1160.8	1.10 5	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
1160.8 3	0.18 3	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1160.8 3	0.112 14	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
1160.8 3	0.011 3	<sup>208</sup> Tl(3.053 m)	2614.533(99), 583.191(84.5), 510.77(22.6)
1160.82 15	†35 5	<sup>189</sup> Au(28.7 m)	713.17(†100), 812.68(†63), 447.65(†55)
1160.85 22	0.00150 14	<sup>137</sup> Ce(9.0 h)	447.15(1.8), 10.6(0.8), 436.59(0.265)
1160.96 18	0.098 13	<sup>138</sup> Xe(14.08 m)	258.411(31.5), 434.562(20.3), 1768.26(16.7)
1161 2	0.163 22	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
1161.00 4	3.97 21	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
1161.0 5	0.54 21	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1161.0 5	†8.7 10	<sup>113</sup> I(6.6 s)	462.5(†100), 622.4(†74), 351.5(†43)
1161.0 4	0.72 16	<sup>190</sup> Au(42.8 m)	295.78(71.0), 301.82(23.4), 597.67(9.4)
1161 1	†1.8 7	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
1161.04 4	0.0150 5	<sup>145</sup> Pr(5.984 h)	748.278(0.5250), 675.795(0.514), 72.500(0.261)
1161.1 6	0.0068 13	<sup>162</sup> Tb(7.60 m)	260.070(37.2), 807.53(42.8), 888.20(38.7)
1161.1 4	0.52 16	<sup>183</sup> Os(9.9 h)	1101.94(49.0), 1107.92(22.36), 1034.85(6.02)
1161.2 2	†6.5 1	<sup>114</sup> Te(15.2 m)	90.28(†100), 83.8(†67), 1417.6(†32)
1161.2 1	1.77 23	<sup>118</sup> I(8.5 m)	605.71(99), 600.71(92), 614.42(65)
1161.2 3		<sup>146</sup> Dy(29 s)	2156.8, 1915.7, 1876.7
1161.2 3	0.28 3	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1161.2 3	0.19 3	<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
1161.2 7	0.31 6	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1161.27 9	0.86 6	<sup>199</sup> Pb(90 m)	366.90(44.2), 353.39(9.5), 1135.04(7.8)
1161.3 3	0.19 6	<sup>74</sup> Br(25.4 m)	634.78(64), 219.05(18.1), 634.26(14.1)
1161.3 3	0.103 10	<sup>123</sup> Xe(2.08 h)	148.9(49), 178.1(14.9), 330.2(8.6)
1161.31 8	56.0 11	<sup>129</sup> Sn(6.9 m)	1128.44(50), 760.8(16.8), 782.48(15)
1161.4 4	†0.7 2	<sup>138</sup> Pm(3.24 m)	520.9(†100), 729.0(†37.8), 493.1(†21.6)
1161.4 2	†9	<sup>139</sup> I(2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
1161.4 2	†3.11 14	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1161.4 8	0.49 3	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1161.4 2	0.0010	<sup>239</sup> U(23.45 m)	74.664(48), 43.533(4.14), 662.24(0.18)
1161.5	†<5	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
1161.6 5	1.5 4	<sup>195</sup> Pb(15.0 m)	383.64(106.9), 394.21(44), 878.40(24.2)
1161.68 5	0.0221 7	<sup>159</sup> Ho(33.05 m)	121.012(36.2), 131.973(23.6), 309.594(17.2)
1161.7 6	0.014 9	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1161.7 3	0.35 6	<sup>118</sup> Cs(14 s)	337.4(100), 472.8(37.4), 586.6(15.4)
1161.7 3	0.40 5	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
1161.78 18	0.096 12	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
1161.79 10	0.69 8	<sup>94</sup> Y(18.7 m)	918.74(56), 1138.88(6.0), 550.88(4.9)
1161.8 3	0.9 3	<sup>108</sup> Sn(10.30 m)	396.44(64.3), 272.75(45.5), 669.08(22.6)
1161.8 10	0.107 22	<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
1161.9 2	0.032 5	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
• 1161.9	0.011	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1161.955 160.714 17		<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1162 1	0.15 8	<sup>97</sup> Rh(30.7 m)	421.55(75), 840.13(12.0), 878.80(9.0)
1162.0 1	0.312 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1162.0 10	0.35 3	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1162.02 6	0.0096 13	<sup>128</sup> Cs(3.66 m)	442.901(26.8), 526.557(2.41), 1140.079(1.168)
1162.17 8	0.7 3	<sup>59</sup> Mn(4.6 s)	726.7(42), 472.71(29.0), 570.81(24.8)
1162.2 1	†10.3 13	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
1162.23 18	0.37 10	<sup>204</sup> At(9.2 m)	684.341(95), 516.318(90), 426.253(67.5)
1162.32 7	0.0088 5	<sup>145</sup> Pr(5.984 h)	748.278(0.5250), 675.795(0.514), 72.500(0.261)
• 1162.35 30	0.0403 22	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1162.4 7	0.78 8	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
1162.47 6	0.95 11	<sup>172</sup> Ta(36.8 m)	214.02(46), 95.23(17.5), 1109.27(12.4)
• 1162.49 7	0.180 12	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1162.50 10	0.215 20	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1162.5 5	†4 2	<sup>134</sup> Pr(17 m)	1964.1(†100), 1904.3(†100), 1579.9(†100)
1162.5 4	0.57	<sup>154</sup> Pm(2.68 m)	184.810(32), 81.99(15.4), 546.66(14.5)
1162.60 10	1.56 9	<sup>106</sup> In(5.2 m)	632.66(92), 1714.90(17.1), 861.16(10.6)
1162.6 2	2.71 19	<sup>230</sup> Fr(19.1 s)	711.0(13.6), 129.1(11.0), 728.4(7.3)
• 1162.7 2	0.035 10	<sup>131</sup> Te(30 h)	773.67(49.9), 852.21(27.0), 793.75(18.10)
1162.79 3	1.229 13	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1162.8 2	0.76 8	<sup>143</sup> Gd(112 s)	271.94(84), 588.00(15.7), 798.89(10.7)
1162.8 5	0.023 16	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1162.9 5	0.34 5	<sup>96</sup> Rh(9.90 m)	832.57(100), 685.49(95.7), 631.71(74.5)
1162.9 3	1.21 6	<sup>158</sup> Sm(5.30 m)	189.4(15.2), 363.6(12.4), 324.5(10.6)
1163 1	0.33 5	<sup>51</sup> Sc(12.4 s)	1437.3(52), 2144.1(31.8), 1567.5(14.9)
1163.0 3	0.25 5	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1163.0 3	†1.4	<sup>96</sup> Rb(0.199 s)	352.02(†700), 204.02(†200), 680.7(†121)
1163.0 3	4.5 10	<sup>120</sup> In(47.3 s)	1171.3(100), 1023.1(97.4), 197.3(80.6)
1163.0 1	0.037 3	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1163.0 3	0.131 20	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1163.03 10	1.18 4	<sup>86</sup> Y(14.74 h)	1076.64(83), 627.72(32.6), 1153.01(30.5)
1163.04 10	0.75 7	<sup>224</sup> Fr(3.30 m)	215.985(33.1), 131.613(16.3), 836.90(9.8)
1163.08 18	0.25	<sup>186</sup> Ta(10.5 m)	197.93(50), 214.87(42.3), 510.82(37.5)
1163.11 13	0.075 7	<sup>72</sup> Ga(14.10 h)	834.01(96), 2201.69(25.9), 629.95(24.8)
• 1163.11 13	0.0135 16	<sup>72</sup> As(26.0 h)	834.01(80), 629.95(7.92), 1463.95(1.107)
1163.14 14	0.85 7	<sup>157</sup> Sm(482 s)	197.870(56.00), 196.461(16.8), 394.351(11.93)
• 1163.16 8	0.045 8	<sup>110</sup> Ag(249.79 d)	657.7622(94.0), 884.685(72.2), 937.493(34.13)
• 1163.2 2	0.0186 10	<sup>124</sup> Sb(60.20 d)	602.730(97.8), 1690.980(47.3), 722.786(10.76)
1163.2 3	0.094 15	<sup>142</sup> Eu(2.34 s)	768.1(10), 1658.1(1.75), 1754.1(1.49)
1163.20 30	0.089 22	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1163.28 7	0.29 10	<sup>110</sup> In(4.9 h)	657.7622(98.3), 884.685(92.9), 937.493(68.4)
1163.3 3	0.34 4	<sup>111</sup> Pd(5.5 h)	70.44(8.3), 391.25(5.4), 632.80(3.6)
1163.3 3	0.028 8	<sup>143</sup> Eu(2.63 m)	1107.3(8), 1536.8(3.29), 1912.7(2.13)
1163.4 1	67.3 8	<sup>62</sup> Co(13.91 m)	1172.9(97), 2003.48(18.4), 1718.6(6.7)
1163.5 4	0.18 3	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
1163.6 2	0.010 6	<sup>101</sup> Pd(8.47 h)	296.29(19), 590.44(12.06), 269.67(6.43)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1163.6 4	0.38 6	<sup>122</sup> Cs(21.0 s)	331.1(48), 512.0(3.8), 817.9(3.09)
1163.6 6	0.99 10	<sup>176</sup> Tm(1.9 m)	189.57(44.5), 1069.3(34), 381.8(21.8)
1163.61 3	15.4 6	<sup>122</sup> In(10.3 s)	1140.55(98), 1001.58(50.7), 1190.58(20.5)
1163.8 4	0.70 13	<sup>63</sup> Co(27.4 s)	87.13(48.7), 981.7(2.11), 155.6(1.60)
• 1163.84 5	0.0310 19	<sup>125</sup> Sn(9.64 d)	1067.10(10), 1089.15(4.59), 822.48(4.28)
1163.85 6	32000 4	<sup>119</sup> In(18.0 m)	1065.55(†80000), 1249.71(†44000), 1089.9(†15000)
1163.9 3	0.39 10	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
1163.96 20	0.09 3	<sup>195</sup> Tl(1.16 h)	563.52(10.5), 884.47(10.0), 1363.88(8.4)
1164.0 3	0.66 6	<sup>75</sup> Zn(10.2 s)	228.67(28.9), 432.29(20.2), 155.94(17.2)
1164.0 3	0.13 3	<sup>134</sup> I(52.6 m)	847.025(95.4), 884.090(64.9), 1072.547(15.0)
1164.0 1	4.5 18	<sup>141</sup> Gd(24.5 s)	351.1(89), 223.9(64), 574.9(51)
1164.1 7	0.21 4	<sup>124</sup> In(3.17 s)	1131.64(68), 3214.15(21.5), 997.79(21.1)
1164.1 5	†0.6 3	<sup>185</sup> Pt(33.0 m)	229.60(†100), 135.3(†80), 197.4(†74)
1164.2 2	†0.99 9	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
• 1164.2 3	0.065 6	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
1164.20 17	0.320 25	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1164.29 11	0.49 4	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1164.3 8	1.5 4	<sup>116</sup> Cs(3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
1164.36 25	0.090 14	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1164.40 30	0.076 3	<sup>51</sup> Mn(46.2 m)	749.07(0.26), 1148.01(0.078), 2001.1(0.0371)
1164.4 20	0.04 3	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1164.4 6	0.075 6	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
1164.5 10	0.36 22	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
1164.5	0.010	<sup>210</sup> Rn(2.4 h)	458.25(1.7), 648.70(0.843), 570.95(0.840)
1164.50 8	0.067 5	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
• 1164.5 5	0.015 3	<sup>232</sup> Pa(1.31 d)	969.315(41.6), 894.351(19.8), 150.059(10.8)
