Nuclear Wallet Cards for Radioactive Nuclides

October 2023

National Nuclear Data Center
https://www.nndc.bnl.gov

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A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
7	Be	53.30 d *10*	ε	477.6035	10.4
10	Be	1.386×10^6 y *12*	β^-		
22	Na	2.60188 y *46*	$\varepsilon+\beta^+$	1274.537	99.9
24	Na	14.9578 h *11*	β^-	1368.625	100.0
				2754.008	99.9
28	Mg	20.915 h *9*	β^-	30.6383	89.0
				400.6	35.9
				941.7	36.3
				1342.2	54.0
				1372.8	4.7
				1589.4	4.7
26	Al	7.17×10^5 y *17*	$\varepsilon+\beta^+$	1129.67	2.5
				1808.65	99.8
31	Si	157.24 m *16*	β^-		
32	Si	163 y *6*	β^-		
36	Cl	3.013×10^5 y *15*	$\varepsilon+\beta^+$		
			β^-		
37	Ar	35.01 d *2*	ε		
39	Ar	268 y *8*	β^-		
41	Ar	109.61 m *4*	β^-	1293.64	99.2
42	Ar	32.9 y *11*	β^-		
41	Ca	9.94×10^4 y *15*	ε		
45	Ca	162.61 d *9*	β^-		
47	Ca	4.536 d *2*	β^-	489.23	5.9
				807.86	5.9
				1297.09	67.0
43	Sc	3.891 h *12*	$\varepsilon+\beta^+$	372.9	22.5
44	Sc	4.0420 h *24*	$\varepsilon+\beta^+$	1157.022	99.9
44m	Sc	58.62 h *9*	$\varepsilon+\beta^+$		
			IT	271.251	86.7
46	Sc	83.808 d *29*	β^-	889.277	100.0
				1120.545	100.0
47	Sc	3.3491 d *6*	β^-	159.381	68.3
48	Sc	43.71 h *8*	β^-	175.361	7.5
				983.526	100.0
				1037.522	97.5
				1212.880	2.4
				1312.120	100.0
44	Ti	59.1 y *3*	ε	67.8679	93.0
				78.3234	96.8
45	Ti	184.8 m *5*	$\varepsilon+\beta^+$		
48	Cr	21.56 h *3*	$\varepsilon+\beta^+$	112.31	96.0
				308.24	100.0
51	Cr	27.7004 d *22*	ε	320.0824	9.9
52	Mn	5.591 d *3*	$\varepsilon+\beta^+$	744.233	90.0

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				848.18	3.3
				935.544	94.5
				1246.278	4.2
				1333.649	5.1
				1434.092	100.0
53	Mn	3.62×10^6 y *38*	ε		
54	Mn	312.10 d *4*	ε+β^+	834.848	100.0
			β^-		
56	Mn	2.5788 h *2*	β^-	846.7638	98.8
				1810.726	26.9
				2113.092	14.2
52	Fe	8.273 h *9*	ε+β^+	168.688	99.2
55	Fe	2.7558 y *14*	ε		
59	Fe	44.495 d *9*	β^-	192.343	3.1
				1099.245	56.5
				1291.590	43.2
60	Fe	2.609×10^6 y *38*	β^-	58.603	2.1
55	Co	17.53 h *2*	ε+β^+	477.2	20.2
				931.1	75.0
				1316.6	7.1
				1370.0	2.9
				1408.5	16.9
56	Co	77.236 d *26*	ε+β^+	846.770	99.9
				1037.843	14.0
				1238.288	66.5
				1360.212	4.3
				1771.357	15.4
				2015.215	3.0
				2034.791	7.8
				2598.500	17.0
				3202.029	3.2
				3253.503	7.9
57	Co	271.80 d *3*	ε	14.4129	9.2
				122.06065	85.6
				136.47356	10.7
58	Co	70.883 d *22*	ε+β^+	810.7593	99.4
58m	Co	8.856 h *23*	ε		
			IT		
60	Co	5.2711 y *10*	β^-	1173.228	99.8
				1332.492	100.0
61	Co	1.650 h *5*	β^-	67.412	84.7
				917.5	3.6
56	Ni	6.081 d *15*	ε+β^+	158.38	98.8
				269.50	36.5
				480.44	36.5

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				749.95	49.5
				811.85	86.0
				1561.80	14.0
57	Ni	35.60 h *6*	$\varepsilon+\beta^+$	127.164	16.7
				1377.63	81.7
				1757.55	5.8
				1919.52	12.3
59	Ni	8.1×10^4 y *9*	$\varepsilon+\beta^+$		
63	Ni	100.8 y *12*	β^-		
65	Ni	2.5175 h *5*	β^-	366.27	4.8
				1115.53	15.4
				1481.84	23.6
66	Ni	54.6 h *3*	β^-		
61	Cu	3.339 h *7*	$\varepsilon+\beta^+$	67.412	4.0
				282.956	12.7
				373.050	2.1
				656.008	10.4
				1185.234	3.6
64	Cu	12.7007 h *13*	$\varepsilon+\beta^+$		
			β^-		
67	Cu	61.81 h *10*	β^-	91.266	7.0
				93.311	16.1
				184.577	48.7
62	Zn	9.193 h *12*	$\varepsilon+\beta^+$	40.85	25.5
				243.36	2.5
				394.03	2.2
				507.60	14.8
				548.35	15.3
				596.56	26.0
65	Zn	243.93 d *8*	$\varepsilon+\beta^+$	1115.539	50.0
69m	Zn	13.748 h *10*	β^-		
			IT	438.634	94.8
71m	Zn	4.137 h *31*	IT		
			β^-	121.591	2.3
				142.820	4.6
				386.371	89.0
				389.979	2.7
				487.402	61.9
				511.556	28.0
				595.916	28.0
				620.084	54.5
				753.395	3.2
				964.670	4.4
72	Zn	46.5 h *1*	β^-	16.4	8.3
				88.7	2.2

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				102.8	2.3
				112.1	2.1
				144.7	82.8
				191.5	9.4
66	Ga	9.304 h *8*	$\varepsilon+\beta^+$	833.5324	5.9
				1039.220	37.0
				2189.616	5.3
				2751.835	22.7
				4295.187	3.8
67	Ga	3.2615 d *4*	ε	91.265	3.1
				93.310	38.8
				184.576	21.4
				208.950	2.5
				300.217	16.6
				393.527	4.6
68	Ga	67.843 m *17*	$\varepsilon+\beta^+$	1077.34	3.2
72	Ga	14.03 h *6*	β^-	600.912	5.8
				629.967	26.1
				834.13	95.4
				894.327	10.1
				1050.794	7.0
				1596.733	4.4
				1861.996	5.4
				2201.586	26.9
				2491.026	7.7
				2507.718	13.3
73	Ga	4.87 h *2*	β^-	53.45	10.5
				297.32	79.8
				325.70	11.2
				739.42	4.2
66	Ge	2.26 h *4*	$\varepsilon+\beta^+$	43.89	29.2
				65.12	7.2
				108.85	10.6
				182.03	5.7
				190.20	5.7
				272.97	10.6
				338.05	8.8
				381.85	28.3
				470.62	7.5
				536.74	6.2
68	Ge	271.04 d *9*	ε		
69	Ge	38.90 h *7*	$\varepsilon+\beta^+$	574.11	13.3
				871.98	11.9
				1106.77	36.0
				1336.60	4.5

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
71	Ge	11.42 d *4*	ε		
75	Ge	82.78 m *6*	β^-	264.6	11.4
77	Ge	11.211 h *3*	β^-	211.03	30.0
				215.51	27.9
				264.450	53.3
				367.49	14.5
				416.35	22.6
				557.92	16.8
				631.85	7.4
				714.37	7.5
				1085.23	6.4
				1368.45	3.2
78	Ge	87 m *1*	β^-	277.3	96.0
				293.9	4.0
71	As	65.30 h *7*	$\varepsilon+\beta^+$	174.954	82.5
				326.785	3.0
				499.876	3.6
				1095.490	4.1
72	As	26.0 h *1*	$\varepsilon+\beta^+$	629.92	8.1
				833.99	81.0
73	As	80.30 d *6*	ε	53.437	10.6
74	As	17.78 d *4*	$\varepsilon+\beta^+$	595.83	59.4
			β^-	634.78	15.4
76	As	26.24 h *9*	β^-	559.086	40.7
				657.042	5.7
				1216.200	3.1
77	As	38.79 h *4*	β^-		
78	As	90.7 m *2*	β^-	545.3	3.0
				613.8	54.0
				694.9	16.7
				828.1	8.1
				888.7	2.1
				1240.3	5.9
				1308.7	13.0
				1373.5	4.8
				1530.0	2.5
72	Se	8.40 d *8*	ε	45.89	57.2
73	Se	7.18 h *2*	$\varepsilon+\beta^+$	67.07	69.8
				361.2	97.0
75	Se	119.779 d *11*	ε	96.7340	3.4
				121.1155	17.2
				136.0001	58.6
				264.6576	58.9
				279.5422	25.0
				400.6572	11.4

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
79	Se	3.27×10^5 y *29*	β^-		
75	Br	96.7 m *13*	$\varepsilon+\beta^+$	141.19	6.6
				286.50	88.0
				292.85	2.7
				377.39	3.9
				427.79	4.4
				431.75	3.9
76	Br	16.16 h *17*	$\varepsilon+\beta^+$		
77	Br	57.04 h *12*	$\varepsilon+\beta^+$	238.98	23.1
				249.77	3.0
				281.65	2.3
				297.23	4.2
				520.69	22.4
				578.91	3.0
				817.79	2.1
80m	Br	4.4204 h *9*	IT	37.052	39.1
82	Br	35.284 h *7*	β^-	221.478	2.3
				554.352	71.7
				619.105	43.7
				698.361	28.4
				776.511	83.6
				827.826	24.2
				1044.005	27.6
				1317.485	26.9
				1474.895	16.4
83	Br	2.374 h *4*	β^-		
76	Kr	14.8 h *1*	$\varepsilon+\beta^+$	45.50	18.0
				103.24	3.5
				134.9	2.6
				252.1	6.4
				270.3	19.9
				271.7	4.4
				315.8	37.7
				355.3	4.8
				406.5	11.4
				452.0	9.2
77	Kr	71.25 m *42*	$\varepsilon+\beta^+$	129.64	81.0
				146.59	37.3
				276.0	2.9
				311.9	3.7
79	Kr	34.96 h *3*	$\varepsilon+\beta^+$	217.07	2.4
				261.29	12.7
				306.47	2.6
				397.54	9.3
				606.09	8.1

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
81	Kr	2.29×10^5 y *11*	ε		
83m	Kr	1.83 h *2*	IT	9.4057	5.5
85	Kr	10.735 y *12*	β^-		
85m	Kr	4.480 h *8*	IT	304.87	14.0
			β^-	151.195	75.2
87	Kr	76.09 m *36*	β^-	402.588	49.6
				845.44	7.3
				1740.51	2.0
				2011.88	2.9
				2554.75	9.2
				2558.08	4.0
88	Kr	2.803 h *9*	β^-	165.98	3.1
				196.301	26.0
				362.226	2.2
				834.83	13.0
				1529.77	10.9
				2029.84	4.5
				2035.411	3.7
				2195.84	13.2
				2231.772	3.4
				2392.11	34.6
81	Rb	4.571 h *3*	$\varepsilon+\beta^+$	190.46	64.9
				446.15	23.5
				456.73	3.1
				510.43	5.4
				537.60	2.3
82m	Rb	6.472 h *6*	$\varepsilon+\beta^+$	183.27	2.1
				554.35	62.4
				619.11	38.0
				698.37	26.3
				776.52	84.4
				827.83	21.0
				1007.59	7.2
				1044.08	32.1
				1317.43	23.7
				1474.88	15.5
			IT		
83	Rb	86.2 d *1*	ε	9.4057	5.9
				520.3991	44.7
				529.5945	29.3
				552.5512	16.0
84	Rb	32.82 d *7*	$\varepsilon+\beta^+$	881.6041	68.9
			β^-		
86	Rb	18.671 d *10*	ε		
			β^-	1077.0	8.6

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
87	Rb	4.967×10^{10} y *32*	β^-		
80	Sr	106.3 m *15*	$\varepsilon+\beta^+$	175.0	10.1
				235.9	4.2
				378.8	4.2
				414.1	3.2
				553.4	6.9
				589.0	39.0
82	Sr	25.35 d *2*	ε		
83	Sr	32.41 h *3*	$\varepsilon+\beta^+$	381.53	14.0
				418.37	4.2
				762.65	26.7
85	Sr	64.849 d *4*	ε	514.0048	95.7
85m	Sr	67.63 m *4*	ε	151.194	12.8
			IT	231.860	83.9
87m	Sr	2.815 h *11*	ε		
			IT	388.531	82.2
89	Sr	50.56 d *3*	β^-		
90	Sr	28.905 y *23*	β^-		
91	Sr	9.68 h *2*	β^-	652.3	3.0
				652.9	8.0
				749.8	23.7
				925.8	3.8
				1024.3	33.5
92	Sr	2.610 h *20*	β^-	241.56	2.9
				430.49	3.3
				953.31	3.5
				1142.35	2.8
				1383.93	90.0
86	Zr	16.5 h *1*	$\varepsilon+\beta^+$	29.1	21.6
				242.8	95.8
				612.0	5.8
87	Zr	1.68 h *1*	$\varepsilon+\beta^+$	1227	2.8
88	Zr	83.4 d *3*	ε	392.87	97.3
89	Zr	78.364 h *15*	$\varepsilon+\beta^+$	909.15	99.0
93	Zr	1.61×10^6 y *5*	β^-		
95	Zr	64.032 d *6*	β^-	724.192	44.3
				756.725	54.4
97	Zr	16.749 h *8*	β^-	355.40	2.1
				507.64	5.0
				743.36	93.1
				1147.97	2.6
89	Nb	2.03 h *7*	$\varepsilon+\beta^+$	1127	2.1
				1627.2	3.5
				1833.4	3.3
				2572.3	2.7

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				3092.7	3.0
89m	Nb	66 m *2*	$\varepsilon+\beta^+$	507.4	81.2
				588.0	95.6
				769.6	6.2
90	Nb	14.60 h *5*	$\varepsilon+\beta^+$	132.716	4.1
				141.178	66.8
				1129.224	92.7
				1611.76	2.4
				2186.242	18.0
				2318.959	82.0
91	Nb	6.8×10^2 y *13*	$\varepsilon+\beta^+$		
91m	Nb	60.86 d *22*	$\varepsilon+\beta^+$	1204.67	2.0
			IT		
92	Nb	3.47×10^7 y *24*	$\varepsilon+\beta^+$	561.1	99.8
				934.5	74.3
92m	Nb	10.12 d *2*	$\varepsilon+\beta^+$	934.44	99.2
93m	Nb	16.12 y *12*	IT		
94	Nb	2.038×10^4 y *39*	β^-	702.65	99.8
				871.091	99.8
95	Nb	34.991 d *10*	β^-	765.803	99.8
95m	Nb	3.61 d *3*	β^-	204.1161	2.3
			IT	235.690	24.8
96	Nb	23.35 h *5*	β^-	241.377	3.5
				460.040	26.6
				480.705	5.8
				568.871	58.0
				719.562	6.8
				778.224	96.4
				810.330	11.1
				849.929	20.4
				1091.349	48.5
				1200.231	20.0
97	Nb	72.1 m *4*	β^-	657.94	98.2
90	Mo	5.56 h *9*	$\varepsilon+\beta^+$	42.70	2.2
				122.370	64.2
				162.93	6.0
				203.13	6.4
				257.34	77.4
				323.20	6.3
				445.37	6.0
				941.5	5.5
				1271.3	4.1
93	Mo	4.0×10^3 y *8*	ε		
93m	Mo	6.85 d *7*	$\varepsilon+\beta^+$		
			IT	263.049	57.4

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				684.693	99.9
				1477.138	99.1
99	Mo	65.936 h *9*	β^-	181.068	6.0
				739.500	12.2
				777.921	4.3
93	Tc	2.78 h *5*	$\varepsilon+\beta^+$	1362.94	66.2
				1477.14	8.7
				1520.28	24.4
94	Tc	293 m *1*	$\varepsilon+\beta^+$	449.2	3.3
				532.1	2.4
				702.67	99.6
				849.74	95.7
				871.05	99.9
				916.10	7.6
				1592.1	2.2
95	Tc	19.258 h *26*	$\varepsilon+\beta^+$	765.789	93.8
				1073.71	3.7
95m	Tc	61.94 d *7*	$\varepsilon+\beta^+$	204.117	63.2
				582.082	30.0
				786.198	8.7
				820.624	4.7
				835.149	26.6
				1039.264	2.8
			IT		
96	Tc	4.27 d *5*	$\varepsilon+\beta^+$	314.27	2.4
				778.22	99.8
				812.54	82.0
				849.86	97.6
				1126.85	15.2
97	Tc	4.21×10^6 y *16*	ε		
97m	Tc	91.0 d *6*	ε		
			IT		
98	Tc	4.20×10^6 y *30*	β^-	652.41	100.0
				745.35	102.0
99	Tc	2.111×10^5 y *12*	β^-		
99m	Tc	6.0073 h *7*	β^-		
			IT	140.511	89.0
95	Ru	1.607 h *9*	$\varepsilon+\beta^+$	290.38	3.7
				301.01	2.1
				336.40	69.9
				626.83	17.8
				806.28	4.0
				1050.68	2.6
				1096.80	20.9
				1178.7	5.1

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				1410.63	2.5
				1459.32	2.1
97	Ru	2.8376 d *10*	$\varepsilon+\beta^+$	215.70	85.6
				324.49	10.8
103	Ru	39.247 d *11*	β^-	497.085	91.0
				610.333	5.8
105	Ru	4.44 h *1*	β^-	129.782	5.4
				262.828	6.9
				316.496	11.0
				393.378	4.1
				413.538	2.5
				469.347	18.3
				499.210	2.4
				676.355	15.8
				724.211	47.8
				875.728	2.7
106	Ru	371.8 d *18*	β^-		
99	Rh	16.1 d *2*	$\varepsilon+\beta^+$	89.76	33.4
				175.43	2.0
				322.45	6.2
				353.05	34.5
				442.8	2.2
				528.24	37.9
				618.13	4.2
99m	Rh	4.7 h *1*	$\varepsilon+\beta^+$	340.8	72.2
				617.8	12.3
				936.6	2.3
				1261.2	11.4
			IT		
100	Rh	20.5 h *3*	$\varepsilon+\beta^+$	446.153	12.0
				539.512	80.6
				588.343	5.0
				822.654	21.1
				1107.223	13.6
				1341.515	5.3
				1362.152	15.4
				1553.348	20.7
				1929.811	11.6
				2375.976	32.6
101	Rh	4.07 y *5*	ε	127.226	68.0
				198.01	73.0
				325.23	11.8
101m	Rh	4.34 d *1*	ε	306.857	80.6
				545.117	4.3
			IT		

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
102	Rh	207.3 d *12*	$\varepsilon+\beta^+$	468.58	2.9
				475.06	45.9
				628.05	4.5
				1103.16	2.9
			β^-		
102m	Rh	3.47 y *4*	$\varepsilon+\beta^+$	418.52	9.4
				420.4	3.2
				475.06	95.0
				628.05	8.3
				631.29	56.0
				697.49	44.0
				766.84	34.0
				1046.59	34.0
				1103.16	4.6
				1112.84	19.0
			IT		
105	Rh	35.341 h *22*	β^-	306.311	4.7
				319.231	16.9
106m	Rh	131 m *2*	β^-	429.4	13.2
				450.8	24.2
				511.7	85.5
				616.1	20.2
				717.2	28.9
				748.5	19.3
				825.0	13.6
				1046.7	30.4
				1127.7	13.7
				1529.4	17.5
100	Pd	3.63 d *9*	ε	32.66	2.6
				42.08	7.0
				74.78	47.8
				84.00	52.0
				126.15	7.8
101	Pd	8.47 h *6*	$\varepsilon+\beta^+$	24.46	3.9
				269.67	6.4
				296.29	19.2
				565.98	3.4
				590.44	12.1
				1289.05	2.3
103	Pd	17.000 d *33*	ε		
107	Pd	6.50×10^6 y *30*	β^-		
109	Pd	13.437 h *13*	β^-	88.0336	3.7
111m	Pd	5.565 h *12*	β^-	70.44	7.9
				391.3	5.6
				575.0	3.3

