Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays

	Eγ-keV	σ(Eγ)-barns	k_0	Eγ(σ(Eγ)) for intense gamma rays
^{56}Fe	14.411(14)	0.149(3)	0.00809(16)	7631.136(0.653), 7645.5450(0.549), 352.347(0.273)
^{71}Ga	16.43(3)	0.078(5)	0.00339(22)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{51}V	17.152(6)	0.260(20)	0.0155(12)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{93}Nb	17.810(7)	0.0579(14)	0.00189(5)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{115}In	22.796(7)	7(3)	0.18(8)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{55}Mn	26.560(20)	3.42(4)	0.1887(22)	*846.754(13.10)d, 1810.72(3.62)d,* 83.884(3.11)
^{127}I	27.3620(10)	0.43(4)	0.0103(10)	133.6110(1.42), *442.901(0.595)d,* 58.1100(0.28)
^{159}Tb	29.0170(20)	0.21(4)	0.0040(8)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{81}Br	29.1130(10)	0.1680(20)	0.00637(8)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{39}K	29.8300(10)	1.380(20)	0.1070(16)	770.3050(0.903), 1158.887(0.1600), 5380.018(0.146)
^{139}La	29.9640(10)	0.169(8)	0.00369(17)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{139}Ba	*29.9660(10)d*	*0.0381(11)*	*0.000485[0.1%]*	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{27}Al	30.6380(10)	0.0798(20)	0.00896(22)	*1778.92(0.232)d,* 7724.027(0.0493), 3033.896(0.0179)
^{159}Tb	32.652(3)	0.19(3)	0.0036(6)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{159}Tb	33.1590(10)	0.22(4)	0.0042(8)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{79}Br	*37.0520(20)d*	*0.428(12)*	*0.0162[7.4%]*	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{79}Br	37.054(3)	0.160(10)	0.0061(4)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{123}Sb	40.8040(10)	0.10(3)	0.0025(8)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{174}Yb	41.2180(20)	1.1(3)	0.019(5)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{159}Tb	41.8900(10)	0.64(10)	0.0122(19)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{238}U	*43.5330(10)d*	*0.110(3)*	*0.00140[53%]*	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{75}As	44.4250(10)	0.560(20)	0.0227(8)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{75}As	46.0980(10)	0.337(15)	0.0136(6)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{182}W	46.4840(10)	0.192(10)	0.00316(16)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{174}Yb	46.7510(20)	0.25(8)	0.0044(14)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{191}Ir	48.0570(10)	5.7(4)	0.090(6)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{151}Eu	48.31(17)	181(70)	3.6(14)	89.847(1430), *841.570(223)d,* 77.23(187)
^{133}Cs	48.790(20)	0.345(10)	0.00787(23)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{164}Dy	50.4310(20)	33.9(15)	0.63(3)	184.257(146), 538.609(69.2), 496.931(44.9)
^{159}Tb	50.8690(10)	0.60(15)	0.011(3)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{103}Rh	*51.50(3)d*	*5.2(3)*	*0.153[90%]*	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{103}Rh	51.50(3)	16.0(4)	0.471(12)	180.87(22.6), 97.14(19.5), 217.82(7.38)
^{45}Sc	52.0110(10)	0.87(3)	0.0586(20)	227.773(7.13), 147.011(6.08), *142.528(4.88)d*
^{127}I	52.385(3)	0.167(19)	0.0040(5)	133.6110(1.42), *442.901(0.595)d,* 27.3620(0.43)
^{182}W	52.5290(10)	0.128(11)	0.00211(18)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{159}Tb	54.1290(10)	0.60(15)	0.011(3)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{139}La	54.9440(10)	0.143(7)	0.00312(15)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{197}Au	55.1810(10)	2.90(12)	0.0446(18)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{127}I	58.1100(20)	0.28(4)	0.0067(10)	133.6110(1.42), *442.901(0.595)d,* 27.3620(0.43)
^{191}Ir	58.8440(10)	5.3(3)	0.084(5)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{185}Re	59.0100(20)	5.5(8)	0.090(13)	63.5820(8.0), *155.041(7.16)d, 137.157(5.29)d*
^{186}W	59.03(4)	0.208(7)	0.00343(12)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{79}Br	59.471(4)	0.202(5)	0.00766(19)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{159}Tb	59.6430(10)	0.48(6)	0.0092(11)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{85}Rb	59.75(6)	0.010(4)	0.00035(14)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{133}Cs	60.0300(10)	0.443(14)	0.0101(3)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{141}Pr	60.0630(20)	0.134(14)	0.0029(3)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{115}In	60.9160(10)	15.8(11)	0.42(3)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{121}Sb	61.4130(10)	0.75(18)	0.019(5)	*564.24(2.700)d,* 78.0910(0.48), 121.4970(0.40)
^{177}Hf	62.820(21)	5.26(16)	0.089(3)	213.439(29.3), *214.3410(16.3)d,* 93.182(13.3)
^{139}La	63.1790(10)	0.208(8)	0.00454(17)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{187}Re	63.5820(20)	8.0(14)	0.130(23)	*155.041(7.16)d,* 59.0100(5.5), *137.157(5.29)d*
^{159}Tb	63.6860(10)	1.46(16)	0.028(3)	75.0500(1.78), 64.1100(1.2), 41.8900(0.64)
^{159}Tb	64.1100(20)	1.2(3)	0.023(6)	75.0500(1.78), 63.6860(1.46), 41.8900(0.64)
^{141}Pr	64.5050(20)	0.137(6)	0.00295(13)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{191}Ir	66.822(8)	1.31(13)	0.0207(20)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{141}Pr	68.6110(20)	0.116(6)	0.00249(13)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{169}Tm	68.649	1.75(23)	0.031(4)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{121}Sb	71.4670(10)	0.095(22)	0.0024(6)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{175}Lu	71.5170(10)	3.96(22)	0.069(4)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{186}W	*72.002(4)d*	*1.32(3)*	*0.0218[1.4%]*	*685.73(3.24)d, 479.550(2.59)d, 134.247(1.050)d*
^{109}Ag	72.67(5)	0.9(15)	0.03(4)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{238}U	*74.6640(10)d*	*1.30000(14)*	*0.0165511[53%]*	*106.1230(0.723)d, 277.5990(0.382)d,* 133.7990(0.38)
^{187}Re	74.8630(20)	1.29(8)	0.0210(13)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{75}As	74.8720(10)	0.12(3)	0.0049(12)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{159}Tb	75.0500(10)	1.78(18)	0.034(3)	63.6860(1.46), 64.1100(1.2), 41.8900(0.64)
^{169}Tm	75.83	0.94(8)	0.0169(14)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{173}Yb	76.99(6)	0.40(4)	0.0070(7)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{232}Th	77.09(15)	0.09(3)	0.0012(4)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{151}Eu	77.23(4)	187(13)	3.7(3)	89.847(1430), *841.570(223)d, 963.390(183.0)d*
^{186}W	77.39(3)	0.134(5)	0.00221(8)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{191}Ir	77.9470(10)	4.8(4)	0.076(6)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{31}P	78.083(20)	0.059(3)	0.0058(3)	512.646(0.079), 636.663(0.0311), 3899.89(0.0294)
^{121}Sb	78.0910(10)	0.48(11)	0.012(3)	*564.24(2.700)d,* 61.4130(0.75), 121.4970(0.40)
^{171}Yb	78.7430(10)	0.67(10)	0.0117(18)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{159}Tb	78.8670(10)	0.19(4)	0.0036(8)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{107}Ag	78.91(4)	3.90(12)	0.110(3)	198.72(7.75), 235.62(4.62), 117.45(3.85)
^{159}Tb	79.099(6)	0.43(6)	0.0082(11)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{157}Gd	79.5100(10)	4010(100)	77.3(19)	181.931(7200), 944.174(3090), 962.104(2050)
^{167}Er	79.8040(10)	18.2(8)	0.330(14)	184.2850(56), 815.9890(42.5), 198.2440(29.9)
^{109}Ag	79.91(6)	1.0(16)	0.03(5)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{165}Ho	*80.574(8)d*	*3.87(5)*	*0.0711[1.3%]*	136.6650(14.5), 116.8360(8.1), 426.012(2.88)
^{161}Dy	80.64(7)	16.5(5)	0.308(9)	184.257(146), 538.609(69.2), 496.931(44.9)
^{197}Au	82.3560(10)	2.3(4)	0.035(6)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{197}Au	82.5240(10)	1.4(3)	0.022(5)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{55}Mn	83.884(23)	3.11(5)	0.172(3)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{191}Ir	84.2740(20)	7.7(4)	0.121(6)	351.689(10.9), *328.448(9.1)d,* 136.1250(6.5)
^{141}Pr	84.998(3)	0.207(11)	0.00445(24)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{103}Rh	85.19(3)	3.2(3)	0.094(9)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{115}In	85.5690(20)	22.1(16)	0.58(4)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{173}Yb	86.11(7)	0.164(18)	0.0029(3)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{75}As	86.7880(10)	0.579(11)	0.0234(4)	*559.10(2.00)d,* 165.0490(0.996), 44.4250(0.560)
^{185}Re	87.264(3)	0.84(4)	0.0137(7)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{169}Tm	87.5210(10)	1.29(3)	0.0231(5)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{123}Sb	87.601	0.212(8)	0.00528(20)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{174}Yb	87.9690(20)	0.26(6)	0.0046(11)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{121}Sb	88.2690(10)	0.083(19)	0.0021(5)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{191}Ir	88.7340(10)	3.67(24)	0.058(4)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{155}Gd	88.9670(10)	1380(40)	26.6(8)	181.931(7200), 79.5100(4010), 944.174(3090)
^{65}Cu	89.08(4)	0.0970(17)	0.00463(8)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{159}Tb	89.4080(20)	0.21(3)	0.0040(6)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{151}Eu	89.847(6)	1430(30)	28.5(6)	*841.570(223)d,* 77.23(187), *963.390(183.0)d*
^{191}Ir	90.7030(20)	1.25(15)	0.0197(24)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{23}Na	90.9920(10)	0.235(3)	0.0310(4)	*1368.66(0.530)d, 2754.13(0.530)d, 472.202(0.478)d*
^{187}Re	92.4640(20)	1.07(6)	0.0174(10)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{177}Hf	93.182(6)	13.3(9)	0.226(15)	213.439(29.3), *214.3410(16.3)d,* 325.559(6.69)
^{159}Tb	93.3060(20)	0.218(25)	0.0042(5)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{174}Yb	95.2730(20)	0.20(5)	0.0035(9)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{115}In	96.036(5)	11.4(14)	0.30(4)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{115}In	96.062(3)	24.6(18)	0.65(5)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{103}Rh	97.14(3)	19.5(4)	0.574(12)	180.87(22.6), 51.50(16.0), 217.82(7.38)
^{197}Au	97.2500(20)	2.1(5)	0.032(8)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{159}Tb	97.503(3)	0.50(6)	0.0095(11)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{182}W	99.0790(10)	0.155(13)	0.00256(21)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{93}Nb	99.4070(10)	0.196(9)	0.0064(3)	255.9290(0.176), 253.115(0.1320), 113.4010(0.117)
^{103}Rh	100.74(4)	4.96(10)	0.146(3)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{197}Au	101.9390(10)	0.953(17)	0.0147(3)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{173}Yb	102.60(5)	0.44(5)	0.0077(9)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{71}Ga	*103.25(3)d*	*0.0526(11)*	*0.00229[100%]*	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{174}Yb	104.5260(20)	0.43(11)	0.0075(19)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{55}Mn	104.611(23)	1.74(3)	0.0960(17)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{121}Sb	105.8160(10)	0.21(5)	0.0052(12)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{187}Re	105.8620(20)	1.77(8)	0.0288(13)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{109}Ag	105.95(6)	0.87(13)	0.024(4)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{238}Np	*106.1230(20)d*	*0.723(11)*	*0.00920[0.6%]*	*74.6640(1.30000)d, 277.5990(0.382)d,* 133.7990(0.38)
^{182}W	107.9320(10)	0.144(12)	0.00237(20)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{191}Ir	108.0300(20)	2.62(12)	0.0413(19)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{183}W	111.216(9)	0.195(6)	0.00321(10)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{193}Ir	112.2310(10)	1.7(4)	0.027(6)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{71}Ga	112.36(3)	0.155(3)	0.00674(13)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{176}Lu	*112.9500(10)d*	*3.47(16)*	*0.060[0.2%]*	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{93}Nb	113.4010(10)	0.117(3)	0.00382(10)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{133}Cs	113.7650(20)	0.777(15)	0.0177(3)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{174}Yb	*113.805(4)d*	*0.417(14)*	*0.00730[0.3%]*	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{181}Ta	114.3150(10)	0.280(9)	0.00469(15)	270.4030(2.60), 173.2050(1.210), 402.623(1.180)
^{169}Tm	114.544	3.19(6)	0.0572(11)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{121}Sb	114.8680(10)	0.31(7)	0.0077(17)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{64}Zn	115.225(18)	0.167(3)	0.00774(14)	1077.335(0.356), 7863.55(0.1410), 1883.12(0.0718)
^{133}Cs	116.3740(20)	1.39(12)	0.032(3)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{133}Cs	116.612(4)	1.44(12)	0.033(3)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{75}As	116.7550(10)	0.107(18)	0.0043(7)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{165}Ho	116.8360(10)	8.1(4)	0.149(7)	136.6650(14.5), *80.574(3.87)d,* 426.012(2.88)