1164.53 3	1.31 8	<sup>81</sup> Ga(1.221 s)	216.47(37.4), 828.26(22.1), 711.18(17.6)
1164.6 2	1.1	<sup>129</sup> Ba(2.23 h)	6.545(23.7), 214.30(13.4), 220.83(8.54)
1164.6 5	†4.8	<sup>179</sup> Os(6.5 m)	65.39(†100), 218.6(†17), 32.3(†17)
1164.65 12	0.0501 11	<sup>77</sup> Ge(11.30 h)	264.44(54), 211.03(30.8), 215.50(28.6)
• 1164.7 5		<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1164.7 2	†2.7 3	<sup>185</sup> Hg(21.6 s)	222.8(†100.0), 258.7(†98), 212.5(†58)
1164.72 22	†3.1 4	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
1164.78 5	4.5 5	<sup>98</sup> Rh(8.7 m)	652.43(94), 745.36(5.3), 1817.0(4.7)
1164.8 5	1.3 3	<sup>122</sup> Cs(4.5 m)	331.1(94), 497.1(79), 638.5(63)
1164.8 5	0.126 11	<sup>146</sup> Pr(24.15 m)	453.88(48.0), 1523.7(15.6), 735.72(7.5)
1164.80 20	0.13 3	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1164.9 6	0.68 25	<sup>104</sup> In(1.8 m)	658.0(100), 834.1(99), 878.1(29.4)
1164.9 5	0.89 9	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1164.94 8	0.38 3	<sup>143</sup> La(14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)
1164.94 10	0.159 20	<sup>202</sup> Bi(1.72 h)	960.67(99), 422.18(83.7), 657.49(60.6)
• 1164.96 9	0.029 5	<sup>110</sup> Ag(249.79 d)	657.7622(94.0), 884.685(72.2), 937.493(34.13)
1165		<sup>83</sup> Y(7.08 m)	35.50(0.44), 882.1(6.30), 489.90(5.53)
1165.00 15	0.096	<sup>137</sup> I(24.5 s)	1218.00(12.8), 601.05(4.80), 1302.64(4.42)
1165.0 3	†2.0 4	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1165.0 1	0.20 3	<sup>191</sup> Au(3.18 h)	586.45(17), 277.88(7.2), 674.19(6.8)
1165.0 10	0.86 23	<sup>191</sup> Hg(50.8 m)	252.5(57), 420.1(18.6), 578.6(17.6)
1165.11 5		<sup>168</sup> Lu(5.5 m)	1483.65(†100), 228.58(†97), 111.8(†68)
1165.11 5	1.1 3	<sup>168</sup> Lu(6.7 m)	198.82(28), 979.22(20), 896.12(15)
1165.2 6	0.41 16	<sup>166</sup> Lu(2.65 m)	228.12(77.3), 337.50(41), 367.95(31.4)
1165.2 1	0.65 3	<sup>200</sup> Po(11.5 m)	671.0(34.0), 617.7(19.7), 434.4(9.3)
• 1165.21 11	0.171 12	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1165.30 13	>0.044	<sup>69</sup> As(15.2 m)	232.69(11), 145.95(4.96), 86.78(3.44)
1165.37 9	0.020 4	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1165.37 16	0.39 10	$^{186}\text{Ir}(2.0 \text{ h})$	137.155(27), 767.508(21.2), 630.354(18.0)
1165.4 5	0.017 6	$^{151}\text{Tb}(17.609 \text{ h})$	287.357(28.3), 251.863(26.3), 108.088(24.3)
1165.46 6	$\dagger 164$ 13	$^{164}\text{Tm}(2.0 \text{ m})$	91.40( $\dagger 1500$ ), 1154.66( $\dagger 366$ ), 768.91( $\dagger 279$ )
• 1165.5 3	$>9.0 \times 10^{-5}$	$^{95}\text{Tc}(61 \text{ d})$	204.117(63.25), 582.082(29.96), 835.149(26.63)
• 1165.5 1	0.182 15	$^{131}\text{Te}(30 \text{ h})$	773.67(49.9), 852.21(27.0), 793.75(18.10)
1165.5	0.010 4	$^{151}\text{Nd}(12.44 \text{ m})$	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1165.5 4	0.0031 12	$^{167}\text{Yb}(17.5 \text{ m})$	113.34(55.3), 106.18(22.5), 176.25(21)
1165.53 10	0.247 20	$^{165}\text{Yb}(9.9 \text{ m})$	80.11(49), 68.86(9.1), 1090.28(4.4)
• 1165.54 5	0.081 3	$^{148}\text{Eu}(54.5 \text{ d})$	550.284(98.5), 629.987(71.9), 611.293(20.5)
1165.54 9	0.056 10	$^{204}\text{Bi}(11.22 \text{ h})$	899.15(98), 374.72(82), 984.02(59)
1165.56 6	0.83 3	$^{90}\text{Kr}(32.32 \text{ s})$	1118.69(39.0), 121.82(35.5), 539.49(30.8)
1165.6 4	0.75 11	$^{99}\text{Pd}(21.4 \text{ m})$	136.00(73), 263.60(15.2), 673.38(6.9)
1165.6 2	0.141 22	$^{163}\text{Tm}(1.810 \text{ h})$	104.320(18.6), 69.229(11.6), 241.305(10.9)
1165.7 6	0.010 6	$^{101}\text{Pd}(8.47 \text{ h})$	296.29(19), 590.44(12.06), 269.67(6.43)
1165.7 4	0.00042 7	$^{107}\text{Cd}(6.50 \text{ h})$	93.124(1.45), 828.93(0.17), 796.462(0.0665)
1165.739 2715.8 6		$^{150}\text{Pm}(2.68 \text{ h})$	333.971(68), 1324.51(17.5), 831.92(11.9)
1165.739 270.257 24		$^{150}\text{Eu}(12.8 \text{ h})$	333.971(4.0), 406.52(2.81), 921.17(0.210)
• 1165.739 270.106 10		$^{150}\text{Eu}(35.8 \text{ y})$	333.971(96), 439.401(80.4), 584.274(52.6)
1165.8 5	0.35 5	$^{139}\text{Nd}(5.50 \text{ h})$	113.94(40), 737.96(35), 982.2(26.4)
1165.8 3	$\dagger 5.6$ 17	$^{155}\text{Nd}(8.9 \text{ s})$	180.574( $\dagger 100$ ), 418.99( $\dagger 75$ ), 955.08( $\dagger 50$ )
1165.83 21	0.22 6	$^{66}\text{Ge}(2.26 \text{ h})$	43.89(28.7), 381.85(28), 272.97(10.4)
1165.86 3	25.7 15	$^{123}\text{Cd}(1.82 \text{ s})$	1027.45(22.6), 2102.81(12.5), 2601.98(12.0)
1165.87 12	0.294 17	$^{141}\text{Cs}(24.94 \text{ s})$	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1165.9	0.07	$^{185}\text{Ir}(14.4 \text{ h})$	254.4(13.3), 1828.8(10), 60.0(5.7)
1166.0 5	0.08 4	$^{96}\text{Sr}(1.07 \text{ s})$	122.297(76.50), 809.401(71.9), 931.7(11.8)
1166.0 5	0.82 7	$^{164}\text{Lu}(3.14 \text{ m})$	123.3(34.0), 740.52(12.2), 262.22(10.8)
1166.1 3	0.41 4	$^{190}\text{Re}(3.2 \text{ h})$	186.718(27.8), 605.24(14.9), 557.972(14.3)
1166.2 10	2.0 4	$^{164}\text{Tb}(3.0 \text{ m})$	168.838(25.4), 754.80(23.3), 215.07(21)
1166.22 3	1.692 16	$^{155}\text{Dy}(9.9 \text{ h})$	226.918(68.4), 184.564(3.37), 1089.8( $>2.8$ )
1166.25	0.031 3	$^{39}\text{Cl}(55.6 \text{ m})$	1267.185(54), 250.332(46.3), 1517.508(39.2)
1166.28 8	0.194 16	$^{153}\text{Dy}(6.4 \text{ h})$	80.723(11.10), 213.754(10.90), 99.659(10.51)
1166.3 5	0.051 7	$^{245}\text{Pu}(10.5 \text{ h})$	327.428(25.4), 560.13(5.4), 308.222(4.9)
1166.5 2	0.084 22	$^{109}\text{Ru}(34.5 \text{ s})$	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1166.5 5	0.013 8	$^{158}\text{Eu}(45.9 \text{ m})$	944.09(25), 977.131(13.6), 79.5104(11)
1166.5 2	$\dagger 0.40$ 7	$^{158}\text{Ho}(11.3 \text{ m})$	218.21( $\dagger 100.0$ ), 98.91( $\dagger 70$ ), 945.7( $\dagger 37$ )
• 1166.50 5	0.068 6	$^{172}\text{Lu}(6.70 \text{ d})$	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1166.55 36	0.034 8	$^{174}\text{Ta}(1.05 \text{ h})$	206.50(58), 91.00(16.0), 1205.92(4.9)
1166.6 4	0.64 7	$^{51}\text{Sc}(12.4 \text{ s})$	1437.3(52), 2144.1(31.8), 1567.5(14.9)
1166.7 5	0.7	$^{140}\text{Sm}(14.82 \text{ m})$	225.5( $>10$ ), 225.4(10), 140.0(5.0)
• 1166.70 16		$^{206}\text{Bi}(6.243 \text{ d})$	803.10(99), 881.01(66.2), 516.18(40.7)
1166.78 48	0.13 4	$^{137}\text{Nd}(38.5 \text{ m})$	75.5(17.0), 580.6(13), 306.60(10.0)
1166.8 2	$\dagger 10.4$ 15	$^{131}\text{Ce}(10.3 \text{ m})$	169.42( $\dagger 100$ ), 414.25( $\dagger 68$ ), 119.18( $\dagger 44$ )
• 1166.8	0.023	$^{146}\text{Eu}(4.59 \text{ d})$	747.2(98), 633.03(43), 634.07(37)
1166.8 6	0.13 5	$^{177}\text{W}(135 \text{ m})$	115.65(50), 426.98(13.2), 1036.4(10.3)
1166.9 4	10 2	$^{132}\text{Sb}(4.10 \text{ m})$	696.8(100), 973.9(100), 150.6(66)
1166.9 2	3.84 22	$^{152}\text{Tb}(4.2 \text{ m})$	344.281(20.8), 411.115(18.8), 471.9(12.2)
1166.9 2	0.087 23	$^{173}\text{Ta}(3.14 \text{ h})$	172.2(18), 69.70(5.9), 90.3(5.0)
1166.9 10	0.009 4	$^{214}\text{Bi}(19.9 \text{ m})$	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1167.0 5	0.24 4	$^{88}\text{Nb}(7.8 \text{ m})$	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
1167.0 5	0.14 7	$^{98}\text{Rb}(114 \text{ ms})$	144.224(24.5), 1693.3(5.9), 2171.7(5.7)
1167.0 5	0.8 3	$^{98}\text{Rb}(96 \text{ ms})$	144.224(73), 289.4(68), 3010.5(23.4)
1167	$\dagger 1.8$	$^{107}\text{Sn}(2.90 \text{ m})$	1129.2( $\dagger 100$ ), 678.5( $\dagger 100$ ), 1540.6( $\dagger 30$ )
1167	$\dagger 0.15$ 5	$^{148}\text{Tb}(60 \text{ m})$	784.430( $\dagger 119.0$ ), 489.049( $\dagger 28.0$ ), 1079.025( $\dagger 16.2$ )

•  $t_{1/2} > 1 \text{ d}$



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1167.01 25	0.183 24	<sup>204</sup> Bi(11.22 h)	899.15(98), 374.72(82), 984.02(59)
1167.06 2	0.114 12	<sup>178</sup> Lu(28.4 m)	93.180(6.0), 1340.8(3.22), 1310.05(1.40)
1167.1 5	0.045 12	<sup>93</sup> Rb(5.84 s)	432.61(17.4), 986.05(6.8), 213.429(6.7)
1167.10 7	0.49 3	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1167.1 6	0.59 9	<sup>161</sup> Yb(4.2 m)	78.20(34), 599.88(25.9), 631.45(13.9)
1167.1 1	4.5 3	<sup>240</sup> Np(61.9 m)	566.34(25.3), 973.9(23.8), 600.57(18.4)
• 1167.109 130.10 4		<sup>200</sup> Tl(26.1 h)	367.943(87), 1205.717(29.9), 579.298(13.8)
1167.2 2	0.40 8	<sup>108</sup> In(58.0 m)	875.46(100), 632.96(100), 242.84(41)
1167.2 2	0.217 25	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
1167.25 3	0.0275 14	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
1167.25 3	2.94 20	<sup>250</sup> Es(2.22 h)	989.12(13.3), 1031.85(10.6), 828.82(5.5)
1167.3 1	0.143 16	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
1167.3 7	†8.9 16	<sup>152</sup> Pr(3.24 s)	164.2(†100), 284.9(†81.0), 72.40(†38.9)
1167.38 12	0.046 11	<sup>157</sup> Eu(15.18 h)	63.929(23.0), 410.723(17.5), 370.509(11.0)
• 1167.396 150.0713 16		<sup>168</sup> Tm(93.1 d)	198.241(52.39), 815.990(48.99), 447.515(23.05)
1167.4 6	0.034 14	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1167.4 2	0.211 21	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
1167.4 2	0.0070 20	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
1167.5 3	23	<sup>51</sup> Ca(10.0 s)	861.6(35), 1394.0(27), 1480.1(22)
1167.5 4	1.52 20	<sup>97</sup> Sr(426 ms)	1905.0(25), 953.8(21.4), 652.2(11.4)