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				580.00	2.1
				632.8	3.7
				694.2	2.1
			IT	172.18	34.0
112	Pd	21.027 h *19*	β^-	18.5	27.0
103	Ag	65.8 m *6*	$\varepsilon+\beta^+$	118.74	31.2
				148.20	28.3
				243.96	8.5
				266.86	13.4
				531.92	8.8
				742.11	2.5
				1007.08	3.2
				1155.27	3.0
				1273.83	9.4
104	Ag	69.3 m *9*	$\varepsilon+\beta^+$	555.8	92.6
				740.5	7.2
				767.6	65.8
				785.7	9.5
				857.9	10.4
				923.3	7.0
				925.9	12.5
				941.6	25.0
				1341.8	7.3
				1526.6	7.1
105	Ag	41.29 d *7*	$\varepsilon+\beta^+$	64.072	11.3
				280.54	31.2
				319.24	4.4
				331.58	4.1
				344.61	42.0
				392.73	2.0
				443.44	10.9
				644.63	10.2
				650.78	2.5
				1088.05	3.6
106m	Ag	8.28 d *2*	$\varepsilon+\beta^+$	406.182	13.4
				429.646	13.2
				450.976	28.2
				511.85	87.7
				616.17	21.6
				717.34	28.9
				748.36	20.6
				824.69	15.4
				1045.83	29.6
				1527.65	16.3
108m	Ag	435.9 y *37*	$\varepsilon+\beta^+$	433.937	90.5

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				614.276	89.8
				722.907	90.8
			IT	79.131	6.6
110m	Ag	249.86 d *5*	IT		
			β^-	657.7600	95.6
				677.6217	10.7
				687.0091	6.5
				706.6760	16.7
				763.9424	22.6
				818.0244	7.4
				884.6781	75.0
				937.485	35.0
				1384.2931	25.0
				1505.0280	13.3
111	Ag	7.421 d *10*	β^-	342.13	6.7
112	Ag	3.15 h *1*	β^-	606.821	3.1
				617.517	42.5
				694.872	2.9
				1387.68	5.3
				1613.66	2.8
				2106.31	2.4
113	Ag	5.37 h *5*	β^-		
107	Cd	6.52 h *2*	$\varepsilon+\beta^+$	93.124	4.7
109	Cd	461.98 d *31*	ε	88.0336	3.6
113	Cd	8.04×10^{15} y *5*	β^-		
113m	Cd	13.89 y *16*	IT		
			β^-		
115	Cd	53.40 h *4*	β^-	336.241	46.0
				492.351	8.0
				527.901	27.4
115m	Cd	44.6 d *3*	β^-		
117	Cd	2.503 h *5*	β^-	89.73	3.3
				273.349	27.9
				344.459	17.9
				434.190	9.8
				831.80	2.3
				880.710	4.0
				1051.7	3.8
				1303.27	18.4
				1576.62	11.2
				1723.06	2.0
117m	Cd	3.437 h *13*	β^-	564.397	14.7
				748.06	4.4
				860.41	7.9
				1029.06	11.7

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				1065.98	23.1
				1234.59	11.0
				1432.91	13.4
				1997.33	26.2
				2096.40	7.4
				2322.75	7.9
109	In	4.159 h *10*	$\varepsilon+\beta^+$	74.8	2.2
				84.1	3.0
				203.3	74.2
				347.5	2.0
				426.3	4.0
				613.6	2.2
				623.8	5.6
				650.0	3.0
				1148.5	4.7
				1622.3	2.1
110	In	4.9 h *1*	$\varepsilon+\beta^+$	461.80	4.7
				581.93	8.6
				584.21	6.5
				641.68	26.0
				657.750	98.3
				677.6	4.5
				707.40	29.5
				884.667	92.9
				937.478	68.4
				997.16	10.5
110m	In	69.0 m *5*	$\varepsilon+\beta^+$	657.75	97.7
				2129.40	2.2
111	In	2.8048 d *1*	ε	171.28	90.6
				245.35	94.1
113m	In	99.48 m *2*	IT	391.698	64.9
114m	In	49.51 d *1*	$\varepsilon+\beta^+$	558.43	3.2
				725.24	3.2
			IT	190.27	15.6
115	In	4.41×10^{14} y *25*	β^-		
115m	In	4.485 h *4*	β^-		
			IT	336.241	45.8
117m	In	116.1 m *2*	IT	315.302	19.1
			β^-	158.6	15.9
110	Sn	4.154 h *4*	ε		
113	Sn	115.08 d *3*	$\varepsilon+\beta^+$	255.134	2.1
				391.698	65.0
117m	Sn	13.94 d *3*	IT	156.02	2.1
				158.56	86.4
119m	Sn	293.0 d *13*	IT	23.875	16.5

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
121	Sn	27.05 h *4*	β^-		
121m	Sn	43.9 y *5*	β^-		
			IT		
123	Sn	129.2 d *4*	β^-		
125	Sn	9.634 d *15*	β^-	822.48	4.3
				915.55	4.1
				1067.10	9.7
				1089.15	4.6
126	Sn	1.98×10^5 y *6*	β^-	23.280	6.3
				64.281	7.8
				86.938	8.6
				87.567	36.5
127	Sn	2.10 h *3*	β^-	438.2	6.1
				490.9	5.3
				805.9	8.2
				823.1	10.6
				824.7	6.1
				859.5	8.0
				979.2	7.2
				1095.6	19.4
				1114.3	38.0
				2003.4	5.3
116m	Sb	60.4 m *6*	$\varepsilon+\beta^+$	99.802	28.3
				135.511	28.5
				407.351	38.8
				436.666	3.6
				542.867	48.1
				844.001	11.2
				972.573	74.2
				1072.373	25.5
				1293.557	100.0
117	Sb	2.80 h *1*	$\varepsilon+\beta^+$	158.562	85.9
118m	Sb	5.01 h *3*	$\varepsilon+\beta^+$	40.8	30.0
				253.678	98.9
				1050.69	96.9
				1091.51	3.6
				1229.65	99.9
119	Sb	38.2 h *3*	ε	23.870	16.5
120m	Sb	5.76 d *2*	$\varepsilon+\beta^+$		
122	Sb	2.69413 d *32*	$\varepsilon+\beta^+$		
			β^-	564.24	70.7
				692.65	3.8
124	Sb	60.209 d *10*	β^-	602.7260	97.8
				645.8520	7.4
				713.776	2.3

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				722.782	10.8
				1368.157	2.6
				1690.971	47.6
				2090.930	5.5
125	Sb	2.7577 y *8*	β^-	35.489	4.4
				176.314	6.8
				427.874	29.6
				463.365	10.5
				600.597	17.6
				606.713	5.0
				635.950	11.2
126	Sb	12.3 d *1*	β^-	296.5	4.5
				414.7	83.3
				573.9	6.7
				593.2	7.5
				666.5	99.6
				695.0	99.6
				697.0	31.9
				720.7	53.8
				856.8	17.6
				989.6	6.8
127	Sb	3.84 d *3*	β^-	252.4	8.5
				290.8	2.0
				412.1	3.8
				445.1	4.3
				473.0	25.8
				543.3	2.9
				603.5	4.4
				685.7	36.8
				698.5	3.6
				783.7	15.1
128	Sb	9.05 h *4*	β^-	314.00	88.7
				314.1	61.0
				526.5	45.0
				628.7	31.0
				636.2	36.0
				654.2	17.0
				743.24	96.4
				743.3	100.0
				753.90	96.4
				754.0	100.0
129	Sb	4.40 h *2*	β^-	180.42	2.8
				544.56	15.4
				654.28	3.0
				682.77	5.8

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				761.12	4.3
				812.97	48.2
				914.96	23.3
				966.78	9.0
				1030.65	15.1
				1738.16	7.4
116	Te	2.49 h *4*	$\varepsilon+\beta^+$	93.7	33.1
				628.7	3.2
117	Te	62 m *1*	$\varepsilon+\beta^+$	719.7	64.7
				923.9	6.2
				996.7	4.0
				1090.7	6.9
				1716.4	15.8
				2300.0	11.2
118	Te	6.00 d *2*	ε		
119	Te	16.05 h *5*	$\varepsilon+\beta^+$	644.01	84.1
				699.85	10.1
				1749.65	4.0
119m	Te	4.69 d *4*	$\varepsilon+\beta^+$	153.59	66.1
				270.53	28.0
				912.60	6.2
				942.21	5.1
				976.37	2.7
				979.29	3.0
				1048.44	3.2
				1136.75	7.6
				1212.73	66.1
				2089.57	4.7
121	Te	19.27 d *8*	$\varepsilon+\beta^+$	507.591	17.7
				573.139	80.4
121m	Te	164.7 d *5*	$\varepsilon+\beta^+$	1102.149	2.5
			IT	212.189	81.5
123m	Te	119.3 d *1*	IT	159.00	84.2
125m	Te	57.40 d *15*	IT	35.504	7.3
127	Te	9.35 h *6*	β^-		
127m	Te	106.1 d *7*	β^-		
			IT		
129	Te	69.5 m *4*	β^-	27.81	16.3
				459.60	7.7
129m	Te	33.48 d *13*	β^-	695.88	3.0
			IT		
131m	Te	32.86 h *39*	IT		
			β^-	102.06	7.7
				200.63	7.3
				240.93	7.3

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				334.27	9.2
				773.67	36.8
				782.49	7.5
				793.75	13.4
				852.21	19.9
				1125.46	11.0
				1206.60	9.4
132	Te	3.204 d *13*	β^-	49.72	15.0
				228.16	88.0
122	Xe	20.1 h *1*	ε	148.612	2.6
				350.065	7.8
123	Xe	2.050 h *14*	$\varepsilon+\beta^+$	148.9	49.1
				178.1	15.0
				330.2	8.6
				899.6	2.5
				1093.4	2.8
125	Xe	16.96 h *6*	$\varepsilon+\beta^+$	54.968	6.8
				188.418	53.8
				243.378	30.0
				453.796	4.7
127	Xe	36.344 d *5*	ε	145.252	4.3
				172.132	25.7
				202.860	68.7
				374.991	17.3
129m	Xe	8.88 d *2*	IT	39.578	7.5
				196.56	4.6
131m	Xe	11.931 d *16*	IT		
133	Xe	5.2474 d *5*	β^-	80.9979	36.9
133m	Xe	2.191 d *26*	IT	233.221	10.1
135	Xe	9.168 h *7*	β^-	249.794	90.0
				608.185	2.9
127	Cs	6.25 h *10*	$\varepsilon+\beta^+$	124.70	11.4
				287.16	3.8
				411.95	62.9
				462.31	5.1
				587.01	4.2
129	Cs	32.13 h *10*	$\varepsilon+\beta^+$	39.578	3.0
				318.180	2.4
				371.918	30.6
				411.490	22.3
				548.945	3.4
131	Cs	9.688 d *4*	ε		
132	Cs	6.480 d *6*	$\varepsilon+\beta^+$	667.714	97.6
			β^-		
134	Cs	2.06562 y *49*	ε		

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
			β^-	563.246	8.3
				569.331	15.4
				604.721	97.6
				795.864	85.5
				801.953	8.7
				1365.185	3.0
134m	Cs	2.912 h *2*	IT	127.502	12.6
135	Cs	1.33×10^6 y *19*	β^-		
136	Cs	13.01 d *5*	β^-	66.881	4.8
				86.36	5.9
				153.246	7.7
				163.920	4.7
				176.602	13.7
				273.646	12.7
				340.547	46.8
				818.514	99.7
				1048.073	79.8
				1235.362	20.0
137	Cs	30.007 y *23*	β^-	661.657	85.1
126	Ba	98.6 m *15*	$\varepsilon+\beta^+$	217.9	4.1
				233.6	19.7
				241.0	6.0
				257.6	7.6
				281.2	3.1
				328.3	2.1
				489.3	2.9
				681.8	4.4
				993.4	2.4
				1293.0	3.7
128	Ba	2.43 d *5*	ε	273.44	14.5
129	Ba	2.23 h *10*	$\varepsilon+\beta^+$	129.14	5.5
				214.30	13.4
				220.83	8.5
				554.0	2.9
129m	Ba	2.142 h *8*	$\varepsilon+\beta^+$		
131	Ba	11.52 d *1*	$\varepsilon+\beta^+$	123.804	29.8
				133.617	2.2
				216.088	20.4
				239.621	2.5
				249.435	3.0
				373.256	14.4
				486.507	2.2
				496.321	48.0
133	Ba	10.5358 y *42*	ε	53.1622	2.1
				79.6142	2.6

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				80.9979	33.0
				276.3989	7.2
				302.8508	18.3
				356.0129	62.0
				383.8485	8.9
133m	Ba	38.87 h *7*	ε		
			IT	275.925	17.7
135m	Ba	28.12 h *6*	IT	268.218	16.0
139	Ba	82.89 m *14*	β^-	165.8575	23.7
140	Ba	12.7526 d *14*	β^-	29.966	14.1
				162.660	6.2
				304.849	4.3
				423.722	3.1
				537.261	24.4
132	La	4.58 h *9*	$\varepsilon+\beta^+$	464.55	76.0
				515.78	5.0
				540.363	7.7
				567.14	15.7
				663.07	9.0
				899.32	4.6
				1031.70	7.8
				1604.03	3.6
				1909.91	9.0
				2102.84	5.5
133	La	3.89 h *3*	$\varepsilon+\beta^+$	278.835	2.4
135	La	18.95 h *13*	$\varepsilon+\beta^+$		
137	La	6.0×10^4 y *20*	ε		
138	La	1.028×10^{11} y *11*	$\varepsilon+\beta^+$	1435.795	65.5
			β^-	788.742	34.5
140	La	40.284 h *3*	β^-	328.762	20.3
				432.493	2.9
				487.021	45.5
				751.637	4.3
				815.772	23.3
				867.846	5.5
				919.550	2.7
				925.189	6.9
				1596.21	95.4
				2521.40	3.5
141	La	3.93 h *3*	β^-		
142	La	91.8 m *5*	β^-	641.285	47.4
				894.9	8.3
				1011.4	3.9
				1043.7	2.7
				1545.8	3.0

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				1901.3	7.2
				2187.2	3.7
				2397.8	13.3
				2542.7	10.0
				2971.0	3.1
132	Ce	3.51 h *11*	$\varepsilon+\beta^+$	155.37	10.5
				182.11	77.4
				190.04	2.7
				216.83	5.0
				251.46	2.2
				303.12	2.1
				329.64	2.3
				451.44	2.2
133	Ce	97 m *4*	$\varepsilon+\beta^+$	76.9	15.9
				97.261	45.5
				557.7	11.4
133m	Ce	5.326 h *11*	$\varepsilon+\beta^+$	58.39	19.3
				87.939	5.2
				130.803	18.0
				346.39	4.2
				432.55	3.5
				477.22	39.3
				510.36	20.8
				689.48	4.1
				784.55	9.7
				1500.41	4.8
134	Ce	3.22 d *4*	ε		
135	Ce	17.7 h *2*	$\varepsilon+\beta^+$	206.50	7.8
				265.56	41.8
				300.07	23.5
				518.05	13.6
				572.26	10.4
				577.09	5.1
				606.76	18.8
				783.59	10.6
				828.38	5.1
				871.35	3.3
137	Ce	9.11 h *3*	$\varepsilon+\beta^+$		
137m	Ce	34.80 h *3*	$\varepsilon+\beta^+$		
			IT	254.29	11.1
139	Ce	137.64 d *2*	ε	165.8575	79.9
141	Ce	32.504 d *11*	β^-	145.4433	48.3
143	Ce	33.037 h *8*	β^-	57.356	11.7
				231.550	2.0
				293.266	42.8

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				350.619	3.2
				490.368	2.2
				664.571	5.7
				721.929	5.4
144	Ce	284.886 d *30*	β^-	133.515	11.1
137	Pr	1.28 h *3*	$\varepsilon+\beta^+$		
138m	Pr	2.03 h *2*	$\varepsilon+\beta^+$	302.7	80.0
				354.2	4.0
				390.9	5.9
				547.5	5.2
				788.9	100.0
				1038.0	101.0
139	Pr	4.41 h *4*	$\varepsilon+\beta^+$		
142	Pr	19.12 h *4*	ε		
			β^-	1575.6	3.7
143	Pr	13.57 d *2*	β^-		
145	Pr	5.982 h *9*	β^-		
138	Nd	5.11 h *8*	$\varepsilon+\beta^+$	325.76	2.9
139m	Nd	5.5 h *2*	$\varepsilon+\beta^+$	113.87	39.7
				708.1	26.3
				738.2	35.2
				796.5	4.2
				802.0	7.0
				809.6	6.3
				827.8	10.3
				910.1	7.6
				982.2	26.3
				2060.9	4.8
			IT		
140	Nd	3.37 d *2*	ε		
141	Nd	2.49 h *3*	$\varepsilon+\beta^+$		
144	Nd	2.29×10^{15} y *16*	α		
147	Nd	11.12 d *7*	β^-	91.1050	29.0
				531.012	13.1
149	Nd	1.728 h *2*	β^-	114.314	19.2
				155.873	6.0
				211.309	26.0
				240.220	4.0
				267.693	6.1
				270.166	10.8
				326.554	4.6
				423.553	7.5
				540.509	6.6
				654.831	8.0
143	Pm	265 d *7*	$\varepsilon+\beta^+$	741.98	38.5

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
144	Pm	363 d *14*	ε	476.78	43.8
				618.01	98.5
				696.49	99.5
145	Pm	17.7 y *4*	ε	72.4	2.2
			α		
146	Pm	5.53 y *5*	ε	453.83	42.5
				735.90	15.0
			β^-	747.24	11.7
147	Pm	2.62344 y *22*	β^-		
148	Pm	5.368 d *7*	β^-	550.27	22.0
				914.85	11.5
				1465.12	22.2
148m	Pm	41.29 d *11*	IT		
			β^-	288.11	12.6
				414.07	18.7
				501.26	6.8
				550.27	94.9
				599.74	12.5
				611.26	5.5
				629.97	89.0
				725.70	32.8
				915.33	17.2
				1013.81	20.3
149	Pm	53.08 h *5*	β^-	285.95	3.1
150	Pm	2.698 h *15*	β^-	333.92	68.0
				406.51	5.6
				712.22	4.4
				831.85	11.9
				859.95	3.4
				876.41	7.3
				1165.77	15.8
				1193.87	4.8
				1324.51	17.5
				1736.40	6.9
151	Pm	28.40 h *4*	β^-	100.02	2.5
				104.84	3.5
				167.75	8.3
				177.16	3.8
				240.09	3.8
				275.21	6.8
				340.08	22.5
				344.90	2.1
				445.68	4.0
				717.72	4.0
142	Sm	72.48 m *4*	$\varepsilon+\beta^+$		

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
145	Sm	340 d *3*	ε	61.2265	12.2
146	Sm	6.8×10^{7} y *7*	α		
147	Sm	1.068×10^{11} y *7*	α		
148	Sm	6.8×10^{15} y *10*	α		
151	Sm	94.6 y *6*	β^-		
153	Sm	46.283 h *2*	β^-	69.67300	4.7
				103.18012	29.1
156	Sm	9.4 h *2*	β^-	22.6	2.6
				38.1	3.0
				65.0	2.3
				87.6	24.2
				165.8	13.1
				204.0	21.2
				244.0	2.1
				268.5	2.4
				291.0	2.8
145	Eu	5.93 d *3*	$\varepsilon+\beta^+$	542.57	4.5
				653.512	15.0
				893.73	65.7
				1658.53	14.9
				1997.00	7.2
146	Eu	4.61 d *3*	$\varepsilon+\beta^+$	430.386	4.7
				633.083	35.7
				634.137	44.8
				665.424	10.3
				702.099	3.8
				703.089	3.7
				747.159	98.1
				1058.71	3.9
				1297.028	5.4
				1533.711	6.0
147	Eu	24.1 d *6*	ε	121.220	20.7
				197.299	24.1
				601.450	5.8
				677.516	9.8
				798.729	4.4
				856.929	2.5
				933.005	3.1
				955.832	3.5
				1077.043	6.3
			α		
148	Eu	54.4 d *4*	$\varepsilon+\beta^+$	414.028	10.3
				414.057	10.1
				550.284	98.5
				553.231	12.9