^{109}Ag	117.45(8)	3.85(7)	0.1082(20)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{75}As	120.2580(10)	0.402(8)	0.0163(3)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{133}Cs	120.588(3)	0.414(10)	0.00944(23)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{121}Sb	121.4970(10)	0.40(9)	0.0100(22)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{176}Lu	121.620(3)	5.24(17)	0.091(3)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{56}Fe	122.077(14)	0.096(3)	0.00521(16)	7631.136(0.653), 7645.5450(0.549), 352.347(0.273)
^{75}As	122.2470(10)	0.227(5)	0.00918(20)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{127}I	124.2810(20)	0.180(13)	0.0043(3)	133.6110(1.42), *442.901(0.595)d,* 27.3620(0.43)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{51}V	124.453(4)	0.23(5)	0.014(3)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{51}V	125.082(3)	1.61(4)	0.0958(24)	*1434.10(4.81)d,* 6517.282(0.78), 645.703(0.769)
^{115}In	126.3720(20)	4.0(3)	0.106(8)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{141}Pr	126.8460(20)	0.307(15)	0.0066(3)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{191}Ir	126.958(3)	1.86(10)	0.0293(16)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{103}Rh	127.20(3)	5.27(21)	0.155(6)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{186}W	127.43(4)	0.129(5)	0.00213(8)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{133}Cs	*127.5000(20)d*	*0.310(11)*	*0.00707[11%]*	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{169}Tm	130.027	0.940(25)	0.0169(5)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{133}Cs	130.2320(20)	1.410(21)	0.0322(5)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{127}I	133.6110(10)	1.42(10)	0.0339(24)	*442.901(0.595)d,* 27.3620(0.43), 58.1100(0.28)
^{238}U	133.7990(10)	0.38(8)	0.0048(10)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{181}Ta	133.8770(20)	0.63(7)	0.0106(12)	270.4030(2.60), 173.2050(1.210), 402.623(1.180)
^{186}W	*134.247(7)d*	*1.050(20)*	*0.0173[1.4%]*	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{103}Rh	134.54(3)	6.8(4)	0.200(12)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{75}As	135.4110(10)	0.156(4)	0.00631(16)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{159}Tb	135.5970(20)	0.39(4)	0.0074(8)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{191}Ir	136.1250(10)	6.5(9)	0.102(14)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{191}Ir	136.213(3)	4.0(5)	0.063(8)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{165}Ho	136.6650(20)	14.5(7)	0.266(13)	116.8360(8.1), *80.574(3.87)d,* 426.012(2.88)
^{191}Ir	136.7910(10)	2.20(21)	0.035(3)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{185}Re	*137.157(8)d*	*5.29(3)*	*0.0861[0.4%]*	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{115}In	*138.326(8)d*	*5.11(18)*	*0.135[30%]*	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{176}Lu	138.607(5)	6.79(24)	0.118(4)	150.392(13.8), 457.944(8.3), *208.3660(6.0)d*
^{76}Se	139.2270(10)	0.543(9)	0.0208(4)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{203}Tl	139.94(9)	0.400(7)	0.00593(10)	347.96(0.361), 318.88(0.325), 5641.57(0.316)
^{141}Pr	140.9050(20)	0.479(10)	0.01030(22)	176.8630(1.06), *1575.6(0.426)d,* 5666.170(0.379)
^{187}Re	141.760(4)	1.46(8)	0.0238(13)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{45}Sc	*142.528(8)d*	*4.88(7)*	*0.329[99%]*	227.773(7.13), 147.011(6.08), 295.243(3.97)
^{185}Re	144.152(5)	1.8(3)	0.029(5)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{169}Tm	144.4790(10)	1.2(4)	0.022(7)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{169}Tm	144.48	5.96(11)	0.1069(20)	200.(8.72), 149.7180(7.11), 237.2390(5.52)
^{75}As	144.5480(10)	0.1000(22)	0.00404(9)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{191}Ir	144.903(5)	3.1(4)	0.049(6)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{71}Ga	145.14(3)	0.466(7)	0.0203(3)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{186}W	145.79(3)	0.970(21)	0.0160(4)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{176}Lu	145.870(4)	1.52(9)	0.0263(16)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{45}Sc	147.011(10)	6.08(9)	0.410(6)	227.773(7.13), *142.528(4.88)d,* 295.243(3.97)
^{176}Lu	147.165(5)	4.96(19)	0.086(3)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{176}Lu	147.167(5)	3.7(7)	0.064(12)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{51}V	147.846(3)	0.253(6)	0.0151(4)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{121}Sb	148.238	0.26(6)	0.0065(15)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{193}Ir	148.9340(10)	1.4(9)	0.022(14)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{165}Ho	149.309(3)	2.25(12)	0.0413(22)	136.6650(14.5), 116.8360(8.1), *80.574(3.87)d*
^{169}Tm	149.7180(10)	7.11(12)	0.1275(22)	200.(8.72), 140.(5.96), 237.2390(5.52)
^{176}Lu	150.392(3)	13.8(4)	0.239(7)	457.944(8.3), 138.607(6.79), *208.3660(6.0)d*
^{191}Ir	151.5640(20)	2.89(20)	0.046(3)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{185}Re	151.688(3)	1.15(7)	0.0187(11)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{127}I	153.011(3)	0.209(14)	0.0050(3)	133.6110(1.42), *442.901(0.595)d,* 27.3620(0.43)
^{159}Tb	153.6870(20)	0.44(5)	0.0084(10)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{203}Tl	154.01(9)	0.0926(17)	0.001373(25)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{187}Re	*155.041(4)d*	*7.16(25)*	*0.117[2.0%]*	63.5820(8.0), 59.0100(5.5), *137.157(5.29)d*
^{187}Os	155.10(4)	1.19(3)	0.0190(5)	186.7180(2.08), 557.978(0.84), 569.344(0.694)
^{123}Sb	155.1780(10)	0.081(9)	0.00202(22)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{139}La	155.560(5)	0.192(7)	0.00419(15)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{191}Ir	156.654(3)	2.76(12)	0.0435(19)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{75}As	157.7450(10)	0.117(24)	0.0047(10)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{197}Au	158.4360(10)	1.250(18)	0.0192(3)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{59}Co	158.517(17)	1.200(15)	0.0617(8)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{116}Sn	158.65(6)	0.0145(3)	0.000370(8)	1293.591(0.1340), 1171.28(0.0879), 1229.64(0.0673)
^{63}Cu	159.281(5)	0.648(10)	0.0309(5)	278.250(0.893), 7915.62(0.869), 7637.40(0.54)
^{127}I	160.7570(10)	0.187(16)	0.0045(4)	133.6110(1.42), *442.901(0.595)d,* 27.3620(0.43)
^{76}Se	*161.9220(10)d*	*0.855(23)*	*0.0328[99%]*	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{209}Bi	162.19(11)	0.008(3)	$1.2(4)\times10^{-4}$	4171.05(0.0171), 4054.57(0.0137), 319.78(0.0115)
^{182}W	162.315(8)	0.187(5)	0.00308(8)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{115}In	*162.393(3)d*	*15.8(8)*	*0.417[100%]*	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{176}Lu	162.492(4)	5.32(17)	0.092(3)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{139}La	162.659(3)	0.489(18)	0.0107(4)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{75}As	165.0490(10)	0.996(16)	0.0403(7)	*559.10(2.00)d,* 86.7880(0.579), 44.4250(0.560)
^{169}Tm	165.735	3.29(6)	0.0590(11)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{138}Ba	*165.8570(10)d*	*0.074(8)*	*0.00163[21%]*	1435.77(0.308), 627.29(0.294), 818.514(0.212)
^{19}F	166.700(20)	0.000413(18)	$6.6(3)\times10^{-5}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{40}Ar	167.30(20)	0.53(5)	0.040(4)	4745.3(0.36), 1186.8(0.34), 516.0(0.167)
^{187}Re	167.327(3)	1.46(6)	0.0238(10)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{197}Au	168.3340(10)	3.60(22)	0.055(3)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{103}Rh	169.16(5)	2.88(19)	0.085(6)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{191}Ir	169.196(3)	3.05(13)	0.0481(20)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{197}Au	170.1030(10)	1.66(22)	0.026(3)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{115}In	171.059(5)	3.44(25)	0.091(7)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{176}Lu	171.869(7)	1.74(6)	0.0301(10)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{181}Ta	173.2050(20)	1.210(25)	0.0203(4)	270.4030(2.60), 402.623(1.180), 133.8770(0.63)
^{115}In	173.886(6)	4.1(3)	0.108(8)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{133}Cs	174.3040(20)	0.420(11)	0.00958(25)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{70}Ge	175.05(3)	0.164(4)	0.00684(17)	595.851(1.100), 867.899(0.553), 608.353(0.250)
^{173}Yb	175.30(5)	0.58(6)	0.0102(11)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{133}Cs	176.4040(20)	2.47(4)	0.0563(9)	205.615(1.560), 510.795(1.54), 307.015(1.45)
^{141}Pr	176.8630(20)	1.06(4)	0.0228(9)	140.9050(0.479), *1575.6(0.426)d,* 5666.170(0.379)
^{103}Rh	178.66(4)	3.27(14)	0.096(4)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{159}Tb	178.881(3)	0.42(8)	0.0080(15)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{191}Ir	179.0380(20)	2.1(5)	0.033(8)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{103}Rh	180.87(3)	22.6(15)	0.67(4)	97.14(19.5), 51.50(16.0), 217.82(7.38)
^{169}Tm	180.993	3.85(14)	0.0691(25)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{171}Yb	181.529(3)	0.53(6)	0.0093(11)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{157}Gd	181.931(4)	7200(300)	139(6)	79.5100(4010), 944.174(3090), 962.104(2050)
^{141}Pr	182.786(4)	0.377(14)	0.0081(3)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{71}Ga	184.09(3)	0.1040(21)	0.00452(9)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{164}Dy	184.257(4)	146(15)	2.7(3)	538.609(69.2), 496.931(44.9), 185.19(39.1)
^{167}Er	184.2850(10)	56(5)	1.01(9)	815.9890(42.5), 198.2440(29.9), 79.8040(18.2)
^{161}Dy	185.19(9)	39.1(12)	0.729(22)	184.257(146), 538.609(69.2), 496.931(44.9)
^{176}Lu	185.593(8)	3.42(12)	0.0592(21)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{65}Cu	185.96(4)	0.244(3)	0.01164(14)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{115}In	186.2100(20)	26.6(18)	0.70(5)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{189}Os	186.7180(20)	2.08(5)	0.0331(8)	155.10(1.19), 557.978(0.84), 569.344(0.694)
^{133}Cs	186.8400(20)	0.282(9)	0.00643(21)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{69}Ga	187.84(3)	0.1080(21)	0.00469(9)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{176}Lu	187.970(23)	1.39(6)	0.0241(10)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{187}Re	188.813(6)	0.98(10)	0.0159(16)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{168}Yb	191.2140(10)	0.22(4)	0.0039(7)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{107}Ag	191.39(3)	1.81(5)	0.0509(14)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{71}Ga	192.11(3)	0.194(3)	0.00843(13)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{197}Au	192.3920(10)	3.9(18)	0.06(3)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{107}Ag	192.90(3)	2.20(6)	0.0618(17)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{197}Au	192.9440(10)	1.70(22)	0.026(3)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{159}Tb	193.431(4)	0.37(4)	0.0071(8)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{71}Ga	194.66(4)	0.1070(21)	0.00465(9)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{79}Br	195.602(4)	0.434(14)	0.0165(5)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{87}Rb	196.34(3)	0.00964(19)	0.000342(7)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{71}Ga	197.94(5)	0.1330(24)	0.00578(10)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{167}Er	198.2440(10)	29.9(16)	0.54(3)	184.2850(56), 815.9890(42.5), 79.8040(18.2)
^{133}Cs	198.3010(20)	1.100(19)	0.0251(4)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{203}Tl	198.33(8)	0.0408(10)	0.000605(15)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{169}Tm	198.5260(10)	0.96(3)	0.0172(5)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{109}Ag	198.72(4)	7.75(13)	0.218(4)	235.62(4.62), 78.91(3.90), 117.45(3.85)
^{155}Gd	199.2130(10)	2020(60)	38.9(12)	181.931(7200), 79.5100(4010), 944.174(3090)
^{185}Re	199.337(16)	0.91(4)	0.0148(7)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{187}Re	199.513(5)	1.02(10)	0.0166(16)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{76}Se	200.4530(20)	0.233(9)	0.0089(4)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{186}W	201.44(5)	0.319(8)	0.00526(13)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{121}Sb	201.5950(10)	0.091(3)	0.00226(8)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{89}Y	202.53(3)	0.289(7)	0.00985(24)	6080.171(0.76), 776.613(0.659), 574.106(0.174)
^{63}Cu	202.950(8)	0.193(3)	0.00920(14)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{169}Tm	204.448	8.72(19)	0.156(3)	149.7180(7.11), 140.(5.96), 237.2390(5.52)
^{186}W	204.83(4)	0.148(4)	0.00244(7)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{133}Cs	205.615(3)	1.560(25)	0.0356(6)	176.4040(2.47), 510.795(1.54), 307.015(1.45)