1167.5 6	0.16	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1167.51 5	0.046 5	<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
1167.6 3	7	<sup>87</sup> Se(5.85 s)	242.5(37), 334.0(35), 573.2(19)
1167.6 5	1.07 13	<sup>153</sup> Ho(2.0 m)	295.8(67), 637.0(5.36), 688.5(3.7)
1167.7 3	5.0 5	<sup>163</sup> Gd(68 s)	287.79(25), 214.0(11.5), 1562.1(9.0)
1167.74 5	0.0249 15	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
1167.8 10	0.26 9	<sup>129</sup> Sb(4.40 h)	812.8(43), 914.6(20.0), 544.7(17.9)
1167.8 4	0.13 4	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
1167.9 2	0.114 10	<sup>143</sup> La(14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)
1167.9 5	0.12 4	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
• 1167.938 261.805 26		<sup>134</sup> Cs(2.062 y)	604.699(97.56), 795.845(85.44), 569.315(15.43)
1167.938 260.077 5		<sup>134</sup> La(6.45 m)	604.699(5.05), 1554.934(0.414), 563.227(0.359)
1168.0 2	0.198 17	<sup>79</sup> Ga(2.847 s)	464.79(24.2), 516.41(21.5), 1187.28(12.8)
1168.0 15	†3.6 11	<sup>87</sup> Nb(2.6 m)	200.95(†100), 470.63(†73), 1066.8(†37)
1168.0 8	2.8 5	<sup>116</sup> Cs(3.84 s)	393.5(<0.09), 524.3(76), 615.1(30.4)
1168 1	0.048 24	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1168.0 8	†0.8 3	<sup>171</sup> Hf(12.1 h)	122.0(†100), 662.2(†83), 347.18(†47)
1168	0.15	<sup>222</sup> Fr(14.2 m)	206.15(51), 111.12(12.5), 242.12(1.89)
1168.02 6	0.037 6	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1168.1 2	1.61 13	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1168.1 3	0.69 11	<sup>139</sup> Sm(2.57 m)	273.7(37), 306.7(28.5), 596.3(8.0)
1168.16 19	0.0061 15	<sup>152</sup> Eu(9.274 h)	841.586(14.6), 963.37(12.01), 121.7824(7.21)
• 1168.25 25	0.10 3	<sup>106</sup> Ag(8.28 d)	511.842(88), 1045.83(29.6), 717.24(28.9)
1168.3 5	0.07 3	<sup>159</sup> Tm(9.13 m)	38.35(5.8), 84.8(5.8), 271.30(5.1)
1168.3 3	0.60 10	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
1168.4 3	†32.8 16	<sup>32</sup> Ar(98 ms)	707.4(†12.1), 461.09(†12.1), 1078.5(†12.0)
1168.4 5	0.00184 15	<sup>171</sup> Er(7.516 h)	308.31(64.4), 295.901(28.9), 111.621(20.5)
1168.4 3	0.0014 4	<sup>179</sup> Lu(4.59 h)	214.335(11.3), 214.930(0.46), 123.3790(0.45)
1168.43 13	0.00036 3	<sup>82</sup> Br(6.13 m)	776.517(0.26), 698.374(0.0340), 1474.88(0.0198)
1168.43 13	0.0012 5	<sup>82</sup> Rb(1.273 m)	776.517(13), 1395.139(0.471), 698.374(0.133)
1168.5 5	0.35	<sup>45</sup> Ar(21.48 s)	1020.04(34.0), 3703.2(33.3), 61.35(25.0)
1168.6 2	0.011 4	<sup>93</sup> Y(10.18 h)	266.9(7.3), 947.1(2.09), 1917.8(1.55)
1168.6 10	0.12 6	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
1168.6	†40 3	<sup>202</sup> Po(44.7 m)	688.6(†1000), 316.0(†286), 165.7(†174)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1168.63 8	0.022 4	<sup>134</sup> La(6.45 m)	604.699(5.05), 1554.934(0.414), 563.227(0.359)
1168.7 2	0.43 4	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
1168.76 14	0.18 4	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1168.8 6	†1.10 14	<sup>120</sup> I(81.0 m)	560.44(†137), 1523.0(†21.1), 640.85(†17.1)
1168.80 5	40 4	<sup>128</sup> In(0.84 s)	935.20(6.5), 1089.53(6.0), 2104.07(5.3)
1168.80 5	100 5	<sup>128</sup> In(0.72 s)	831.54(100), 120.54(11.1), 321.22(10.5)
1168.8 2	>4.6×10 <sup>-5</sup>	<sup>129</sup> Te(69.6 m)	27.81(16.3), 459.60(7.70), 487.39(1.42)
1168.8 4	0.077 14	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
1168.8 10	0.155 23	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
1168.830 2017.8 4		<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 833.563(10.8)
1168.97 5	0.43 6	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1168.99 17	0.235 17	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
1169.04 4	0.881 23	<sup>135</sup> I(6.57 h)	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
1169.07	0.034 7	<sup>37</sup> S(5.05 m)	3103.36(94), 3741.02(0.26), 3086.00(0.062)
1169.09 8	0.113 9	<sup>105</sup> Cd(55.5 m)	961.84(4.69), 346.870(4.20), 1302.459(3.98)
• 1169.09 7	0.266 5	<sup>156</sup> Eu(15.19 d)	811.79(9.70), 88.9667(8.4), 1230.68(7.98)
• 1169.09 7	0.081 9	<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1169.2 5	0.252 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1169.3 3	†0.78 8	<sup>27</sup> Na(301 ms)	984.64(†114), 1697.94(†15.5), 3109.2(†>3.4)
1169.34 8	†0.77 8	<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1169.4 10	1.1 4	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1169.4 10	1.3 4	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
• 1169.49 6	0.0053 5	<sup>171</sup> Lu(8.24 d)	739.78(47.8), 19.394(13.7), 667.404(11.04)
1169.5 4	0.12 3	<sup>78</sup> As(90.7 m)	613.725(54), 694.916(16.7), 1308.59(13.0)
1169.5 3	0.57 9	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1169.5 5	0.8 4	<sup>178</sup> Re(13.2 m)	237.3(45), 105.9(23.0), 939.1(8.9)
1169.6 3	0.0077 16	<sup>63</sup> Zn(38.47 m)	669.62(8), 962.06(6.5), 1412.08(0.75)
1169.6 5	1.75 20	<sup>101</sup> Sr(118 ms)	128.34(18.0), 1124.82(10.9), 510.73(8.5)
1169.7 6	0.276 20	<sup>114</sup> Sb(3.49 m)	1299.90(99), 887.60(17.4), 327.18(7.0)
1169.8 3	0.94 8	<sup>68</sup> As(151.6 s)	1015.96(78), 761.61(33.8), 651.12(32.1)
1169.8 5	100000	<sup>123</sup> In(47.8 s)	125.76(†4.2×10 <sup>7</sup> ), 3234(†130000), 3127(†100000)
1169.83 19	0.062 11	<sup>132</sup> La(4.8 h)	464.55(76), 567.14(15.7), 1909.91(9.0)
1169.9 3	†4.7×10 <sup>2</sup>	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
1170.0 6	0.039 10	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
1170.0 8	0.048 13	<sup>111</sup> Sn(35.3 m)	1152.98(2.7), 1914.70(1.99), 761.97(1.48)
1170.0 3	†9.6 24	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 955.08(†50)
1170.1 2	0.042 7	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
• 1170.1 4	0.099 8	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1170.1 3	0.73 11	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1170.2 4	0.09 3	<sup>109</sup> Sn(18.0 m)	1099.4(30), 649.90(28.0), 1321.3(11.9)
1170.2 5	0.46 9	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
1170.3 5	0.32 5	<sup>85</sup> Zr(7.86 m)	454.20(45), 416.3(27.0), 1198.4(4.8)
1170.3 1	0.044 3	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1170.4 2	†3	<sup>139</sup> I(2.29 s)	527.7(†100), 571.2(†98), 536.6(†67)
1170.4 4	†>4.5	<sup>164</sup> Tm(2.0 m)	91.40(†1500), 1154.66(†366), 768.91(†279)
1170.49 9	†2.63 19	<sup>188</sup> Au(8.84 m)	265.63(†100), 340.04(†23.9), 605.5(†16.3)
1170.5 4	2.1 3	<sup>188</sup> Tl(71 s)	412.7(88), 592.0(61), 504.2(23.3)
• 1170.53 11	0.00159 23	<sup>131</sup> Ba(11.50 d)	496.326(47), 123.805(28.97), 216.078(19.66)
1170.587 241.06 12		<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
• 1170.587 241.334 19		<sup>150</sup> Eu(35.8 y)	333.971(96), 439.401(80.4), 584.274(52.6)
1170.6 13	0.19 5	<sup>112</sup> Sb(51.4 s)	1257.05(96), 990.70(14.3), 670.0(3.7)
1170.6 1	3.09 9	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1170.7 4	0.16 4	<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
1170.7 2	0.059 7	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1170.7 5	0.037 6	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1170.70 9	0.31 3	<sup>199</sup> Pb(90 m)	366.90(44.2), 353.39(9.5), 1135.04(7.8)
1170.71 10	0.65 13	<sup>117</sup> Cd(3.36 h)	1997.33(26), 1065.98(23.1), 564.397(14.7)
1170.73 5	0.0578 13	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
1170.82 15	0.75 8	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1170.83 5	†5.03 18	<sup>162</sup> Lu(1.37 m)	166.82(†100), 631.87(†26.6), 798.76(†16.9)
1170.9 5	0.04 3	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1170.9 3	0.54 5	<sup>177</sup> W(135 m)	115.65(50), 426.98(13.2), 1036.4(10.3)
1170.94 15	2.28 19	<sup>121</sup> Ag(0.78 s)	314.55(32.1), 353.43(19.9), 500.61(9.3)
• 1170.97 8	0.0357 13	<sup>152</sup> Eu(13.542 y)	121.7824(28.4), 1408.011(20.87), 964.131(14.34)
1170.98 3	0.591 20	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1171 1	>0.35	<sup>137</sup> Pm(2.4 m)	177.5(40.29), 108.6(35), 233.6(29.57)
1171.0 1	9.4 9	<sup>149</sup> Er(8.9 s)	171.5(6.5), 343.9(6.3), 1530.9(4.4)
1171 1	0.16 12	<sup>162</sup> Tm(21.70 m)	102.00(17.5), 798.68(8.4), 227.52(7)
1171.0 10	0.40 3	<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
• 1171	>0.0048	<sup>232</sup> Pa(1.31 d)	969.315(41.6), 894.351(19.8), 150.059(10.8)
1171.04 8	0.70 4	<sup>205</sup> At(26.2 m)	719.30(31), 669.41(8.6), 628.88(5.6)
1171.06 15	0.61 6	<sup>148</sup> Pr(2.27 m)	301.702(61), 1357.78(5.5), 1023.18(4.8)
1171.08 6	1.5 3	<sup>186</sup> Ir(16.64 h)	296.911(64.0), 137.155(42), 434.849(34.4)
1171.1 1	3.73 16	<sup>130</sup> La(8.7 m)	357.4(81.0), 550.7(25.9), 908.0(17.0)
1171.1 4	†0.46 7	<sup>192</sup> Tl(9.6 m)	422.8(†100), 634.8(†75.9), 786.3(†31.7)
1171.2 10	0.10 6	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
1171.2 3		<sup>146</sup> Dy(29 s)	2156.8, 1915.7, 1876.7
• 1171.20 4	0.80 3	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
• 1171.24 14	0.0037 10	<sup>154</sup> Eu(8.593 y)	123.071(40.79), 1274.436(35.19), 723.304(20.22)