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				571.962	9.6
				611.293	20.5
				629.987	71.9
				725.673	12.6
				869.891	5.5
				1033.986	7.8
			α		
149	Eu	93.1 d *4*	ε	22.5002	2.7
				277.089	4.2
				327.526	4.8
150	Eu	36.6 y *7*	ε+β^+	333.971	95.2
				439.401	79.6
				505.521	4.8
				584.274	52.2
				737.455	9.5
				748.057	5.1
				751.068	2.1
				1049.043	5.3
				1343.777	2.6
150m	Eu	12.8 h *1*	ε+β^+	333.9	4.0
				406.5	2.8
			β^-		
151	Eu	4.6×10^{18} y *12*	α		
152	Eu	13.517 y *9*	ε+β^+	121.7817	28.5
				244.6974	7.6
				443.9606	2.8
				867.380	4.2
				964.057	14.5
				1085.837	10.1
				1112.076	13.7
				1408.013	20.9
			β^-	344.2785	26.6
				411.1165	2.2
				778.9045	12.9
152m	Eu	9.3116 h *13*	ε+β^+	121.77	7.0
				841.63	14.2
				963.38	11.6
			β^-	344.29	2.4
152n	Eu	95.8 m *4*	IT	89.849	69.7
154	Eu	8.5911 y *36*	ε+β^+		
			β^-	123.0706	40.4
				247.9290	6.9
				591.755	5.0
				723.3014	20.1
				756.8020	4.5

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				873.1834	12.1
				996.29	10.5
				1004.76	18.0
				1274.429	34.8
155	Eu	4.742 y *8*	β^-	86.5463	30.7
				105.3087	21.1
156	Eu	15.16 d *2*	β^-	88.97	8.4
				646.29	6.3
				723.47	5.4
				811.77	9.7
				1065.14	4.9
				1079.16	4.6
				1153.67	6.8
				1154.08	4.7
				1230.71	8.0
				1242.42	6.6
157	Eu	15.18 h *3*	β^-	54.548	3.8
				63.929	23.4
				318.710	3.0
				370.509	11.2
				409.135	2.7
				410.723	17.8
				474.625	2.6
				619.303	3.6
146	Gd	48.27 d *9*	$\varepsilon+\beta^+$	114.71	44.3
				115.51	44.3
				154.57	46.9
147	Gd	38.06 h *12*	$\varepsilon+\beta^+$	229.32	60.1
				370.0	16.3
				396.00	32.7
				559.07	6.1
				765.81	10.8
				778.04	4.7
				893.5	7.7
				929.01	19.2
				1069.35	6.8
				1130.9	6.1
148	Gd	86.9 y *39*	α		
149	Gd	9.28 d *9*	$\varepsilon+\beta^+$	149.730	48.4
				272.320	3.2
				298.633	27.9
				346.650	23.7
				516.550	2.7
				534.294	3.1
				748.604	8.3

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				788.875	7.3
				938.616	2.4
			α		
150	Gd	1.79×10^{6} y *8*	α		
151	Gd	124.5 d *9*	ε	21.517	2.8
				153.60	6.2
				174.70	3.0
				243.29	5.6
			α		
152	Gd	1.08×10^{14} y *8*	α		
153	Gd	240.4 d *9*	ε	69.67300	2.4
				97.43100	30.0
				103.18012	22.0
159	Gd	18.479 h *4*	β^-	58.0000	2.5
				363.5430	11.8
147	Tb	1.64 h *3*	$\varepsilon+\beta^+$	119.73	6.8
				139.89	31.1
				347.65	2.4
				554.65	5.2
				694.54	37.8
				1152.53	91.3
				1627.91	2.9
				2680.77	3.6
149	Tb	4.12 h *2*	$\varepsilon+\beta^+$	164.98	26.7
				187.22	4.4
				352.24	29.8
				388.57	18.6
				464.85	5.7
				652.12	16.5
				817.1	11.8
				853.43	15.7
				861.86	7.6
				1175.4	3.3
			α		
150	Tb	3.48 h *16*	$\varepsilon+\beta^+$	496.242	14.6
				511	44.9
				569.083	2.5
				638.050	72.0
				650.36	4.0
				792.385	4.4
				880.27	3.0
				1453.55	3.9
				1518.34	2.7
				3383.6	5.8
151	Tb	17.609 h *14*	$\varepsilon+\beta^+$	108.088	24.3

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				180.186	11.5
				251.863	26.3
				287.357	28.3
				395.444	10.8
				443.879	10.8
				479.357	15.4
				587.46	15.6
				616.561	10.4
				731.227	7.7
			α		
152	Tb	17.48 h *9*	ε+β^+	271.09	9.5
				344.2785	63.5
				411.1165	3.6
				586.27	9.2
				764.89	2.7
				778.9045	5.5
				974.05	3.0
				1109.20	2.6
				1299.140	2.1
153	Tb	2.34 d *1*	ε+β^+	41.56	4.0
				82.86	5.4
				102.255	5.8
				109.758	6.2
				170.42	5.8
				212.00	28.5
				249.55	2.1
154	Tb	21.50 h *36*	ε+β^+	123.07	43.2
				123.07	30.3
				123.07	25.8
				225.94	26.8
				247.94	78.8
				247.94	22.1
				346.70	69.1
				426.78	17.3
				540.18	19.6
				1419.81	46.2
154m	Tb	9.994 h *39*	ε+β^+	123.07	30.3
				247.94	22.1
				518.04	6.1
				540.18	19.6
				649.44	11.0
				676.55	3.2
				692.41	3.3
				873.21	9.2
				996.24	8.6

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				1004.73	11.0
			IT		
154n	Tb	22.7 h *5*	$\varepsilon+\beta^+$	123.07	43.2
				141.33	7.3
				225.94	26.8
				247.94	78.8
				346.70	69.1
				426.78	17.3
				649.44	8.6
				992.92	16.2
				1004.73	7.1
				1419.81	46.2
			IT		
155	Tb	5.32 d *6*	ε	86.55	32.0
				105.318	25.1
				148.64	2.6
				161.29	2.8
				163.28	4.4
				180.08	7.4
				262.27	5.3
156	Tb	5.35 d *10*	$\varepsilon+\beta^+$	88.97	17.7
				199.19	40.9
				356.38	13.6
				422.34	8.0
				534.29	66.6
				1065.11	10.8
				1154.07	10.4
				1159.03	7.2
				1222.44	31.0
				1421.67	12.2
156m	Tb	24.4 h *10*	IT	49.630	74.1
156n	Tb	5.2 h *2*	$\varepsilon+\beta^+$		
			IT		
157	Tb	71 y *7*	ε		
158	Tb	180 y *11*	$\varepsilon+\beta^+$	79.513	11.8
				181.944	10.0
				780.183	9.7
				944.189	44.4
				962.126	20.5
				1107.626	2.2
			β^-	98.918	4.3
160	Tb	72.3 d *2*	β^-	86.7877	13.2
				197.0341	5.2
				215.6452	4.0
				298.5783	26.1

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				879.378	30.1
				962.311	9.8
				966.166	25.1
				1177.954	14.9
				1271.873	7.4
				1312.14	2.9
161	Tb	6.958 d *5*	β^-	25.65135	23.2
				48.91533	17.0
				74.56669	10.2
152	Dy	2.38 h *2*	$\varepsilon+\beta^+$	256.93	97.5
			α		
153	Dy	6.42 h *12*	$\varepsilon+\beta^+$	80.723	11.2
				99.659	10.6
				147.560	3.9
				213.754	11.0
				244.249	4.3
				254.259	8.7
				274.673	3.1
				274.673	2.0
			α		
154	Dy	2.8×10^6 y *15*	α		
155	Dy	9.92 h *14*	$\varepsilon+\beta^+$	184.564	3.4
				226.918	68.7
				664.173	2.2
				905.515	2.5
				999.68	2.4
				1089.8	2.8
				1090.0	2.8
				1155.47	2.1
157	Dy	8.14 h *4*	$\varepsilon+\beta^+$	326.336	93.0
159	Dy	145.3 d *14*	ε	58.0	2.3
165	Dy	2.331 h *4*	β^-	94.700	3.8
166	Dy	81.63 h *17*	β^-	82.470	13.8
160m	Ho	4.98 h *7*	$\varepsilon+\beta^+$		
			IT		
161	Ho	2.48 h *5*	ε	25.655	27.3
				103.05	3.9
162m	Ho	67.1 m *8*	$\varepsilon+\beta^+$	80.67	4.5
				184.99	23.8
				282.86	10.2
				937.17	10.4
				1220.04	23.6
			IT	38.34	8.0
				57.74	4.5
163	Ho	4570 y *25*	ε		

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
166	Ho	26.808 h *8*	β^-	80.576	6.6
166m	Ho	1132.6 y *39*	β^-	80.574	12.0
				184.4113	72.0
				280.464	29.4
				410.949	11.2
				529.807	9.5
				570.976	5.4
				711.681	54.1
				752.313	12.1
				810.293	56.9
				830.585	9.4
167	Ho	2.968 h *36*	β^-	79.3219	2.1
				207.801	4.9
				237.873	5.0
				321.336	23.5
				346.547	56.0
				386.2	3.4
				403.0	3.2
				460.0	2.1
158	Er	2.26 h *6*	ε	71.903	10.8
				248.580	2.9
				386.82	7.6
160	Er	28.58 h *9*	ε	7.133	5.4
161	Er	3.21 h *3*	$\varepsilon+\beta^+$	211.15	12.2
				314.77	2.5
				592.6	3.7
				826.6	64.0
163	Er	75.0 m *4*	$\varepsilon+\beta^+$		
165	Er	10.36 h *4*	ε		
169	Er	9.39 d *2*	β^-		
171	Er	7.516 h *2*	β^-	111.621	20.5
				116.656	2.3
				124.017	9.1
				295.901	28.9
				308.291	64.4
172	Er	49.3 h *3*	β^-	59.692	2.7
				68.107	3.3
				127.805	2.1
				383.501	2.4
				407.338	42.1
				446.025	3.0
				610.062	44.2
163	Tm	1.810 h *5*	$\varepsilon+\beta^+$	69.229	11.6
				104.320	18.6
				239.585	4.4

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				241.305	10.9
				299.667	4.6
				471.330	4.0
				1265.116	5.2
				1374.34	4.3
				1397.52	7.0
				1434.45	8.0
165	Tm	30.06 h *3*	$\varepsilon+\beta^+$	47.155	16.9
				54.415	7.2
				218.859	3.3
				242.917	35.5
				296.119	3.9
				297.369	12.7
				346.933	2.9
				460.263	4.1
				806.372	9.5
				1184.45	3.0
166	Tm	7.70 h *3*	$\varepsilon+\beta^+$	80.585	11.5
				184.405	16.2
				691.250	7.5
				705.333	11.1
				778.814	19.1
				785.904	10.0
				1176.704	9.6
				1273.540	15.0
				2052.36	17.4
				2079.53	6.4
167	Tm	9.28 d *4*	ε	57.0723	4.6
				207.801	41.3
168	Tm	93.1 d *2*	$\varepsilon+\beta^+$	79.804	11.0
				184.295	18.2
				198.251	54.5
				447.515	24.0
				631.705	9.3
				720.392	12.2
				741.355	12.8
				815.989	51.0
				821.162	12.0
				829.948	7.0
			β^-		
170	Tm	128.4 d *3*	ε		
			β^-	84.25474	2.5
171	Tm	701.5 d *33*	β^-		
172	Tm	63.6 h *2*	β^-	78.750	6.5
				181.520	2.8

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				1093.59	6.0
				1387.093	5.6
				1465.86	4.5
				1529.64	5.1
				1608.37	4.1
173	Tm	8.24 h *8*	β^-	398.9	87.9
				461.4	6.9
164	Yb	75.8 m *17*	ε		
166	Yb	56.7 h *1*	ε	82.29	15.6
169	Yb	32.015 d *9*	ε	63.01	2.2
				63.12044	43.6
				93.61447	2.6
				109.77924	17.4
				130.52293	11.4
				177.21307	22.3
				197.95675	35.9
				307.73586	10.0
175	Yb	4.1615 d *30*	β^-	113.805	3.9
				282.522	6.1
				396.329	13.2
177	Yb	1.911 h *3*	β^-	121.6211	3.0
				150.399	18.0
				1080.204	5.1
				1241.8	3.1
178	Yb	74 m *3*	β^-		
169	Lu	34.06 h *5*	$\varepsilon+\beta^+$	87.377	2.2
				191.217	18.7
				889.753	4.8
				960.622	21.2
				1184.875	2.0
				1449.74	9.0
				1466.84	3.0
170	Lu	2.01 d *2*	$\varepsilon+\beta^+$	84.262	8.7
				985.10	5.4
				1003.20	3.4
				1054.28	4.6
				1138.65	3.5
				1225.65	4.8
				1280.25	7.9
				1364.60	4.5
				2041.88	5.9
				2126.11	5.0
171	Lu	8.25 d *2*	$\varepsilon+\beta^+$	19.394	14.0
				66.731	2.5
				72.380	2.0

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				75.889	6.2
				667.422	11.2
				689.286	2.4
				739.793	48.7
				780.711	4.4
				839.961	3.1
				853.091	2.6
172	Lu	6.702 d *17*	ε+β^+	78.7426	10.6
				90.6440	4.5
				181.525	20.6
				203.433	5.0
				697.300	6.1
				810.064	16.6
				900.724	29.8
				912.079	15.2
				1002.74	5.2
				1093.63	62.5
173	Lu	1.37 y *1*	ε	78.63	11.9
				100.724	5.2
				171.393	2.9
				272.105	21.2
174	Lu	3.31 y *5*	ε+β^+	76.468	5.9
				1241.847	5.1
174m	Lu	142 d *2*	ε		
			IT	44.683	12.4
				67.058	7.2
176	Lu	3.714×10^{10} y *19*	β^-	88.34	14.5
				201.83	78.0
				306.78	93.6
176m	Lu	3.675 h *6*	ε		
			β^-	88.361	8.9
177	Lu	6.6472 d *16*	β^-	112.9498	6.2
				208.3662	10.4
177m	Lu	160.35 d *28*	IT	121.6211	6.3
				147.1637	3.6
				171.8574	4.8
				218.1038	3.4
				268.7847	3.5
				319.0210	10.5
				367.4174	3.1
				413.6637	17.6
			β^-	112.9498	21.4
				128.5027	16.0
				153.2842	16.5
				204.1050	13.5

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				208.3662	55.4
				228.4838	35.9
				281.7868	14.0
				327.6829	18.4
				378.5036	29.4
				418.5388	21.7
179	Lu	4.59 h *6*	β^-	214.33	11.8
170	Hf	16.01 h *15*	ε	47.80	2.9
				98.55	3.3
				120.19	15.1
				164.71	26.3
				208.1	2.7
				481.3	3.7
				501.6	3.7
				540.7	2.4
				572.9	14.5
				620.7	18.0
171	Hf	12.1 h *4*	$\varepsilon+\beta^+$		
172	Hf	1.87 y *3*	ε	23.9331	20.3
				67.35	5.3
				81.7513	4.5
				114.061	2.6
				125.812	11.3
173	Hf	23.6 h *1*	$\varepsilon+\beta^+$	123.675	83.0
				134.965	4.7
				139.635	12.7
				162.010	6.5
				296.974	33.9
				306.568	6.4
				311.239	10.8
174	Hf	7.0×10^{16} y *12*	α		
175	Hf	70.67 d *19*	ε	89.36	2.4
				343.40	84.0
178n	Hf	31 y *1*	IT	88.873	63.9
				93.193	17.6
				213.434	80.7
				216.668	64.9
				257.645	16.7
				325.560	94.1
				426.360	96.6
				454.048	16.6
				495.013	70.1
				574.219	88.6
179n	Hf	24.86 d *20*	IT	122.70	27.7
				146.15	27.0

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				169.78	19.4
				192.66	21.5
				236.48	18.8
				268.85	11.2
				315.93	20.3
				362.55	39.6
				409.72	21.5
				453.59	67.8
180m	Hf	5.528 h *16*	β^-		
			IT	57.538	48.0
				93.324	16.5
				215.426	81.6
				332.274	94.1
				443.162	81.7
				500.697	14.2
181	Hf	42.39 d *6*	β^-	133.021	43.3
				136.260	5.8
				345.93	15.1
				482.18	80.5
182	Hf	8.90×10^6 y *9*	β^-	114.32	3.0
				156.09	7.0
				270.408	79.0
182m	Hf	61.5 m *15*	IT	50.8	13.2
				97.8	9.2
				224.4	37.7
				344.1	45.6
				455.8	20.0
				506.6	23.4
			β^-	59.1	5.0
				97.8	4.4
				114.3	7.1
				143.2	4.9
				146.8	5.4
				171.5	4.4
				339.6	6.5
				603.2	6.0
				799.6	10.8
				942.8	21.6
183	Hf	1.019 h *3*	β^-	73.160	38.0
				397.86	2.9
				459.073	29.8
				783.73	65.5
				1470.2	2.7
184	Hf	4.12 h *5*	β^-	41.4	9.4
				43.9	5.8

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				139.1	45.6
				181.0	14.1
				344.9	35.2
173	Ta	3.14 h *13*	$\varepsilon+\beta^+$	69.70	6.0
				90.3	5.0
				160.4	4.9
				172.2	17.5
				180.6	2.2
				1208.2	2.7
174	Ta	1.08 h *3*	$\varepsilon+\beta^+$	91.00	15.7
				206.50	60.0
				1205.92	4.9
175	Ta	10.5 h *2*	$\varepsilon+\beta^+$	81.5	6.0
				104.3	3.1
				125.9	5.8
				125.9	2.6
				207.4	14.0
				266.9	10.8
				348.5	12.0
				436.4	3.8
				857.7	3.2
				1793.1	4.6
176	Ta	8.08 h *7*	$\varepsilon+\beta^+$	88.35	11.9
				201.84	5.7
				710.50	5.4
				1159.30	24.7
				1190.22	4.5
				1224.96	5.7
				1584.02	5.3
				1696.55	4.6
				1823.70	4.5
				2832.00	4.4
177	Ta	56.56 h *6*	$\varepsilon+\beta^+$	112.9498	11.6
178	Ta	2.41 h *7*	$\varepsilon+\beta^+$		
179	Ta	1.815 y *30*	ε		
180	Ta	8.154 h *6*	ε	93.324	4.5
			β^-		
182	Ta	114.80 d *11*	β^-	67.74970	42.9
				100.10595	14.2
				152.42991	7.0
				222.1085	7.6
				229.3207	3.6
				264.0740	3.6
				1121.290	35.2
				1189.040	16.5

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				1221.395	27.2
				1231.004	11.6
183	Ta	5.1 d *1*	β^-	46.4838	5.2
				52.5952	5.3
				99.0793	6.8
				107.9310	11.2
				161.3439	9.1
				162.3211	5.0
				244.263	8.8
				246.059	27.2
				313.276	5.2
				353.989	11.6
184	Ta	8.7 h *1*	β^-	111.192	23.7
				215.34	11.4
				252.85	43.9
				318.04	22.8
				384.28	12.5
				414.01	72.0
				536.71	12.7
				792.07	14.5
				903.29	15.0
				920.93	32.0
181	Re	19.95 h *37*	$\varepsilon+\beta^+$	65.0	2.4
				109.9	2.7
				360.7	19.8
				365.5	56.5
				639.0	6.4
				661.8	3.0
				805.2	3.1
				953.6	3.6
				1000.2	3.3
				1009.4	2.4
182	Re	64.2 h *4*	$\varepsilon+\beta^+$	67.75	38.4
				67.85	22.2
				100.10	16.5
				229.32	25.8
				1121.3	22.1
				1121.4	32.0
				1189.2	15.1
				1221.4	17.5
				1221.5	25.0
				1231.0	14.9
182m	Re	14.14 h *38*	$\varepsilon+\beta^+$		
183	Re	70.0 d *14*	ε	46.484	8.0
				52.596	2.4