^{191}Ir	206.220(4)	3.70(18)	0.058(3)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{107}Ag	206.46(3)	3.58(7)	0.1006(20)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{187}Re	207.853(4)	4.44(21)	0.072(3)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{176}Lu	*208.3660(10)d*	*6.0(3)*	*0.104[0.2%]*	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{187}Re	208.843(7)	0.98(10)	0.0159(16)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{238}Np	*209.7530(20)d*	*0.0909(13)*	*0.001157[0.6%]*	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{191}Ir	210.354(5)	2.1(4)	0.033(6)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{185}Re	210.698(4)	1.50(10)	0.0244(16)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{75}As	211.1470(10)	0.113(3)	0.00457(12)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{55}Mn	212.039(21)	2.13(3)	0.1175(17)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{71}Ga	212.58(4)	0.0583(12)	0.00253(5)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{177}Hf	213.439(7)	29.3(7)	0.497(12)	*214.3410(16.3)d,* 93.182(13.3), 325.559(6.69)
^{178}Hf	*214.3410(20)d*	*16.3(3)*	*0.277[99%]*	213.439(29.3), 93.182(13.3), 325.559(6.69)
^{178}Hf	214.3410(20)	5.7(6)	0.097(10)	213.439(29.3), *214.3410(16.3)d,* 93.182(13.3)
^{185}Re	214.647(4)	2.53(14)	0.0412(23)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{197}Au	214.9710(10)	9.0(12)	0.138(18)	*410.(94.30)d,* 247.5730(5.56), 261.4040(5.3)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{107}Ag	215.15(4)	1.55(3)	0.0435(8)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{103}Rh	215.340(22)	5.20(12)	0.153(4)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{45}Sc	216.44(4)	2.49(4)	0.168(3)	227.773(7.13), 147.011(6.08), *142.528(4.88)d*
^{103}Rh	216.54(8)	5.0(10)	0.15(3)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{191}Ir	216.905(4)	5.57(24)	0.088(4)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{103}Rh	217.82(3)	7.38(13)	0.217(4)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{139}La	218.225(22)	0.78(3)	0.0170(7)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{133}Cs	218.341(3)	0.309(9)	0.00705(21)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{79}Br	219.377(3)	0.399(14)	0.0151(5)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{169}Tm	219.706	3.64(6)	0.0653(11)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{133}Cs	219.7530(20)	0.344(9)	0.00784(21)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{165}Ho	221.186(4)	2.05(11)	0.0377(20)	136.6650(14.5), 116.8360(8.1), *80.574(3.87)d*
^{79}Br	223.627(3)	0.153(5)	0.00580(19)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{175}Lu	225.4030(10)	1.73(8)	0.0300(14)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{186}W	225.86(4)	0.113(17)	0.0019(3)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{191}Ir	226.2980(20)	4.0(4)	0.063(6)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{187}Re	227.083(6)	1.78(12)	0.0290(20)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{45}Sc	227.773(12)	7.13(11)	0.481(7)	147.011(6.08), *142.528(4.88)d,* 295.243(3.97)
^{238}Np	*228.1830(10)d*	*0.286(5)*	*0.00364[0.6%]*	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{45}Sc	228.716(12)	3.31(5)	0.223(3)	227.773(7.13), 147.011(6.08), *142.528(4.88)d*
^{59}Co	229.879(17)	7.18(8)	0.369(4)	277.161(6.77), 555.972(5.76), 447.711(3.41)
^{121}Sb	233.1690(10)	0.0996(24)	0.00248(6)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{79}Br	234.320(3)	0.205(10)	0.0078(4)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{133}Cs	234.3340(20)	1.070(23)	0.0244(5)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{169}Tm	235.1890(10)	1.18(4)	0.0212(7)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{115}In	235.275(4)	4.9(3)	0.129(8)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{109}Ag	235.62(4)	4.62(7)	0.1298(20)	198.72(7.75), 78.91(3.90), 117.45(3.85)
^{139}La	235.771(8)	0.111(4)	0.00242(9)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{75}As	235.8770(10)	0.181(4)	0.00732(16)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{197}Au	236.0450(10)	4.1(5)	0.063(8)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{187}Re	236.627(4)	1.45(10)	0.0236(16)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{107}Ag	236.85(4)	1.95(3)	0.0548(8)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{109}Ag	236.89(7)	1.3(9)	0.037(25)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{169}Tm	237.2390(10)	5.52(10)	0.0990(18)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{139}La	237.660(4)	0.320(12)	0.0070(3)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{76}Se	238.9980(10)	2.06(3)	0.0791(12)	613.724(2.14), 520.6370(1.260), *161.9220(0.855)d*
^{165}Ho	239.132(4)	2.25(12)	0.0413(22)	136.6650(14.5), 116.8360(8.1), *80.574(3.87)d*
^{169}Tm	242.6220(10)	1.28(4)	0.0230(7)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{159}Tb	242.973(12)	0.219(24)	0.0042(5)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{79}Br	244.237(3)	0.45(3)	0.0171(11)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{81}Br	244.8310(10)	0.15(5)	0.0057(19)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{79}Br	245.203(4)	0.80(3)	0.0303(11)	*776.517(0.990)d, 554.3480(0.838)d, 619.106(0.515)d*
^{110}Cd	245.3(3)	274(25)	7.4(7)	558.32(1860), 651.19(358)
^{133}Cs	245.8620(20)	0.740(15)	0.0169(3)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{197}Au	247.5730(10)	5.56(8)	0.0855(12)	*410.(94.30)d,* 214.9710(9.0), 261.4040(5.3)
^{159}Tb	248.062(5)	0.30(3)	0.0057(6)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{71}Ga	248.89(4)	0.136(8)	0.0059(4)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{76}Se	249.7880(10)	0.538(9)	0.0206(4)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{187}Re	251.243(5)	1.80(23)	0.029(4)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{183}W	252.854(11)	0.101(3)	0.00166(5)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{93}Nb	253.115(5)	0.1320(19)	0.00431(6)	99.4070(0.196), 255.9290(0.176), 113.4010(0.117)
^{59}Co	254.379(17)	1.290(16)	0.0663(8)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{185}Re	254.998(4)	1.15(5)	0.0187(8)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{93}Nb	255.9290(20)	0.176(3)	0.00574(10)	99.4070(0.196), 253.115(0.1320), 113.4010(0.117)
^{232}Th	256.25(11)	0.093(17)	0.00121(22)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{185}Re	257.447(9)	0.87(23)	0.014(4)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{107}Ag	259.17(3)	1.560(25)	0.0438(7)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{176}Lu	259.401(16)	1.89(8)	0.0327(14)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{133}Cs	261.1640(20)	0.401(11)	0.00914(25)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{197}Au	261.4040(10)	5.3(20)	0.08(3)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{191}Ir	261.953(6)	2.02(23)	0.032(4)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{191}Ir	262.03(10)	3.05(18)	0.048(3)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{75}As	263.8940(10)	0.18(4)	0.0073(16)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{103}Rh	266.84(3)	2.66(17)	0.078(5)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{109}Ag	267.08(3)	2.73(6)	0.0767(17)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{176}Lu	268.788(5)	3.64(13)	0.0630(23)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{181}Ta	270.4030(20)	2.60(6)	0.0435(10)	173.2050(1.210), 402.623(1.180), 133.8770(0.63)
^{55}Mn	271.198(22)	0.94(6)	0.052(3)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{79}Br	271.374(3)	0.462(7)	0.0175(3)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{139}La	272.306(4)	0.502(19)	0.0110(4)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{188}Os	272.82(4)	0.242(6)	0.00386(10)	186.7180(2.08), 155.10(1.19), 557.978(0.84)
^{115}In	272.9660(20)	33.1(24)	0.87(6)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{186}W	273.10(5)	0.272(7)	0.00448(12)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{187}Re	274.298(5)	0.80(6)	0.0130(10)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{79}Br	274.532(5)	0.158(3)	0.00599(11)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{59}Co	277.161(17)	6.77(8)	0.348(4)	229.879(7.18), 555.972(5.76), 447.711(3.41)
^{232}Th	277.48(11)	0.0312(25)	0.00041(3)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{238}Np	*277.5990(10)d*	*0.382(6)*	*0.00486[0.6%]*	*74.6640(1.30000)d, 106.1230(0.723)d,* 133.7990(0.38)
^{63}Cu	278.250(14)	0.893(15)	0.0426(7)	7915.62(0.869), 159.281(0.648), 7637.40(0.54)
^{193}Ir	278.5040(10)	1.8(11)	0.028(17)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{174}Yb	*282.522(14)d*	*0.666(22)*	*0.0117[0.3%]*	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{121}Sb	282.6500(10)	0.274(7)	0.00682(17)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{60}Ni	282.917(18)	0.211(3)	0.01089(15)	8998.414(1.49), 464.978(0.843), 8533.509(0.721)
^{136}Ba	283.58(6)	0.0404(12)	0.00089(3)	1435.77(0.308), 627.29(0.294), 818.514(0.212)
^{191}Ir	284.074(6)	1.95(15)	0.0307(24)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{167}Er	284.6560(20)	13.7(12)	0.248(22)	184.2850(56), 815.9890(42.5), 198.2440(29.9)
^{115}In	284.914(4)	4.5(3)	0.119(8)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{74}Se	286.5710(20)	0.280(6)	0.01075(23)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{81}Br	287.7390(20)	0.253(4)	0.00960(15)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{139}La	288.255(5)	0.73(3)	0.0159(7)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{187}Re	290.665(6)	3.5(4)	0.057(7)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{187}Re	291.492(8)	0.94(7)	0.0153(11)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{197}Au	291.7240(20)	1.05(17)	0.016(3)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{203}Tl	292.26(8)	0.0983(20)	0.00146(3)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{93}Nb	293.206(4)	0.0651(16)	0.00212(5)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{193}Ir	*293.541(14)d*	*1.76(6)*	*0.0277[1.8%]*	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{79}Br	294.349(3)	0.1160(22)	0.00440(8)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{107}Ag	294.39(3)	2.05(12)	0.058(3)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{51}V	295.023(14)	0.164(4)	0.00976(24)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{45}Sc	295.243(10)	3.97(11)	0.268(7)	227.773(7.13), 147.011(6.08), *142.528(4.88)d*
^{235}U	297.00(10)	0.220(20)	0.00280(25)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{76}Se	297.2160(20)	0.337(7)	0.0129(3)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{115}In	298.664(3)	9.4(7)	0.248(18)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{107}Ag	299.95(3)	1.15(5)	0.0323(14)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{127}I	301.906(5)	0.17(6)	0.0041(14)	133.6110(1.42), *442.901(0.595)d,* 27.3620(0.43)
^{191}Ir	302.905(8)	1.20(11)	0.0189(17)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{178}Hf	303.9880(20)	3.38(9)	0.0574(15)	213.439(29.3), *214.3410(16.3)d,* 93.182(13.3)
^{133}Cs	307.015(4)	1.45(3)	0.0331(7)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{93}Nb	309.915(8)	0.0690(17)	0.00225(6)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{175}Lu	310.1870(10)	1.49(8)	0.0258(14)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{169}Tm	311.0190(10)	2.50(5)	0.0448(9)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{174}Yb	311.276(5)	0.26(4)	0.0046(7)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{55}Mn	314.398(20)	1.460(20)	0.0805(11)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{79}Br	314.982(3)	0.460(9)	0.0174(3)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{238}Np	*315.880(3)d*	*0.0425(8)*	*0.000541[0.6%]*	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{191}Ir	316.061(7)	2.4(4)	0.038(6)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{185}Re	316.457(9)	2.21(10)	0.0360(16)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{232}Th	316.64(10)	0.0397(18)	0.000518(24)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{69}Ga	318.87(3)	0.0592(14)	0.00257(6)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{203}Tl	318.88(8)	0.325(6)	0.00482(9)	139.94(0.400), 347.96(0.361), 5641.57(0.316)
^{176}Lu	319.036(8)	3.83(13)	0.0663(23)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{232}Th	319.08(10)	0.082(3)	0.00107(4)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{209}Bi	319.78(4)	0.0115(14)	$1.67(20)\times10^{-4}$	4171.05(0.0171), 4054.57(0.0137), 4101.76(0.0089)
^{187}Os	322.98(6)	0.242(9)	0.00386(14)	186.7180(2.08), 155.10(1.19), 557.978(0.84)
^{177}Hf	325.559(4)	6.69(17)	0.114(3)	213.439(29.3), *214.3410(16.3)d,* 93.182(13.3)
^{193}Ir	*328.448(14)d*	*9.1(3)*	*0.143[1.8%]*	351.689(10.9), 84.2740(7.7), 136.1250(6.5)
^{197}Au	328.4840(20)	1.48(19)	0.023(3)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{139}La	*328.762(8)d*	*1.250(18)*	*0.0273[0.9%]*	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{107}Ag	328.99(3)	0.795(12)	0.0223(3)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{232}Th	331.37(11)	0.0291(19)	0.000380(25)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{121}Sb	332.2860(10)	0.101(3)	0.00251(8)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{195}Pt	332.985(4)	2.580(25)	0.0401(4)	355.6840(6.17)