1171.28 4	0.081 20	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
1171.3 5	1.5	<sup>67</sup> As(42.5 s)	122.7(19.2), 120.8(9.3), 243.6(7.8)
1171.3 2	19	<sup>120</sup> In(3.08 s)	2039.8(1.86), 703.8(1.42), 2390.2(1.14)
1171.3 2	100 3	<sup>120</sup> In(47.3 s)	1023.1(97.4), 197.3(80.6), 89.9(77.6)
1171.3 2	96 10	<sup>120</sup> In(46.2 s)	1023.1(55), 863.7(32.5), 1294.5(12.2)
1171.3 2	1.7	<sup>120</sup> Sb(15.89 m)	703.8(0.149), 988.6(0.063)
• 1171.3 2	100	<sup>120</sup> Sb(5.76 d)	1023.1(99.4), 197.3(87.0), 89.9(79.5)
1171.3 1	0.090 10	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
• 1171.31 11	0.025 6	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1171.34 5	0.081 20	<sup>179</sup> Re(19.5 m)	430.221(28), 289.968(26.9), 1680.244(13.0)
1171.4 5	0.00030 12	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1171.42 3	0.196 8	<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
1171.5 5	2.1 9	<sup>80</sup> Zn(0.545 s)	712.53(45.1), 715.40(33.8), 964.93(15.6)
1171.5 4	0.146 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1171.55 11	0.88 6	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1171.6 20	0.04 3	<sup>140</sup> Cs(63.7 s)	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1171.6 6	†>0.7	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1171.6 3	0.385 21	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
1171.62 4	1.24 8	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1171.7 3	0.35 3	<sup>118</sup> I(13.7 m)	605.71(86.0), 545.12(10.9), 600.71(10.2)
1171.7 5	0.075 15	<sup>143</sup> Ba(14.33 s)	211.475(25), 798.79(15.6), 980.45(11.55)
1171.7 10	0.134 20	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
1171.8 3	3.7 5	<sup>97</sup> Pd(3.10 m)	265.26(56), 475.2(26.7), 792.70(13.8)
1171.8 3	0.41 4	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1171.8 4	0.44 12	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1171.9 7	†1.1 3	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
1171.94 16	†4.8 5	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1171.97 10	0.0039 8	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
1172.0 6	†1.0 5	<sup>132</sup> Pr(1.6 m)	325.5(†100), 496.9(†25), 822.4(†17.3)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1172.0 3	0.066 7	<sup>143</sup> La(14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)
1172.0 10	0.02 1	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1172 1	0.25 11	<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1172.00 10	1.6 4	<sup>204</sup> Au(39.8 s)	436.551(91), 1511.10(25.2), 691.80(24.0)
1172.0 4		<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
1172.0 3	0.15 3	<sup>242</sup> Np(2.2 m)	735.93(5), 780.44(2.76), 1473.1(2.34)
1172.05 10	0.59 4	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1172.1 7	1.1 4	<sup>135</sup> Nd(12.4 m)	204.02(52), 41.43(23), 441.2(14.9)
1172.2 10	0.10 3	<sup>99</sup> Rh(4.7 h)	340.71(70), 617.8(12.0), 1261.2(11)
1172.2 1	5.3 18	<sup>141</sup> Gd(24.5 s)	351.1(89), 223.9(64), 574.9(51)
1172.2 2	†186 52	<sup>157</sup> Ho(12.6 m)	279.97(†47600), 341.16(†37000), 193.41(†15200)
1172.3 3	0.16 3	<sup>107</sup> In(32.4 m)	204.97(47), 505.51(11.9), 320.92(10.2)
1172.3	1.6	<sup>125</sup> Cd(0.65 s)	436.29(37), 1099.48(22.3), 2147.19(19.1)
1172.3 5	0.19 7	<sup>181</sup> Re(19.9 h)	365.57(56), 360.70(20), 639.30(6.4)
1172.33 20	0.98 8	<sup>89</sup> Kr(3.15 m)	220.948(20.1), 586.03(16.6), 904.27(7.2)
1172.38 10	1.24 11	<sup>195</sup> Hg(9.9 h)	779.80(7), 61.46(6.2), 585.13(1.99)
1172.4 3	8	<sup>128</sup> Cd(0.34 s)	247.92(75), 857.05(71), 68.02(29)
1172.5 7	0.264 22	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
1172.53 13	0.118 9	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1172.58 20	0.0076 19	<sup>105</sup> Ru(4.44 h)	724.21(47), 469.37(17.5), 676.36(15.7)
1172.59 12	0.049 8	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1172.7 3	0.8	<sup>45</sup> Ar(21.48 s)	1020.04(34.0), 3703.2(33.3), 61.35(25.0)
1172.7 1	†>0.7	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1172.7 5	0.036 12	<sup>165</sup> Yb(9.9 m)	80.11(49), 68.86(9.1), 1090.28(4.4)
1172.75 4	0.050 19	<sup>214</sup> Bi(19.9 m)	609.312(44.8), 1764.494(15.36), 1120.287(14.80)
1172.78 6	0.85 5	<sup>146</sup> La(6.27 s)	258.47(64), 924.58(7.45), 702.28(6.43)
1172.8 3	0.13 5	<sup>129</sup> In(0.61 s)	2118.0(45), 1865.0(32), 769.3(9.1)
1172.8 4	0.48 6	<sup>172</sup> Ta(36.8 m)	214.02(46), 95.23(17.5), 1109.27(12.4)
1172.80 5	0.24 7	<sup>184</sup> Ta(8.7 h)	414.03(72), 252.848(43), 920.932(32.0)
• 1172.81 12	0.0040 5	<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
1172.87	2.5 3	<sup>116</sup> Ag(2.68 m)	513.39(76), 2478.5(12), 699.58(11)
1172.9 1	84	<sup>62</sup> Co(1.50 m)	2301.8(14.7), 1128.9(11.1), 1985.13(1.6)
1172.9 1	97	<sup>62</sup> Co(13.91 m)	1163.4(67.3), 2003.48(18.4), 1718.6(6.7)
1172.9 1	0.34	<sup>62</sup> Cu(9.74 m)	875.68(0.150), 2301.8(0.0414), 1128.9(0.0324)
1172.9 6	0.050 10	<sup>85</sup> Y(4.86 h)	231.67(22.8), 2123.8(5.0), 767.40(3.6)
1172.9 2	1.09 7	<sup>132</sup> I(2.295 h)	667.718(99), 772.60(75.6), 954.55(17.6)
1172.90 10	0.71 6	<sup>158</sup> Tm(3.98 m)	192.13(62), 335.10(16.8), 1149.83(7.6)
1172.9 5	0.0008 3	<sup>171</sup> Er(7.516 h)	308.31(64.4), 295.901(28.9), 111.621(20.5)
1173.0	0.35 23	<sup>148</sup> Ba(0.607 s)	56.08(29.20), 133.53(3.88), 415.78(3.59)
1173.0 10	†2.2 7	<sup>191</sup> Tl(5.22 m)	452.6(†100), 470.1(†98), 391.6(†96)
1173.0 1	1.09 7	<sup>200</sup> Po(11.5 m)	671.0(34.0), 617.7(19.7), 434.4(9.3)
1173 2	†0.6	<sup>244</sup> Bk(4.35 h)	891.5(†100), 217.6(†88), 921.5(†19)
1173.1	0.175 14	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
1173.1 1	0.045 7	<sup>234</sup> Pa(6.70 h)	131.30(18), 946.00(13.4), 883.24(9.6)
1173.12 8	0.120 14	<sup>132</sup> La(4.8 h)	464.55(76), 567.14(15.7), 1909.91(9.0)
1173.16 3	25.1 15	<sup>125</sup> Cd(0.57 s)	1027.53(25.8), 736.65(12.6), 2392.43(9.4)
1173.18 7	0.88 7	<sup>143</sup> Sm(8.83 m)	1056.58(4), 1514.98(1.39), 1403.06(0.74)
1173.2 2	1.78 15	<sup>154</sup> Ho(11.76 m)	334.6(84), 412.4(15.0), 873.4(12.5)
• 1173.2 4	0.031 13	<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
• 1173.237 4	99.90 2	<sup>60</sup> Co(5.2714 y)	1332.501(99.9820), 346.93(0.0076), 826.06(0.0076)
1173.237 4	0.26 9	<sup>60</sup> Cu(23.7 m)	1332.501(88), 1791.6(45.4), 826.06(21.7)
• 1173.24 22	0.011 3	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1173.26 19	0.35 10	<sup>184</sup> Au(53.0 s)	162.97(50), 272.98(40), 362.47(17.5)
1173.3 5	0.0019 8	<sup>96</sup> Tc(51.5 m)	778.224(1.9), 1200.231(1.08), 480.705(0.311)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1173.3 2	1.31 18	$^{119}\text{Ag}(2.1 \text{ s})$	626.4(13), 366.2(12.1), 399.1(10.9)
• 1173.30 5	0.181 7	$^{125}\text{Sn}(9.64 \text{ d})$	1067.10(10), 1089.15(4.59), 822.48(4.28)
1173.3 3	0.29 5	$^{140}\text{Sm}(14.82 \text{ m})$	225.5(>10), 225.4(10), 140.0(5.0)
1173.34 19	0.43	$^{156}\text{Tm}(83.8 \text{ s})$	344.55(86), 452.85(17.2), 585.93(14.6)
1173.4	$5.0 \times 10^{-6}$	$^{82}\text{Br}(6.13 \text{ m})$	776.517(0.26), 698.374(0.0340), 1474.88(0.0198)
1173.5 5	0.21 5	$^{88}\text{Nb}(7.8 \text{ m})$	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
1173.5 3	0.02	$^{154}\text{Pm}(1.73 \text{ m})$	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1173.5 3	0.88	$^{154}\text{Pm}(2.68 \text{ m})$	184.810(32), 81.99(15.4), 546.66(14.5)
1173.5 9	0.22 4	$^{167}\text{Lu}(51.5 \text{ m})$	29.66(14.4), 239.22(8.6), 213.19(3.6)
1173.5 3	0.035 4	$^{192}\text{Au}(4.94 \text{ h})$	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1173.59 5	1.37 5	$^{118}\text{In}(4.45 \text{ m})$	1229.68(96), 1050.69(81.0), 683.08(54.3)
1173.59 5	0.43 9	$^{118}\text{In}(5.0 \text{ s})$	1229.68(5.0), 528.83(0.7), 813.22(0.19)
1173.59 5	0.047 5	$^{118}\text{Sb}(3.6 \text{ m})$	1229.68(2.5), 1267.23(0.511), 528.83(0.472)
1173.6 2	$\dagger 13 2$	$^{195}\text{Bi}(183 \text{ s})$	807.6( $\dagger 100$ ), 831.7( $\dagger 100$ ), 776.2( $\dagger 95$ )
1173.62 17	0.15 5	$^{202}\text{Bi}(1.72 \text{ h})$	960.67(99), 422.18(83.7), 657.49(60.6)
1173.66 10	0.23 3	$^{224}\text{Fr}(3.30 \text{ m})$	215.985(33.1), 131.613(16.3), 836.90(9.8)
1173.7 2		$^{106}\text{In}(6.2 \text{ m})$	632.66(100), 861.16(92), 997.87(48)
1173.7 2		$^{106}\text{In}(5.2 \text{ m})$	632.66(92), 1714.90(17.1), 861.16(10.6)
1173.75 25	0.62 6	$^{95}\text{Y}(10.3 \text{ m})$	954.00(16), 2175.6(7.00), 3576.0(6.4)
1173.779 104.8 4		$^{184}\text{Ta}(8.7 \text{ h})$	414.03(72), 252.848(43), 920.932(32.0)
• 1173.779 101.21 6		$^{184}\text{Re}(169 \text{ d})$	252.848(10.7), 216.548(9.43), 920.932(8.14)
1173.8 10	5.1 25	$^{166}\text{Ta}(34.4 \text{ s})$	158.5(53), 311.8(28.2), 810.1(9.8)
1173.89 9	0.00076 14	$^{135}\text{La}(19.5 \text{ h})$	480.51(1.5), 874.51(0.164), 587.83(0.1108)
1173.9 2	8.94 21	$^{101}\text{Ag}(11.1 \text{ m})$	261.0(53), 588.0(10.0), 667.3(9.8)
1173.92 3	0.184 13	$^{135}\text{Ce}(17.7 \text{ h})$	265.56(41.8), 300.07(23.5), 606.76(18.8)
1173.99 18	0.19 7	$^{183}\text{Os}(9.9 \text{ h})$	1101.94(49.0), 1107.92(22.36), 1034.85(6.02)
• 1174.0 4	0.018 8	$^{82}\text{Br}(35.30 \text{ h})$	776.517(83.5), 554.348(70.8), 619.106(43.4)