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				99.080	2.9
				107.933	2.3
				109.731	3.1
				162.330	25.1
				208.812	3.2
				291.723	3.4
184	Re	35.43 d *16*	$\varepsilon+\beta^+$	111.2174	17.2
				252.845	3.0
				792.067	37.7
				894.760	15.7
				903.282	38.1
184m	Re	168 d *6*	ε	111.2174	5.8
				161.269	6.6
				216.547	9.5
				252.845	10.8
				318.008	5.8
				384.250	3.2
				536.674	3.3
				792.067	3.7
				903.282	3.7
				920.933	8.2
			IT	104.7395	13.6
186	Re	3.71847 d *44*	ε		
			β^-	137.15	9.5
186m	Re	≈200000 y	IT	40.350	5.1
				59.009	18.1
187	Re	4.12×10^{10} y *11*	β^-		
188	Re	17.004 h *2*	β^-	155.044	15.5
189	Re	24.2 h *4*	β^-	216.69	5.5
				219.40	4.5
				245.09	3.5
190m	Re	3.3 h *2*	IT	119.12	11.7
			β^-	186.68	28.2
				361.09	12.1
				371.24	10.5
				397.36	6.0
				407.22	8.2
				518.55	6.7
				557.95	14.1
				569.30	13.9
				605.14	14.7
				673.10	9.4
181	Os	106 m *3*	$\varepsilon+\beta^+$	118.01	12.7
				167.23	3.0
				238.75	43.8

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				242.74	6.0
				751.4	3.2
				787.6	5.2
				827.0	19.9
				831.5	7.6
				955.0	5.0
				1060.4	5.6
182	Os	22.04 h *16*	ε	55.50	5.8
				130.80	3.3
				180.20	34.1
				263.29	6.8
				510.04	52.4
183	Os	13.0 h *5*	ε+β^+	114.43	21.1
				167.85	9.0
				236.41	3.5
				381.74	91.6
				851.46	4.7
183m	Os	9.9 h *3*	ε+β^+	484.49	2.2
				1034.68	6.0
				1101.93	49.2
				1107.93	22.5
			IT		
184	Os	1.12×10^{13} y *23*	α		
185	Os	92.95 d *9*	ε	646.116	78.0
				717.424	3.9
				874.813	6.3
				880.523	5.2
186	Os	2.0×10^{15} y *11*	α		
189m	Os	5.81 h *11*	IT		
191	Os	15.00 d *4*	β^-	129.431	26.5
191m	Os	13.12 h *7*	IT		
193	Os	29.830 h *18*	β^-	73.029	3.1
				138.92	3.8
				460.541	3.9
194	Os	6.0 y *2*	β^-	43.119	5.4
184	Ir	3.09 h *3*	ε+β^+	119.79	30.8
				263.98	64.4
				390.36	26.1
				493.0	5.8
				539.69	6.4
				841.33	8.4
				961.26	10.2
				1044.55	5.5
				1105.28	5.7
				2063.0	4.3

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
185	Ir	14.4 h *1*	$\varepsilon+\beta^+$	37.4	3.4
				60.0	5.7
				97.4	4.2
				100.75	2.4
				158.2	2.4
				254.2	13.3
				1668.3	3.6
				1732.2	2.8
				1738.4	2.4
				1828.8	10.1
186	Ir	16.64 h *3*	$\varepsilon+\beta^+$	137.14	17.2
				137.15	41.7
				296.90	62.8
				296.93	6.4
				434.84	34.1
				630.32	11.7
				767.46	13.8
				773.24	8.8
				773.28	8.9
				987.03	7.1
186m	Ir	1.87 h *4*	$\varepsilon+\beta^+$	137.14	17.2
				296.93	6.4
				630.32	11.7
				712.57	2.1
				767.46	13.8
				773.24	8.8
				987.03	7.1
				1617.21	2.7
				1754.4	3.0
			IT		
187	Ir	10.5 h *3*	$\varepsilon+\beta^+$		
188	Ir	41.5 h *5*	$\varepsilon+\beta^+$	155.044	29.5
				478.00	14.6
				633.03	17.8
				634.97	5.0
				829.47	5.1
				1209.80	6.9
				1715.67	6.1
				2059.65	7.0
				2096.9	5.7
				2214.59	18.5
189	Ir	13.2 d *1*	ε	69.52	3.5
				245.1	6.0
190	Ir	11.78 d *10*	$\varepsilon+\beta^+$	186.68	49.7
				294.75	6.3

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				361.09	12.3
				371.24	21.6
				397.36	6.2
				407.22	22.7
				518.55	32.2
				557.95	28.5
				569.30	27.0
				605.14	37.8
190m	Ir	1.120 h *3*	IT		
190n	Ir	3.087 h *12*	$\varepsilon+\beta^+$	186.7	64.2
				361.2	86.7
				502.5	89.4
				616.5	90.1
			IT	36.184	2.7
				135.348	3.0
192	Ir	73.826 d *11*	ε	205.79430	3.3
				484.5751	3.2
			β^-	295.95650	28.7
				308.45507	29.7
				316.50618	82.9
				468.06885	47.8
				588.5810	4.5
				604.41105	8.2
				612.46215	5.3
192n	Ir	241 y *9*	IT		
193m	Ir	10.54 d *4*	IT		
194	Ir	19.20 h *2*	β^-	293.544	2.5
				328.467	13.1
194m	Ir	171 d *11*	β^-	111.7	8.9
				328.5	93.0
				338.8	55.0
				390.8	35.0
				482.6	97.0
				562.4	35.0
				562.4	35.0
				600.5	62.0
				687.8	59.0
				1011.8	3.6
195	Ir	2.29 h *13*	β^-	98.83	10.0
				211.30	2.5
195m	Ir	3.74 h *14*	IT		
			β^-	98.85	10.7
				172.78	5.1
				319.90	9.8
				359.31	4.7

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				364.94	9.7
				432.86	9.8
				481.17	2.7
				684.88	9.8
196m	Ir	1.40 h *2*	IT		
			β^-	103.3	18.4
				355.9	94.1
				393.5	97.0
				420.9	2.5
				447.1	94.1
				521.4	96.0
				647.3	91.2
				693.9	4.2
				727.3	2.6
				835.6	6.3
185	Pt	70.9 m *24*	$\varepsilon+\beta^+$		
			α		
186	Pt	2.08 h *5*	$\varepsilon+\beta^+$		
			α		
187	Pt	2.35 h *3*	$\varepsilon+\beta^+$	106.44	8.3
				110.06	6.2
				186.25	2.8
				201.68	5.1
				247.61	2.7
				285.07	4.0
				304.72	3.7
				629.44	2.9
				709.04	4.3
				819.16	3.0
188	Pt	10.2 d *2*	$\varepsilon+\beta^+$	140.35	2.3
				187.59	19.1
				195.05	18.3
				381.43	7.4
				423.34	4.3
			α		
189	Pt	10.89 h *11*	$\varepsilon+\beta^+$	94.34	6.5
				113.82	2.5
				141.18	3.6
				243.50	5.9
				300.51	3.2
				317.65	2.8
				544.91	4.9
				568.85	6.0
				607.60	4.7
				721.38	7.9

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
190	Pt	4.90×10^{11} y *11*	α		
191	Pt	2.860 d *20*	ε+β^+	82.40	4.7
				96.5517	3.1
				129.416	3.0
				172.2181	3.5
				351.187	3.5
				359.930	5.9
				409.462	7.9
				456.485	3.5
				538.897	14.4
193	Pt	50 y *6*	ε		
193m	Pt	4.33 d *3*	IT		
195m	Pt	4.010 d *8*	IT	30.89	2.4
				98.90	11.7
				129.79	2.9
197	Pt	19.8915 h *19*	β^-	77.35	17.0
				191.437	3.7
197m	Pt	95.41 m *18*	β^-	279	2.4
			IT	346.5	11.1
200	Pt	12.6 h *3*	β^-		
202	Pt	44 h *15*	β^-		
191	Au	3.18 h *6*	ε+β^+		
192	Au	4.94 h *9*	ε+β^+	295.95650	22.8
				308.45507	3.5
				316.50618	59.0
				582.70	2.7
				612.4621	4.4
				1422.91	3.4
				1723.00	3.5
				1832.83	2.8
				1921.05	2.8
				2237.3	4.7
193	Au	17.65 h *15*	ε+β^+		
194	Au	38.06 h *23*	ε+β^+	293.549	10.9
				328.470	63.0
				645.164	2.3
				948.323	2.3
				1104.056	2.2
				1175.360	2.2
				1468.904	6.8
				1887.030	2.1
				1924.273	2.1
				2043.719	3.8
195	Au	186.01 d *6*	ε	98.857	11.2
195m	Au	30.5 d *2*	IT	261.75	68.7

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
196	Au	6.156 d *11*	$\varepsilon+\beta^+$	333.03	22.9
				355.73	87.0
			β^-	426.10	6.6
196n	Au	9.607 h *34*	IT	147.81	43.5
				168.37	7.8
				188.27	30.0
				285.49	4.4
				316.19	3.0
198	Au	2.69469 d *25*	β^-	411.80205	95.6
198m	Au	2.28 d *2*	IT	97.21	68.8
				180.31	49.5
				204.10	38.6
				214.89	77.3
				333.82	17.8
199	Au	3.135 d *3*	β^-	158.37851	40.0
				208.20481	8.7
200m	Au	18.7 h *5*	IT	332.82	2.2
			β^-	181.18	54.1
				255.87	72.4
				367.942	79.3
				497.77	81.8
				579.300	82.4
				759.50	74.6
				904.23	8.8
192	Hg	4.85 h *20*	ε	157.2	7.2
				186.4	3.4
				274.8	51.8
				306.5	5.5
193	Hg	3.80 h *15*	$\varepsilon+\beta^+$	218.07	2.7
				258.00	8.7
				381.60	15.4
				580.97	4.0
				789.21	4.4
				827.81	3.8
				861.11	12.1
				1080.7	3.6
				1118.84	7.8
				1276.38	2.6
193m	Hg	11.1 h *5*	$\varepsilon+\beta^+$		
			IT		
194	Hg	4.5×10^2 y *5*	ε		
195	Hg	10.68 h *16*	$\varepsilon+\beta^+$	61.46	6.4
				585.13	2.0
				779.80	7.0
195m	Hg	41.6 h *2*	$\varepsilon+\beta^+$	261.75	31.3

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				387.87	2.2
				560.27	7.1
			IT		
197	Hg	64.96 h *7*	$\varepsilon+\beta^+$	77.351	18.7
197m	Hg	23.82 h *4*	$\varepsilon+\beta^+$	130.2	3.2
				279.0	70.9
			IT	133.98	33.5
203	Hg	46.612 d *11*	β^-	279.1952	81.6
195	Tl	1.15 h *4*	$\varepsilon+\beta^+$	37.09	2.5
				242.15	4.6
				279.19	4.0
				300.60	2.6
				558.38	2.7
				563.52	11.2
				884.47	10.6
				1100.33	2.5
				1269.51	2.6
				1363.88	9.0
196	Tl	1.84 h *3*	$\varepsilon+\beta^+$	425.7	82.6
				610.5	11.8
				635.2	9.7
				964.6	3.5
				1495.8	8.1
				1553.0	4.8
				1621.4	4.8
				1696.7	3.0
				2011.3	3.7
				2212.0	3.3
196m	Tl	1.41 h *2*	$\varepsilon+\beta^+$	222.9	5.4
				301.5	8.1
				426.3	92.2
				505.2	12.7
				588.8	3.4
				635.3	94.0
				695.4	90.4
				723.5	5.4
			IT		
197	Tl	2.83 h *4*	$\varepsilon+\beta^+$	133.99	2.0
				152.22	7.3
				308.6	2.2
				425.84	13.0
				433.14	2.5
				577.97	4.5
				857.18	2.1
				1411.34	4.6

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
198	Tl	5.3 h *5*	$\varepsilon+\beta^+$	411.8	79.5
				636.7	9.9
				675.8	10.6
				1200.6	9.4
				1312.2	4.6
				1420.6	7.7
				1435.4	3.4
				1447.0	4.1
				1832.6	4.1
				2040.2	8.2
198m	Tl	1.87 h *3*	$\varepsilon+\beta^+$	226.2	5.5
				411.8	59.1
				441.8	2.3
				489.6	4.7
				519.2	3.7
				587.2	54.2
				636.7	59.1
			IT	259.6	2.8
				282.8	27.1
199	Tl	7.42 h *8*	$\varepsilon+\beta^+$	158.359	5.0
				208.20	12.3
				247.26	9.3
				284.09	2.2
				455.46	12.4
200	Tl	26.1 h *1*	$\varepsilon+\beta^+$	144.639	2.6
				367.942	88.5
				579.300	14.0
				661.36	2.3
				828.27	11.0
				1205.75	30.4
				1225.44	3.4
				1273.43	3.4
				1363.2	3.4
				1514.90	4.1
201	Tl	3.0421 d *15*	ε	135.34	2.6
				167.43	10.0
202	Tl	12.471 d *6*	ε	439.56	91.5
204	Tl	3.783 y *7*	$\varepsilon+\beta^+$		
			β^-		
206	Tl	4.202 m *13*	β^-		
207	Tl	4.77 m *1*	β^-		
208	Tl	3.053 m *3*	β^-	277.371	6.6
				510.77	22.6
				583.187	85.0
				860.557	12.5

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				2614.511	99.8
210	Tl	1.30 m *3*	β^-	296	79.2
				799.6	99.0
				860	6.9
				1070	11.9
				1110	6.9
				1210	16.8
				1316	20.8
				2010	6.9
				2360	7.9
				2430	8.9
198	Pb	2.4 h *1*	$\varepsilon+\beta^+$	173.4	18.2
				259.5	5.8
				290.3	36.4
				365.4	19.5
				382.0	5.6
				397.7	2.9
				575.0	3.1
				865.3	6.0
199	Pb	90 m *10*	$\varepsilon+\beta^+$	353.39	9.5
				366.90	44.2
				720.24	6.5
				761.98	2.2
				1135.04	7.8
				1239.12	2.1
				1382.71	2.9
				1502.04	2.1
				1658.43	5.6
				1749.70	2.3
200	Pb	21.5 h *4*	ε	142.28	3.2
				147.63	38.1
				235.62	4.3
				257.19	4.5
				268.36	4.0
				450.56	3.4
201	Pb	9.33 h *3*	$\varepsilon+\beta^+$	331.15	78.7
				361.25	9.7
				405.96	2.1
				584.60	3.6
				692.41	4.4
				767.26	3.4
				826.26	2.4
				907.67	6.3
				945.96	7.3
202	Pb	5.25×10^4 y *28*	ε		

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
202m	Pb	3.54 h *2*	$\varepsilon+\beta^+$	389.94	6.4
				459.72	8.9
				490.47	9.4
			IT	422.12	84.0
				657.49	31.8
				786.99	48.8
				960.70	89.9
203	Pb	51.93 h *2*	ε	279.1952	80.9
				401.320	3.4
204m	Pb	66.9 m *1*	IT	374.76	94.2
				899.15	99.2
				911.74	91.5
205	Pb	1.70×10^7 y *9*	ε		
209	Pb	3.235 h *5*	β^-		
210	Pb	22.20 y *17*	α		
			β^-	46.539	4.2
211	Pb	36.1648 m *15*	β^-	404.853	3.8
				832.01	3.5
212	Pb	10.628 h *6*	β^-	238.632	43.6
				300.087	3.3
214	Pb	27.06 m *7*	β^-	241.995	7.3
				295.224	18.5
				351.9320	35.7
201	Bi	111 m *4*	$\varepsilon+\beta^+$	629.1	24.7
				786.4	9.8
				818.9	7.6
				902.0	8.6
				936.2	11.6
				990.6	3.3
				1014.1	11.0
				1108.1	4.0
				1325.2	6.3
				1650.9	6.0
202	Bi	1.71 h *4*	$\varepsilon+\beta^+$	168.11	4.8
				240.18	4.5
				346.47	4.6
				422.13	83.7
				569.27	4.8
				578.56	7.4
				657.49	60.6
				927.28	7.2
				954.47	7.8
				960.67	99.3
203	Bi	11.76 h *5*	$\varepsilon+\beta^+$	264.2	5.3
				820.2	29.7

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				825.2	14.6
				847.2	8.5
				896.9	13.1
				1033.7	8.8
				1536.5	7.6
				1679.6	8.8
				1847.3	11.5
				1893.0	8.2
204	Bi	11.28 h *9*	$\varepsilon+\beta^+$	289.30	2.9
				374.76	82.4
				670.72	11.4
				791.20	3.3
				899.15	99.2
				911.74	13.6
				911.96	11.2
				918.26	10.9
				983.98	59.2
				1211.72	3.0
205	Bi	14.91 d *7*	$\varepsilon+\beta^+$	549.84	3.0
				570.60	4.3
				579.80	5.4
				703.45	31.1
				987.66	16.1
				1043.75	7.5
				1764.30	32.4
				1775.80	4.0
				1861.70	6.2
				1903.45	2.5
206	Bi	6.243 d *3*	$\varepsilon+\beta^+$	183.977	15.8
				343.51	23.5
				497.06	15.3
				516.18	40.8
				537.45	30.5
				803.10	99.0
				881.01	66.2
				895.12	15.7
				1098.26	13.5
				1718.70	31.9
207	Bi	31.22 y *17*	$\varepsilon+\beta^+$	569.698	97.8
				1063.656	74.5
				1770.228	6.9
208	Bi	3.680×10^5 y *40*	$\varepsilon+\beta^+$	2614.5	99.8
209	Bi	2.01×10^{19} y *8*	α		
210	Bi	5.012 d *5*	α		
			β^-		

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
210m	Bi	3.14×10^6 y *15*	α		
211	Bi	2.14 m *3*	α	351.07	13.0
			β^-		
212	Bi	60.55 m *6*	α		
			β^-	727.330	6.7
214	Bi	19.71 m *2*	α		
			β^-	609.321	45.4
				768.360	4.9
				934.056	3.1
				1120.294	14.9
				1238.122	5.8
				1377.669	4.0
				1407.988	2.4
				1729.595	2.9
				1764.491	15.3
				2204.10	4.9
215	Bi	7.6 m *2*	β^-	271.1	4.0
				293.5	48.9
				517.5	2.1
				1104.5	3.1
204	Po	3.518 h *13*	$\varepsilon+\beta^+$	63.185	12.3
				137.023	11.1
				270.068	31.9
				317.016	4.9
				534.92	15.2
				680.39	8.7
				762.52	13.2
				883.960	34.3
				1016.29	27.6
				1040.01	11.0
			α		
205	Po	1.79 h *11*	$\varepsilon+\beta^+$	212.0	3.6
				261.0	4.0
				511.0	7.0
				599.8	2.6
				836.8	19.1
				849.8	25.4
				872.4	36.8
				1001.2	28.7
				1239.1	4.6
				1551.8	2.9
			α		
206	Po	8.8 d *1*	$\varepsilon+\beta^+$	286.410	22.9
				311.56	4.1
				338.44	18.5