^{103}Rh	333.44(3)	3.27(8)	0.0963(24)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{191}Ir	333.864(6)	1.53(10)	0.0241(16)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{149}Sm	333.97(4)	4790(60)	96.5(12)	439.40(2860), 737.44(597), 505.51(528)
^{238}Np	*334.3100(20)d*	*0.0550(8)*	*0.000700[0.6%]*	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{115}In	335.450(10)	9.1(7)	0.240(18)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{232}Th	335.92(10)	0.089(4)	0.00116(5)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{93}Nb	337.527(7)	0.054(6)	0.00176(20)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{58}Ni	339.420(11)	0.1670(21)	0.00862(11)	8998.414(1.49), 464.978(0.843), 8533.509(0.721)
^{159}Tb	339.487(5)	0.35(4)	0.0067(8)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{48}Ti	341.706(5)	1.840(21)	0.1165(13)	1381.745(5.18), 6760.084(2.97), 6418.426(1.96)
^{79}Br	343.405(3)	0.118(4)	0.00448(15)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{63}Cu	343.898(14)	0.215(4)	0.01025(19)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{81}Br	345.0060(10)	0.154(4)	0.00584(15)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{203}Tl	347.96(8)	0.361(10)	0.00535(15)	139.94(0.400), 318.88(0.325), 5641.57(0.316)
^{164}Dy	349.248(10)	14.7(6)	0.274(11)	184.257(146), 538.609(69.2), 496.931(44.9)
^{20}Ne	350.72(6)	0.0198(4)	0.00297(6)	2035.67(0.0245), 4374.13(0.01910), 2793.94(0.00900)
^{197}Au	350.8280(10)	1.0(5)	0.015(8)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{191}Ir	351.689(4)	10.9(4)	0.172(6)	*328.448(9.1)d,* 84.2740(7.7), 136.1250(6.5)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{56}Fe	352.347(12)	0.273(3)	0.01481(16)	7631.136(0.653), 7645.5450(0.549), 6018.532(0.227)
^{232}Th	354.27(10)	0.0408(20)	0.00053(3)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{195}Pt	355.6840(20)	6.17(6)	0.0958(9)	332.985(2.580)
^{133}Cs	356.157(4)	0.445(12)	0.0101(3)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{159}Tb	357.748(5)	0.26(3)	0.0050(6)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{109}Ag	360.41(3)	1.55(3)	0.0435(8)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{189}Os	361.137(6)	0.466(15)	0.00742(24)	186.7180(2.08), 155.10(1.19), 557.978(0.84)
^{174}Yb	363.938(6)	0.80(12)	0.0140(21)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{191}Ir	365.440(7)	1.15(10)	0.0181(16)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{79}Br	366.604(4)	0.233(6)	0.00884(23)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{176}Lu	367.433(11)	2.23(8)	0.0386(14)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{199}Hg	367.947(9)	251(5)	3.79(8)	5967.02(62.5), 1693.296(56.2), 4739.43(30.1)
^{189}Os	371.261(5)	0.574(14)	0.00914(22)	186.7180(2.08), 155.10(1.19), 557.978(0.84)
^{193}Ir	371.5020(20)	2.11(12)	0.0333(19)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{165}Ho	371.772(5)	1.56(8)	0.0287(15)	136.6650(14.5), 116.8360(8.1), *80.574(3.87)d*
^{133}Cs	377.311(5)	0.310(9)	0.00707(21)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{107}Ag	380.90(3)	1.59(3)	0.0447(8)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{197}Au	381.1990(10)	3.0(4)	0.046(6)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{169}Tm	384.0790(20)	1.95(5)	0.0350(9)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{115}In	385.111(8)	12.1(9)	0.319(24)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{65}Cu	385.77(3)	0.1310(18)	0.00625(9)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{164}Dy	385.9840(20)	34.8(10)	0.649(19)	184.257(146), 538.609(69.2), 496.931(44.9)
^{24}Mg	389.670(21)	0.00586(24)	0.00073(3)	3916.84(0.0320), 585.00(0.0314), 2828.172(0.0240)
^{71}Ga	390.66(4)	0.0476(12)	0.00207(5)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{185}Re	390.854(23)	1.15(5)	0.0187(8)	63.5820(8.0), *155.041(7.16)d,* 59.0100(5.5)
^{59}Co	391.218(15)	1.080(14)	0.0555(7)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{71}Ga	393.28(3)	0.1340(23)	0.00582(10)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{203}Tl	395.62(8)	0.0862(20)	0.00128(3)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{174}Yb	*396.329(20)d*	*1.42(5)*	*0.0249[0.3%]*	*514.868(9.0)d,* 639.261(1.43), 5266.3(1.4)
^{181}Ta	402.623(3)	1.180(23)	0.0198(4)	270.4030(2.60), 173.2050(1.210), 133.8770(0.63)
^{169}Tm	411.5060(20)	2.37(5)	0.0425(9)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{164}Dy	411.651(5)	35.1(10)	0.655(19)	184.257(146), 538.609(69.2), 496.931(44.9)
^{197}Au	*411.802d*	*94.30(15)*	*1.4509[0.5%]*	214.9710(9.0), 247.5730(5.56), 261.4040(5.3)
^{164}Dy	414.985(7)	31(5)	0.58(9)	184.257(146), 538.609(69.2), 496.931(44.9)
^{115}In	*416.86(3)d*	*43.0(18)*	*1.13[30%]*	*1293.54(131)d, 1097.30(87.3)d,* 272.9660(33.1)
^{191}Ir	418.138(6)	3.45(15)	0.0544(24)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{51}V	419.475(13)	0.249(6)	0.0148(4)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{85}Rb	421.50(3)	0.0259(5)	0.000918(18)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{139}La	422.66(4)	0.370(14)	0.0081(3)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{203}Tl	424.81(8)	0.1200(25)	0.00178(4)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{83}Kr	425.30(11)	2.960(19)	0.1070(7)	881.74(20.8), 1213.42(8.28), 1463.86(7.10)
^{165}Ho	426.012(5)	2.88(15)	0.053(3)	136.6650(14.5), 116.8360(8.1), *80.574(3.87)d*
^{75}As	426.5750(10)	0.100(3)	0.00404(12)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{174}Yb	428.613(12)	0.61(7)	0.0107(12)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{139}La	*432.493(12)d*	*0.1780(18)*	*0.00388[0.9%]*	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{191}Ir	432.716(6)	1.85(7)	0.0292(11)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{115}In	433.723(8)	6.0(4)	0.158(11)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{59}Co	435.677(17)	0.789(10)	0.0406(5)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{174}Yb	436.173(5)	0.52(6)	0.0091(11)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{51}V	436.627(13)	0.397(9)	0.0236(5)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{149}Sm	439.40(4)	2860(150)	58(3)	333.97(4790), 737.44(597), 505.51(528)
^{76}Se	439.4510(20)	0.319(8)	0.0122(3)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{133}Cs	442.8430(20)	0.316(12)	0.0072(3)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{127}I	*442.901(10)d*	*0.595(4)*	*0.01421[51%]*	133.6110(1.42), 27.3620(0.43), 58.1100(0.28)
^{169}Tm	446.328(3)	1.62(4)	0.0291(7)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{59}Co	447.711(19)	3.41(4)	0.1754(21)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{164}Dy	447.893(7)	17.4(5)	0.324(9)	184.257(146), 538.609(69.2), 496.931(44.9)
^{133}Cs	450.345(3)	0.99(5)	0.0226(11)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{159}Tb	451.617(10)	0.21(3)	0.0040(6)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{55}Mn	454.378(21)	0.388(7)	0.0214(4)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{138}Ba	454.73(5)	0.0853(22)	0.00188(5)	1435.77(0.308), 627.29(0.294), 818.514(0.212)
^{169}Tm	456.0460(10)	1.16(4)	0.0208(7)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{176}Lu	457.944(15)	8.3(3)	0.144(5)	150.392(13.8), 138.607(6.79), *208.3660(6.0)d*
^{93}Nb	458.467(10)	0.0240(5)	0.000783(16)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{137}Ba	462.78(4)	0.0660(16)	0.00146(4)	1435.77(0.308), 627.29(0.294), 818.514(0.212)
^{159}Tb	464.264(17)	0.192(21)	0.0037(4)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{58}Ni	464.978(12)	0.843(10)	0.0435(5)	8998.414(1.49), 8533.509(0.721), 6837.50(0.458)
^{65}Cu	465.14(3)	0.1350(21)	0.00644(10)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{164}Dy	465.416(6)	38.0(10)	0.709(19)	184.257(146), 538.609(69.2), 496.931(44.9)
^{79}Br	468.980(3)	0.29(3)	0.0110(11)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{103}Rh	470.40(3)	2.61(7)	0.0769(21)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{75}As	471.0000(10)	0.203(5)	0.00821(20)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{115}In	471.349(11)	4.3(3)	0.113(8)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{203}Tl	471.90(8)	0.116(3)	0.00172(4)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{23}Na	*472.202(9)d*	*0.478(4)*	*0.0630[100%]*	*1368.66(0.530)d, 2754.13(0.530)d,* 90.9920(0.235)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{232}Th	472.30(10)	0.165(8)	0.00215(10)	583.27(0.279), 566.63(0.19), 968.78(0.132)
^{75}As	473.1540(10)	0.176(5)	0.00712(20)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{140}Ce	475.04(4)	0.082(7)	0.00177(15)	661.99(0.241), 4766.10(0.113), 4291.08(0.053)
^{101}Ru	475.0950(20)	0.98(9)	0.029(3)	539.538(1.53), 686.907(0.52), 631.22(0.30)
^{164}Dy	477.061(6)	22(7)	0.41(13)	184.257(146), 538.609(69.2), 496.931(44.9)
^{164}Dy	477.08(4)	15.8(5)	0.295(9)	184.257(146), 538.609(69.2), 496.931(44.9)
^{174}Yb	477.391(5)	0.75(8)	0.0131(14)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{10}B(n,α)	477.595(3)	716(25)	201(7)	
^{187}Os	478.04(4)	0.523(14)	0.00833(22)	186.7180(2.08), 155.10(1.19), 557.978(0.84)
^{186}W	*479.550(22)d*	*2.59(5)*	*0.0427[1.4%]*	*685.73(3.24)d, 72.002(1.32)d, 134.247(1.050)d*
^{174}Yb	482.071(11)	0.23(3)	0.0040(5)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{59}Co	484.257(16)	0.804(11)	0.0413(6)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{139}La	*487.021(12)d*	*2.79(4)*	*0.0609[0.9%]*	*1596.21(5.84)d, 815.772(1.430)d, 328.762(1.250)d*
^{85}Rb	487.89(4)	0.0494(12)	0.00175(4)	556.82(0.0913), *555.61(0.0407)d,* 872.94(0.0321)
^{203}Tl	488.11(8)	0.096(4)	0.00142(6)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{115}In	492.532(11)	3.31(24)	0.087(6)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{73}Ge	492.933(5)	0.133(3)	0.00555(13)	595.851(1.100), 867.899(0.553), 608.353(0.250)
^{139}La	495.620(13)	0.081(3)	0.00177(7)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{109}Ag	495.71(3)	1.080(18)	0.0303(5)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{164}Dy	496.931(5)	44.9(11)	0.837(21)	184.257(146), 538.609(69.2), 185.19(39.1)
^{59}Co	497.269(16)	2.16(4)	0.1111(21)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{93}Nb	499.426(8)	0.0648(18)	0.00211(6)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{169}Tm	499.5560(20)	0.88(3)	0.0158(5)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{70}Ge	499.87(3)	0.162(6)	0.00676(25)	595.851(1.100), 867.899(0.553), 608.353(0.250)
^{133}Cs	502.840(3)	0.256(13)	0.0058(3)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{169}Tm	505.018(7)	0.90(3)	0.0161(5)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{149}Sm	505.51(3)	528(80)	10.6(16)	333.97(4790), 439.40(2860), 737.44(597)
^{69}Ga	508.19(3)	0.349(6)	0.0152(3)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{133}Cs	510.795(3)	1.54(3)	0.0351(7)	176.4040(2.47), 205.615(1.560), 307.015(1.45)
^{174}Yb	511.784(11)	0.34(5)	0.0060(9)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{105}Pd	511.843(20)	4.00(4)	0.1139(11)	717.356(0.777), 616.192(0.629)
^{169}Tm	512.1370(20)	1.96(5)	0.0352(9)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{81}Br	512.488(20)	0.21(3)	0.0080(11)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{31}P	512.646(19)	0.079(4)	0.0077(4)	78.083(0.059), 636.663(0.0311), 3899.89(0.0294)
^{174}Yb	*514.868(7)d*	*9.0(9)*	*0.158[100%]*	639.261(1.43), *396.329(1.42)d,* 5266.3(1.4)
^{40}Ar	516.0(3)	0.167(17)	0.0127(13)	167.30(0.53), 4745.3(0.36), 1186.8(0.34)
^{35}Cl	517.0730(10)	7.58(5)	0.648(4)	1164.8650(8.91), 6110.842(6.59), 1951.1400(6.33)
^{93}Nb	518.113(12)	0.0579(13)	0.00189(4)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{76}Se	518.1810(20)	0.273(7)	0.0105(3)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{133}Cs	519.101(4)	0.349(18)	0.0080(4)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{40}Ca	519.66(5)	0.0503(13)	0.00380(10)	1942.67(0.352), 6419.59(0.176), 4418.52(0.0708)
^{76}Se	520.6370(20)	1.260(18)	0.0484(7)	613.724(2.14), 238.9980(2.06), *161.9220(0.855)d*
^{238}U	521.849(7)	0.073(3)	0.00093(4)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{232}Th	522.73(10)	0.102(5)	0.00133(7)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{109}Ag	524.47(3)	0.804(11)	0.0226(3)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{133}Cs	525.356(4)	0.39(3)	0.0089(7)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{159}Tb	525.933(17)	0.22(3)	0.0042(6)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{190}Os	527.60(3)	0.300(10)	0.00478(16)	186.7180(2.08), 155.10(1.19), 557.978(0.84)
^{197}Au	529.1650(20)	1.9(10)	0.029(15)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{133}Cs	529.504(6)	0.519(23)	0.0118(5)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{232}Th	531.58(10)	0.0404(23)	0.00053(3)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{174}Yb	534.735(9)	0.50(6)	0.0088(11)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{169}Tm	535.8280(10)	1.18(4)	0.0212(7)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{109}Ag	536.13(3)	1.090(16)	0.0306(5)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{129}Xe	536.17(9)	1.71(24)	0.039(6)	667.79(6.7), 772.72(1.78), 630.29(1.41)