1174.0	$\dagger 4.4$	$^{107}\text{Sn}(2.90 \text{ m})$	1129.2( $\dagger 100$ ), 678.5( $\dagger 100$ ), 1540.6( $\dagger 30$ )
1174.0	$\dagger 1.6$	$^{131}\text{Ce}(10.3 \text{ m})$	169.42( $\dagger 100$ ), 414.25( $\dagger 68$ ), 119.18( $\dagger 44$ )
1174.0 5	0.39 11	$^{133}\text{Te}(55.4 \text{ m})$	912.671(55.28), 647.51(19.4), 863.955(15.6)
1174.0 7	0.22 9	$^{175}\text{Ta}(10.5 \text{ h})$	207.4(14.0), 348.5(12.0), 266.9(10.8)
1174.0 4	0.136 17	$^{191}\text{Au}(3.18 \text{ h})$	586.45(17), 277.88(7.2), 674.19(6.8)
1174.00 17	2.0 6	$^{193}\text{Hg}(11.8 \text{ h})$	257.97(61), 407.63(25), 573.25(14.2)
1174.04 3	0.045 5	$^{96}\text{Y}(5.34 \text{ s})$	1750.42(2.350), 2225.93(0.322), 475.33(0.188)
• 1174.08 15	0.0405 21	$^{83}\text{Sr}(32.41 \text{ h})$	762.65(30), 381.53(14.1), 418.37(4.41)
1174.1 5	0.10 3	$^{91}\text{Rb}(58.4 \text{ s})$	93.628(33.7), 2564.19(12.5), 3599.67(10.4)
1174.1 3	0.69 10	$^{121}\text{Cd}(8.3 \text{ s})$	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
1174.1 3	1.1 5	$^{129}\text{Sn}(6.9 \text{ m})$	1161.31(56.0), 1128.44(50), 760.8(16.8)
1174.1 3	0.15 4	$^{133}\text{Ce}(4.9 \text{ h})$	477.22(39), 510.36(20.7), 58.39(19.2)
1174.17 10	0.21	$^{176}\text{Ta}(8.09 \text{ h})$	1159.28(25), 88.34(12), 1224.93(6)
1174.2 2	3.0 3	$^{76}\text{Rb}(39.1 \text{ s})$	2571.3(47), 424.0(43.4), 355.6(8.2)
1174.2 5	$\dagger 9.4 10$	$^{103}\text{Mo}(67.5 \text{ s})$	83.4( $\dagger 100$ ), 423.91( $\dagger 69$ ), 45.8( $\dagger 57$ )
1174.2 5	1.31 7	$^{228}\text{Fr}(39 \text{ s})$	473.7(10.2), 474.0(7.6), 410.40(6.3)
1174.2 10	$\dagger 1.90 \times 10^3$	$^{231}\text{Pa}(1.17 \text{ m})$	1001.03( $\dagger 837000$ ), 766.38( $\dagger 294000$ ), 742.81( $\dagger 80000$ )
1174.22 25	0.0013 3	$^{130}\text{I}(9.0 \text{ m})$	536.09(16), 586.05(1.07), 1614.10(0.447)
• 1174.22 8	0.169 9	$^{156}\text{Tb}(5.35 \text{ d})$	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1174.3 9	2.6 13	$^{78}\text{Zn}(1.47 \text{ s})$	224.75(43.9), 181.68(28.1), 860.30(24.5)
1174.32 10	0.31 4	$^{126}\text{In}(1.60 \text{ s})$	1141.11(55.9), 3344.61(21.6), 969.61(14.9)
1174.4 3	1.15 9	$^{101}\text{Sr}(118 \text{ ms})$	128.34(18.0), 1124.82(10.9), 510.73(8.5)
1174.5 3	0.26 4	$^{146}\text{Ba}(2.22 \text{ s})$	140.7(20.2), 251.2(19.6), 121.2(14.2)
1174.5 15	0.0015 4	$^{155}\text{Sm}(22.3 \text{ m})$	104.3346(74.6), 245.771(3.7), 141.4428(1.98)
1174.5 4	0.14 5	$^{159}\text{Tm}(9.13 \text{ m})$	38.35(5.8), 84.8(5.8), 271.30(5.1)
1174.5	0.11	$^{205}\text{At}(26.2 \text{ m})$	719.30(31), 669.41(8.6), 628.88(5.6)
1174.5 5	0.042 8	$^{238}\text{Am}(98 \text{ m})$	962.77(28), 918.69(23.0), 561.11(10.9)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1174.56 4	0.0185 7	<sup>188</sup> Re(16.98 h)	155.032(14.9), 632.99(1.25), 477.99(1.0)
• 1174.56 4	1.32 13	<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
• 1174.59 10		<sup>188</sup> Ir(41.5 h)	155.032(29.7), 2214.62(18.7), 632.99(18)
1174.6 2	†1.5 2	<sup>75</sup> Ga(126 s)	253.0(†100), 574.8(†31.6), 885.6(†11.1)
1174.6 3	0.47 6	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1174.6 3	0.6	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1174.60 8	0.46 4	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1174.66 3	0.035 4	<sup>178</sup> Lu(28.4 m)	93.180(6.0), 1340.8(3.22), 1310.05(1.40)
1174.66 3	0.0158 8	<sup>178</sup> Ta(9.31 m)	93.180(1.78), 1350.68(1.18), 1340.8(1.027)
1174.7 5	0.44 5	<sup>88</sup> Nb(14.5 m)	1082.53(103), 1057.01(100), 671.20(64)
1174.7 3	0.174 15	<sup>139</sup> Pm(4.15 m)	402.8(15), 463.1(4.1), 367.8(3.52)
1174.7 2	†2.0 1	<sup>203</sup> At(7.4 m)	639.4(†100), 641.5(†55.8), 738.1(†38.4)
1174.74 17	0.120 20	<sup>66</sup> Ge(2.26 h)	43.89(28.7), 381.85(28), 272.97(10.4)
1174.8 2	0.92 10	<sup>149</sup> Dy(4.20 m)	100.8(15.2), 789.4(11.8), 1776.3(11.1)
1174.8 1	†0.77 9	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1174.80 13	4.4 4	<sup>166</sup> Lu(2.65 m)	228.12(77.3), 337.50(41), 367.95(31.4)
1174.9 5	4.6 9	<sup>98</sup> Y(2.0 s)	1223.0(80), 620.505(63), 647.58(53)
1174.9 1	0.038 10	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1175.00 20	1.23 7	<sup>99</sup> Ag(124 s)	264.41(65), 832.29(13.5), 805.07(12.5)
1175.0 8	0.23 10	<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
1175.0 10	0.36 7	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
• 1175.09 11	0.147 20	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
• 1175.102 6	2.279 20	<sup>56</sup> Co(77.27 d)	846.771(100), 1238.282(67.6), 2598.459(17.28)
1175.3 2	†11.6 5	<sup>201</sup> Po(15.3 m)	890.1(†100), 240.1(†71.0), 904.2(†54.8)
1175.3 1	1.91 9	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1175.31 10	0.025 4	<sup>228</sup> Ac(6.15 h)	911.205(26.6), 968.971(16.2), 338.322(11.3)
1175.36 4	0.0607 22	<sup>194</sup> Ir(19.15 h)	328.455(13.1), 293.545(2.55), 645.157(1.17)
• 1175.36 4	1.98 12	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
1175.38 10	0.14 4	<sup>174</sup> Tm(5.4 m)	366.526(92), 992.128(87), 272.918(86)
1175.40 8	1.11 4	<sup>87</sup> Kr(76.3 m)	402.586(49.6), 2554.8(9.2), 845.43(7.34)
1175.4 7	1.6 3	<sup>95</sup> Rh(5.02 m)	941.6(72), 1352.0(20.8), 677.6(5.80)
1175.4	3.27 13	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1175.4 3	0.119 19	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1175.5 3	1.00 7	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1175.5 10	0.21 6	<sup>167</sup> Lu(51.5 m)	29.66(14.4), 239.22(8.6), 213.19(3.6)
1175.50 3	0.0351 22	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
1175.5	0.0068 14	<sup>250</sup> Bk(3.217 h)	989.12(45), 1031.85(35.6), 1028.65(4.91)
1175.50 3	1.57 9	<sup>250</sup> Es(2.22 h)	989.12(13.3), 1031.85(10.6), 828.82(5.5)
1175.58 8	1.0	<sup>82</sup> Y(9.5 s)	573.66(25), 602.14(10), 737.35(2.3)
1175.7 5	0.47 12	<sup>76</sup> Ga(32.6 s)	562.93(66), 545.51(26.0), 1108.41(15.8)
1175.75 6	0.0034 8	<sup>149</sup> Nd(1.728 h)	211.309(25.9), 114.314(19.2), 270.166(10.7)
1175.8	0.19 4	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1175.82 11	0.00198 20	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1175.9 3	1.8 5	<sup>152</sup> Ho(49.5 s)	647.2(92), 613.8(88.4), 683.3(88)
1175.93 6	4.16 8	<sup>142</sup> Cs(1.70 s)	359.598(27.2), 1326.46(12.92), 966.89(9.0)
1175.98 7	0.0047 5	<sup>133</sup> La(3.912 h)	278.835(2.50), 302.353(1.648), 290.06(1.413)
• 1176.0 5	9.0×10 <sup>-5</sup> 5	<sup>129</sup> Te(33.6 d)	695.88(2.988), 729.57(0.70), 556.65(0.118)
1176.0 2	0.47 4	<sup>150</sup> Tb(3.48 h)	638.05(72), 496.3(14.8), 792.5(4.39)
1176.01 22	0.62 6	<sup>186</sup> Au(10.7 m)	191.56(62), 298.67(25.4), 764.89(10.5)
1176.05 10	0.62 6	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1176.09 3	0.48 3	<sup>163</sup> Tm(1.810 h)	104.320(18.6), 69.229(11.6), 241.305(10.9)
1176.1 2	66.3 23	<sup>98</sup> Cd(9.2 s)	347.18(78), 107.28(43.7), 60.55(35.1)
1176.1 2	0.14 4	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1176.14 <sup>36</sup>	0.13 <sup>4</sup>	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
1176.2 <sup>2</sup>	1.2 <sup>4</sup>	<sup>128</sup> La(5.0 m)	284.00(87), 479.24(54), 643.65(14.7)
1176.2 <sup>5</sup>	0.49 <sup>12</sup>	<sup>144</sup> La(40.8 s)	397.440(94.3), 541.20(39.2), 844.8(22.3)
1176.2 <sup>3</sup>	0.32 <sup>4</sup>	<sup>175</sup> Tm(15.2 m)	514.868(65), 941.23(15), 363.942(12.7)
1176.23 <sup>15</sup>	0.25	<sup>186</sup> Ta(10.5 m)	197.93(50), 214.87(42.3), 510.82(37.5)
1176.3 <sup>6</sup>	0.078 <sup>6</sup>	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1176.3 <sup>6</sup>		<sup>207</sup> Rn(9.25 m)	344.53(46), 747.15(14.2), 402.68(11.9)
1176.4 <sup>4</sup>	0.14	<sup>142</sup> La(91.1 m)	641.285(47), 2397.8(13.3), 2542.7(10.00)
• 1176.4 <sup>2</sup>	1.69 <sup>5</sup>	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1176.4 <sup>6</sup>	1.1 <sup>3</sup>	<sup>148</sup> Ho(9.59 s)	1687.5(82.47), 660.8(58.94), 504.3(18.62)
1176.4 <sup>3</sup>	0.129 <sup>18</sup>	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1176.46 <sup>16</sup>	0.027 <sup>3</sup>	<sup>168</sup> Ho(2.99 m)	741.356(36.6), 821.164(34.5), 815.990(18.6)
• 1176.48 <sup>22</sup>	0.159 <sup>16</sup>	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1176.5 <sup>2</sup>	0.058 <sup>11</sup>	<sup>107</sup> Ru(3.75 m)	194.05(9.9), 847.93(5.3), 462.61(3.66)
1176.5 <sup>10</sup>	0.20 <sup>16</sup>	<sup>181</sup> Os(105 m)	238.75(44), 826.77(20), 118.03(12.9)
1176.5 <sup>5</sup>	$\dagger$ 7.4 <sup>6</sup>	<sup>195</sup> Bi(183 s)	807.6( $\dagger$ 100), 831.7( $\dagger$ 100), 776.2( $\dagger$ 95)
1176.626	14.09 <sup>13</sup>	<sup>34</sup> Cl(32.00 m)	2127.492(42.8), 3304.039(12.29), 4114.54(0.273)
1176.67 <sup>15</sup>	0.44 <sup>5</sup>	<sup>77</sup> Rb(3.75 m)	66.52(57), 178.99(22.2), 393.37(9.7)
1176.67 <sup>12</sup>	0.63 <sup>4</sup>	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1176.7 <sup>2</sup>	1.10 <sup>14</sup>	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
1176.704 <sup>169.54</sup>	19	<sup>166</sup> Tm(7.70 h)	778.817(18.9), 2052.36(17.2), 184.410(16.1)