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				511.36	23.2
				522.47	15.1
				807.38	21.8
				860.93	3.4
				980.23	6.8
				1007.15	3.0
				1032.26	31.7
			α		
207	Po	5.80 h *2*	ε+β^+	345.32	2.0
				405.78	9.7
				742.72	28.4
				911.77	17.0
				992.39	59.2
				1148.47	5.8
			α		
208	Po	2.898 y *2*	ε+β^+		
			α		
209	Po	124.0 y *29*	ε+β^+		
			α		
210	Po	138.378 d *4*	α		
211	Po	0.516 s *3*	α		
212	Po	295.0 ns *4*	α		
214	Po	163.48 µs *4*	α		
215	Po	1.781 ms *3*	α		
			β^-		
216	Po	144.0 ms *6*	α		
218	Po	3.097 m *10*	α		
			β^-		
207	At	1.81 h *3*	ε+β^+	300.648	12.9
				467.116	7.2
				588.333	19.5
				648.095	4.3
				658.40	6.5
				675.154	6.8
				721.14	6.1
				814.41	45.1
				907.08	6.7
				1115.196	4.9
			α		
208	At	1.63 h *3*	ε+β^+	177.595	48.6
				205.40	6.3
				517.055	6.0
				660.040	88.8
				686.527	97.6
				807.137	5.9

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				845.044	19.7
				896.66	5.4
				989.94	10.7
				1027.662	16.8
			α		
209	At	5.42 h *5*	ε+β^+	104.187	2.4
				195.0	23.5
				239.190	12.6
				545.0	90.9
				551.0	4.9
				781.9	83.3
				790.2	63.5
				903.0	3.7
				1103.4	5.4
				1170.6	3.0
			α		
210	At	8.1 h *4*	ε+β^+	245.3	79.5
				1181.4	99.3
				1436.7	29.0
				1483.3	46.5
				1599.5	13.4
			α		
211	At	7.216 h *6*	ε		
			α		
215	At	37 µs *3*	α		
218	At	1.28 s *5*	α		
			β^-		
219	At	56 s *3*	α		
			β^-		
210	Rn	2.42 h *4*	ε+β^+		
			α		
211	Rn	14.7 h *2*	ε	168.7	6.8
				250.2	6.0
				442.2	23.1
				674.1	45.4
				678.4	29.0
				866.0	7.9
				946.7	5.0
				947.4	16.3
				1126.7	22.2
				1362.9	32.7
			α		
219	Rn	3.96 s *1*	α	271.23	10.8
				401.81	6.6
220	Rn	55.6 s *1*	α		

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
222	Rn	3.82146 d *16*	α		
224	Rn	114 m *6*	β^-		
223	Fr	21.99 m *7*	α		
			β^-	49.80	2.8
				50.094	33.9
				79.651	8.7
				234.75	3.0
223	Ra	11.4352 d *10*	α	144.235	3.5
				154.208	6.0
				269.463	13.3
				323.871	3.6
				338.282	2.6
224	Ra	3.6313 d *12*	α	240.986	4.1
225	Ra	14.8 d *2*	β^-	40.09	30.0
226	Ra	1600 y *7*	α	186.211	3.6
228	Ra	5.75 y *3*	β^-		
230	Ra	93 m *2*	β^-	63.0	3.4
				72.0	9.6
				202.8	2.6
				469.7	2.5
				478.7	2.1
224	Ac	2.78 h *17*	$\varepsilon+\beta^+$	131.35	26.9
				215.75	52.3
			α		
225	Ac	9.9190 d *21*	α		
226	Ac	29.37 h *12*	β^-	158.05	17.5
				230.00	26.9
			α		
			ε	185.60	4.8
				253.5	5.7
227	Ac	21.7725 y *26*	α		
			β^-		
228	Ac	6.15 h *2*	β^-	209.253	3.9
				270.245	3.5
				328.000	3.0
				338.320	11.3
				463.004	4.4
				794.947	4.2
				911.204	25.8
				964.766	5.0
				968.971	15.8
				1588.20	3.2
229	Ac	62.7 m *5*	β^-	164.5240	2.7
				569.30	2.3
227	Th	18.6936 d *36*	α	50.13	8.4

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				235.96	12.9
				256.23	7.0
				299.98	2.2
				329.85	2.9
228	Th	1.9116 y *10*	α		
229	Th	7908 y *20*	α	11.1	12.3
				86.40	2.6
				193.52	4.4
				210.853	2.8
230	Th	7.540×10^4 y *30*	α		
231	Th	25.52 h *1*	β^-	25.65	13.7
				84.2140	6.8
232	Th	1.407×10^{10} y *23*	α		
			SF		
234	Th	24.107 d *23*	β^-	63.29	3.7
				92.38	2.1
				92.80	2.1
228	Pa	19.8 h *9*	$\varepsilon+\beta^+$	463.02	2.1
				911.20	2.3
			α		
229	Pa	1.55 d *5*	ε		
			α		
230	Pa	17.4 d *4*	β^-		
			$\varepsilon+\beta^+$	443.74	5.8
				454.92	6.8
				508.15	4.1
				518.54	2.2
				728.13	2.0
				898.66	5.8
				918.50	8.3
				951.88	29.7
			α		
231	Pa	3.274×10^4 y *21*	α	27.36	10.4
				300.066	2.4
				302.667	2.3
232	Pa	1.31 d *2*	β^-	150.059	10.4
				387.884	6.6
				453.655	8.3
				472.390	4.0
				515.607	5.4
				581.398	6.2
				819.187	7.3
				866.760	5.6
				894.351	19.6
				969.315	42.3

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
233	Pa	26.975 d *13*	β^-	86.591	2.0
				300.128	6.5
				311.901	38.2
				340.477	4.4
234	Pa	6.671 h *22*	β^-	131.30	18.9
				152.71	6.3
				227.25	6.0
				569.5	8.6
				733.39	7.2
				880.5	6.5
				883.24	10.0
				925.0	8.2
				926.72	7.6
				946.00	14.0
239	Pa	1.8 h *5*	β^-		
234	Np	4.4 d *1*	$\varepsilon+\beta^+$	742.78	5.2
				786.28	3.2
				1193.78	6.0
				1237.22	2.3
				1391.87	2.2
				1435.36	6.3
				1527.21	11.1
				1558.31	18.5
				1570.68	5.0
				1601.80	9.0
235	Np	396.1 d *12*	ε		
			α		
236	Np	1.550×10^5 y *10*	β^-		
			α		
			ε	104.237	7.3
				160.308	31.6
236m	Np	22.5 h *4*	ε		
			β^-		
237	Np	2.144×10^6 y *7*	α	29.374	14.5
				86.484	12.2
238	Np	2.0993 d *12*	β^-	923.99	2.6
				984.45	25.2
				1025.87	8.8
				1028.53	18.2
239	Np	2.3558 d *31*	β^-	106.123	25.3
				209.753	3.4
				228.183	10.7
				277.599	14.5
				334.310	2.1
240	Np	61.9 m *2*	β^-	152.7	7.3

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				448.01	13.4
				554.60	20.9
				566.34	27.6
				597.40	11.7
				600.57	20.0
				867.2	8.8
				895.8	14.8
				973.9	25.9
				987.7	7.3
234	Pu	8.8 h *1*	ε		
			α		
236	Pu	2.858 y *7*	α		
			SF		
237	Pu	45.64 d *4*	ε	59.5409	3.3
			α		
238	Pu	87.7 y *1*	α		
			SF		
239	Pu	24109 y *15*	α		
			SF		
240	Pu	6562 y *6*	α		
			SF		
241	Pu	14.329 y *29*	α		
			β^-		
242	Pu	3.750×10^5 y *20*	α		
			SF		
243	Pu	4.955 h *2*	β^-		
244	Pu	8.130×10^7 y *30*	α		
			SF		
245	Pu	10.54 h *7*	β^-	308.222	5.1
				327.428	26.4
				376.676	3.3
				491.591	2.8
				560.134	5.6
				630.102	2.8
246	Pu	10.84 d *2*	β^-	27.58	3.5
				43.81	25.0
				179.94	9.7
				223.75	23.5
247	Pu	2.27 d *23*	β^-		
237	Am	73 m *1*	$\varepsilon+\beta^+$	280.23	47.3
				438.4	8.3
				473.5	4.3
				908.8	2.6
			α		
238	Am	97.4 m *15*	$\varepsilon+\beta^+$	357.7	2.1

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				561.0	10.9
				605.1	7.6
				918.7	23.0
				941.4	2.2
				962.8	28.0
				1577.3	2.9
			α		
239	Am	11.9 h *1*	ε	209.8	3.5
				226.383	3.3
				228.184	11.3
				277.604	15.0
			α		
240	Am	50.9 h *2*	ε+β^+	888.85	24.8
				987.79	72.2
			α		
241	Am	432.6 y *6*	α	26.3446	2.3
				59.5409	35.9
			SF		
242	Am	16.02 h *2*	ε		
			β^-		
242m	Am	141.9 y *17*	α		
			IT		
243	Am	7345 y *14*	α	43.53	5.9
				74.66	67.2
			SF		
244	Am	10.02 h *3*	β^-	99.383	4.6
				153.863	16.4
				743.971	66.0
				897.848	28.0
245	Am	2.047 h *8*	β^-	252.8	5.6
238	Cm	2.2 h *4*	SF		
			α		
			ε		
239	Cm	2.5 h *4*	ε+β^+	146.4	11.9
				188	36.0
			α		
240	Cm	30.4 d *37*	SF		
			α		
			ε		
241	Cm	32.8 d *2*	ε	132.413	3.9
				165.049	3.0
				205.879	2.7
				430.634	4.1
				471.805	71.3
			α		

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
242	Cm	162.88 d *6*	α		
			SF		
243	Cm	29.18 y *12*	SF		
			α	209.753	3.3
				228.183	10.6
				277.599	14.0
			ε		
244	Cm	18.112 y *25*	α		
			SF		
245	Cm	8.25×10^3 y *7*	α	133.08	2.8
				175.01	9.8
			SF		
246	Cm	4757 y *33*	α		
			SF		
247	Cm	1.56×10^7 y *5*	α	278.0	3.4
				402.4	72.0
248	Cm	3.48×10^5 y *6*	α		
			SF		
249	Cm	64.15 m *3*	β^-		
250	Cm	≈8300 y	SF		
243	Bk	4.6 h *2*	$\varepsilon+\beta^+$		
			α		
244	Bk	5.02 h *3*	$\varepsilon+\beta^+$		
			α		
245	Bk	4.96 d *3*	ε	252.85	30.6
				380.8	2.5
			α		
246	Bk	1.80 d *2*	$\varepsilon+\beta^+$		
247	Bk	1.38×10^3 y *25*	α	84	40.0
				265	30.0
248m	Bk	23.7 h *2*	ε		
			β^-		
249	Bk	327.2 d *3*	SF		
			α		
			β^-		
250	Bk	3.212 h *5*	β^-	989.125	45.0
				1028.654	4.9
				1031.852	35.6
246	Cf	35.7 h *5*	α		
			SF		
247	Cf	3.11 h *3*	ε		
			α		
248	Cf	333.5 d *28*	α		
			SF		
249	Cf	350.7 y *20*	α	252.82	2.6

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				333.37	14.8
				388.15	66.0
			SF		
250	Cf	13.08 y *9*	α		
			SF		
251	Cf	898 y *43*	α	177.52	17.3
				227.38	6.8
252	Cf	2.647 y *3*	α		
			SF		
253	Cf	17.78 d *7*	α		
			β^-		
254	Cf	60.5 d *2*	α		
			SF		
255	Cf	85 m *18*	β^-		
249	Es	102.2 m *6*	$\varepsilon+\beta^+$	375.1	3.3
				379.5	40.8
				813.2	9.2
			α		
250	Es	8.5 h *1*	$\varepsilon+\beta^+$	140.694	4.6
				303.41	22.0
				349.4	20.1
				383.7	13.8
				810.2	9.0
				828.9	5.5
				829.00	72.5
				863.2	5.0
				989.1	13.3
				1031.9	10.6
			α		
250m	Es	2.21 h *5*	$\varepsilon+\beta^+$		
251	Es	33 h *1*	ε		
			α		
252	Es	471.7 d *19*	ε	139.03	11.7
				785.1	15.4
				924.1	2.0
			α		
253	Es	20.466 d *23*	α		
			SF		
254	Es	275.7 d *5*	SF		
			α		
			β^-		
254m	Es	39.2 h *3*	ε		
			α		
			SF		
			β^-	584.18	2.9

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
				648.69	29.0
				688.52	12.5
				693.67	24.8
			IT		
255	Es	39.8 d *12*	SF		
			α		
			β^-		
256m	Es	7.6 h	β^-		
257	Es	7.7 d *2*	β^-		
251	Fm	5.30 h *8*	$\varepsilon+\beta^+$	880.8	2.2
			α		
252	Fm	25.38 h *12*	α		
			SF		
253	Fm	3.00 d *12*	ε		
			α	271.8	2.6
254	Fm	3.240 h *2*	α		
			SF		
255	Fm	20.07 h *7*	α		
			SF		
256	Fm	157.1 m *12*	α		
			SF		
257	Fm	100.5 d *2*	α	179.4	8.1
				241.0	10.2
			SF		
256	Md	77.7 m *15*	SF		
			$\varepsilon+\beta^+$	634.1	6.2
				644.0	7.1
				677.3	3.1
				682.1	6.5
				692.0	4.8
				1312.3	2.2
				1326.1	2.4
				1326.1	2.4
				1357.1	2.2
				1374.1	2.5
			α		
257	Md	5.52 h *5*	SF		
			α	325.1	2.5
				371.4	11.7
			ε		
258	Md	51.52 d *29*	α	71.1	3.0
				276.8	7.7
				296.7	2.1
				367.8	38.1
				447.9	13.9

A	El	$T_{1/2}$	Decay Mode	E_γ (keV)	$I_\gamma \geq 2\%$
259	Md	1.61 h *6*	α		
			SF		
260	Md	31.8 d *5*	β^-		
			SF		
			α		
			ε		

Gamma Ray Energy Table

E(γ) (keV)	Parent Nuclides
7	^{160}Er
9	^{83m}Kr, ^{83}Rb
11	^{229}Th
14	^{57}Co
16	^{72}Zn
18	^{112}Pd
19	^{171}Lu
21	^{151}Gd
22	^{156}Sm, ^{149}Eu
23	^{119m}Sn, ^{126}Sn, ^{119}Sb, ^{172}Hf
24	^{101}Pd
25	^{161}Tb, ^{161}Ho, ^{231}Th
26	^{241}Am
27	^{129}Te, ^{231}Pa, ^{246}Pu
29	^{86}Zr, ^{140}Ba, ^{237}Np
30	^{28}Mg, ^{195m}Pt
32	^{100}Pd
35	^{125}Sb, ^{125m}Te
36	^{190n}Ir
37	^{80m}Br, ^{185}Ir, ^{195}Tl
38	^{156}Sm, ^{162m}Ho
39	^{129m}Xe, ^{129}Cs
40	^{62}Zn, ^{118m}Sb, ^{186m}Re, ^{225}Ra
41	^{153}Tb, ^{184}Hf
42	^{90}Mo, ^{100}Pd
43	^{66}Ge, ^{184}Hf, ^{194}Os, ^{246}Pu, ^{243}Am
44	^{174m}Lu
45	^{72}Se, ^{76}Kr
46	^{183}Ta, ^{183}Re, ^{210}Pb
47	^{165}Tm, ^{170}Hf
48	^{161}Tb
49	^{132}Te, ^{156m}Tb, ^{223}Fr
50	^{182m}Hf, ^{223}Fr, ^{227}Th

E(γ) (keV)	Parent Nuclides
52	^{183}Ta, ^{183}Re
53	^{73}Ga, ^{73}As, ^{133}Ba
54	^{125}Xe, ^{157}Eu, ^{165}Tm
55	^{182}Os
57	^{143}Ce, ^{162m}Ho, ^{167}Tm, ^{180m}Hf
58	^{60}Fe, ^{133m}Ce, ^{159}Gd, ^{159}Dy
59	^{172}Er, ^{182m}Hf, ^{186m}Re, ^{237}Pu, ^{241}Am
60	^{185}Ir
61	^{145}Sm, ^{195}Hg
63	^{157}Eu, ^{169}Yb, ^{169}Yb, ^{204}Po, ^{230}Ra, ^{234}Th
64	^{105}Ag, ^{126}Sn
65	^{66}Ge, ^{156}Sm, ^{181}Re
66	^{136}Cs, ^{171}Lu
67	^{44}Ti, ^{61}Co, ^{61}Cu, ^{73}Se, ^{174m}Lu, ^{172}Hf, ^{182}Ta, ^{182}Re, ^{182}Re
68	^{172}Er
69	^{153}Sm, ^{153}Gd, ^{163}Tm, ^{173}Ta, ^{189}Ir
70	^{111m}Pd
71	^{158}Er, ^{258}Md
72	^{145}Pm, ^{171}Lu, ^{230}Ra
73	^{183}Hf, ^{193}Os
74	^{100}Pd, ^{109}In, ^{161}Tb, ^{243}Am
75	^{171}Lu
76	^{133}Ce, ^{174}Lu
77	^{197}Pt, ^{197}Hg
78	^{44}Ti, ^{172}Tm, ^{172}Lu, ^{173}Lu
79	^{108m}Ag, ^{133}Ba, ^{158}Tb, ^{167}Ho, ^{168}Tm, ^{223}Fr
80	^{133}Xe, ^{133}Ba, ^{153}Dy, ^{162m}Ho, ^{166}Ho, ^{166m}Ho, ^{166}Tm
81	^{172}Hf, ^{175}Ta
82	^{153}Tb, ^{166}Dy, ^{166}Yb, ^{191}Pt
84	^{100}Pd, ^{109}In, ^{170}Tm, ^{170}Lu, ^{231}Th, ^{247}Bk
86	^{126}Sn, ^{136}Cs, ^{155}Eu, ^{155}Tb, ^{160}Tb, ^{229}Th, ^{233}Pa, ^{237}Np
87	^{126}Sn, ^{133m}Ce, ^{156}Sm, ^{169}Lu
88	^{72}Zn, ^{109}Pd, ^{109}Cd, ^{156}Eu, ^{156}Tb, ^{176}Lu, ^{176m}Lu, ^{178n}Hf, ^{176}Ta
89	^{99}Rh, ^{117}Cd, ^{152n}Eu, ^{175}Hf
90	^{172}Lu, ^{173}Ta

E(γ) (keV)	Parent Nuclides
91	^{67}Cu, ^{67}Ga, ^{147}Nd, ^{174}Ta
92	^{234}Th, ^{234}Th
93	^{67}Cu, ^{67}Ga, ^{107}Cd, ^{116}Te, ^{169}Yb, ^{178n}Hf, ^{180m}Hf, ^{180}Ta
94	^{165}Dy, ^{189}Pt
96	^{75}Se, ^{191}Pt
97	^{133}Ce, ^{153}Gd, ^{182m}Hf, ^{182m}Hf, ^{185}Ir, ^{198m}Au
98	^{158}Tb, ^{170}Hf, ^{195}Ir, ^{195m}Ir, ^{195m}Pt, ^{195}Au
99	^{116m}Sb, ^{153}Dy, ^{183}Ta, ^{183}Re, ^{244}Am
100	^{151}Pm, ^{173}Lu, ^{182}Ta, ^{182}Re, ^{185}Ir
102	^{72}Zn, ^{131m}Te, ^{153}Tb
103	^{76}Kr, ^{153}Sm, ^{153}Gd, ^{161}Ho, ^{196m}Ir
104	^{151}Pm, ^{163}Tm, ^{175}Ta, ^{184m}Re, ^{209}At, ^{236}Np
105	^{155}Eu, ^{155}Tb
106	^{187}Pt, ^{239}Np
107	^{183}Ta, ^{183}Re
108	^{66}Ge, ^{151}Tb
109	^{153}Tb, ^{169}Yb, ^{181}Re, ^{183}Re
110	^{187}Pt
111	^{171}Er, ^{184}Ta, ^{184}Re, ^{184m}Re, ^{194m}Ir
112	^{48}Cr, ^{72}Zn, ^{177}Lu, ^{177m}Lu, ^{177}Ta
113	^{139m}Nd, ^{175}Yb, ^{189}Pt
114	^{149}Nd, ^{146}Gd, ^{172}Hf, ^{182}Hf, ^{182m}Hf, ^{183}Os
115	^{146}Gd
116	^{171}Er
118	^{103}Ag, ^{181}Os
119	^{147}Tb, ^{190m}Re, ^{184}Ir
120	^{170}Hf
121	^{71m}Zn, ^{75}Se, ^{147}Eu, ^{152}Eu, ^{152m}Eu, ^{177}Yb, ^{177m}Lu
122	^{57}Co, ^{90}Mo, ^{179n}Hf
123	^{131}Ba, ^{154}Eu, ^{154}Tb, ^{154}Tb, ^{154}Tb, ^{154m}Tb, ^{154n}Tb, ^{173}Hf
124	^{127}Cs, ^{171}Er
125	^{172}Hf, ^{175}Ta, ^{175}Ta
126	^{100}Pd
127	^{57}Ni, ^{101}Rh, ^{134m}Cs, ^{172}Er
128	^{177m}Lu