^{85}Rb	536.48(4)	0.0167(5)	0.000592(18)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{139}Ba	*537.261(9)d*	*0.066(3)*	*0.00084[0.1%]*	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{169}Tm	537.9910(20)	1.00(4)	0.0179(7)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{103}Rh	538.04(3)	2.43(7)	0.0716(21)	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{164}Dy	538.609(8)	69.2(19)	1.29(4)	184.257(146), 496.931(44.9), 185.19(39.1)
^{85}Rb	538.66(4)	0.0169(5)	0.000599(18)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{133}Cs	539.180(4)	0.360(11)	0.00821(25)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{238}U	539.278(12)	0.099(20)	0.00126(25)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{45}Sc	539.437(20)	0.738(19)	0.0497(13)	227.773(7.13), 147.011(6.08), *142.528(4.88)d*
^{99}Ru	539.538(15)	1.53(13)	0.046(4)	475.0950(0.98), 686.907(0.52), 631.22(0.30)
^{232}Th	539.66(10)	0.061(3)	0.00080(4)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{79}Br	542.515(6)	0.114(5)	0.00432(19)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{165}Ho	542.780(4)	1.94(13)	0.0356(24)	136.6650(14.5), 116.8360(8.1), *80.574(3.87)d*
^{141}Pr	546.448(15)	0.148(4)	0.00318(9)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{232}Th	548.23(11)	0.042(10)	0.00055(13)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{139}La	549.01(3)	0.098(4)	0.00214(9)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{109}Ag	549.56(3)	1.540(24)	0.0433(7)	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{169}Tm	551.5140(20)	1.29(25)	0.023(5)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{186}W	*551.52(4)d*	*0.603(14)*	*0.00994[1.4%]*	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{238}U	552.069(5)	0.207(5)	0.00264(6)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{238}U	554.054(8)	0.085(20)	0.00108(25)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{81}Br	*554.3480(20)d*	*0.838(8)*	*0.0318[1.0%]*	*776.517(0.990)d,* 245.203(0.80), *619.106(0.515)d*
^{45}Sc	554.44(4)	1.82(4)	0.123(3)	227.773(7.13), 147.011(6.08), *142.528(4.88)d*
^{85}Rb	*555.61(3)d*	*0.0407(10)*	*0.00144[98%]*	556.82(0.0913), 487.89(0.0494), 872.94(0.0321)
^{103}Rh	*555.81(4)d*	*3.14(9)*	*0.092[98%]*	180.87(22.6), 97.14(19.5), 51.50(16.0)
^{59}Co	555.972(13)	5.76(6)	0.296(3)	229.879(7.18), 277.161(6.77), 447.711(3.41)
^{85}Rb	556.82(3)	0.0913(24)	0.00324(9)	487.89(0.0494), *555.61(0.0407)d,* 872.94(0.0321)
^{115}In	556.845(21)	4.7(3)	0.124(8)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{232}Th	556.93(11)	0.040(10)	0.00052(13)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{186}W	557.16(5)	0.125(5)	0.00206(8)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{141}Pr	557.75(3)	0.15(4)	0.0032(9)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{189}Os	557.978(5)	0.84(3)	0.0134(5)	186.7180(2.08), 155.10(1.19), 569.344(0.694)
^{113}Cd	558.32(3)	1860(30)	50.1(8)	651.19(358), 245.3(274)
^{75}As	*559.10(5)d*	*2.00(10)*	*0.081[1.3%]*	165.0490(0.996), 86.7880(0.579), 44.4250(0.560)
^{141}Pr	560.495(23)	0.150(7)	0.00323(15)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{91}Zr	560.958(3)	0.0285(5)	0.000947(17)	934.4640(0.125), 1465.7(0.063), 1205.6(0.042)
^{232}Th	561.25(11)	0.033(8)	0.00043(10)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{93}Nb	562.328(9)	0.0293(11)	0.00096(4)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{121}Sb	*564.24(4)d*	*2.700(4)*	*0.06720[0.5%]*	61.4130(0.75), 78.0910(0.48), 121.4970(0.40)
^{169}Tm	565.2770(20)	1.58(4)	0.0283(7)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{232}Th	566.63(10)	0.19(5)	0.0025(7)	583.27(0.279), 472.30(0.165), 968.78(0.132)
^{139}La	567.386(12)	0.335(13)	0.0073(3)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{169}Tm	569.1730(20)	1.02(3)	0.0183(5)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{189}Os	569.344(20)	0.694(25)	0.0111(4)	186.7180(2.08), 155.10(1.19), 557.978(0.84)
^{141}Pr	570.111(14)	0.112(5)	0.00241(11)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{141}Pr	573.28(4)	0.12(3)	0.0026(7)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{89}Y	574.106(20)	0.174(7)	0.00593(24)	6080.171(0.76), 776.613(0.659), 202.53(0.289)
^{186}W	577.30(5)	0.191(5)	0.00315(8)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{232}Th	578.02(9)	0.105(5)	0.00137(7)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{76}Se	578.8550(20)	0.243(5)	0.00933(19)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{63}Cu	579.75(3)	0.0898(15)	0.00428(7)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{238}U	580.340(13)	0.043(10)	0.00055(13)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{232}Th	583.27(9)	0.279(11)	0.00364(14)	566.63(0.19), 472.30(0.165), 968.78(0.132)
^{19}F	583.561(16)	0.00356(12)	0.000568(19)	*1633.53(0.0096)d,* 656.006(0.00197), 665.207(0.00149)
^{164}Dy	583.982(5)	24(7)	0.45(13)	184.257(146), 538.609(69.2), 496.931(44.9)
^{149}Sm	584.27(3)	480(70)	9.7(14)	333.97(4790), 439.40(2860), 737.44(597)
^{45}Sc	584.785(13)	1.77(3)	0.1193(20)	227.773(7.13), 147.011(6.08), *142.528(4.88)d*
^{24}Mg	585.00(3)	0.0314(11)	0.00392(14)	3916.84(0.0320), 2828.172(0.0240), 1808.668(0.0180)
^{232}Th	586.02(10)	0.045(3)	0.00059(4)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{169}Tm	590.2270(20)	1.27(10)	0.0228(18)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{238}U	592.309(13)	0.045(12)	0.00057(15)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{232}Th	593.23(10)	0.043(3)	0.00056(4)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{238}U	593.612(5)	0.108(24)	0.0014(3)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{139}La	595.099(12)	0.103(4)	0.00225(9)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{73}Ge	595.851(5)	1.100(24)	0.0459(10)	867.899(0.553), 608.353(0.250), 175.05(0.164)
^{71}Ga	*601.21(6)d*	*0.471(22)*	*0.0205[2.4%]*	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{123}Te	602.729(17)	2.46(16)	0.058(4)	722.772(0.52), 645.819(0.263)
^{169}Tm	603.9900(20)	1.40(5)	0.0251(9)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{232}Th	605.41(10)	0.054(4)	0.00071(5)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{238}U	605.581(9)	0.053(12)	0.00067(15)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{73}Ge	608.353(4)	0.250(6)	0.01043(25)	595.851(1.100), 867.899(0.553), 175.05(0.164)
^{115}In	608.422(11)	3.51(25)	0.093(7)	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{63}Cu	608.766(23)	0.270(6)	0.0129(3)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{238}U	612.253(5)	0.23(5)	0.0029(6)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{77}Se	613.724(3)	2.14(5)	0.0821(19)	238.9980(2.06), 520.6370(1.260), *161.9220(0.855)d*
^{105}Pd	616.192(20)	0.629(9)	0.0179(3)	511.843(4.00), 717.356(0.777)
^{79}Br	*616.3(5)d*	*0.39(4)*	*0.0148[62%]*	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{143}Nd	618.062(19)	13.4(3)	0.282(6)	696.499(33.3), 814.12(4.98), 864.301(4.27)
^{186}W	*618.26(4)d*	*0.746(17)*	*0.0123[1.4%]*	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{81}Br	*619.106(4)d*	*0.515(5)*	*0.01953[1.0%]*	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{141}Pr	619.29(4)	0.152(4)	0.00327(9)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{203}Tl	624.46(8)	0.0413(10)	0.000612(15)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{186}W	*625.519(10)d*	*0.129(3)*	*0.00213[1.4%]*	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{138}Ba	627.29(5)	0.294(6)	0.00649(13)	1435.77(0.308), 818.514(0.212), 4095.84(0.155)
^{45}Sc	627.462(18)	2.23(5)	0.150(3)	227.773(7.13), 147.011(6.08), *142.528(4.88)d*
^{101}Ru	627.970(22)	0.176(16)	0.0053(5)	539.538(1.53), 475.0950(0.98), 686.907(0.52)
^{238}U	629.722(9)	0.073(20)	0.00093(25)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{71}Ga	*629.96(5)d*	*0.490(22)*	*0.0213[2.4%]*	*834.08(1.65)d, 2201.91(0.52)d, 601.21(0.471)d*
^{141}Pr	630.04(3)	0.16(6)	0.0034(13)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{131}Xe	630.29(4)	1.41(11)	0.0325(25)	667.79(6.7), 772.72(1.78), 536.17(1.71)
^{101}Ru	631.22(4)	0.30(3)	0.0090(9)	539.538(1.53), 475.0950(0.98), 686.907(0.52)
^{167}Er	631.7050(20)	7.9(3)	0.143(5)	184.2850(56), 815.9890(42.5), 198.2440(29.9)
^{187}Os	633.14(4)	0.585(16)	0.00932(25)	186.7180(2.08), 155.10(1.19), 557.978(0.84)
^{141}Pr	633.34(4)	0.113(4)	0.00243(9)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{187}Os	635.02(5)	0.405(12)	0.00645(19)	186.7180(2.08), 155.10(1.19), 557.978(0.84)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{31}P	636.663(21)	0.0311(14)	0.00304(14)	512.646(0.079), 78.083(0.059), 3899.89(0.0294)
^{169}Tm	637.900(3)	1.25(4)	0.0224(7)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{169}Tm	637.9020(20)	1.8(3)	0.032(5)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{238}U	638.505(12)	0.041(12)	0.00052(15)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{85}Rb	638.93(5)	0.0101(13)	0.00036(5)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{174}Yb	639.261(9)	1.43(17)	0.025(3)	*514.868(9.0)d, 396.329(1.42)d,* 5266.3(1.4)
^{133}Cs	645.453(5)	0.248(13)	0.0057(3)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{51}V	645.703(13)	0.769(17)	0.0457(10)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{141}Pr	645.720(24)	0.311(7)	0.00669(15)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{123}Te	645.819(20)	0.263(22)	0.0062(5)	602.729(2.46), 722.772(0.52)
^{63}Cu	648.80(3)	0.102(3)	0.00486(14)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{169}Tm	650.3720(10)	1.45(5)	0.0260(9)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{69}Ga	651.09(3)	0.1030(22)	0.00448(10)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{113}Cd	651.19(3)	358(5)	9.65(13)	558.32(1860), 245.3(274)
^{19}F	656.006(18)	0.00197(7)	0.000314(11)	*1633.53(0.0096)d,* 583.561(0.00356), 665.207(0.00149)
^{75}As	*657.05(5)d*	*0.279(14)*	*0.0113[1.3%]*	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{109}Ag	*657.50(10)d*	*1.86(5)*	*0.0523[99%]*	198.72(7.75), 235.62(4.62), 78.91(3.90)
^{139}La	658.278(12)	0.103(4)	0.00225(9)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{169}Tm	658.913(5)	1.56(5)	0.0280(9)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{79}Br	660.561(4)	0.082(3)	0.00311(11)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{140}Ce	661.99(5)	0.241(15)	0.0052(3)	4766.10(0.113), 475.04(0.082), 4291.08(0.053)
^{232}Th	665.11(10)	0.084(4)	0.00110(5)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{19}F	665.207(18)	0.00149(6)	$2.38(10)\times10^{-4}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{131}Xe	667.79(6)	6.7(5)	0.155(12)	772.72(1.78), 536.17(1.71), 630.29(1.41)
^{209}Bi	673.97(5)	0.0026(4)	$3.8(6)\times10^{-5}$	4171.05(0.0171), 4054.57(0.0137), 319.78(0.0115)
^{232}Th	681.81(9)	0.079(4)	0.00103(5)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{186}W	*685.73(4)d*	*3.24(7)*	*0.0534[1.4%]*	*479.550(2.59)d, 72.002(1.32)d, 134.247(1.050)d*
^{99}Ru	686.907(17)	0.52(5)	0.0156(15)	539.538(1.53), 475.0950(0.98), 631.22(0.30)
^{238}U	689.907(11)	0.043(10)	0.00055(13)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{79}Br	689.994(16)	0.083(4)	0.00315(15)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{69}Ga	690.943(24)	0.305(4)	0.01326(17)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{56}Fe	691.960(19)	0.1370(18)	0.00743(10)	7631.136(0.653), 7645.5450(0.549), 352.347(0.273)
^{121}Sb	*692.65(4)d*	*0.146(5)*	*0.00363[0.5%]*	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{77}Se	694.914(4)	0.443(10)	0.0170(4)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{143}Nd	696.499(10)	33.3(23)	0.70(5)	618.062(13.4), 814.12(4.98), 864.301(4.27)
^{81}Br	*698.374(5)d*	*0.337(3)*	*0.01278[1.0%]*	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{141}Pr	698.65(3)	0.22(6)	0.0047(13)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{169}Tm	703.6280(10)	1.32(4)	0.0237(7)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{232}Th	705.17(11)	0.050(4)	0.00065(5)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{139}La	708.244(14)	0.134(5)	0.00292(11)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{232}Th	714.23(10)	0.052(3)	0.00068(4)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{59}Co	717.310(18)	0.845(14)	0.0435(7)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{105}Pd	717.356(22)	0.777(9)	0.0221(3)	511.843(4.00), 616.192(0.629)
^{169}Tm	719.2610(20)	1.01(3)	0.0181(5)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{95}Mo	719.528(14)	0.310(10)	0.0098(3)	778.221(2.02), 849.85(0.43), 847.603(0.324)
^{139}La	722.538(14)	0.212(8)	0.00463(17)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{123}Te	722.772(25)	0.52(4)	0.0123(10)	602.729(2.46), 645.819(0.263)