1176.9 <sup>9</sup>	0.0037 <sup>15</sup>	<sup>90</sup> Rb(258 s)	831.69(94), 1375.36(16.7), 3317.00(14.4)
1176.9 <sup>9</sup>	0.028 <sup>11</sup>	<sup>90</sup> Rb(158 s)	831.69(28), 1060.70(6.69), 4365.90(5.6)
1176.9 <sup>8</sup>	0.353 <sup>19</sup>	<sup>101</sup> Pd(8.47 h)	296.29(19), 590.44(12.06), 269.67(6.43)
1176.9 <sup>4</sup>	0.21 <sup>5</sup>	<sup>105</sup> In(5.07 m)	131.37(41), 260.21(15.7), 604.11(9.2)
1176.9 <sup>4</sup>	$\dagger$ 0.9 <sup>3</sup>	<sup>171</sup> Hf(12.1 h)	122.0( $\dagger$ 100), 662.2( $\dagger$ 83), 347.18( $\dagger$ 47)
1176.9 <sup>5</sup>	0.11	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
1177.0 <sup>3</sup>	0.11 <sup>3</sup>	<sup>109</sup> Ru(34.5 s)	206.29(22.0), 225.98(19.6), 1929.05(13.7)
1177.0 <sup>6</sup>	0.07 <sup>3</sup>	<sup>122</sup> Cs(21.0 s)	331.1(48), 512.0(3.8), 817.9(3.09)
1177.0 <sup>3</sup>	$\dagger$ 19 <sup>2</sup>	<sup>135</sup> Pm(49 s)	198.5( $\dagger$ 100), 207.2( $\dagger$ 70), 463.5( $\dagger$ 62)
1177.04 <sup>10</sup>	0.71 <sup>8</sup>	<sup>119</sup> Te(16.03 h)	644.01(84), 699.85(10.1), 1749.65(3.95)
1177.04 <sup>4</sup>	0.12 <sup>6</sup>	<sup>204</sup> Po(3.53 h)	883.984(29.9), 270.068(27.8), 1016.31(24.1)
• 1177.06 <sup>20</sup>	0.000228 <sup>24</sup>	<sup>123</sup> Sn(129.2 d)	1088.64(0.6), 1030.23(0.0310), 1021.00(0.00193)
1177.1 <sup>4</sup>	0.74 <sup>18</sup>	<sup>186</sup> Tl(27.5 s)	405.43(92), 402.72(45.9), 356.84(29.3)
1177.1 <sup>5</sup>	$\dagger$ 1.4 <sup>2</sup>	<sup>200</sup> At(43 s)	665.9( $\dagger$ 100), 611.1( $\dagger$ 85.0), 484.5( $\dagger$ 49.8)
1177.14 <sup>4</sup>	1.62 <sup>9</sup>	<sup>208</sup> Rn(24.35 m)	426.78(7.07), 251.05(5.02), 350.026(3.34)
1177.2 <sup>4</sup>	0.067 <sup>17</sup>	<sup>199</sup> Pb(90 m)	366.90(44.2), 353.39(9.5), 1135.04(7.8)
1177.2 <sup>2</sup>	0.0037 <sup>10</sup>	<sup>246</sup> Am(25.0 m)	1078.86(27.7), 798.80(25), 1062.04(17.1)
1177.22 <sup>3</sup>	0.00378 <sup>21</sup>	<sup>145</sup> Pr(5.984 h)	748.278(0.5250), 675.795(0.514), 72.500(0.261)
1177.3 <sup>6</sup>	0.363 <sup>6</sup>	<sup>18</sup> N(624 ms)	1981.95(83.2), 821.76(49.0), 1651.61(48.9)
1177.3 <sup>4</sup>	2.2 <sup>2</sup>	<sup>130</sup> Sb(6.3 m)	839.49(100), 793.53(86), 182.36(41)
1177.4 <sup>1</sup>	2.19 <sup>8</sup>	<sup>130</sup> La(8.7 m)	357.4(81.0), 550.7(25.9), 908.0(17.0)
1177.4 <sup>5</sup>	0.006 <sup>3</sup>	<sup>151</sup> Tb(17.609 h)	287.357(28.3), 251.863(26.3), 108.088(24.3)
1177.4 <sup>4</sup>	$\dagger$ 2.0 <sup>3</sup>	<sup>168</sup> Re(4.4 s)	199.3( $\dagger$ 100), 363.2( $\dagger$ 95), 479.8( $\dagger$ 62.8)
1177.4 <sup>3</sup>	0.26 <sup>4</sup>	<sup>183</sup> Ir(58 m)	392.52(10.4), 228.70(6.9), 87.67(5.6)
1177.42 <sup>18</sup>	0.24 <sup>3</sup>	<sup>74</sup> Ga(8.12 m)	595.847(91), 2353.46(44.5), 608.353(14.3)
1177.6	0.27	<sup>96</sup> Y(9.6 s)	1750.42(89), 915.0(60), 617.1(56)
1177.6 <sup>3</sup>	0.036 <sup>6</sup>	<sup>143</sup> La(14.2 m)	620.3(2.34), 643.75(1.55), 621.4(1.52)
1177.6 <sup>9</sup>	0.08 <sup>8</sup>	<sup>175</sup> Ta(10.5 h)	207.4(14.0), 348.5(12.0), 266.9(10.8)
1177.70 <sup>20</sup>	0.235 <sup>20</sup>	<sup>123</sup> Cd(1.82 s)	1165.86(25.7), 1027.45(22.6), 2102.81(12.5)
1177.70 <sup>2</sup>	0.36 <sup>12</sup>	<sup>145</sup> Cs(0.594 s)	175.36(20), 198.93(10.9), 112.46(10.71)
1177.7 <sup>5</sup>	0.034 <sup>18</sup>	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 1177.7 <sup>4</sup>	0.159 <sup>16</sup>	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1177.7 <sup>2</sup>	0.36 <sup>5</sup>	<sup>236</sup> Pa(9.1 m)	642.35(37.0), 687.59(9.9), 1762.7(6.0)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1177.71 19	0.29 4	<sup>154</sup> Tb(9.4 h)	123.071(30), 247.925(22.1), 540.18(20)
1177.71 19		<sup>154</sup> Tb(21.5 h)	123.071(26), 1274.436(10.5), 2187.10(9.9)
1177.75 6	3.24 19	<sup>154</sup> Pm(1.73 m)	2057.76(17.1), 1393.9(14.4), 81.99(12.6)
1177.75 6	0.29	<sup>154</sup> Pm(2.68 m)	184.810(32), 81.99(15.4), 546.66(14.5)
1177.8 10	†16 3	<sup>189</sup> Au(28.7 m)	713.17(†100), 812.68(†63), 447.65(†55)
• 1177.962 4	15.07 9	<sup>160</sup> Tb(72.3 d)	879.383(30.01), 298.580(25.51), 966.171(25.21)
1177.962 4	†1.95 23	<sup>160</sup> Ho(5.02 h)	728.18(†100), 879.383(†65.9), 962.317(†59.1)
1178.0 5	0.22 5	<sup>156</sup> Ho(56 m)	266.35(54.7), 137.83(51), 366.25(10.73)
1178.0 15	0.061 20	<sup>163</sup> Yb(11.05 m)	860.28(10.1), 63.62(6.5), 123.21(1.98)
1178 1	†4.4 7	<sup>244</sup> Bk(4.35 h)	891.5(†100), 217.6(†88), 921.5(†19)
1178.03 11	1.29 7	<sup>91</sup> Kr(8.57 s)	108.788(43.5), 506.592(19.1), 612.87(7.7)
1178.03 4	0.293 15	<sup>131</sup> La(59 m)	108.081(25.0), 417.783(18.0), 365.162(16.9)
1178.03 12	0.62 4	<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
• 1178.07 21	0.19 3	<sup>106</sup> Ag(8.28 d)	511.842(88), 1045.83(29.6), 717.24(28.9)
1178.1 8	†4.0 12	<sup>152</sup> Pr(3.24 s)	164.2(†100), 284.9(†81.0), 72.40(†38.9)
1178.1	0.07	<sup>185</sup> Ir(14.4 h)	254.4(13.3), 1828.8(10), 60.0(5.7)
1178.2 2	0.33 11	<sup>203</sup> Po(36.7 m)	908.64(55), 1090.95(19.2), 893.49(18.7)
1178.2 5	0.071 16	<sup>227</sup> Fr(2.47 m)	90.035(39), 585.804(29.5), 64.267(14.5)
1178.3	0.069 14	<sup>141</sup> Ba(18.27 m)	190.328(46.0), 304.194(25.4), 276.948(23.4)
1178.3 4	0.22 4	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1178.35 9	0.077 7	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
1178.39 4	0.563 25	<sup>155</sup> Ho(48 m)	240.19(12.5), 136.30(5.00), 45.38(5)
1178.4 20	1.36 17	<sup>212</sup> Fr(20.0 m)	1273.8(46), 227.72(43), 1185.6(14.1)
1178.5	†100 5	<sup>34</sup> Si(2.77 s)	429.07(†94), 1607.6(†56)
1178.5 1	0.0013 6	<sup>127</sup> Cs(6.25 h)	411.95(62.8), 124.70(11.37), 462.31(5.07)
1178.5 2	0.038 7	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1178.53 15	13.2 6	<sup>165</sup> Tb(2.11 m)	538.51(7.2), 1292.05(7.0), 1664.80(6.4)
1178.536 240.008 3		<sup>183</sup> Os(13.0 h)	381.768(89.6), 114.463(20.63), 167.844(8.81)
• 1178.55 40	0.0096 24	<sup>83</sup> Sr(32.41 h)	762.65(30), 381.53(14.1), 418.37(4.41)
1178.6 2	0.538 23	<sup>194</sup> Pb(12.0 m)	581.82(18.8), 1519.45(16.4), 203.82(16.2)
1178.66 6	5.16 25	<sup>95</sup> Ru(1.643 h)	336.43(70.2), 1096.76(21.0), 626.77(17.8)
1178.7 2	0.26 7	<sup>173</sup> Ta(3.14 h)	172.2(18), 69.70(5.9), 90.3(5.0)
1178.73 12	0.34 6	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1178.73 1	0.028 17	<sup>139</sup> Xe(39.68 s)	218.59(56), 296.53(21.7), 174.97(11.3)
1178.8 4	2.9 3	<sup>176</sup> Tm(1.9 m)	189.57(44.5), 1069.3(34), 381.8(21.8)
1178.8 3	0.126 14	<sup>187</sup> Au(8.4 m)	1331.81(7.0), 1408.23(3.06), 914.73(3.02)
1178.9 3	0.10 3	<sup>92</sup> Kr(1.840 s)	142.307(64), 1218.6(60), 812.6(14.6)
1178.90 86	0.11 3	<sup>141</sup> Xe(1.73 s)	909.23(24.0), 118.705(16.1), 105.937(9.8)
1178.91 9	0.80 11	<sup>118</sup> I(8.5 m)	605.71(99), 600.71(92), 614.42(65)
1179 1	0.09 4	<sup>76</sup> Br(16.2 h)	559.101(74), 657.041(15.9), 1853.67(14.7)
1179.2 6	†0.83 11	<sup>102</sup> Tc(4.35 m)	475.070(†115), 628.05(†35.3), 631.28(†21.3)
1179.2 4	0.50 4	<sup>127</sup> Sn(2.10 h)	1114.3(39), 1095.6(20), 823.1(10.9)
• 1179.2	0.012	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1179.2 4	†5.8 23	<sup>155</sup> Nd(8.9 s)	180.574(†100), 418.99(†75), 955.08(†50)
1179.2 4	†1.5 3	<sup>189</sup> Hg(7.6 m)	320.99(†100), 78.21(†63), 565.42(†48)
1179.4 7	0.56 6	<sup>199</sup> Bi(27 m)	560.1(22.0), 424.85(22), 841.7(11)
1179.4 2	†6	<sup>238</sup> Pa(2.3 m)	1015.3(†<100), 1014.6(†<100), 635.18(†88)
1179.49 6	0.036 6	<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
1179.5 10	0.9	<sup>111</sup> Sb(75 s)	154.48(71), 489.1(42), 1032.6(10.0)
1179.5 15	0.22	<sup>207</sup> At(1.80 h)	814.41(44.5), 588.33(19.2), 300.654(12.8)
1179.51 3	0.996 21	<sup>88</sup> Kr(2.84 h)	2392.11(34.6), 196.301(25.98), 2195.842(13.18)
1179.6 6	0.102 20	<sup>150</sup> Pm(2.68 h)	333.971(68), 1324.51(17.5), 1165.739(15.8)
• 1179.63 13	0.0174 25	<sup>153</sup> Tb(2.34 d)	212.038(31.0), 170.504(6.8), 109.758(6.4)
1179.7 2	†4 1	<sup>153</sup> Yb(4.2 s)	547.4(†100), 674.1(†61), 369.6(†32)

•  $t_{1/2} > 1$  d



Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1179.8 3	0.59 10	<sup>95</sup> Rb(377.5 ms)	352.02(49), 204.02(15.1), 680.7(14.8)
1179.8 5	0.17 7	<sup>121</sup> Cs(155 s)	153.9(15.2), 239.6(7.7), 427.1(3.63)
1179.8 5	0.13 5	<sup>121</sup> Cs(122 s)	179.4(30.2), 196.0(24.1), 459.7(12.0)
1179.8 5	>0.13	<sup>137</sup> Nd(38.5 m)	75.5(17.0), 580.6(13), 306.60(10.0)
1180.0 2	3.28 23	<sup>96</sup> Rb(0.199 s)	815.0(78.00), 692.0(8.0), 813.2(7.0)
1180.0 2	1.4	<sup>97</sup> Rb(169.9 ms)	815.0(100), 692.0(16.5), 414.3(15.0)
1180.0 5	0.60 12	<sup>101</sup> Zr(2.1 s)	119.3(10.8), 205.6(6.0), 912.2(3.48)
1180.0 2	0.081 11	<sup>137</sup> Pr(1.28 h)	836.7(1.8), 433.9(1.28), 514.0(1.08)
1180.00 15	1.07 15	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1180.1 2	0.12 3	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1180.18 7	0.156 10	<sup>118</sup> In(4.45 m)	1229.68(96), 1050.69(81.0), 683.08(54.3)
1180.2 2	†1.00 15	<sup>129</sup> Ba(2.17 h)	182.30(†100), 1459.1(†50.0), 202.38(†33.7)
1180.2 5	0.14 6	<sup>140</sup> Xe(13.60 s)	805.52(20), 1413.66(12.2), 1315.05(8.2)