E(γ) (keV)	Parent Nuclides
129	^{77}Kr, ^{105}Ru, ^{129}Ba, ^{191}Os, ^{191}Pt, ^{195m}Pt
130	^{133m}Ce, ^{169}Yb, ^{182}Os, ^{197m}Hg
131	^{224}Ac, ^{234}Pa
132	^{90}Nb, ^{241}Cm
133	^{131}Ba, ^{144}Ce, ^{181}Hf, ^{197m}Hg, ^{197}Tl, ^{245}Cm
134	^{76}Kr, ^{173}Hf
135	^{116m}Sb, ^{190n}Ir, ^{201}Tl
136	^{57}Co, ^{75}Se, ^{181}Hf
137	^{186}Re, ^{186}Ir, ^{186}Ir, ^{186m}Ir, ^{204}Po
138	^{193}Os
139	^{147}Tb, ^{173}Hf, ^{184}Hf, ^{252}Es
140	^{99m}Tc, ^{188}Pt, ^{250}Es
141	^{75}Br, ^{90}Nb, ^{154n}Tb, ^{189}Pt
142	^{71m}Zn, ^{200}Pb
143	^{182m}Hf
144	^{72}Zn, ^{200}Tl, ^{223}Ra
145	^{127}Xe, ^{141}Ce
146	^{77}Kr, ^{179n}Hf, ^{182m}Hf, ^{239}Cm
147	^{153}Dy, ^{177m}Lu, ^{196n}Au, ^{200}Pb
148	^{103}Ag, ^{122}Xe, ^{123}Xe, ^{155}Tb
149	^{149}Gd
150	^{177}Yb, ^{232}Pa
151	^{85m}Kr, ^{85m}Sr
152	^{182}Ta, ^{197}Tl, ^{234}Pa, ^{240}Np
153	^{119m}Te, ^{136}Cs, ^{151}Gd, ^{177m}Lu, ^{244}Am
154	^{146}Gd, ^{223}Ra
155	^{132}Ce, ^{149}Nd, ^{188}Re, ^{188}Ir
156	^{117m}Sn, ^{182}Hf
157	^{192}Hg
158	^{56}Ni, ^{117m}In, ^{117m}Sn, ^{117}Sb, ^{185}Ir, ^{199}Au, ^{199}Tl, ^{226}Ac
159	^{47}Sc, ^{123m}Te
160	^{173}Ta, ^{236}Np
161	^{155}Tb, ^{183}Ta, ^{184m}Re
162	^{90}Mo, ^{140}Ba, ^{173}Hf, ^{183}Ta, ^{183}Re
163	^{136}Cs, ^{155}Tb

E(γ) (keV)	Parent Nuclides
164	^{149}Tb, ^{170}Hf, ^{229}Ac
165	^{88}Kr, ^{139}Ba, ^{139}Ce, ^{156}Sm, ^{241}Cm
167	^{151}Pm, ^{181}Os, ^{183}Os, ^{201}Tl
168	^{52}Fe, ^{196n}Au, ^{202}Bi, ^{211}Rn
169	^{179n}Hf
170	^{153}Tb
171	^{111}In, ^{173}Lu, ^{177m}Lu, ^{182m}Hf
172	^{111m}Pd, ^{127}Xe, ^{173}Ta, ^{195m}Ir, ^{191}Pt
173	^{198}Pb
174	^{71}As, ^{151}Gd
175	^{48}Sc, ^{80}Sr, ^{99}Rh, ^{245}Cm
176	^{125}Sb, ^{136}Cs
177	^{151}Pm, ^{169}Yb, ^{208}At, ^{251}Cf
178	^{123}Xe
179	^{246}Pu, ^{257}Fm
180	^{129}Sb, ^{151}Tb, ^{155}Tb, ^{173}Ta, ^{182}Os, ^{198m}Au
181	^{99}Mo, ^{158}Tb, ^{172}Tm, ^{172}Lu, ^{184}Hf, ^{200m}Au
182	^{66}Ge, ^{132}Ce
183	^{82m}Rb, ^{206}Bi
184	^{67}Cu, ^{67}Ga, ^{155}Dy, ^{162m}Ho, ^{166m}Ho, ^{166}Tm, ^{168}Tm
185	^{226}Ac
186	^{190m}Re, ^{190}Ir, ^{190n}Ir, ^{187}Pt, ^{192}Hg, ^{226}Ra
187	^{149}Tb, ^{188}Pt
188	^{125}Xe, ^{196n}Au, ^{239}Cm
190	^{66}Ge, ^{81}Rb, ^{114m}In, ^{132}Ce
191	^{72}Zn, ^{169}Lu, ^{197}Pt
192	^{59}Fe, ^{179n}Hf
193	^{229}Th
195	^{188}Pt, ^{209}At
196	^{88}Kr, ^{129m}Xe
197	^{147}Eu, ^{160}Tb, ^{169}Yb
198	^{101}Rh, ^{168}Tm
199	^{156}Tb
200	^{131m}Te
201	^{176}Lu, ^{176}Ta, ^{187}Pt

E(γ) (keV)	Parent Nuclides
202	^{127}Xe, ^{230}Ra
203	^{90}Mo, ^{109}In, ^{172}Lu
204	^{95m}Nb, ^{95m}Tc, ^{156}Sm, ^{177m}Lu, ^{198m}Au
205	^{192}Ir, ^{208}At, ^{241}Cm
206	^{135}Ce, ^{174}Ta
207	^{167}Ho, ^{167}Tm, ^{175}Ta
208	^{67}Ga, ^{177}Lu, ^{177m}Lu, ^{170}Hf, ^{183}Re, ^{199}Au, ^{199}Tl
209	^{228}Ac, ^{239}Np, ^{239}Am, ^{243}Cm
210	^{229}Th
211	^{77}Ge, ^{149}Nd, ^{161}Er, ^{195}Ir
212	^{121m}Te, ^{153}Tb, ^{205}Po
213	^{153}Dy, ^{178n}Hf
214	^{129}Ba, ^{179}Lu, ^{198m}Au
215	^{77}Ge, ^{97}Ru, ^{160}Tb, ^{180m}Hf, ^{184}Ta, ^{224}Ac
216	^{131}Ba, ^{132}Ce, ^{178n}Hf, ^{184m}Re, ^{189}Re
217	^{79}Kr, ^{126}Ba
218	^{165}Tm, ^{177m}Lu, ^{193}Hg
219	^{189}Re
220	^{129}Ba
221	^{82}Br
222	^{182}Ta, ^{196m}Tl
223	^{246}Pu
224	^{182m}Hf
225	^{154}Tb, ^{154n}Tb
226	^{155}Dy, ^{198m}Tl, ^{239}Am
227	^{234}Pa, ^{251}Cf
228	^{132}Te, ^{177m}Lu, ^{239}Np, ^{239}Am, ^{243}Cm
229	^{147}Gd, ^{182}Ta, ^{182}Re
230	^{226}Ac
231	^{85m}Sr, ^{143}Ce
233	^{133m}Xe, ^{126}Ba
234	^{223}Fr
235	^{80}Sr, ^{95m}Nb, ^{200}Pb, ^{227}Th
236	^{179n}Hf, ^{183}Os
237	^{167}Ho

E(γ) (keV)	Parent Nuclides
238	^{77}Br, ^{181}Os, ^{212}Pb
239	^{131}Ba, ^{163}Tm, ^{209}At
240	^{131m}Te, ^{149}Nd, ^{151}Pm, ^{202}Bi, ^{224}Ra
241	^{92}Sr, ^{96}Nb, ^{126}Ba, ^{163}Tm, ^{214}Pb, ^{257}Fm
242	^{86}Zr, ^{165}Tm, ^{181}Os, ^{195}Tl
243	^{62}Zn, ^{103}Ag, ^{125}Xe, ^{151}Gd, ^{189}Pt
244	^{156}Sm, ^{152}Eu, ^{153}Dy, ^{183}Ta
245	^{111}In, ^{189}Re, ^{189}Ir, ^{210}At
246	^{183}Ta
247	^{154}Eu, ^{154}Tb, ^{154}Tb, ^{154m}Tb, ^{154n}Tb, ^{187}Pt, ^{199}Tl
248	^{158}Er
249	^{77}Br, ^{135}Xe, ^{131}Ba, ^{153}Tb
250	^{211}Rn
251	^{132}Ce, ^{151}Tb
252	^{76}Kr, ^{127}Sb, ^{184}Ta, ^{184}Re, ^{184m}Re, ^{245}Am, ^{245}Bk, ^{249}Cf
253	^{118m}Sb, ^{226}Ac
254	^{137m}Ce, ^{153}Dy, ^{185}Ir
255	^{113}Sn, ^{200m}Au
256	^{152}Dy, ^{227}Th
257	^{90}Mo, ^{126}Ba, ^{178n}Hf, ^{200}Pb
258	^{193}Hg
259	^{198m}Tl, ^{198}Pb
261	^{79}Kr, ^{195m}Au, ^{195m}Hg, ^{205}Po
262	^{105}Ru, ^{155}Tb
263	^{93m}Mo, ^{182}Os, ^{184}Ir
264	^{75}Ge, ^{77}Ge, ^{75}Se, ^{182}Ta, ^{203}Bi
265	^{135}Ce, ^{247}Bk
266	^{103}Ag, ^{175}Ta
267	^{149}Nd
268	^{135m}Ba, ^{156}Sm, ^{177m}Lu, ^{179n}Hf, ^{200}Pb
269	^{56}Ni, ^{101}Pd, ^{223}Ra
270	^{76}Kr, ^{119m}Te, ^{149}Nd, ^{182}Hf, ^{204}Po, ^{228}Ac
271	^{44m}Sc, ^{76}Kr, ^{152}Tb, ^{215}Bi, ^{219}Rn, ^{253}Fm
272	^{66}Ge, ^{149}Gd, ^{173}Lu
273	^{117}Cd, ^{136}Cs, ^{128}Ba

E(γ) (keV)	Parent Nuclides
274	^{153}Dy, ^{153}Dy, ^{192}Hg
275	^{133m}Ba, ^{151}Pm
276	^{77}Kr, ^{133}Ba, ^{258}Md
277	^{78}Ge, ^{149}Eu, ^{208}Tl, ^{239}Np, ^{239}Am, ^{243}Cm
278	^{133}La, ^{247}Cm
279	^{75}Se, ^{197m}Pt, ^{197m}Hg, ^{203}Hg, ^{195}Tl, ^{203}Pb
280	^{105}Ag, ^{166m}Ho, ^{237}Am
281	^{77}Br, ^{126}Ba, ^{177m}Lu
282	^{61}Cu, ^{162m}Ho, ^{175}Yb, ^{198m}Tl
284	^{199}Tl
285	^{149}Pm, ^{187}Pt, ^{196n}Au
286	^{75}Br, ^{206}Po
287	^{127}Cs, ^{151}Tb
288	^{148m}Pm
289	^{204}Bi
290	^{95}Ru, ^{127}Sb, ^{198}Pb
291	^{156}Sm, ^{183}Re
292	^{75}Br
293	^{78}Ge, ^{143}Ce, ^{194}Ir, ^{194}Au, ^{215}Bi
294	^{190}Ir
295	^{171}Er, ^{192}Ir, ^{192}Au, ^{214}Pb
296	^{101}Pd, ^{126}Sb, ^{165}Tm, ^{173}Hf, ^{186}Ir, ^{186}Ir, ^{186m}Ir, ^{210}Tl, ^{258}Md
297	^{73}Ga, ^{77}Br, ^{165}Tm
298	^{149}Gd, ^{160}Tb
299	^{163}Tm, ^{227}Th
300	^{67}Ga, ^{135}Ce, ^{189}Pt, ^{195}Tl, ^{212}Pb, ^{207}At, ^{231}Pa, ^{233}Pa
301	^{95}Ru, ^{196m}Tl
302	^{133}Ba, ^{138m}Pr, ^{231}Pa
303	^{132}Ce, ^{250}Es
304	^{85m}Kr, ^{140}Ba, ^{187}Pt
306	^{79}Kr, ^{101m}Rh, ^{105}Rh, ^{176}Lu, ^{173}Hf, ^{192}Hg
307	^{169}Yb
308	^{48}Cr, ^{171}Er, ^{192}Ir, ^{192}Au, ^{197}Tl, ^{245}Pu
311	^{77}Kr, ^{173}Hf, ^{206}Po, ^{233}Pa
313	^{183}Ta

E(γ) (keV)	Parent Nuclides
314	^{96}Tc, ^{128}Sb, ^{128}Sb, ^{161}Er
315	^{76}Kr, ^{117m}In, ^{179n}Hf
316	^{105}Ru, ^{192}Ir, ^{192}Au, ^{196n}Au
317	^{189}Pt, ^{204}Po
318	^{129}Cs, ^{157}Eu, ^{184}Ta, ^{184m}Re
319	^{105}Rh, ^{105}Ag, ^{177m}Lu, ^{195m}Ir
320	^{51}Cr
321	^{167}Ho
322	^{99}Rh
323	^{90}Mo, ^{223}Ra
324	^{97}Ru
325	^{73}Ga, ^{101}Rh, ^{138}Nd, ^{178n}Hf, ^{257}Md
326	^{71}As, ^{149}Nd, ^{157}Dy
327	^{149}Eu, ^{177m}Lu, ^{245}Pu
328	^{126}Ba, ^{140}La, ^{194}Ir, ^{194m}Ir, ^{194}Au, ^{228}Ac
329	^{132}Ce, ^{227}Th
330	^{123}Xe
331	^{105}Ag, ^{201}Pb
332	^{180m}Hf, ^{200m}Au
333	^{150}Pm, ^{150}Eu, ^{150m}Eu, ^{196}Au, ^{198m}Au, ^{249}Cf
334	^{131m}Te, ^{239}Np
336	^{95}Ru, ^{115}Cd, ^{115m}In
338	^{66}Ge, ^{194m}Ir, ^{206}Po, ^{223}Ra, ^{228}Ac
339	^{182m}Hf
340	^{99m}Rh, ^{136}Cs, ^{151}Pm, ^{233}Pa
342	^{111}Ag
343	^{175}Hf, ^{206}Bi
344	^{105}Ag, ^{117}Cd, ^{151}Pm, ^{152}Eu, ^{152m}Eu, ^{152}Tb, ^{182m}Hf, ^{184}Hf
345	^{181}Hf, ^{207}Po
346	^{133m}Ce, ^{149}Gd, ^{154}Tb, ^{154n}Tb, ^{167}Ho, ^{165}Tm, ^{197m}Pt, ^{202}Bi
347	^{109}In, ^{147}Tb
348	^{175}Ta
349	^{250}Es
350	^{122}Xe, ^{143}Ce
351	^{191}Pt, ^{214}Pb, ^{211}Bi

E(γ) (keV)	Parent Nuclides
352	^{149}Tb
353	^{99}Rh, ^{183}Ta, ^{199}Pb
354	^{138m}Pr
355	^{76}Kr, ^{97}Zr, ^{196m}Ir, ^{196}Au
356	^{133}Ba, ^{156}Tb
357	^{238}Am
359	^{195m}Ir, ^{191}Pt
360	^{181}Re
361	^{73}Se, ^{190m}Re, ^{190}Ir, ^{190n}Ir, ^{201}Pb
362	^{88}Kr, ^{179n}Hf
363	^{159}Gd
364	^{195m}Ir
365	^{181}Re, ^{198}Pb
366	^{65}Ni, ^{199}Pb
367	^{77}Ge, ^{177m}Lu, ^{200m}Au, ^{200}Tl, ^{258}Md
370	^{157}Eu, ^{147}Gd
371	^{129}Cs, ^{190m}Re, ^{190}Ir, ^{257}Md
372	^{43}Sc
373	^{61}Cu, ^{131}Ba
374	^{127}Xe, ^{204m}Pb, ^{204}Bi
375	^{249}Es
376	^{245}Pu
377	^{75}Br
378	^{80}Sr, ^{177m}Lu
379	^{249}Es
380	^{245}Bk
381	^{66}Ge, ^{83}Sr, ^{183}Os, ^{188}Pt, ^{193}Hg
382	^{198}Pb
383	^{133}Ba, ^{172}Er, ^{250}Es
384	^{184}Ta, ^{184m}Re
386	^{71m}Zn, ^{167}Ho, ^{158}Er
387	^{195m}Hg, ^{232}Pa
388	^{87m}Sr, ^{149}Tb, ^{249}Cf
389	^{71m}Zn, ^{202m}Pb
390	^{138m}Pr, ^{184}Ir, ^{194m}Ir

E(γ) (keV)	Parent Nuclides
391	^{111m}Pd, ^{113m}In, ^{113}Sn
392	^{88}Zr, ^{105}Ag
393	^{67}Ga, ^{105}Ru, ^{196m}Ir
394	^{62}Zn
395	^{151}Tb
396	^{147}Gd, ^{175}Yb
397	^{79}Kr, ^{183}Hf, ^{190m}Re, ^{190}Ir, ^{198}Pb
398	^{173}Tm
400	^{28}Mg, ^{75}Se
401	^{203}Pb, ^{219}Rn
402	^{87}Kr, ^{247}Cm
403	^{167}Ho
404	^{211}Pb
405	^{201}Pb, ^{207}Po
406	^{76}Kr, ^{106m}Ag, ^{150}Pm, ^{150m}Eu
407	^{116m}Sb, ^{172}Er, ^{190m}Re, ^{190}Ir
409	^{157}Eu, ^{179n}Hf, ^{191}Pt
410	^{157}Eu, ^{166m}Ho
411	^{127}Cs, ^{129}Cs, ^{152}Eu, ^{152}Tb, ^{198}Au, ^{198}Tl, ^{198m}Tl
412	^{127}Sb
413	^{105}Ru, ^{177m}Lu
414	^{80}Sr, ^{126}Sb, ^{148m}Pm, ^{148}Eu, ^{148}Eu, ^{184}Ta
416	^{77}Ge
418	^{83}Sr, ^{102m}Rh, ^{177m}Lu
420	^{102m}Rh, ^{196m}Ir
422	^{156}Tb, ^{202m}Pb, ^{202}Bi
423	^{140}Ba, ^{149}Nd, ^{188}Pt
425	^{196}Tl, ^{197}Tl
426	^{109}In, ^{154}Tb, ^{154n}Tb, ^{178n}Hf, ^{196}Au, ^{196m}Tl
427	^{75}Br, ^{125}Sb
429	^{106m}Rh, ^{106m}Ag
430	^{92}Sr, ^{146}Eu, ^{241}Cm
431	^{75}Br
432	^{140}La, ^{133m}Ce, ^{195m}Ir
433	^{108m}Ag, ^{197}Tl