^{167}Er	730.6580(10)	11.6(4)	0.210(7)	184.2850(56), 815.9890(42.5), 198.2440(29.9)
^{203}Tl	732.09(9)	0.064(3)	0.00095(4)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{203}Tl	737.12(8)	0.118(5)	0.00175(7)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{142}Ce	737.43(7)	0.026(3)	0.00056(7)	661.99(0.241), 4766.10(0.113), 475.04(0.082)
^{149}Sm	737.44(4)	597(8)	12.03(16)	333.97(4790), 439.40(2860), 505.51(528)
^{167}Er	741.3650(20)	6.72(24)	0.122(4)	184.2850(56), 815.9890(42.5), 198.2440(29.9)
^{142}Nd	742.106(22)	3.8(4)	0.080(8)	696.499(33.3), 618.062(13.4), 814.12(4.98)
^{141}Pr	746.973(14)	0.146(4)	0.00314(9)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{50}Cr	749.09(3)	0.569(9)	0.0332(5)	834.849(1.38), 8884.36(0.78), 7938.46(0.424)
^{139}La	*751.637(18)d*	*0.2650(23)*	*0.00578[0.9%]*	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{176}Lu	761.564(20)	2.60(9)	0.0450(16)	150.392(13.8), 457.944(8.3), 138.607(6.79)
^{174}Yb	767.169(9)	0.151(25)	0.0026(4)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{39}K	770.3050(20)	0.903(12)	0.0700(9)	29.8300(1.380), 1158.887(0.1600), 5380.018(0.146)
^{131}Xe	772.72(4)	1.78(14)	0.041(3)	667.79(6.7), 536.17(1.71), 630.29(1.41)
^{186}W	*772.89(5)d*	*0.490(10)*	*0.00808[1.4%]*	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{81}Br	*776.517(3)d*	*0.990(10)*	*0.0375[1.0%]*	*554.3480(0.838)d,* 245.203(0.80), *619.106(0.515)d*
^{89}Y	776.613(18)	0.659(9)	0.0225(3)	6080.171(0.76), 202.53(0.289), 574.106(0.174)
^{95}Mo	778.221(10)	2.02(6)	0.0638(19)	849.85(0.43), 847.603(0.324), 719.528(0.310)
^{157}Gd	780.174(10)	1010(22)	19.5(4)	181.931(7200), 79.5100(4010), 944.174(3090)
^{186}W	782.12(6)	0.22(3)	0.0036(5)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{59}Co	785.628(21)	2.41(7)	0.124(4)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{71}Ga	*786.17(16)d*	*0.160(22)*	*0.0070[2.4%]*	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{35}Cl	786.3020(10)	3.420(3)	0.2923(3)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{35}Cl	788.4280(10)	5.42(5)	0.463(4)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{183}W	792.059(16)	0.119(6)	0.00196(10)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{51}V	793.546(13)	0.199(5)	0.0118(3)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{232}Th	797.79(9)	0.0416(20)	0.00054(3)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{67}Zn	805.79(3)	0.045(3)	0.00208(14)	1077.335(0.356), 115.225(0.167), 7863.55(0.1410)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{174}Yb	811.427(9)	0.92(16)	0.016(3)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{143}Nd	814.12(3)	4.98(12)	0.1046(25)	696.499(33.3), 618.062(13.4), 864.301(4.27)
^{139}La	*815.772(19)d*	*1.430(12)*	*0.0312[0.9%]*	*1596.21(5.84)d, 487.021(2.79)d, 328.762(1.250)d*
^{167}Er	815.9890(20)	42.5(15)	0.77(3)	184.2850(56), 198.2440(29.9), 79.8040(18.2)
^{186}W	816.13(5)	0.104(4)	0.00171(7)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{135}Ba	818.514(12)	0.212(4)	0.00468(9)	1435.77(0.308), 627.29(0.294), 4095.84(0.155)
^{115}In	*818.70(20)d*	*17.8(7)*	*0.470[30%]*	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{167}Er	821.1680(20)	6.2(3)	0.112(5)	184.2850(56), 815.9890(42.5), 198.2440(29.9)
^{51}V	823.184(13)	0.320(8)	0.0190(5)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{174}Yb	825.22(7)	0.154(24)	0.0027(4)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{81}Br	*827.828(6)d*	*0.285(3)*	*0.01081[1.0%]*	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{238}U	831.837(19)	0.053(12)	0.00067(15)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{71}Ga	*834.08(3)d*	*1.65(5)*	*0.0717[2.4%]*	*2201.91(0.52)d, 629.96(0.490)d, 601.21(0.471)d*
^{68}Zn	834.77(3)	0.037(5)	0.00171(23)	1077.335(0.356), 115.225(0.167), 7863.55(0.1410)
^{232}Th	834.83(14)	0.059(5)	0.00077(7)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{53}Cr	834.849(22)	1.38(3)	0.0804(17)	8884.36(0.78), 749.09(0.569), 7938.46(0.424)
^{93}Nb	835.72(3)	0.0376(8)	0.00123(3)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{40}Ar	837.7(3)	0.063(7)	0.0048(5)	167.30(0.53), 4745.3(0.36), 1186.8(0.34)
^{186}W	840.18(5)	0.143(5)	0.00236(8)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{32}S	840.993(13)	0.347(6)	0.0328(6)	5420.574(0.308), 2379.661(0.208), 3220.588(0.117)
^{151}Eu	*841.570(5)d*	*223(5)*	*4.45[3.6%]*	89.847(1430), 77.23(187), *963.390(183.0)d*
^{51}V	845.948(13)	0.252(7)	0.0150(4)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{55}Mn	*846.754(20)d*	*13.10(4)*	*0.7226[12%]*	*1810.72(3.62)d,* 26.560(3.42), 83.884(3.11)
^{95}Mo	847.603(11)	0.324(9)	0.0102(3)	778.221(2.02), 849.85(0.43), 719.528(0.310)
^{95}Mo	849.85(3)	0.43(3)	0.0136(10)	778.221(2.02), 847.603(0.324), 719.528(0.310)
^{87}Sr	850.657(12)	0.275(4)	0.00951(14)	1836.067(1.030), 898.055(0.702)
^{238}U	853.23(4)	0.055(12)	0.00070(15)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{167}Er	853.4810(10)	7.5(3)	0.136(5)	184.2850(56), 815.9890(42.5), 198.2440(29.9)
^{9}Be	853.630(12)	0.00208(24)	0.00070(8)	6809.61(0.0058), 3367.448(0.00285), 2590.014(0.00191)
^{169}Tm	854.337(4)	1.41(4)	0.0253(7)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{64}Zn	855.69(3)	0.066(6)	0.0031(3)	1077.335(0.356), 115.225(0.167), 7863.55(0.1410)
^{171}Yb	857.621(7)	0.208(25)	0.0036(4)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{232}Th	860.61(13)	0.047(5)	0.00061(7)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{143}Nd	864.301(10)	4.27(11)	0.0897(23)	696.499(33.3), 618.062(13.4), 814.12(4.98)
^{141}Pr	864.98(3)	0.14(3)	0.0030(7)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{139}La	*867.846(20)d*	*0.337(4)*	*0.00735[0.9%]*	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{73}Ge	867.899(5)	0.553(12)	0.0231(5)	595.851(1.100), 608.353(0.250), 175.05(0.164)
^{23}Na	869.210(9)	0.1080(13)	0.01424(17)	*1368.66(0.530)d, 2754.13(0.530)d, 472.202(0.478)d*
^{16}O	870.68(6)	$1.77(11)\times10^{-4}$	$3.35(21)\times10^{-5}$	2184.42(1.64×10^{-4}), 1087.75(1.58×10^{-4}), 3272.02(3.53×10^{-5})
^{174}Yb	871.695(9)	0.24(4)	0.0042(7)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{85}Rb	872.94(4)	0.0321(5)	0.001138(18)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{203}Tl	873.16(8)	0.168(4)	0.00249(6)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{23}Na	874.389(6)	0.0760(11)	0.01002(15)	*1368.66(0.530)d, 2754.13(0.530)d, 472.202(0.478)d*
^{58}Ni	877.977(11)	0.236(3)	0.01219(15)	8998.414(1.49), 464.978(0.843), 8533.509(0.721)
^{83}Kr	881.74(11)	20.8(3)	0.752(11)	1213.42(8.28), 1463.86(7.10), 425.30(2.960)
^{161}Dy	882.27(6)	18.3(6)	0.341(11)	184.257(146), 538.609(69.2), 496.931(44.9)
^{76}Se	885.8270(20)	0.262(7)	0.0101(3)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{186}W	891.59(6)	0.136(5)	0.00224(8)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{71}Ga	*894.91(11)d*	*0.35(3)*	*0.0152[2.4%]*	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{157}Gd	897.502(10)	1200(50)	23.1(10)	181.931(7200), 79.5100(4010), 944.174(3090)
^{157}Gd	897.611(10)	1090(50)	21.0(10)	181.931(7200), 79.5100(4010), 944.174(3090)
^{87}Sr	898.055(11)	0.702(10)	0.0243(4)	1836.067(1.030), 850.657(0.275)
^{183}W	903.274(17)	0.115(5)	0.00190(8)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{167}Er	914.9420(10)	6.99(24)	0.127(4)	184.2850(56), 815.9890(42.5), 198.2440(29.9)
^{139}La	*919.550(23)d*	*0.1630(18)*	*0.00356[0.9%]*	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{121}Sb	921.00(7)	0.075(4)	0.00187(10)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{139}La	*925.189(21)d*	*0.422(4)*	*0.00921[0.9%]*	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{91}Zr	934.4640(10)	0.125(5)	0.00415(17)	1465.7(0.063), 1205.6(0.042), 2042.2(0.032)
^{235}U	943.14(7)	0.082(10)	0.00104(13)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{157}Gd	944.174(10)	3090(70)	59.5(13)	181.931(7200), 79.5100(4010), 962.104(2050)
^{59}Co	945.314(17)	0.98(4)	0.0504(21)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{203}Tl	949.88(8)	0.0479(15)	0.000710(22)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{93}Nb	957.28(5)	0.0248(7)	0.000809(23)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{73}Ge	961.055(7)	0.129(4)	0.00538(17)	595.851(1.100), 867.899(0.553), 608.353(0.250)
^{157}Gd	962.104(10)	2050(130)	39.5(25)	181.931(7200), 79.5100(4010), 944.174(3090)
^{151}Eu	*963.390(12)d*	*183.0(16)*	*3.65[3.6%]*	89.847(1430), *841.570(223)d,* 77.23(187)
^{171}Yb	964.197(10)	0.229(25)	0.0040(4)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{232}Th	968.78(9)	0.132(6)	0.00172(8)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{115}Sn	972.619(17)	0.0158(5)	0.000403(13)	1293.591(0.1340), 1171.28(0.0879), 1229.64(0.0673)
^{24}Mg	974.66(3)	0.00663(24)	0.00083(3)	3916.84(0.0320), 585.00(0.0314), 2828.172(0.0240)
^{157}Gd	977.121(10)	1440(21)	27.8(4)	181.931(7200), 79.5100(4010), 944.174(3090)
^{182}W	979.871(18)	0.102(10)	0.00168(16)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{7}Li	980.53(7)	0.00415(13)	0.00181(6)	2032.30(0.0381), 1051.90(0.00414)
^{27}Al	982.951(10)	0.00902(14)	0.001013(16)	*1778.92(0.232)d,* 30.6380(0.0798), 7724.027(0.0493)
^{19}F	983.538(20)	0.00116(4)	$1.85(6)\times10^{-4}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{141}Pr	992.00(4)	0.138(10)	0.00297(22)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{141}Pr	1006.361(22)	0.153(8)	0.00329(17)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{68}Zn	1007.809(25)	0.056(7)	0.0026(3)	1077.335(0.356), 115.225(0.167), 7863.55(0.1410)
^{232}Th	1013.84(11)	0.037(3)	0.00048(4)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{22}Ne	1017.00(20)	0.0030(5)	0.00045(8)	2035.67(0.0245), 350.72(0.0198), 4374.13(0.01910)
^{182}W	1026.373(17)	0.161(15)	0.00265(25)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{85}Rb	1026.55(6)	0.0218(4)	0.000773(14)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{85}Rb	1032.32(5)	0.0227(4)	0.000805(14)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{171}Yb	1039.150(7)	0.22(3)	0.0039(5)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{81}Br	*1044.002(5)d*	*0.323(3)*	*0.01225[1.0%]*	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{138}Ba	1047.73(6)	0.0319(10)	0.000704(22)	1435.77(0.308), 627.29(0.294), 818.514(0.212)
^{71}Ga	*1050.69(5)d*	*0.119(13)*	*0.0052[2.4%]*	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{7}Li	1051.90(7)	0.00414(12)	0.00181(5)	2032.30(0.0381), 980.53(0.00415)
^{19}F	1056.776(17)	0.00095(3)	$1.52(5)\times10^{-4}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{31}P	1071.217(23)	0.0249(12)	0.00244(12)	512.646(0.079), 78.083(0.059), 636.663(0.0311)
^{20}Ne	1071.34(7)	0.0054(4)	0.00081(6)	2035.67(0.0245), 350.72(0.0198), 4374.13(0.01910)
^{171}Yb	1076.246(6)	0.52(6)	0.0091(11)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{85}Rb	*1076.64(20)d*	*0.0301(5)*	*0.001067[0.08%]*	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{67}Zn	1077.335(16)	0.356(5)	0.01649(23)	115.225(0.167), 7863.55(0.1410), 1883.12(0.0718)
^{16}O	1087.75(6)	$1.58(7)\times10^{-4}$	$2.99(13)\times10^{-5}$	870.68(1.77×10^{-4}), 2184.42(1.64×10^{-4}), 3272.02(3.53×10^{-5})
^{171}Yb	1093.674(9)	0.24(3)	0.0042(5)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{115}In	*1097.30(20)d*	*87.3(17)*	*2.30[30%]*	*1293.54(131)d, 416.86(43.0)d,* 272.9660(33.1)
^{73}Ge	1101.282(6)	0.134(3)	0.00559(13)	595.851(1.100), 867.899(0.553), 608.353(0.250)
^{96}Zr	1102.67(6)	0.0235(8)	0.00078(3)	934.4640(0.125), 1465.7(0.063), 1205.6(0.042)
^{177}Hf	1102.824(5)	2.96(8)	0.0503(14)	213.439(29.3), *214.3410(16.3)d,* 93.182(13.3)
^{85}Rb	1105.52(10)	0.0151(3)	0.000535(11)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{157}Gd	1107.612(9)	1830(40)	35.3(8)	181.931(7200), 79.5100(4010), 944.174(3090)
^{142}Ce	1107.66(5)	0.040(3)	0.00087(7)	661.99(0.241), 4766.10(0.113), 475.04(0.082)
^{203}Tl	1110.37(8)	0.0413(12)	0.000612(18)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{93}Nb	1118.54(3)	0.022(7)	0.00072(23)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{157}Gd	1119.163(10)	1180(30)	22.7(6)	181.931(7200), 79.5100(4010), 944.174(3090)
^{171}Yb	1119.780(8)	0.46(6)	0.0081(11)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{203}Tl	1121.29(7)	0.0600(17)	0.000890(25)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{25}Mg	1129.575(23)	0.00891(25)	0.00111(3)	3916.84(0.0320), 585.00(0.0314), 2828.172(0.0240)
^{141}Pr	1150.946(21)	0.141(5)	0.00303(11)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{203}Tl	1155.43(7)	0.0605(17)	0.000897(25)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{39}K	1158.887(10)	0.1600(25)	0.01240(19)	29.8300(1.380), 770.3050(0.903), 5380.018(0.146)
^{35}Cl	1164.8650(10)	8.91(4)	0.762(3)	517.0730(7.58), 6110.842(6.59), 1951.1400(6.33)
^{177}Hf	1167.072(6)	3.95(10)	0.0671(17)	213.439(29.3), *214.3410(16.3)d,* 93.182(13.3)
^{119}Sn	1171.28(6)	0.0879(13)	0.00224(3)	1293.591(0.1340), 1229.64(0.0673), 972.619(0.0158)