1180.2 2	0.020 5	<sup>240</sup> Np(7.22 m)	554.60(20.9), 597.40(11.7), 1496.9(1.33)
• 1180.2 2	0.0102 8	<sup>240</sup> Am(50.8 h)	987.76(73.2), 888.80(25.1), 98.860(1.5)
• 1180.231 100.183 5		<sup>147</sup> Eu(24.1 d)	197.299(27), 121.220(22.9), 677.516(9.8)
• 1180.266 140.086 8		<sup>82</sup> Br(35.30 h)	776.517(83.5), 554.348(70.8), 619.106(43.4)
1180.266 140.00394 18		<sup>82</sup> Br(6.13 m)	776.517(0.26), 698.374(0.0340), 1474.88(0.0198)
1180.266 140.0148 13		<sup>82</sup> Rb(1.273 m)	776.517(13), 1395.139(0.471), 698.374(0.133)
1180.266 140.118 17		<sup>82</sup> Rb(6.472 h)	776.517(84), 554.348(62.4), 619.106(37.976)
1180.28 18 0.77 13		<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
1180.3 10 0.16 3		<sup>228</sup> Fr(39 s)	473.7(10.2), 474.0(7.6), 410.40(6.3)
1180.31 9 0.28 5		<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
1180.32 8 0.70 3		<sup>78</sup> Rb(5.74 m)	454.97(81), 664.44(38.3), 1109.72(13.12)
• 1180.37 7 0.108 9		<sup>156</sup> Tb(5.35 d)	534.318(66.6), 199.2132(40.9), 1222.36(31.00)
1180.4 4 0.26 4		<sup>88</sup> Nb(7.8 m)	1057.01(89.3), 1082.53(53.9), 399.41(45.7)
1180.4 4 0.09 5		<sup>185</sup> Au(4.25 m)	310.6(13), 243.1(6.6), 77.7(6)
• 1180.45 6 0.190 21		<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1180.46 9 0.064 9		<sup>135</sup> I(6.57 h)	1260.409(28.90), 1131.511(22.74), 1678.027(9.62)
1180.6 5 0.8 4		<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
1180.6 5 1.7 4		<sup>164</sup> Tb(3.0 m)	168.838(25.4), 754.80(23.3), 215.07(21)
• 1180.686 120.11 4		<sup>200</sup> Tl(26.1 h)	367.943(87), 1205.717(29.9), 579.298(13.8)
1180.7 2 2.29 7		<sup>69</sup> Cu(2.85 m)	1007.5(23.4), 834.4(13.1), 531.2(6.0)
• 1180.70 10 0.066 7		<sup>206</sup> Bi(6.243 d)	803.10(99), 881.01(66.2), 516.18(40.7)
1180.72 6 0.01448 20		<sup>106</sup> Rh(29.80 s)	511.842(20), 621.94(9.93), 1050.39(1.56)
1180.72 6 0.0055 5		<sup>106</sup> Ag(23.96 m)	511.842(17.0), 621.94(0.316), 873.48(0.199)
• 1180.75 30 0.0112 13		<sup>170</sup> Lu(2.00 d)	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1180.76 17 0.24 3		<sup>93</sup> Sr(7.423 m)	590.238(67), 875.73(24.1), 888.13(21.8)
• 1180.76 3 0.086 5		<sup>182</sup> Ta(114.43 d)	67.75001(41.2), 1121.3007(34.9), 1221.4066(26.98)
• 1180.76 3 0.55 3		<sup>182</sup> Re(64.0 h)	229.3220(26), 67.75001(22.2), 1121.3007(22.0)
1180.8 1 0.037 3		<sup>113</sup> Ag(5.37 h)	298.58(10), 258.8(1.64), 316.3(1.343)
1180.838 250.684 14		<sup>125</sup> Xe(16.9 h)	188.418(54), 243.378(30.1), 54.968(6.81)
1180.89 2 14.8 3		<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 138.89(7.84)
1180.9		<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1180.9 2 †3.5 7		<sup>187</sup> Hg(1.9 m)	233.38(†100), 376.34(†38), 240.26(†33)
1180.950 100.00026 18		<sup>82</sup> Br(6.13 m)	776.517(0.26), 698.374(0.0340), 1474.88(0.0198)
1180.950 100.0027 13		<sup>82</sup> Rb(1.273 m)	776.517(13), 1395.139(0.471), 698.374(0.133)
1181.0 10 0.032 11		<sup>103</sup> Tc(54.2 s)	346.380(17.5), 136.079(16.6), 562.90(7.0)
1181.0 4 12.3 13		<sup>113</sup> Te(1.7 m)	814.4(22), 1018.1(13.0), 644.8(6.4)
1181.1 5 0.33 5		<sup>121</sup> Xe(40.1 m)	252.7(13), 132.8(10.9), 445.2(7.7)
1181.1 3 0.059 8		<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1181.16 14 0.235 15		<sup>141</sup> Cs(24.94 s)	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1181.2 1 †1.80 16		<sup>158</sup> Ho(11.3 m)	218.21(†100.0), 98.91(†70), 945.7(†37)
1181.2 2 0.075 17		<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
• 1181.23 20	0.00029 3	$^{123}\text{Sn}(129.2 \text{ d})$	1088.64(0.6), 1030.23(0.0310), 1021.00(0.00193)
1181.3 5	$\dagger 1.17$ 23	$^{201}\text{Po}(15.3 \text{ m})$	890.1( $\dagger 100$ ), 240.1( $\dagger 71.0$ ), 904.2( $\dagger 54.8$ )
1181.3 1	1.44 9	$^{211}\text{Rn}(14.6 \text{ h})$	674.1(45), 1362.9(32.5), 678.4(28.9)
1181.39 1	99.3 25	$^{210}\text{At}(8.1 \text{ h})$	245.31(79), 1483.39(46.5), 1436.70(29.0)
• 1181.4 4	0.015 10	$^{131}\text{Te}(30 \text{ h})$	773.67(49.9), 852.21(27.0), 793.75(18.10)
1181.4 8	0.028 21	$^{140}\text{Cs}(63.7 \text{ s})$	602.345(71.1), 908.25(11.6), 1200.25(6.39)
1181.44 6	0.94 4	$^{79}\text{Ge}(19.1 \text{ s})$	109.58(21), 1505.85(9.2), 100.48(2.70)
1181.45 10	12.4 4	$^{121}\text{Cd}(8.3 \text{ s})$	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
1181.45 10	0.087 16	$^{204}\text{Bi}(11.22 \text{ h})$	899.15(98), 374.72(82), 984.02(59)
1181.5 1	0.074 13	$^{145}\text{Gd}(23.0 \text{ m})$	1757.9(34.2), 1880.6(32.6), 1041.8(9.9)
• 1181.5 3	0.448 9	$^{170}\text{Lu}(2.00 \text{ d})$	84.2551(4.256), 1280.25(3.450), 2041.88(1.434)
1181.5 5	1.03 22	$^{181}\text{Os}(105 \text{ m})$	238.75(44), 826.77(20), 118.03(12.9)
1181.5 5	0.62 6	$^{186}\text{Au}(10.7 \text{ m})$	191.56(62), 298.67(25.4), 764.89(10.5)
1181.57 5	0.1068 13	$^{127}\text{Cs}(6.25 \text{ h})$	411.95(62.8), 124.70(11.37), 462.31(5.07)
1181.6 4	4.5 5	$^{128}\text{Sb}(9.01 \text{ h})$	753.82(100), 743.22(100), 314.12(61)
1181.6 10	0.11 3	$^{159}\text{Eu}(18.1 \text{ m})$	67.8(19), 78.6(9.1), 95.7(7.0)
1181.6 2	0.16 3	$^{242}\text{Np}(2.2 \text{ m})$	735.93(5), 780.44(2.76), 1473.1(2.34)
1181.9 15	1.6 11	$^{168}\text{Ta}(2.0 \text{ m})$	124.0(35.6), 261.6(22.7), 751.4(7.3)
1181.94 16	0.151 20	$^{163}\text{Tm}(1.810 \text{ h})$	104.320(18.6), 69.229(11.6), 241.305(10.9)
1181.96 11	0.00012 5	$^{129}\text{Te}(69.6 \text{ m})$	27.81(16.3), 459.60(7.70), 487.39(1.42)
1181.99 13	0.0012 3	$^{133}\text{La}(3.912 \text{ h})$	278.835(2.50), 302.353(1.648), 290.06(1.413)
1182.0 3	$5.0 \times 10^{-5}$	$^{144}\text{Pr}(17.28 \text{ m})$	696.510(1.3), 2185.662(0.694), 1489.160(0.278)
1182.0 5	0.0003 2	$^{171}\text{Er}(7.516 \text{ h})$	308.31(64.4), 295.901(28.9), 111.621(20.5)
1182.02 23	$\dagger 3.4$ 4	$^{165}\text{Lu}(10.74 \text{ m})$	132.49( $\dagger 100$ ), 120.60( $\dagger 100$ ), 174.25( $\dagger 47.0$ )
1182.05 46	0.10 3	$^{137}\text{Nd}(38.5 \text{ m})$	75.5(17.0), 580.6(13), 306.60(10.0)
1182.10 11	0.044 11	$^{69}\text{As}(15.2 \text{ m})$	232.69(11), 145.95(4.96), 86.78(3.44)
1182.1 3	0.51 7	$^{76}\text{Ga}(32.6 \text{ s})$	562.93(66), 545.51(26.0), 1108.41(15.8)
1182.1 2	0.009	$^{234}\text{Pa}(6.70 \text{ h})$	131.30(18), 946.00(13.4), 883.24(9.6)
1182.1 5	0.0070 20	$^{240}\text{Np}(7.22 \text{ m})$	554.60(20.9), 597.40(11.7), 1496.9(1.33)
1182.13 4	0.289 9	$^{151}\text{Tb}(17.609 \text{ h})$	287.357(28.3), 251.863(26.3), 108.088(24.3)
1182.2 4	0.52 20	$^{99}\text{Ag}(124 \text{ s})$	264.41(65), 832.29(13.5), 805.07(12.5)
1182.3 2	$\dagger 1.4$ 2	$^{75}\text{Ga}(126 \text{ s})$	253.0( $\dagger 100$ ), 574.8( $\dagger 31.6$ ), 885.6( $\dagger 11.1$ )
1182.30 30	0.74 10	$^{105}\text{In}(5.07 \text{ m})$	131.37(41), 260.21(15.7), 604.11(9.2)
1182.3 4	0.09 3	$^{146}\text{Ba}(2.22 \text{ s})$	140.7(20.2), 251.2(19.6), 121.2(14.2)
1182.3 3	$\dagger 9$ 1	$^{181}\text{Ir}(4.90 \text{ m})$	107.64( $\dagger 100$ ), 1639.6( $\dagger 52$ ), 318.9( $\dagger 46$ )
1182.38 20	0.167 22	$^{89}\text{Kr}(3.15 \text{ m})$	220.948(20.1), 586.03(16.6), 904.27(7.2)
1182.4 2		$^{131}\text{Sn}(56.0 \text{ s})$	3267.5, 2470.5, 2039.25
1182.4 2	$\dagger 4.2$ 10	$^{131}\text{Sn}(56.0 \text{ s})$	1226.03( $\dagger 100$ ), 450.03( $\dagger 90$ ), 798.50( $\dagger 86$ )
1182.4	0.37	$^{148}\text{Pr}(2.27 \text{ m})$	301.702(61), 1357.78(5.5), 1023.18(4.8)
1182.48 7	0.00079 16	$^{145}\text{Pr}(5.984 \text{ h})$	748.278(0.5250), 675.795(0.514), 72.500(0.261)
1182.5 5	0.84 9	$^{161}\text{Yb}(4.2 \text{ m})$	78.20(34), 599.88(25.9), 631.45(13.9)
1182.5 3	3.74 8	$^{177}\text{W}(135 \text{ m})$	115.65(50), 426.98(13.2), 1036.4(10.3)
1182.65 21	0.22 3	$^{95}\text{Ru}(1.643 \text{ h})$	336.43(70.2), 1096.76(21.0), 626.77(17.8)
1182.70 8	0.67 4	$^{147}\text{Pr}(13.4 \text{ m})$	77.9921(15), 314.675(13.2), 641.380(10.0)
1182.77 11	1.52 3	$^{103}\text{Ag}(65.7 \text{ m})$	118.72(31.2), 148.193(28.3), 266.86(13.3)
1182.8 2	$\dagger 0.73$ 9	$^{160}\text{Ho}(5.02 \text{ h})$	728.18( $\dagger 100$ ), 879.383( $\dagger 65.9$ ), 962.317( $\dagger 59.1$ )
1183.0 5	3.4 3	$^{98}\text{Ag}(46.7 \text{ s})$	863.1(100), 678.5(85), 570.93(53)
1183.00 5	0.0348 18	$^{122}\text{I}(3.63 \text{ m})$	564.119(18), 692.794(1.325), 793.278(1.297)
1183.0 4	1.3 3	$^{132}\text{Sb}(2.79 \text{ m})$	973.9(99), 696.8(86), 989.6(14.9)
1183.0 2	0.073 5	$^{251}\text{Fm}(5.30 \text{ h})$	880.8(2.19), 453.1(1.45), 405.6(0.99)
1183.07 15	0.201 13	$^{141}\text{Cs}(24.94 \text{ s})$	48.53(7.90), 561.63(4.7), 1194.02(3.95)
1183.072 120	112 9	$^{180}\text{Re}(2.44 \text{ m})$	902.795(90), 103.557(22.2), 825.357(9.9)
1183.1 5	0.093 8	$^{146}\text{Pr}(24.15 \text{ m})$	453.88(48.0), 1523.7(15.6), 735.72(7.5)
1183.1 5	0.54 13	$^{153}\text{Ho}(2.0 \text{ m})$	295.8(67), 637.0(5.36), 688.5(3.7)

•  $t_{1/2} > 1 \text{ d}$

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1183.1 2	0.136 18	<sup>209</sup> At(5.41 h)	545.0(91), 781.9(83.5), 790.2(63.5)
1183.2 5	<0.12	<sup>134</sup> I(52.6 m)	847.025(95.4), 884.090(64.9), 1072.547(15.0)
• 1183.208 161.66 4		<sup>148</sup> Eu(54.5 d)	550.284(98.5), 629.987(71.9), 611.293(20.5)