E(γ) (keV)	Parent Nuclides
434	^{117}Cd, ^{186}Ir
436	^{116m}Sb, ^{175}Ta
438	^{69m}Zn, ^{127}Sn, ^{237}Am
439	^{150}Eu, ^{202}Tl
441	^{198m}Tl
442	^{99}Rh, ^{211}Rn
443	^{105}Ag, ^{152}Eu, ^{151}Tb, ^{180m}Hf, ^{230}Pa
445	^{90}Mo, ^{127}Sb, ^{151}Pm
446	^{81}Rb, ^{100}Rh, ^{172}Er
447	^{168}Tm, ^{196m}Ir, ^{258}Md
448	^{240}Np
449	^{94}Tc
450	^{106m}Rh, ^{106m}Ag, ^{200}Pb
451	^{132}Ce
452	^{76}Kr
453	^{125}Xe, ^{146}Pm, ^{179n}Hf, ^{232}Pa
454	^{178n}Hf, ^{230}Pa
455	^{182m}Hf, ^{199}Tl
456	^{81}Rb, ^{191}Pt
459	^{129}Te, ^{183}Hf, ^{202m}Pb
460	^{96}Nb, ^{167}Ho, ^{165}Tm, ^{193}Os
461	^{110}In, ^{173}Tm
462	^{127}Cs
463	^{125}Sb, ^{228}Ac, ^{228}Pa
464	^{132}La, ^{149}Tb
467	^{207}At
468	^{102}Rh, ^{192}Ir
469	^{105}Ru, ^{230}Ra
470	^{66}Ge
471	^{163}Tm, ^{241}Cm
472	^{232}Pa
473	^{127}Sb, ^{237}Am
474	^{157}Eu
475	^{102}Rh, ^{102m}Rh
476	^{144}Pm

E(γ) (keV)	Parent Nuclides
477	^{7}Be, ^{55}Co, ^{133m}Ce
478	^{188}Ir, ^{230}Ra
479	^{151}Tb
480	^{56}Ni, ^{96}Nb
481	^{170}Hf, ^{195m}Ir
482	^{181}Hf, ^{194m}Ir
484	^{183m}Os, ^{192}Ir
486	^{131}Ba
487	^{71m}Zn, ^{140}La
489	^{47}Ca, ^{126}Ba, ^{198m}Tl
490	^{127}Sn, ^{143}Ce, ^{202m}Pb
491	^{245}Pu
492	^{115}Cd
493	^{184}Ir
495	^{178n}Hf
496	^{131}Ba, ^{150}Tb
497	^{103}Ru, ^{200m}Au, ^{206}Bi
499	^{71}As, ^{105}Ru
500	^{180m}Hf
501	^{148m}Pm, ^{170}Hf
502	^{190n}Ir
505	^{150}Eu, ^{196m}Tl
506	^{182m}Hf
507	^{62}Zn, ^{97}Zr, ^{89m}Nb, ^{121}Te
508	^{230}Pa
510	^{81}Rb, ^{133m}Ce, ^{182}Os, ^{208}Tl
511	^{71m}Zn, ^{106m}Rh, ^{106m}Ag, ^{150}Tb, ^{205}Po, ^{206}Po
514	^{85}Sr
515	^{132}La, ^{232}Pa
516	^{149}Gd, ^{206}Bi
517	^{215}Bi, ^{208}At
518	^{135}Ce, ^{154m}Tb, ^{190m}Re, ^{190}Ir, ^{230}Pa
519	^{198m}Tl
520	^{77}Br, ^{83}Rb
521	^{196m}Ir

E(γ) (keV)	Parent Nuclides
522	^{206}Po
526	^{128}Sb
527	^{115}Cd
528	^{99}Rh
529	^{83}Rb, ^{166m}Ho
531	^{103}Ag, ^{147}Nd
532	^{94}Tc
534	^{149}Gd, ^{156}Tb, ^{204}Po
536	^{66}Ge, ^{184}Ta, ^{184m}Re
537	^{81}Rb, ^{140}Ba, ^{206}Bi
538	^{191}Pt
539	^{100}Rh, ^{184}Ir
540	^{132}La, ^{149}Nd, ^{154}Tb, ^{154m}Tb, ^{170}Hf
542	^{116m}Sb, ^{145}Eu
543	^{127}Sb
544	^{129}Sb, ^{189}Pt
545	^{78}As, ^{101m}Rh, ^{209}At
547	^{138m}Pr
548	^{62}Zn, ^{129}Cs
549	^{205}Bi
550	^{148}Pm, ^{148m}Pm, ^{148}Eu
551	^{209}At
552	^{83}Rb
553	^{80}Sr, ^{148}Eu
554	^{82}Br, ^{82m}Rb, ^{129}Ba, ^{147}Tb, ^{240}Np
555	^{104}Ag
557	^{77}Ge, ^{133}Ce, ^{190m}Re, ^{190}Ir
558	^{114m}In, ^{195}Tl
559	^{76}As, ^{147}Gd
560	^{195m}Hg, ^{245}Pu
561	^{92}Nb, ^{238}Am
562	^{194m}Ir, ^{194m}Ir
563	^{134}Cs, ^{195}Tl
564	^{117m}Cd, ^{122}Sb
565	^{101}Pd

E(γ) (keV)	Parent Nuclides
566	^{240}Np
567	^{132}La
568	^{96}Nb, ^{189}Pt
569	^{134}Cs, ^{150}Tb, ^{190m}Re, ^{190}Ir, ^{202}Bi, ^{207}Bi, ^{229}Ac, ^{234}Pa
570	^{166m}Ho, ^{205}Bi
571	^{148}Eu
572	^{135}Ce, ^{170}Hf
573	^{126}Sb, ^{121}Te
574	^{69}Ge, ^{178n}Hf
575	^{111m}Pd, ^{198}Pb
577	^{135}Ce, ^{197}Tl
578	^{77}Br, ^{202}Bi
579	^{200m}Au, ^{200}Tl, ^{205}Bi
580	^{111m}Pd, ^{193}Hg
581	^{110}In, ^{232}Pa
582	^{95m}Tc, ^{192}Au
583	^{208}Tl
584	^{110}In, ^{150}Eu, ^{201}Pb, ^{254m}Es
585	^{195}Hg
586	^{152}Tb
587	^{127}Cs, ^{151}Tb, ^{198m}Tl
588	^{89m}Nb, ^{100}Rh, ^{192}Ir, ^{196m}Tl, ^{207}At
589	^{80}Sr
590	^{101}Pd
591	^{154}Eu
592	^{161}Er
593	^{126}Sb
595	^{71m}Zn, ^{74}As
596	^{62}Zn
597	^{240}Np
599	^{148m}Pm, ^{205}Po
600	^{72}Ga, ^{125}Sb, ^{194m}Ir, ^{240}Np
601	^{147}Eu
602	^{124}Sb
603	^{127}Sb, ^{182m}Hf

E(γ) (keV)	Parent Nuclides
604	^{134}Cs, ^{192}Ir
605	^{190m}Re, ^{190}Ir, ^{238}Am
606	^{79}Kr, ^{112}Ag, ^{125}Sb, ^{135}Ce
607	^{189}Pt
608	^{135}Xe
609	^{214}Bi
610	^{103}Ru, ^{172}Er, ^{196}Tl
611	^{148m}Pm, ^{148}Eu
612	^{86}Zr, ^{192}Ir, ^{192}Au
613	^{78}As, ^{109}In
614	^{108m}Ag
616	^{106m}Rh, ^{106m}Ag, ^{151}Tb, ^{190n}Ir
617	^{99m}Rh, ^{112}Ag
618	^{99}Rh, ^{144}Pm
619	^{82}Br, ^{82m}Rb, ^{157}Eu
620	^{71m}Zn, ^{170}Hf
623	^{109}In
626	^{95}Ru
628	^{102}Rh, ^{102m}Rh, ^{128}Sb, ^{116}Te
629	^{72}Ga, ^{72}As, ^{148m}Pm, ^{148}Eu, ^{187}Pt, ^{201}Bi
630	^{186}Ir, ^{186m}Ir, ^{245}Pu
631	^{77}Ge, ^{102m}Rh, ^{168}Tm
632	^{111m}Pd
633	^{146}Eu, ^{188}Ir
634	^{74}As, ^{146}Eu, ^{188}Ir, ^{256}Md
635	^{125}Sb, ^{196}Tl, ^{196m}Tl
636	^{128}Sb, ^{198}Tl, ^{198m}Tl
638	^{150}Tb
639	^{181}Re
641	^{110}In, ^{142}La
644	^{105}Ag, ^{119}Te, ^{256}Md
645	^{124}Sb, ^{194}Au
646	^{156}Eu, ^{185}Os
647	^{196m}Ir
648	^{207}At, ^{254m}Es

E(γ) (keV)	Parent Nuclides
649	^{154m}Tb, ^{154n}Tb
650	^{105}Ag, ^{109}In, ^{150}Tb
652	^{91}Sr, ^{91}Sr, ^{98}Tc, ^{149}Tb
653	^{145}Eu
654	^{128}Sb, ^{129}Sb, ^{149}Nd
656	^{61}Cu
657	^{76}As, ^{97}Nb, ^{110m}Ag, ^{110}In, ^{110m}In, ^{202m}Pb, ^{202}Bi
658	^{207}At
660	^{208}At
661	^{137}Cs, ^{181}Re, ^{200}Tl
663	^{132}La
664	^{143}Ce, ^{155}Dy
665	^{146}Eu
666	^{126}Sb
667	^{132}Cs, ^{171}Lu
670	^{204}Bi
673	^{190m}Re
674	^{211}Rn
675	^{198}Tl, ^{207}At
676	^{105}Ru, ^{154m}Tb
677	^{110m}Ag, ^{110}In, ^{147}Eu, ^{256}Md
678	^{211}Rn
680	^{204}Po
681	^{126}Ba
682	^{129}Sb, ^{256}Md
684	^{93m}Mo, ^{195m}Ir
685	^{127}Sb
686	^{208}At
687	^{110m}Ag, ^{194m}Ir
688	^{254m}Es
689	^{133m}Ce, ^{171}Lu
691	^{166}Tm
692	^{122}Sb, ^{154m}Tb, ^{201}Pb, ^{256}Md
693	^{196m}Ir, ^{254m}Es
694	^{78}As, ^{111m}Pd, ^{112}Ag, ^{147}Tb

E(γ) (keV)	Parent Nuclides
695	^{126}Sb, ^{129m}Te, ^{196m}Tl
696	^{144}Pm
697	^{102m}Rh, ^{126}Sb, ^{172}Lu
698	^{82}Br, ^{82m}Rb, ^{127}Sb
699	^{119}Te
702	^{94}Nb, ^{94}Tc, ^{146}Eu
703	^{146}Eu, ^{205}Bi
705	^{166}Tm
706	^{110m}Ag
707	^{110}In
708	^{139m}Nd
709	^{187}Pt
710	^{176}Ta
711	^{166m}Ho
712	^{150}Pm, ^{186m}Ir
713	^{124}Sb
714	^{77}Ge
717	^{106m}Rh, ^{106m}Ag, ^{151}Pm, ^{185}Os
719	^{96}Nb, ^{117}Te
720	^{126}Sb, ^{168}Tm, ^{199}Pb
721	^{143}Ce, ^{189}Pt, ^{207}At
722	^{108m}Ag, ^{124}Sb
723	^{154}Eu, ^{156}Eu, ^{196m}Tl
724	^{95}Zr, ^{105}Ru
725	^{114m}In, ^{148m}Pm, ^{148}Eu
727	^{196m}Ir, ^{212}Bi
728	^{230}Pa
731	^{151}Tb
733	^{234}Pa
735	^{146}Pm
737	^{150}Eu
738	^{139m}Nd
739	^{73}Ga, ^{99}Mo, ^{171}Lu
740	^{104}Ag
741	^{143}Pm, ^{168}Tm

E(γ) (keV)	Parent Nuclides
742	^{103}Ag, ^{207}Po, ^{234}Np
743	^{97}Zr, ^{128}Sb, ^{128}Sb, ^{244}Am
744	^{52}Mn
745	^{98}Tc
747	^{146}Pm, ^{146}Eu
748	^{106m}Rh, ^{106m}Ag, ^{117m}Cd, ^{150}Eu, ^{149}Gd
749	^{56}Ni, ^{91}Sr
751	^{140}La, ^{150}Eu, ^{181}Os
752	^{166m}Ho
753	^{71m}Zn, ^{128}Sb
754	^{128}Sb
756	^{95}Zr, ^{154}Eu
759	^{200m}Au
761	^{129}Sb, ^{199}Pb
762	^{83}Sr, ^{204}Po
763	^{110m}Ag
764	^{152}Tb
765	^{95}Nb, ^{95}Tc, ^{147}Gd
766	^{102m}Rh
767	^{104}Ag, ^{186}Ir, ^{186m}Ir, ^{201}Pb
768	^{214}Bi
769	^{89m}Nb
773	^{131m}Te, ^{186}Ir, ^{186}Ir, ^{186m}Ir
776	^{82}Br, ^{82m}Rb
777	^{99}Mo
778	^{96}Nb, ^{96}Tc, ^{152}Eu, ^{147}Gd, ^{152}Tb, ^{166}Tm
779	^{195}Hg
780	^{158}Tb, ^{171}Lu
781	^{209}At
782	^{131m}Te
783	^{127}Sb, ^{135}Ce, ^{183}Hf
784	^{133m}Ce
785	^{104}Ag, ^{166}Tm, ^{252}Es
786	^{95m}Tc, ^{202m}Pb, ^{201}Bi, ^{234}Np
787	^{181}Os

E(γ) (keV)	Parent Nuclides
788	^{138}La, ^{138m}Pr, ^{149}Gd
789	^{193}Hg
790	^{209}At
791	^{204}Bi
792	^{150}Tb, ^{184}Ta, ^{184}Re, ^{184m}Re
793	^{131m}Te
794	^{228}Ac
795	^{134}Cs
796	^{139m}Nd
798	^{147}Eu
799	^{182m}Hf, ^{210}Tl
801	^{134}Cs
802	^{139m}Nd
803	^{206}Bi
805	^{127}Sn, ^{181}Re
806	^{95}Ru, ^{165}Tm
807	^{47}Ca, ^{206}Po, ^{208}At
809	^{139m}Nd
810	^{58}Co, ^{96}Nb, ^{166m}Ho, ^{172}Lu, ^{250}Es
811	^{56}Ni, ^{156}Eu
812	^{96}Tc, ^{129}Sb
813	^{249}Es
814	^{207}At
815	^{140}La, ^{168}Tm
817	^{77}Br, ^{149}Tb
818	^{110m}Ag, ^{136}Cs, ^{201}Bi
819	^{187}Pt, ^{232}Pa
820	^{95m}Tc, ^{203}Bi
821	^{168}Tm
822	^{100}Rh, ^{125}Sn
823	^{127}Sn
824	^{106m}Ag, ^{127}Sn
825	^{106m}Rh, ^{203}Bi
826	^{161}Er, ^{201}Pb
827	^{82}Br, ^{82m}Rb, ^{139m}Nd, ^{181}Os, ^{193}Hg

E(γ) (keV)	Parent Nuclides
828	^{78}As, ^{135}Ce, ^{200}Tl, ^{250}Es
829	^{168}Tm, ^{188}Ir, ^{250}Es
830	^{166m}Ho
831	^{117}Cd, ^{150}Pm, ^{181}Os
832	^{211}Pb
833	^{66}Ga, ^{72}As
834	^{54}Mn, ^{72}Ga, ^{88}Kr
835	^{95m}Tc, ^{196m}Ir
836	^{205}Po
839	^{171}Lu
841	^{152m}Eu, ^{184}Ir
844	^{116m}Sb
845	^{87}Kr, ^{208}At
846	^{56}Mn, ^{56}Co
847	^{203}Bi
848	^{52}Mn
849	^{96}Nb, ^{94}Tc, ^{96}Tc, ^{205}Po
851	^{183}Os
852	^{131m}Te
853	^{149}Tb, ^{171}Lu
856	^{126}Sb, ^{147}Eu
857	^{104}Ag, ^{175}Ta, ^{197}Tl
859	^{127}Sn, ^{150}Pm
860	^{117m}Cd, ^{208}Tl, ^{210}Tl, ^{206}Po
861	^{149}Tb, ^{193}Hg
863	^{250}Es
865	^{198}Pb
866	^{211}Rn, ^{232}Pa
867	^{140}La, ^{152}Eu, ^{240}Np
869	^{148}Eu
871	^{69}Ge, ^{94}Nb, ^{94}Tc, ^{135}Ce
872	^{205}Po
873	^{154}Eu, ^{154m}Tb
874	^{185}Os
875	^{105}Ru

E(γ) (keV)	Parent Nuclides
876	^{150}Pm
879	^{160}Tb
880	^{117}Cd, ^{150}Tb, ^{185}Os, ^{234}Pa, ^{251}Fm
881	^{84}Rb, ^{206}Bi
883	^{204}Po, ^{234}Pa
884	^{110m}Ag, ^{110}In, ^{195}Tl
888	^{78}As, ^{240}Am
889	^{46}Sc, ^{169}Lu
893	^{145}Eu, ^{147}Gd
894	^{72}Ga, ^{142}La, ^{184}Re, ^{232}Pa
895	^{206}Bi, ^{240}Np
896	^{203}Bi, ^{208}At
897	^{244}Am
898	^{230}Pa
899	^{123}Xe, ^{132}La, ^{204m}Pb, ^{204}Bi
900	^{172}Lu
902	^{201}Bi
903	^{184}Ta, ^{184}Re, ^{184m}Re, ^{209}At
904	^{200m}Au
905	^{155}Dy
907	^{201}Pb, ^{207}At
908	^{237}Am
909	^{89}Zr
910	^{139m}Nd
911	^{204m}Pb, ^{204}Bi, ^{204}Bi, ^{207}Po, ^{228}Ac, ^{228}Pa
912	^{119m}Te, ^{172}Lu
914	^{129}Sb, ^{148}Pm
915	^{125}Sn, ^{148m}Pm
916	^{94}Tc
917	^{61}Co
918	^{204}Bi, ^{230}Pa, ^{238}Am
919	^{140}La
920	^{184}Ta, ^{184m}Re
923	^{104}Ag, ^{117}Te, ^{238}Np
924	^{252}Es

E(γ) (keV)	Parent Nuclides
925	^{91}Sr, ^{104}Ag, ^{140}La, ^{234}Pa
926	^{234}Pa
927	^{202}Bi
929	^{147}Gd
931	^{55}Co
933	^{147}Eu
934	^{92}Nb, ^{92m}Nb, ^{214}Bi
935	^{52}Mn
936	^{99m}Rh, ^{201}Bi
937	^{110m}Ag, ^{110}In, ^{162m}Ho
938	^{149}Gd
941	^{28}Mg, ^{90}Mo, ^{104}Ag, ^{238}Am
942	^{119m}Te, ^{182m}Hf
944	^{158}Tb
945	^{201}Pb
946	^{211}Rn, ^{234}Pa
947	^{211}Rn
948	^{194}Au
951	^{230}Pa
953	^{92}Sr, ^{181}Re
954	^{202}Bi
955	^{147}Eu, ^{181}Os
960	^{169}Lu, ^{202m}Pb, ^{202}Bi
961	^{184}Ir
962	^{158}Tb, ^{160}Tb, ^{238}Am
963	^{152m}Eu
964	^{71m}Zn, ^{152}Eu, ^{196}Tl, ^{228}Ac
966	^{129}Sb, ^{160}Tb
968	^{228}Ac
969	^{232}Pa
972	^{116m}Sb
973	^{240}Np
974	^{152}Tb
976	^{119m}Te
979	^{127}Sn, ^{119m}Te

E(γ) (keV)	Parent Nuclides
980	^{206}Po
982	^{139m}Nd
983	^{48}Sc, ^{204}Bi
984	^{238}Np
985	^{170}Lu
987	^{186}Ir, ^{186m}Ir, ^{205}Bi, ^{240}Np, ^{240}Am
989	^{126}Sb, ^{208}At, ^{250}Bk, ^{250}Es
990	^{201}Bi
992	^{154n}Tb, ^{207}Po
993	^{126}Ba
996	^{117}Te, ^{154}Eu, ^{154m}Tb
997	^{110}In
999	^{155}Dy
1000	^{181}Re
1001	^{205}Po
1002	^{172}Lu
1003	^{170}Lu
1004	^{154}Eu, ^{154m}Tb, ^{154n}Tb
1007	^{82m}Rb, ^{103}Ag, ^{206}Po
1009	^{181}Re
1011	^{142}La, ^{194m}Ir
1013	^{148m}Pm
1014	^{201}Bi
1016	^{204}Po
1024	^{91}Sr
1025	^{238}Np
1027	^{208}At
1028	^{238}Np, ^{250}Bk
1029	^{117m}Cd
1030	^{129}Sb
1031	^{132}La, ^{250}Bk, ^{250}Es
1032	^{206}Po
1033	^{148}Eu, ^{203}Bi
1034	^{183m}Os
1037	^{48}Sc, ^{56}Co