^{177}Hf	1174.635(5)	4.8(7)	0.081(12)	213.439(29.3), *214.3410(16.3)d,* 93.182(13.3)
^{157}Gd	1183.968(10)	958(60)	18.5(12)	181.931(7200), 79.5100(4010), 944.174(3090)
^{157}Gd	1185.988(9)	1600(90)	30.8(17)	181.931(7200), 79.5100(4010), 944.174(3090)
^{40}Ar	1186.8(3)	0.34(3)	0.0258(23)	167.30(0.53), 4745.3(0.36), 516.0(0.167)
^{157}Gd	1187.122(9)	1420(90)	27.4(17)	181.931(7200), 79.5100(4010), 944.174(3090)
^{73}Ge	1204.199(6)	0.141(4)	0.00588(17)	595.851(1.100), 867.899(0.553), 608.353(0.250)
^{90}Zr	1205.6(7)	0.042(5)	0.00140(17)	934.4640(0.125), 1465.7(0.063), 2042.2(0.032)
^{93}Nb	1206.26(5)	0.0284(10)	0.00093(3)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{177}Hf	1207.213(5)	3.9(3)	0.066(5)	213.439(29.3), *214.3410(16.3)d,* 93.182(13.3)
^{83}Kr	1213.42(12)	8.28(17)	0.299(6)	881.74(20.8), 1463.86(7.10), 425.30(2.960)
^{75}As	*1216.08(5)d*	*0.155(8)*	*0.0063[1.3%]*	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{177}Hf	1229.287(8)	4.26(11)	0.0723(19)	213.439(29.3), *214.3410(16.3)d,* 93.182(13.3)
^{117}Sn	1229.64(6)	0.0673(13)	0.00172(3)	1293.591(0.1340), 1171.28(0.0879), 972.619(0.0158)
^{203}Tl	1234.69(7)	0.0746(25)	0.00111(4)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{56}Fe	1260.448(19)	0.0684(11)	0.00371(6)	7631.136(0.653), 7645.5450(0.549), 352.347(0.273)
^{67}Zn	1261.15(3)	0.0431(10)	0.00200(5)	1077.335(0.356), 115.225(0.167), 7863.55(0.1410)
^{135}Ba	1261.52(7)	0.095(5)	0.00210(11)	1435.77(0.308), 627.29(0.294), 818.514(0.212)
^{12}C	1261.765(9)	0.00124(3)	0.000313(8)	4945.301(0.00261), 3683.920(0.00122)
^{28}Si	1273.349(17)	0.0289(6)	0.00312(7)	3538.966(0.1190), 4933.889(0.1120), 2092.902(0.0331)
^{235}U	1279.01(10)	0.200(10)	0.00255(13)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{115}In	*1293.54(15)d*	*131(3)*	*3.46[30%]*	*1097.30(87.3)d, 416.86(43.0)d,* 272.9660(33.1)
^{115}Sn	1293.591(15)	0.1340(21)	0.00342(5)	1171.28(0.0879), 1229.64(0.0673), 972.619(0.0158)
^{76}Se	1296.986(7)	0.240(7)	0.0092(3)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{85}Rb	1304.48(4)	0.0204(5)	0.000723(18)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{173}Yb	1308.53(11)	0.168(19)	0.0029(3)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{77}Se	1308.632(5)	0.317(8)	0.0122(3)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{19}F	1309.126(17)	0.00076(3)	$1.21(5)\times10^{-4}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{81}Br	*1317.473(10)d*	*0.314(3)*	*0.01191[1.0%]*	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{131}Xe	1317.93(8)	0.89(7)	0.0205(16)	667.79(6.7), 772.72(1.78), 536.17(1.71)
^{67}Zn	1340.14(3)	0.0457(16)	0.00212(7)	1077.335(0.356), 115.225(0.167), 7863.55(0.1410)
^{23}Na	*1368.66(3)d*	*0.530(8)*	*0.0699[2.3%]*	*2754.13(0.530)d, 472.202(0.478)d,* 90.9920(0.235)
^{174}Yb	1378.22(7)	0.42(12)	0.0074(21)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{48}Ti	1381.745(5)	5.18(12)	0.328(8)	6760.084(2.97), 6418.426(1.96), 341.706(1.840)
^{19}F	1387.901(20)	0.00082(3)	$1.31(5)\times10^{-4}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{91}Zr	1405.159(3)	0.0301(10)	0.00100(3)	934.4640(0.125), 1465.7(0.063), 1205.6(0.042)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{51}V	*1434.10(3)d*	*4.81(10)*	*0.286[91%]*	125.082(1.61), 6517.282(0.78), 645.703(0.769)
^{137}Ba	1435.77(4)	0.308(7)	0.00680(15)	627.29(0.294), 818.514(0.212), 4095.84(0.155)
^{137}Ba	1444.91(5)	0.0801(20)	0.00177(4)	1435.77(0.308), 627.29(0.294), 818.514(0.212)
^{83}Kr	1463.86(6)	7.10(8)	0.257(3)	881.74(20.8), 1213.42(8.28), 425.30(2.960)
^{71}Ga	*1464.00(7)d*	*0.0609(19)*	*0.00265[2.4%]*	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{90}Zr	1465.7(7)	0.063(15)	0.0021(5)	934.4640(0.125), 1205.6(0.042), 2042.2(0.032)
^{81}Br	*1474.880(10)d*	*0.1930(20)*	*0.00732[1.0%]*	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{115}In	*1507.40(20)d*	*15.5(5)*	*0.409[30%]*	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{59}Co	1515.720(25)	1.740(25)	0.0895(13)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{171}Yb	1521.197(16)	0.193(24)	0.0034(4)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{51}V	1558.843(18)	0.323(8)	0.0192(5)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{199}Hg	1570.273(12)	29.6(7)	0.447(11)	367.947(251), 5967.02(62.5), 1693.296(56.2)
^{141}Pr	*1575.6(5)d*	*0.426(12)*	*0.0092[1.8%]*	176.8630(1.06), 140.9050(0.479), 5666.170(0.379)
^{48}Ti	1585.941(5)	0.624(8)	0.0395(5)	1381.745(5.18), 6760.084(2.97), 6418.426(1.96)
^{139}La	*1596.21(4)d*	*5.84(9)*	*0.1274[0.9%]*	*487.021(2.79)d, 815.772(1.430)d, 328.762(1.250)d*
^{71}Ga	*1596.68(8)d*	*0.0732(16)*	*0.00318[2.4%]*	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{35}Cl	1601.072(4)	1.210(7)	0.1034(6)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{56}Fe	1612.786(18)	0.1530(22)	0.00830(12)	7631.136(0.653), 7645.5450(0.549), 352.347(0.273)
^{27}Al	1622.877(18)	0.00989(15)	0.001111(17)	*1778.92(0.232)d,* 30.6380(0.0798), 7724.027(0.0493)
^{19}F	*1633.53(3)d*	*0.0096(4)*	*0.00153[100%]*	583.561(0.00356), 656.006(0.00197), 665.207(0.00149)
^{23}Na	1636.293(21)	0.0250(7)	0.00330(9)	*1368.66(0.530)d, 2754.13(0.530)d, 472.202(0.478)d*
^{173}Yb	1638.36(17)	0.22(3)	0.0039(5)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{14}N	1678.281(14)	0.0063(3)	0.00136(7)	5269.159(0.0236), 5297.821(0.01680), 5533.395(0.0155)
^{173}Yb	1679.70(14)	0.161(19)	0.0028(3)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{199}Hg	1693.296(11)	56.2(16)	0.849(24)	367.947(251), 5967.02(62.5), 4739.43(30.1)
^{56}Fe	1725.288(21)	0.181(3)	0.00982(16)	7631.136(0.653), 7645.5450(0.549), 352.347(0.273)
^{203}Tl	1741.01(8)	0.0548(25)	0.00081(4)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{115}In	*1753.8(6)d*	*3.82(12)*	*0.101[30%]*	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{51}V	1777.961(19)	0.169(13)	0.0101(8)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{27}Al	*1778.92(3)d*	*0.232(4)*	*0.0261[95%]*	30.6380(0.0798), 7724.027(0.0493), 3033.896(0.0179)
^{53}Cr	1784.70(4)	0.1760(20)	0.01026(12)	834.849(1.38), 8884.36(0.78), 749.09(0.569)
^{25}Mg	1808.668(22)	0.0180(5)	0.00224(6)	3916.84(0.0320), 585.00(0.0314), 2828.172(0.0240)
^{55}Mn	*1810.72(4)d*	*3.62(11)*	*0.200[12%]*	*846.754(13.10)d,* 26.560(3.42), 83.884(3.11)
^{59}Co	1830.800(25)	1.700(23)	0.0874(12)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{87}Sr	1836.067(21)	1.030(18)	0.0356(6)	898.055(0.702), 850.657(0.275)
^{19}F	1843.688(20)	0.000600(23)	$9.6(4)\times10^{-5}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{71}Ga	*1861.09(6)d*	*0.0904(19)*	*0.00393[2.4%]*	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{90}Zr	1880.4(4)	0.016(4)	0.00053(13)	934.4640(0.125), 1465.7(0.063), 1205.6(0.042)
^{67}Zn	1883.12(3)	0.0718(18)	0.00333(8)	1077.335(0.356), 115.225(0.167), 7863.55(0.1410)
^{14}N	1884.821(16)	0.01470(18)	0.00318(4)	5269.159(0.0236), 5297.821(0.01680), 5533.395(0.0155)
^{85}Rb	1890.7(4)	0.017(4)	0.00060(14)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{83}Kr	1897.79(8)	2.24(3)	0.0810(11)	881.74(20.8), 1213.42(8.28), 1463.86(7.10)
^{20}Ne	1931.08(6)	0.00591(22)	0.00089(3)	2035.67(0.0245), 350.72(0.0198), 4374.13(0.01910)
^{40}Ca	1942.67(3)	0.352(7)	0.0266(5)	6419.59(0.176), 4418.52(0.0708), 2001.31(0.0659)
^{35}Cl	1951.1400(20)	6.33(4)	0.541(3)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{102}Ru	1959.30(7)	0.210(19)	0.0063(6)	539.538(1.53), 475.0950(0.98), 686.907(0.52)
^{35}Cl	1959.346(4)	4.10(3)	0.350(3)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{22}Ne	1979.89(6)	0.00306(17)	0.00046(3)	2035.67(0.0245), 350.72(0.0198), 4374.13(0.01910)
^{14}N	1999.690(16)	0.00323(4)	0.000699(9)	5269.159(0.0236), 5297.821(0.01680), 5533.395(0.0155)
^{40}Ca	2001.31(3)	0.0659(15)	0.00498(11)	1942.67(0.352), 6419.59(0.176), 4418.52(0.0708)
^{40}Ca	2009.84(3)	0.0409(10)	0.00309(8)	1942.67(0.352), 6419.59(0.176), 4418.52(0.0708)
^{23}Na	2025.139(22)	0.0341(8)	0.00450(11)	*1368.66(0.530)d, 2754.13(0.530)d, 472.202(0.478)d*
^{7}Li	2032.30(4)	0.0381(8)	0.0166(4)	980.53(0.00415), 1051.90(0.00414)
^{20}Ne	2035.67(20)	0.0245(25)	0.0037(4)	350.72(0.0198), 4374.13(0.01910), 2793.94(0.00900)
^{90}Zr	2042.2(4)	0.032(8)	0.0011(3)	934.4640(0.125), 1465.7(0.063), 1205.6(0.042)
^{28}Si	2092.902(18)	0.0331(6)	0.00357(7)	3538.966(0.1190), 4933.889(0.1120), 1273.349(0.0289)
^{115}In	*2112.1(4)d*	*24.1(7)*	*0.636[30%]*	*1293.54(131)d, 1097.30(87.3)d, 416.86(43.0)d*
^{115}Sn	2112.302(16)	0.0152(5)	0.000388(13)	1293.591(0.1340), 1171.28(0.0879), 1229.64(0.0673)
^{55}Mn	*2113.05(4)d*	*1.91(5)*	*0.105[12%]*	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{31}P	2114.47(3)	0.0115(5)	0.00113(5)	512.646(0.079), 78.083(0.059), 636.663(0.0311)
^{31}P	2151.52(4)	0.0100(5)	0.00098(5)	512.646(0.079), 78.083(0.059), 636.663(0.0311)
^{31}P	2156.90(4)	0.0128(6)	0.00125(6)	512.646(0.079), 78.083(0.059), 636.663(0.0311)
^{16}O	2184.42(7)	$1.64(7)\times10^{-4}$	$3.11(13)\times10^{-5}$	$870.68(1.77\times10^{-4})$, $1087.75(1.58\times10^{-4})$, $3272.02(3.53\times10^{-5})$
^{71}Ga	*2201.91(13)d*	*0.52(4)*	*0.0226[2.4%]*	*834.08(1.65)d, 629.96(0.490)d, 601.21(0.471)d*
^{23}Na	2208.40(3)	0.0259(9)	0.00341(12)	*1368.66(0.530)d, 2754.13(0.530)d, 472.202(0.478)d*
^{137}Ba	2217.84(8)	0.044(5)	0.00097(11)	1435.77(0.308), 627.29(0.294), 818.514(0.212)
^{1}H	2223.24835(9)	0.3326(7)	1.0000(21)	
^{53}Cr	2239.04(8)	0.186(3)	0.01084(17)	834.849(1.38), 8884.36(0.78), 749.09(0.569)
^{27}Al	2282.794(9)	0.00890(17)	0.001000(19)	*1778.92(0.232)d,* 30.6380(0.0798), 7724.027(0.0493)
^{32}S	2379.661(14)	0.208(5)	0.0197(5)	840.993(0.347), 5420.574(0.308), 3220.588(0.117)
^{171}Yb	2401.37(3)	0.20(3)	0.0035(5)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{23}Na	2414.457(21)	0.0237(5)	0.00312(7)	*1368.66(0.530)d, 2754.13(0.530)d, 472.202(0.478)d*
^{19}F	2431.084(10)	0.000392(24)	$6.3(4)\times10^{-5}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{24}Mg	2438.54(3)	0.00473(19)	0.000590(24)	3916.84(0.0320), 585.00(0.0314), 2828.172(0.0240)
^{71}Ga	*2491.6(3)d*	*0.17(4)*	*0.0074[2.4%]*	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{209}Bi	2505.35(7)	0.0021(3)	3.0(4)×10^{-5}	4171.05(0.0171), 4054.57(0.0137), 319.78(0.0115)
^{71}Ga	*2507.40(12)d*	*0.28(4)*	*0.0122[2.4%]*	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{23}Na	2517.81(3)	0.0699(15)	0.00921(20)	*1368.66(0.530)d, 2754.13(0.530)d, 472.202(0.478)d*
^{14}N	2520.457(17)	0.00441(24)	0.00095(5)	5269.159(0.0236), 5297.821(0.01680), 5533.395(0.0155)
^{139}La	*2521.40(5)d*	*0.2120(23)*	*0.00463[0.9%]*	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{19}F	2529.212(18)	0.00061(3)	9.7(5)×10^{-5}	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{90}Zr	2557.8(8)	0.016(4)	0.00053(13)	934.4640(0.125), 1465.7(0.063), 1205.6(0.042)
^{90}Zr	2577.3(14)	0.016(4)	0.00053(13)	934.4640(0.125), 1465.7(0.063), 1205.6(0.042)
^{31}P	2586.00(4)	0.0089(4)	0.00087(4)	512.646(0.079), 78.083(0.059), 636.663(0.0311)
^{9}Be	2590.014(19)	0.00191(15)	0.00064(5)	6809.61(0.0058), 3367.448(0.00285), 853.630(0.00208)
^{27}Al	2590.193(9)	0.00807(16)	0.000906(18)	*1778.92(0.232)d,* 30.6380(0.0798), 7724.027(0.0493)
^{23}Na	2752.271(23)	0.0654(12)	0.00862(16)	*1368.66(0.530)d, 2754.13(0.530)d, 472.202(0.478)d*
^{23}Na	*2754.13(6)d*	*0.530(8)*	*0.0699[2.3%]*	*1368.66(0.530)d, 472.202(0.478)d,* 90.9920(0.235)
^{40}Ar	2771.9(8)	0.057(9)	0.0043(7)	167.30(0.53), 4745.3(0.36), 1186.8(0.34)
^{20}Ne	2793.94(5)	0.00900(11)	0.001352(17)	2035.67(0.0245), 350.72(0.0198), 4374.13(0.01910)
^{24}Mg	2828.172(25)	0.0240(8)	0.00299(10)	3916.84(0.0320), 585.00(0.0314), 1808.668(0.0180)
^{209}Bi	2828.29(7)	0.00179(24)	2.6(4)×10^{-5}	4171.05(0.0171), 4054.57(0.0137), 319.78(0.0115)
^{35}Cl	2863.819(12)	1.820(10)	0.1556(9)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{20}Ne	2895.32(10)	0.00252(7)	0.000378(11)	2035.67(0.0245), 350.72(0.0198), 4374.13(0.01910)
^{32}S	2930.67(3)	0.0832(13)	0.00786(12)	840.993(0.347), 5420.574(0.308), 2379.661(0.208)
^{19}F	3014.568(10)	0.000405(15)	6.46(24)×10^{-5}	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{27}Al	3033.896(6)	0.0179(3)	0.00201(3)	*1778.92(0.232)d,* 30.6380(0.0798), 7724.027(0.0493)
^{71}Ga	*3034.6(4)d*	*0.15(3)*	*0.0065[2.4%]*	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{24}Mg	3054.00(3)	0.0083(3)	0.00103(4)	3916.84(0.0320), 585.00(0.0314), 2828.172(0.0240)
^{31}P	3058.17(4)	0.0110(4)	0.00108(4)	512.646(0.079), 78.083(0.059), 636.663(0.0311)
^{35}Cl	3061.82(4)	1.130(7)	0.0966(6)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{139}La	3082.979(24)	0.140(5)	0.00305(11)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{32}S	3220.588(17)	0.117(5)	0.0111(5)	840.993(0.347), 5420.574(0.308), 2379.661(0.208)
^{16}O	3272.02(8)	3.53(23)×10^{-5}	6.7(4)×10^{-6}	870.68(1.77×10^{-4}), 2184.42(1.64×10^{-4}), 1087.75(1.58×10^{-4})
^{31}P	3273.98(4)	0.0083(3)	0.00081(3)	512.646(0.079), 78.083(0.059), 636.663(0.0311)
^{24}Mg	3301.41(3)	0.00620(24)	0.00077(3)	3916.84(0.0320), 585.00(0.0314), 2828.172(0.0240)