1183.3 5	0.317 24	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1183.3 4	0.317 24	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1183.33 9	1.10 4	<sup>133</sup> Ce(4.9 h)	477.22(39), 510.36(20.7), 58.39(19.2)
1183.4 1	0.13 3	<sup>117</sup> Cd(2.49 h)	273.349(28), 1303.27(18.4), 344.459(17.9)
1183.4 2	1.3 4	<sup>121</sup> Cd(8.3 s)	2059.41(21.0), 1020.89(18.9), 987.81(13.6)
1183.4	†8	<sup>131</sup> Nd(27 s)	87.8(†100), 174.42(†34), 164.09(†25)
1183.47 3	3.22 22	<sup>133</sup> Sb(2.5 m)	1096.22(43.0), 817.8(18.5), 2755(12.5)
1183.5 1	0.048 5	<sup>93</sup> Y(10.18 h)	266.9(7.3), 947.1(2.09), 1917.8(1.55)
1183.5 4	†2.7 5	<sup>142</sup> Xe(1.22 s)	571.83(†100), 657.05(†79), 538.24(†77)
1183.50 10	1.22 11	<sup>205</sup> Po(1.66 h)	872.39(37), 1001.21(28.8), 849.83(25.5)
1183.5 8	0.112 11	<sup>226</sup> Fr(48 s)	253.73(22.3), 186.05(16.3), 253.9(2.5)
1183.51 4	0.304 10	<sup>194</sup> Ir(19.15 h)	328.455(13.1), 293.545(2.55), 645.157(1.17)
• 1183.51 4	0.62 6	<sup>194</sup> Au(38.02 h)	328.455(60), 293.545(10.2), 1468.91(6.3)
1183.53 3	0.018 4	<sup>178</sup> Lu(28.4 m)	93.180(6.0), 1340.8(3.22), 1310.05(1.40)
1183.53 3	0.169 5	<sup>178</sup> Ta(9.31 m)	93.180(1.78), 1350.68(1.18), 1340.8(1.027)
1183.6 3	0.46 10	<sup>65</sup> Ge(30.9 s)	649.7(33), 62.0(27), 809.1(21.5)
1183.6 2	0.028 9	<sup>98</sup> Nb(51.3 m)	787.374(93), 722.645(73.8), 1168.830(17.8)
1183.6	†1.0 4	<sup>131</sup> Pr(1.53 m)	266.13(†100), 72.82(†64), 387.56(†38)
1183.6 3	0.22 3	<sup>181</sup> Au(11.4 s)	198.60(4.4), 2022.4(4.2), 79.40(4.2)
1183.7 2	0.071 18	<sup>149</sup> Tb(4.118 h)	352.24(29.43), 164.98(26.4), 388.57(18.37)
1183.7 2	0.56 19	<sup>149</sup> Er(8.9 s)	1171.0(9.4), 171.5(6.5), 343.9(6.3)
1183.7 7	0.25 5	<sup>201</sup> Bi(108 m)	629.1(24.0), 936.2(11.3), 1014.1(10.7)
1183.8 5	0.29 9	<sup>115</sup> Ag(20.0 m)	229.08(18), 212.80(4.4), 472.70(4.0)
1183.90 17	0.079 22	<sup>100</sup> Sr(202 ms)	963.85(22.0), 898.50(18.9), 65.46(15.2)
1183.9 2	0.89 3	<sup>135</sup> Te(19.0 s)	603.5(37.0), 266.8(10.36), 870.3(7.73)
1183.97 8	2.5 3	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
1184.0	7.3 4	<sup>35</sup> K(190 ms)	2982.67(50.8), 2589.80(26.4), 1750.6(14.2)
1184 2	1.9 8	<sup>70</sup> As(52.6 m)	1039.20(81), 1114.1(21.8), 668.3(21.8)
1184.0	0.16	<sup>95</sup> Sr(23.90 s)	685.6(23), 2717.3(4.6), 2933.1(4.1)
1184.0 4	0.91 13	<sup>120</sup> In(3.08 s)	1171.3(19), 2039.8(1.86), 703.8(1.42)
1184.0 4	2.4 8	<sup>120</sup> In(46.2 s)	1171.3(96), 1023.1(55), 863.7(32.5)
1184.0 5	0.0549 16	<sup>126</sup> Cs(1.64 m)	388.633(41), 491.243(5.0), 925.24(4.56)
1184.0 8	0.28 10	<sup>136</sup> Nd(50.65 m)	108.90(32), 40.2(18.9), 574.8(10.4)
• 1184.0 5		<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1184.05 10	0.024 3	<sup>155</sup> Dy(9.9 h)	226.918(68.4), 184.564(3.37), 1089.8(>2.8)
1184.09 3	1.09 4	<sup>135</sup> Ce(17.7 h)	265.56(41.8), 300.07(23.5), 606.76(18.8)
1184.1 1	0.249 5	<sup>79</sup> Rb(22.9 m)	688.1(23), 182.77(19.2), 143.41(13.9)
1184.1 5	4.6 3	<sup>97</sup> Rh(46.2 m)	189.21(49), 2245.6(14), 421.55(12.7)
1184.10 28	0.39 6	<sup>103</sup> Cd(7.3 m)	1461.81(12), 1448.70(5.55), 1079.90(5.44)
1184.1 2	0.016 6	<sup>119</sup> I(19.1 m)	257.52(87), 635.86(2.69), 320.53(2.17)
1184.16 13	†39 5	<sup>164</sup> Tm(2.0 m)	91.40(†1500), 1154.66(†366), 768.91(†279)
1184.19 23	0.196 17	<sup>101</sup> Mo(14.61 m)	191.92(19), 590.91(16.4), 1012.47(12.8)
1184.2 1	0.227 14	<sup>146</sup> Ba(2.22 s)	140.7(20.2), 251.2(19.6), 121.2(14.2)
1184.2 3	0.104 15	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
• 1184.28 3	0.331 13	<sup>172</sup> Lu(6.70 d)	1093.657(62.5), 900.724(29.8), 181.528(20.6)
1184.3 3	0.17	<sup>43</sup> Ar(5.37 m)	975.0(34), 738.1(15), 1439.5(13)
1184.39 6	0.035 6	<sup>189</sup> Pt(10.87 h)	721.41(9.3), 94.33(7.6), 568.84(7.1)
1184.4 2	0.27 3	<sup>74</sup> Ga(8.12 m)	595.847(91), 2353.46(44.5), 608.353(14.3)
1184.4 4	1.16 15	<sup>154</sup> Pr(2.3 s)	162.4(15), 932.1(11.7), 70.8(11.22)
1184.4 6	0.025 13	<sup>228</sup> Pa(22 h)	911.205(4.19), 463.005(1.250), 964.770(4.25)
• 1184.446 272.95 14		<sup>165</sup> Tm(30.06 h)	242.917(35.5), 47.155(16.9), 297.369(12.71)

•  $t_{1/2} > 1$  d

Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_\gamma(\Delta E)$	$I_\gamma(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_\gamma(I_\gamma)$
1184.5 3	0.060 24	<sup>157</sup> Er(18.65 m)	53.05(24), 391.32(14.2), 121.57(10.1)
1184.5 5	0.10 5	<sup>208</sup> At(1.63 h)	686.527(98), 660.040(89), 177.595(48.6)
1184.5 3	0.53 5	<sup>238</sup> Am(98 m)	962.77(28), 918.69(23.0), 561.11(10.9)
• 1184.5 3	$5 \times 10^{-7}$ 2	<sup>242</sup> Cm(162.8 d)	44.08(0.0325), 101.90(0.0025), 157.42(0.0014)
1184.55 13	0.108 16	<sup>176</sup> Ta(8.09 h)	1159.28(25), 88.34(12), 1224.93(6)
1184.6 3	4.2 7	<sup>118</sup> Cs(14 s)	337.4(100), 472.8(37.4), 586.6(15.4)
1184.7 6	0.019 4	<sup>93</sup> Y(10.18 h)	266.9(7.3), 947.1(2.09), 1917.8(1.55)
1184.7 2	0.0055 21	<sup>131</sup> Te(25.0 m)	149.716(69), 452.323(18.18), 1146.96(4.95)
1184.70 6	0.084 9	<sup>137</sup> Xe(3.818 m)	455.490(31), 848.95(0.62), 1783.43(0.415)
• 1184.7 3	0.026 21	<sup>147</sup> Gd(38.06 h)	229.32(63), 396.00(34.3), 929.01(20.2)
1184.8 5	0.49	<sup>203</sup> Bi(11.76 h)	820.3(30), 825.2(14.6), 896.9(13)
• 1184.88 3	2.22 9	<sup>169</sup> Lu(34.06 h)	960.622(23.4), 191.2137(20.6), 1449.74(9.92)
1184.9 8	0.6 3	<sup>115</sup> Te(6.7 m)	770.40(34.2), 723.569(18), 1071.70(12.9)
1184.9	0.041 23	<sup>192</sup> Au(4.94 h)	316.50791(58.0), 295.95827(22.3), 2236.89(5.6)
1184.92 12	0.00174 25	<sup>134</sup> La(6.45 m)	604.699(5.05), 1554.934(0.414), 563.227(0.359)
1184.94 8	†64 6	<sup>168</sup> Lu(5.5 m)	1483.65(†100), 228.58(†97), 111.8(†68)
1184.95 4	0.69 3	<sup>88</sup> Kr(2.84 h)	2392.11(34.6), 196.301(25.98), 2195.842(13.18)
1185.0 7	0.108 21	<sup>84</sup> Br(31.80 m)	881.610(42), 1897.761(14.7), 3927.5(6.8)
1185.0 8	0.051 25	<sup>103</sup> Ag(65.7 m)	118.72(31.2), 148.193(28.3), 266.86(13.3)
• 1185.0 2	0.150 11	<sup>146</sup> Eu(4.59 d)	747.2(98), 633.03(43), 634.07(37)
1185.0 3	4.4 17	<sup>152</sup> Ho(161.8 s)	613.8(73), 613.8(14), 1098.0(12)
1185 1	†6 1	<sup>160</sup> Eu(38 s)	173.19(†100), 513.6(†60), 412.56(†56)
1185 1	0.10 5	<sup>193</sup> Hg(11.8 h)	257.97(61), 407.63(25), 573.25(14.2)
1185.1 3	>0.29	<sup>109</sup> In(4.2 h)	203.5(74), 623.7(5.5), 1148.9(4.3)
1185.1 6	0.12 3	<sup>161</sup> Tm(33 m)	45.54(5.00), 1648.1(9.50), 84.40(9.4)
1185.1 3	0.017 5	<sup>208</sup> Tl(3.053 m)	2614.533(99), 583.191(84.5), 510.77(22.6)
1185.19 3	3.5	<sup>96</sup> Y(9.6 s)	1750.42(89), 915.0(60), 617.1(56)
1185.20 12	20 6	<sup>80</sup> Y(35 s)	385.86(100), 595.06(39), 756.53(13)
1185.2 6	0.82 25	<sup>166</sup> Lu(2.65 m)	228.12(77.3), 337.50(41), 367.95(31.4)
1185.21 17	0.034 5	<sup>139</sup> Cs(9.27 m)	1283.23(8.3), 627.24(1.78), 1420.66(0.91)
1185.234 153.75 7		<sup>61</sup> Cu(3.333 h)	282.956(12.2), 656.008(10.77), 67.412(4.23)
1185.3 3	1.72 11	<sup>61</sup> Zn(89.1 s)	475.0(16.85), 1660.5(7.80), 970.0(2.57)
1185.35 15	0.65 3	<sup>194</sup> Pb(12.0 m)	581.82(18.8), 1519.45(16.4), 203.82(16.2)
1185.4 11		<sup>144</sup> Cs(1.01 s)	199.326(†100.0), 639.00(†21.2), 758.96(†20.6)
1185.4 3	0.053 13	<sup>153</sup> Dy(6.4 h)	80.723(11.10), 213.754(10.90), 99.659(10.51)
1185.5 2	2.9 2	<sup>119</sup> Cd(2.20 m)	1025.0(24.8), 2021.3(22.6), 720.7(17.9)
1185.6 2	†1.2 6	<sup>103</sup> Nb(1.5 s)	102.64(†100), 641.1(†55), 538.5(†34.0)
1185.6 1	0.124 25	<sup>129</sup> La(11.6 m)	278.6(25), 110.5(16.9), 457.0(8.0)
1185.6 3	0.46 6	<sup>151</sup> Dy(17.9 m)	386.10(19.4), 49.46(18.0), 546.31(14.3)
1185.6 5	†5.7 9	<sup>152</sup> Tb(17.5 h)	344.281(†1500), 586.294(†223), 271.135(†203)
1185.6 20	14.1 17	<sup>212</sup> Fr(20.0 m)	1273.8(46), 227.72(43), 138.30(7.7)
1185.65 12	0.69 6	<sup>157</sup> Sm(482 s)	197.870(56.00), 196.461(16.8), 394.351(11.93)
1185.7 2	0.0076 17	<sup>121</sup> I(2.12 h)	212.189(84), 532.08(6.07), 598.74(1.47)
1185.7 10	0.6	<sup>151</sup> Ho(35.2 s)	527.4(63), 775.53(9.2), 209.5(5.69)
1185.8 3	0.26 5	<sup>100</sup> Y(735 ms)	212.531(73), 118.59(15.4), 665.98(7.7)
1185.8 4	0.37 5	<sup>161</sup> Er(3.21 h)	826.6(3.0), 211.15(12.2), 592.6(3.7)
1185.84 14	0.244 12	<sup>174</sup> Ta(1.05 h)	206.50(58), 91.00(16.0), 1205.92(4.9)
1185.99 8	2.5 5	<sup>158</sup> Eu(45.9 m)	944.09(25), 977.131(13.6), 79.5104(11)
1186.0 10	0.11 3	<sup>64</sup> Ga(2.630 m)	991.52(43), 807.86(13.65), 3365.86(13.1)
1186 2	†12.5	<sup>107</sup> Sn(2.90 m)	1129.2(†100), 678.5(†100), 1540.6(†30)
1186	†0.06 1	<sup>136</sup> Pm(107 s)	373.8(†100), 602.7(†38.4), 857.2(†23.4)
1186.0	0.030 7	<sup>151</sup> Nd(12.44 m)	116.80(43.4), 255.68(16.4), 1180.89(14.8)
1186.06 18	0.00072 10	<sup>161</sup> Gd(3.66 m)	360.94(0.59), 314.92(22.7), 102.315(13.9)
1186.1 3	0.38 8	<sup>160</sup> Tm(74.5 s)	264.1(9), 125.8(6.5), 375.8(2.4)

•  $t_{1/2} > 1$  d

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Energy-ordered Decay  $\gamma$ -ray Tables from the *Table of Isotopes*

$E_{\gamma}(\Delta E)$	$I_{\gamma}(\Delta I)$	Decay Parent	Associated $\gamma$ -rays: $E_{\gamma}(I_{\gamma})$
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•  $t_{1/2} > 1$  d