E(γ) (keV)	Parent Nuclides
1038	^{138m}Pr
1039	^{66}Ga, ^{95m}Tc
1040	^{204}Po
1043	^{142}La, ^{205}Bi
1044	^{82}Br, ^{82m}Rb, ^{184}Ir
1045	^{106m}Ag
1046	^{102m}Rh, ^{106m}Rh
1048	^{119m}Te, ^{136}Cs
1049	^{150}Eu
1050	^{72}Ga, ^{95}Ru, ^{118m}Sb
1051	^{117}Cd
1054	^{170}Lu
1058	^{146}Eu
1060	^{181}Os
1063	^{207}Bi
1065	^{117m}Cd, ^{156}Eu, ^{156}Tb
1067	^{125}Sn
1069	^{147}Gd
1070	^{210}Tl
1072	^{116m}Sb
1073	^{95}Tc
1077	^{68}Ga, ^{86}Rb, ^{147}Eu
1079	^{156}Eu
1080	^{177}Yb, ^{193}Hg
1085	^{77}Ge, ^{152}Eu
1088	^{105}Ag
1089	^{125}Sn, ^{155}Dy
1090	^{117}Te, ^{155}Dy
1091	^{96}Nb, ^{118m}Sb
1093	^{123}Xe, ^{172}Tm, ^{172}Lu
1095	^{71}As, ^{127}Sn
1096	^{95}Ru
1098	^{206}Bi
1099	^{59}Fe
1100	^{195}Tl

E(γ) (keV)	Parent Nuclides
1101	^{183m}Os
1102	^{121m}Te
1103	^{102}Rh, ^{102m}Rh, ^{209}At
1104	^{194}Au, ^{215}Bi
1105	^{184}Ir
1106	^{69}Ge
1107	^{100}Rh, ^{158}Tb, ^{183m}Os
1108	^{201}Bi
1109	^{152}Tb
1110	^{210}Tl
1112	^{102m}Rh, ^{152}Eu
1114	^{127}Sn
1115	^{65}Ni, ^{65}Zn, ^{207}At
1118	^{193}Hg
1120	^{46}Sc, ^{214}Bi
1121	^{182}Ta, ^{182}Re, ^{182}Re
1125	^{131m}Te
1126	^{96}Tc, ^{211}Rn
1127	^{89}Nb, ^{106m}Rh
1129	^{26}Al, ^{90}Nb
1130	^{147}Gd
1135	^{199}Pb
1136	^{119m}Te
1138	^{170}Lu
1142	^{92}Sr
1147	^{97}Zr
1148	^{109}In, ^{207}Po
1152	^{147}Tb
1153	^{156}Eu
1154	^{156}Eu, ^{156}Tb
1155	^{103}Ag, ^{155}Dy
1157	^{44}Sc
1159	^{156}Tb, ^{176}Ta
1165	^{150}Pm
1170	^{209}At

E(γ) (keV)	Parent Nuclides
1173	^{60}Co
1175	^{149}Tb, ^{194}Au
1176	^{166}Tm
1177	^{160}Tb
1178	^{95}Ru
1181	^{210}At
1184	^{165}Tm, ^{169}Lu
1185	^{61}Cu
1189	^{182}Ta, ^{182}Re
1190	^{176}Ta
1193	^{150}Pm, ^{234}Np
1200	^{96}Nb, ^{198}Tl
1204	^{91m}Nb
1205	^{174}Ta, ^{200}Tl
1206	^{131m}Te
1208	^{173}Ta
1209	^{188}Ir
1210	^{210}Tl
1211	^{204}Bi
1212	^{48}Sc, ^{119m}Te
1216	^{76}As
1220	^{162m}Ho
1221	^{182}Ta, ^{182}Re, ^{182}Re
1222	^{156}Tb
1224	^{176}Ta
1225	^{170}Lu, ^{200}Tl
1227	^{87}Zr
1229	^{118m}Sb
1230	^{156}Eu
1231	^{182}Ta, ^{182}Re
1234	^{117m}Cd
1235	^{136}Cs
1237	^{234}Np
1238	^{56}Co, ^{214}Bi
1239	^{199}Pb, ^{205}Po

E(γ) (keV)	Parent Nuclides
1240	^{78}As
1241	^{177}Yb, ^{174}Lu
1242	^{156}Eu
1246	^{52}Mn
1261	^{99m}Rh
1265	^{163}Tm
1269	^{195}Tl
1271	^{90}Mo, ^{160}Tb
1273	^{103}Ag, ^{166}Tm, ^{200}Tl
1274	^{22}Na, ^{154}Eu
1276	^{193}Hg
1280	^{170}Lu
1289	^{101}Pd
1291	^{59}Fe
1293	^{41}Ar, ^{116m}Sb, ^{126}Ba
1297	^{47}Ca, ^{146}Eu
1299	^{152}Tb
1303	^{117}Cd
1308	^{78}As
1312	^{48}Sc, ^{160}Tb, ^{198}Tl, ^{256}Md
1316	^{55}Co, ^{210}Tl
1317	^{82}Br, ^{82m}Rb
1324	^{150}Pm
1325	^{201}Bi
1326	^{256}Md, ^{256}Md
1332	^{60}Co
1333	^{52}Mn
1336	^{69}Ge
1341	^{100}Rh, ^{104}Ag
1342	^{28}Mg
1343	^{150}Eu
1357	^{256}Md
1360	^{56}Co
1362	^{93}Tc, ^{100}Rh, ^{211}Rn
1363	^{195}Tl, ^{200}Tl

E(γ) (keV)	Parent Nuclides
1364	^{170}Lu
1365	^{134}Cs
1368	^{24}Na, ^{77}Ge, ^{124}Sb
1370	^{55}Co
1372	^{28}Mg
1373	^{78}As
1374	^{163}Tm, ^{256}Md
1377	^{57}Ni, ^{214}Bi
1382	^{199}Pb
1383	^{92}Sr
1384	^{110m}Ag
1387	^{112}Ag, ^{172}Tm
1391	^{234}Np
1397	^{163}Tm
1407	^{214}Bi
1408	^{55}Co, ^{152}Eu
1410	^{95}Ru
1411	^{197}Tl
1419	^{154}Tb, ^{154n}Tb
1420	^{198}Tl
1421	^{156}Tb
1422	^{192}Au
1432	^{117m}Cd
1434	^{52}Mn, ^{163}Tm
1435	^{138}La, ^{198}Tl, ^{234}Np
1436	^{210}At
1447	^{198}Tl
1449	^{169}Lu
1453	^{150}Tb
1459	^{95}Ru
1465	^{148}Pm, ^{172}Tm
1466	^{169}Lu
1468	^{194}Au
1470	^{183}Hf
1474	^{82}Br, ^{82m}Rb

E(γ) (keV)	Parent Nuclides
1477	^{93m}Mo, ^{93}Tc
1481	^{65}Ni
1483	^{210}At
1495	^{196}Tl
1500	^{133m}Ce
1502	^{199}Pb
1505	^{110m}Ag
1514	^{200}Tl
1518	^{150}Tb
1520	^{93}Tc
1526	^{104}Ag
1527	^{106m}Ag, ^{234}Np
1529	^{88}Kr, ^{106m}Rh, ^{172}Tm
1530	^{78}As
1533	^{146}Eu
1536	^{203}Bi
1545	^{142}La
1551	^{205}Po
1553	^{100}Rh, ^{196}Tl
1558	^{234}Np
1561	^{56}Ni
1570	^{234}Np
1575	^{142}Pr
1576	^{117}Cd
1577	^{238}Am
1584	^{176}Ta
1588	^{228}Ac
1589	^{28}Mg
1592	^{94}Tc
1596	^{72}Ga, ^{140}La
1599	^{210}At
1601	^{234}Np
1604	^{132}La
1608	^{172}Tm
1611	^{90}Nb

E(γ) (keV)	Parent Nuclides
1613	^{112}Ag
1617	^{186m}Ir
1621	^{196}Tl
1622	^{109}In
1627	^{89}Nb, ^{147}Tb
1650	^{201}Bi
1658	^{145}Eu, ^{199}Pb
1668	^{185}Ir
1679	^{203}Bi
1690	^{124}Sb
1696	^{176}Ta, ^{196}Tl
1715	^{188}Ir
1716	^{117}Te
1718	^{206}Bi
1723	^{117}Cd, ^{192}Au
1729	^{214}Bi
1732	^{185}Ir
1736	^{150}Pm
1738	^{129}Sb, ^{185}Ir
1740	^{87}Kr
1749	^{119}Te, ^{199}Pb
1754	^{186m}Ir
1757	^{57}Ni
1764	^{205}Bi, ^{214}Bi
1770	^{207}Bi
1771	^{56}Co
1775	^{205}Bi
1793	^{175}Ta
1808	^{26}Al
1810	^{56}Mn
1823	^{176}Ta
1828	^{185}Ir
1832	^{192}Au, ^{198}Tl
1833	^{89}Nb
1847	^{203}Bi

E(γ) (keV)	Parent Nuclides
1861	^{72}Ga, ^{205}Bi
1887	^{194}Au
1893	^{203}Bi
1901	^{142}La
1903	^{205}Bi
1909	^{132}La
1919	^{57}Ni
1921	^{192}Au
1924	^{194}Au
1929	^{100}Rh
1997	^{117m}Cd, ^{145}Eu
2003	^{127}Sn
2010	^{210}Tl
2011	^{87}Kr, ^{196}Tl
2015	^{56}Co
2029	^{88}Kr
2034	^{56}Co
2035	^{88}Kr
2040	^{198}Tl
2041	^{170}Lu
2043	^{194}Au
2052	^{166}Tm
2059	^{188}Ir
2060	^{139m}Nd
2063	^{184}Ir
2079	^{166}Tm
2089	^{119m}Te
2090	^{124}Sb
2096	^{117m}Cd, ^{188}Ir
2102	^{132}La
2106	^{112}Ag
2113	^{56}Mn
2126	^{170}Lu
2129	^{110m}In
2186	^{90}Nb

E(γ) (keV)	Parent Nuclides
2187	^{142}La
2189	^{66}Ga
2195	^{88}Kr
2201	^{72}Ga
2204	^{214}Bi
2212	^{196}Tl
2214	^{188}Ir
2231	^{88}Kr
2237	^{192}Au
2300	^{117}Te
2318	^{90}Nb
2322	^{117m}Cd
2360	^{210}Tl
2375	^{100}Rh
2392	^{88}Kr
2397	^{142}La
2430	^{210}Tl
2491	^{72}Ga
2507	^{72}Ga
2521	^{140}La
2542	^{142}La
2554	^{87}Kr
2558	^{87}Kr
2572	^{89}Nb
2598	^{56}Co
2614	^{208}Tl, ^{208}Bi
2680	^{147}Tb
2751	^{66}Ga
2754	^{24}Na
2832	^{176}Ta
2971	^{142}La
3092	^{89}Nb
3202	^{56}Co
3253	^{56}Co
3383	^{150}Tb

E(γ) (keV)	Parent Nuclides
4295	^{66}Ga

Alpha Decay Energy Table

E(α) (keV), I(α)≥20%	Parent Nuclides
3077	^{209}Bi
3947	^{232}Th
4012	^{232}Th
4589	^{244}Pu
4620	^{230}Th
4687	^{230}Th
4771	^{237}Np
4784	^{226}Ra
4788	^{237}Np
4845	^{229}Th
4858	^{242}Pu
4870	^{247}Cm
4883	^{209}Po
4902	^{242}Pu
4951	^{231}Pa
5013	^{231}Pa
5028	^{231}Pa
5123	^{240}Pu
5156	^{239}Pu
5168	^{240}Pu
5275	^{243}Am
5304	^{210}Po
5340	^{228}Th
5342	^{246}Cm
5361	^{245}Cm
5385	^{246}Cm
5423	^{228}Th
5456	^{238}Pu
5485	^{241}Am
5489	^{222}Rn
5499	^{238}Pu
5531	^{247}Bk
5606	^{223}Ra
5679	^{251}Cf
5685	^{224}Ra
5716	^{223}Ra
5720	^{236}Pu
5756	^{227}Th
5762	^{244}Cm
5767	^{236}Pu
5785	^{243}Cm
5804	^{244}Cm
5810	^{249}Cf
5830	^{225}Ac
5854	^{251}Cf
5869	^{211}At
5977	^{227}Th
6030	^{250}Cf
6038	^{227}Th
6050	^{212}Bi
6069	^{242}Cm
6112	^{242}Cm
6118	^{252}Cf
6258	^{248}Cf
6288	^{220}Rn
6428	^{254}Es
6519	^{257}Fm
6622	^{211}Bi
6632	^{252}Es
6633	^{253}Es

E(α) (keV), I(α)≥20%	**Parent Nuclides**
6708	^{246}Cf
6718	^{258}Md
6750	^{246}Cf
6763	^{258}Md
6778	^{216}Po
6819	^{219}Rn
7022	^{255}Fm
7039	^{252}Fm
7192	^{254}Fm
7386	^{215}Po
7450	^{211}Po
7686	^{214}Po

The following radioactive decay chains occur in nature:

The Thorium Series:
^{232}Th(α)^{228}Ra(β^-)^{228}Ac(β^-)^{228}Th(α)^{224}Ra(α)
^{220}Rn(α)^{216}Po(α) ^{212}Pb(β^-)^{212}Bi(β^-)^{212}Po(α)^{208}Pb,
^{212}Bi(α)^{208}Tl(β^-) ^{208}Pb
The Uranium Series:
^{238}U(α)^{234}Th(β^-)^{234}Pa(β^-)^{234}U(α) ^{230}Th(α)^{226}Ra(α)
^{222}Rn(α)^{218}Po(β^-)^{218}At(α)^{214}Bi(β^-)
^{214}Po(α)^{210}Pb(β^-),
^{218}Po(α)^{214}Pb(β^-)^{214}Bi(α)^{210}Tl(β^-)
^{210}Pb(β^-)^{210}Bi(α)^{206}Tl(β^-)^{206}Pb,
^{210}Pb(α)^{206}Hg(β^-)^{206}Tl(β^-)^{206}Pb,
^{210}Bi(β^-)^{210}Po(α)^{206}Pb
The Actinium Series:
^{235}U(α)^{231}Th(β^-)^{231}Pa(α)^{227}Ac(β^-)^{227}Th(α)^{223}Ra(α),
^{227}Ac(α)^{223}Fr(β^-)^{223}Ra(α)^{219}Rn(α),
^{223}Fr(α)^{219}At(β^-)^{219}Rn(α)^{215}Po(α),
^{219}At(α)^{215}Bi(β^-)^{215}Po(β^-)^{215}At(α)
^{211}Bi(β^-)^{211}Po(α)^{207}Pb,
^{215}Po(α)^{211}Pb(β^-)^{211}Bi(α)^{207}Tl(β^-) ^{207}Pb

Radioactive Nuclides in Nature

Nuclide			$T_{1/2}$	Decay Mode	Major γ rays
Z	**El**	**A**			
1	**H**	**3**	12.322 y	β^-	
6	**C**	**14**	5686 y	β^-	
19	**K**	**40**	1.248×10^{9} y	β^-, ε	1460.8
23	**V**	**50**	2.68×10^{17} y	ε, β^-	1553.8
37	**Rb**	**87**	4.967×10^{10} y	β^-	
48	**Cd**	**113**	8.04×10^{15} y	β^-	
49	**In**	**115**	4.41×10^{14} y	β^-	
57	**La**	**138**	1.028×10^{11} y	ε, β^-	
60	**Nd**	**144**	2.29×10^{15} y	α	
62	**Sm**	**147**	1.068×10^{11} y	α	
		148	6.8×10^{15} y	α	
64	**Gd**	**152**	1.08×10^{14} y	α	
71	**Lu**	**176**	3.714×10^{10} y	β^-	88.3,201.8,306.8
72	**Hf**	**174**	7.00×10^{16} y	α	
75	**Re**	**187**	4.12×10^{10} y	β^-	
76	**Os**	**186**	2.0×10^{15} y	α	
78	**Pt**	**190**	4.90×10^{11} y	α	
90	**Th**	**232**	1.407×10^{10} y	α	
92	**U**	**235**	7.040×10^{8} y	α, IT	143.8, 163.4, 185.7, 205.3
		238	4.463×10^{9} y	α, SF	

List of Elements - Alphabetical

Name	Symbol	Z
Actinium	Ac	89
Aluminum	Al	13
Americium	Am	95
Antimony	Sb	51
Argon	Ar	18
Arsenic	As	33
Astatine	At	85
Barium	Ba	56
Berkelium	Bk	97
Beryllium	Be	4
Bismuth	Bi	83
Bohrium	Bh	107
Boron	B	5
Bromine	Br	35
Cadmium	Cd	48
Calcium	Ca	20
Californium	Cf	98
Carbon	C	6
Cerium	Ce	58
Cesium	Cs	55
Chlorine	Cl	17
Chromium	Cr	24
Cobalt	Co	27
Copernicium	Cn	112
Copper	Cu	29
Curium	Cm	96
Darmstadtium	Ds	110
Dubnium	Db	105
Dysprosium	Dy	66
Einsteinium	Es	99
Erbium	Er	68
Europium	Eu	63
Fermium	Fm	100
Flerovium	Fl	114
Fluorine	F	9
Francium	Fr	87
Gadolinium	Gd	64
Gallium	Ga	31
Germanium	Ge	32
Gold	Au	79
Hafnium	Hf	72
Hassium	Hs	108
Helium	He	2
Holmium	Ho	67
Hydrogen	H	1
Indium	In	49
Iodine	I	53
Iridium	Ir	77
Iron	Fe	26
Krypton	Kr	36
Lanthanum	La	57
Lawrencium	Lr	103
Lead	Pb	82
Lithium	Li	3
Livermorium	Lv	116
Lutetium	Lu	71
Magnesium	Mg	12
Manganese	Mn	25
Meitnerium	Mt	109
Mendelevium	Md	101
Mercury	Hg	80
Molybdenum	Mo	42

Name	Symbol	Z
Moscovium	Mc	115
Neodymium	Nd	60
Neon	Ne	10
Neptunium	Np	93
Nickel	Ni	28
Nihonium	Nh	113
Niobium	Nb	41
Nitrogen	N	7
Nobelium	No	102
Oganesson	Og	118
Osmium	Os	76
Oxygen	O	8
Palladium	Pd	46
Phosphorus	P	15
Platinum	Pt	78
Plutonium	Pu	94
Polonium	Po	84
Potassium	K	19
Praseodymium	Pr	59
Promethium	Pm	61
Protactinium	Pa	91
Radium	Ra	88
Radon	Rn	86
Rhenium	Re	75
Rhodium	Rh	45
Roentgenium	Rg	111
Rubidium	Rb	37
Ruthenium	Ru	44
Rutherfordium	Rf	104
Samarium	Sm	62
Scandium	Sc	21
Seaborgium	Sg	106
Selenium	Se	34
Silicon	Si	14
Silver	Ag	47
Sodium	Na	11
Strontium	Sr	38
Sulfur	S	16
Tantalum	Ta	73
Technetium	Tc	43
Tellurium	Te	52
Tennessine	Ts	117
Terbium	Tb	65
Thallium	Tl	81
Thorium	Th	90
Thulium	Tm	69
Tin	Sn	50
Titanium	Ti	22
Tungsten	W	74
Uranium	U	92
Vanadium	V	23
Xenon	Xe	54
Ytterbium	Yb	70
Yttrium	Y	39
Zinc	Zn	30
Zirconium	Zr	40