^{9}Be	3367.448(25)	0.00285(22)	0.00096(7)	6809.61(0.0058), 853.630(0.00208), 2590.014(0.00191)
^{24}Mg	3413.10(3)	0.00401(16)	0.000500(20)	3916.84(0.0320), 585.00(0.0314), 2828.172(0.0240)
^{9}Be	3443.406(20)	0.00098(7)	0.000330(24)	6809.61(0.0058), 3367.448(0.00285), 853.630(0.00208)
^{27}Al	3465.058(7)	0.0146(3)	0.00164(3)	*1778.92(0.232)d,* 30.6380(0.0798), 7724.027(0.0493)
^{186}W	3469.40(14)	0.103(6)	0.00170(10)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{232}Th	3473.00(8)	0.057(3)	0.00074(4)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{90}Zr	3475.8(15)	0.019(5)	0.00063(17)	934.4640(0.125), 1465.7(0.063), 1205.6(0.042)
^{19}F	3488.064(18)	0.00073(3)	1.16(5)×10^{-4}	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{31}P	3522.59(3)	0.0219(8)	0.00214(8)	512.646(0.079), 78.083(0.059), 636.663(0.0311)
^{232}Th	3530.96(13)	0.0397(24)	0.00052(3)	583.27(0.279), 566.63(0.19), 472.30(0.165)
^{14}N	3531.981(15)	0.0071(4)	0.00154(9)	5269.159(0.0236), 5297.821(0.01680), 5533.395(0.0155)
^{28}Si	3538.966(22)	0.1190(20)	0.01284(22)	4933.889(0.1120), 2092.902(0.0331), 1273.349(0.0289)
^{238}U	3583.10(7)	0.042(3)	0.00053(4)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{23}Na	3587.460(25)	0.0596(11)	0.00786(15)	*1368.66(0.530)d, 2754.13(0.530)d, 472.202(0.478)d*
^{27}Al	3591.189(8)	0.01000(21)	0.001123(24)	*1778.92(0.232)d,* 30.6380(0.0798), 7724.027(0.0493)
^{174}Yb	3632.3(10)	0.40(10)	0.0070(18)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{138}Ba	3641.12(9)	0.0562(16)	0.00124(4)	1435.77(0.308), 627.29(0.294), 818.514(0.212)
^{139}La	3665.631(24)	0.135(5)	0.00295(11)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{14}N	3677.732(13)	0.0115(6)	0.00249(13)	5269.159(0.0236), 5297.821(0.01680), 5533.395(0.0155)
^{139}La	3679.641(24)	0.139(5)	0.00303(11)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{12}C	3683.920(9)	0.00122(3)	0.000308(8)	4945.301(0.00261), 1261.765(0.00124)
^{40}Ar	3700.6(8)	0.065(7)	0.0049(5)	167.30(0.53), 4745.3(0.36), 1186.8(0.34)
^{174}Yb	3714.7(5)	0.23(6)	0.0040(11)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{141}Pr	3790.37(3)	0.140(6)	0.00301(13)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{25}Mg	3831.480(24)	0.00418(14)	0.000521(17)	3916.84(0.0320), 585.00(0.0314), 2828.172(0.0240)
^{174}Yb	3885.0(4)	0.72(17)	0.013(3)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{31}P	3899.89(3)	0.0294(10)	0.00288(10)	512.646(0.079), 78.083(0.059), 636.663(0.0311)
^{24}Mg	3916.84(3)	0.0320(11)	0.00399(14)	585.00(0.0314), 2828.172(0.0240), 1808.668(0.0180)
^{174}Yb	3929.3(4)	0.38(9)	0.0067(16)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{19}F	3964.872(20)	0.000435(18)	6.9(3)×10^{-5}	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{23}Na	3981.450(25)	0.0677(11)	0.00892(15)	*1368.66(0.530)d, 2754.13(0.530)d, 472.202(0.478)d*
^{90}Zr	3982.3(15)	0.015(4)	0.00050(13)	934.4640(0.125), 1465.7(0.063), 1205.6(0.042)
^{209}Bi	4054.57(6)	0.0137(18)	2.0(3)×10^{-4}	4171.05(0.0171), 319.78(0.0115), 4101.76(0.0089)
^{238}U	4060.35(5)	0.186(3)	0.00237(4)	*74.6640(1.30000)d, 106.1230(0.723)d, 277.5990(0.382)d*
^{138}Ba	4095.84(9)	0.155(4)	0.00342(9)	1435.77(0.308), 627.29(0.294), 818.514(0.212)
^{209}Bi	4101.76(6)	0.0089(12)	1.29(17)×10^{-4}	4171.05(0.0171), 4054.57(0.0137), 319.78(0.0115)
^{27}Al	4133.407(7)	0.0149(3)	0.00167(3)	*1778.92(0.232)d,* 30.6380(0.0798), 7724.027(0.0493)
^{209}Bi	4165.36(5)	0.00173(24)	2.5(4)×10^{-5}	4171.05(0.0171), 4054.57(0.0137), 319.78(0.0115)
^{209}Bi	4171.05(9)	0.0171(22)	2.5(3)×10^{-4}	4054.57(0.0137), 319.78(0.0115), 4101.76(0.0089)
^{56}Fe	4218.27(5)	0.099(3)	0.00537(16)	7631.136(0.653), 7645.5450(0.549), 352.347(0.273)
^{203}Tl	4225.47(17)	0.045(3)	0.00067(4)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{186}W	4249.66(7)	0.115(6)	0.00190(10)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{209}Bi	4256.65(5)	0.0024(3)	3.5(4)×10^{-5}	4171.05(0.0171), 4054.57(0.0137), 319.78(0.0115)
^{27}Al	4259.534(7)	0.0153(3)	0.00172(3)	*1778.92(0.232)d,* 30.6380(0.0798), 7724.027(0.0493)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{140}Ce	4291.08(4)	0.053(4)	0.00115(9)	661.99(0.241), 4766.10(0.113), 475.04(0.082)
^{142}Ce	4336.46(8)	0.0251(20)	0.00054(4)	661.99(0.241), 4766.10(0.113), 475.04(0.082)
^{20}Ne	4374.13(6)	0.01910(22)	0.00287(3)	2035.67(0.0245), 350.72(0.0198), 2793.94(0.00900)
^{139}La	4389.505(14)	0.255(10)	0.00556(22)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{139}La	4416.22(3)	0.247(9)	0.00539(20)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{40}Ca	4418.52(5)	0.0708(18)	0.00535(14)	1942.67(0.352), 6419.59(0.176), 2001.31(0.0659)
^{203}Tl	4495.74(13)	0.043(4)	0.00064(6)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{139}La	4502.647(13)	0.164(6)	0.00358(13)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{14}N	4508.731(12)	0.0132(7)	0.00286(15)	5269.159(0.0236), 5297.821(0.01680), 5533.395(0.0155)
^{203}Tl	4540.62(15)	0.0413(25)	0.00061(4)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{19}F	4556.817(20)	0.000517(23)	$8.2(4)\times10^{-5}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{184}W	4573.7(3)	0.104(9)	0.00171(15)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{186}W	4574.94(8)	0.152(10)	0.00251(16)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{186}W	4626.35(7)	0.124(7)	0.00204(12)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{31}P	4671.37(3)	0.0194(7)	0.00190(7)	512.646(0.079), 78.083(0.059), 636.663(0.0311)
^{186}W	4684.40(8)	0.150(7)	0.00247(12)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{203}Tl	4687.58(12)	0.098(4)	0.00145(6)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{27}Al	4690.676(5)	0.01090(24)	0.00122(3)	*1778.92(0.232)d,* 30.6380(0.0798), 7724.027(0.0493)
^{141}Pr	4692.120(22)	0.291(10)	0.00626(22)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{203}Tl	4705.83(14)	0.058(3)	0.00086(4)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{27}Al	4733.844(11)	0.0126(3)	0.00142(3)	*1778.92(0.232)d,* 30.6380(0.0798), 7724.027(0.0493)
^{199}Hg	4739.43(5)	30.1(8)	0.455(12)	367.947(251), 5967.02(62.5), 1693.296(56.2)
^{40}Ar	4745.3(8)	0.36(4)	0.027(3)	167.30(0.53), 1186.8(0.34), 516.0(0.167)
^{203}Tl	4752.24(11)	0.148(5)	0.00219(7)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{140}Ce	4766.10(5)	0.113(8)	0.00244(17)	661.99(0.241), 475.04(0.082), 4291.08(0.053)
^{141}Pr	4801.22(3)	0.140(8)	0.00301(17)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{174}Yb	4830.2(4)	0.25(6)	0.0044(11)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{203}Tl	4841.40(15)	0.090(4)	0.00133(6)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{139}La	4842.695(7)	0.661(25)	0.0144(6)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{32}S	4869.61(3)	0.0650(13)	0.00614(12)	840.993(0.347), 5420.574(0.308), 2379.661(0.208)
^{139}La	4888.606(7)	0.150(6)	0.00327(13)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{203}Tl	4913.57(11)	0.164(5)	0.00243(7)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{28}Si	4933.889(24)	0.1120(23)	0.01209(25)	3538.966(0.1190), 2092.902(0.0331), 1273.349(0.0289)
^{12}C	4945.301(3)	0.00261(5)	0.000659(13)	1261.765(0.00124), 3683.920(0.00122)
^{35}Cl	4979.759(20)	1.230(10)	0.1051(9)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{174}Yb	5011.0(4)	0.18(4)	0.0032(7)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{55}Mn	5014.37(7)	0.737(20)	0.0407(11)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{203}Tl	5014.61(15)	0.058(3)	0.00086(4)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{19}F	5033.530(23)	0.00063(3)	$1.00(5)\times10^{-4}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{141}Pr	5096.081(15)	0.208(8)	0.00447(17)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{139}La	5097.726(6)	0.68(3)	0.0148(7)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{93}Nb	5103.34(7)	0.0232(12)	0.00076(4)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{139}La	5126.257(6)	0.114(4)	0.00249(9)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{203}Tl	5130.50(23)	0.058(4)	0.00086(6)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{141}Pr	5140.72(3)	0.269(11)	0.00579(24)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{164}Dy	5142.29(3)	15.7(10)	0.293(19)	184.257(146), 538.609(69.2), 496.931(44.9)
^{51}V	5142.363(23)	0.200(6)	0.0119(4)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{190}Os	5146.63(14)	0.409(20)	0.0065(3)	186.7180(2.08), 155.10(1.19), 557.978(0.84)
^{191}Ir	5147.51(12)	1.29(6)	0.0203(10)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{139}La	5160.902(6)	0.089(5)	0.00194(11)	*1596.21(5.84)d, 487.021(2.79)d, 815.772(1.430)d*
^{182}W	5164.43(3)	0.19(3)	0.0031(5)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{203}Tl	5180.38(12)	0.141(5)	0.00209(7)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{55}Mn	5180.89(8)	0.412(13)	0.0227(7)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{59}Co	5181.77(7)	0.912(23)	0.0469(12)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{51}V	5210.143(19)	0.244(20)	0.0145(12)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{203}Tl	5261.48(13)	0.084(4)	0.00125(6)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{186}W	5261.68(6)	0.86(4)	0.0142(7)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{174}Yb	5266.3(4)	1.4(6)	0.025(11)	*514.868(9.0)d,* 639.261(1.43), *396.329(1.42)d*
^{14}N	5269.159(13)	0.0236(3)	0.00511(7)	5297.821(0.01680), 5533.395(0.0155), 1884.821(0.01470)
^{19}F	5279.360(20)	0.000421(20)	$6.7(3)\times10^{-5}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{203}Tl	5279.86(12)	0.207(6)	0.00307(9)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{14}N	5297.821(15)	0.01680(23)	0.00363(5)	5269.159(0.0236), 5533.395(0.0155), 1884.821(0.01470)
^{186}W	5320.72(6)	0.605(21)	0.0100(4)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{39}K	5380.018(16)	0.146(4)	0.0113(3)	29.8300(1.380), 770.3050(0.903), 1158.887(0.1600)
^{203}Tl	5404.41(12)	0.147(5)	0.00218(7)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{32}S	5420.574(24)	0.308(7)	0.0291(7)	840.993(0.347), 2379.661(0.208), 3220.588(0.117)
^{203}Tl	5451.07(14)	0.079(3)	0.00117(4)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{68}Zn	5474.02(10)	0.042(5)	0.00195(23)	1077.335(0.356), 115.225(0.167), 7863.55(0.1410)
^{93}Nb	5496.24(10)	0.0205(14)	0.00067(5)	99.4070(0.196), 255.9290(0.176), 253.115(0.1320)
^{133}Cs	5505.46(20)	0.333(22)	0.0076(5)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{51}V	5515.813(23)	0.39(4)	0.0232(24)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{55}Mn	5527.08(8)	0.788(22)	0.0435(12)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{203}Tl	5533.35(13)	0.131(5)	0.00194(7)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{14}N	5533.395(14)	0.0155(8)	0.00335(17)	5269.159(0.0236), 5297.821(0.01680), 1884.821(0.01470)
^{75}As	5533.94(3)	0.151(7)	0.0061(3)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{191}Ir	5534.73(12)	1.39(6)	0.0219(10)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{19}F	5543.713(10)	0.000407(17)	$6.5(3)\times10^{-5}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{164}Dy	5557.26(3)	28.7(14)	0.54(3)	184.257(146), 538.609(69.2), 496.931(44.9)
^{14}N	5562.057(13)	0.0084(5)	0.00182(11)	5269.159(0.0236), 5297.821(0.01680), 5533.395(0.0155)
^{191}Ir	5564.54(14)	1.71(8)	0.0270(13)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{133}Cs	5572.00(25)	0.249(20)	0.0057(5)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{40}Ar	5582.4(8)	0.077(8)	0.0058(6)	167.30(0.53), 4745.3(0.36), 1186.8(0.34)
^{76}Se	5600.995(21)	0.301(14)	0.0116(5)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{71}Ga	5601.75(25)	0.063(4)	0.00274(17)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{203}Tl	5603.28(13)	0.282(10)	0.00418(15)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{164}Dy	5607.69(3)	35.9(16)	0.67(3)	184.257(146), 538.609(69.2), 496.931(44.9)
^{133}Cs	5637.056(17)	0.277(21)	0.0063(5)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{203}Tl	5641.57(12)	0.316(7)	0.00469(10)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{199}Hg	5658.24(4)	27.5(7)	0.415(11)	367.947(251), 5967.02(62.5), 1693.296(56.2)
^{59}Co	5660.93(4)	1.89(6)	0.097(3)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{141}Pr	5666.170(6)	0.379(15)	0.0082(3)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{191}Ir	5667.81(3)	2.68(10)	0.0423(16)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{191}Ir	5689.06(3)	1.73(7)	0.0273(11)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{197}Au	5710.52(10)	1.27(17)	0.020(3)	*410.(94.30)d,* 214.9710(9.0), 247.5730(5.56)
^{35}Cl	5715.244(21)	1.820(16)	0.1556(14)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{193}Ir	5728.97(7)	1.15(5)	0.0181(8)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{137}Ba	5730.81(6)	0.0617(20)	0.00136(4)	1435.77(0.308), 627.29(0.294), 818.514(0.212)
^{169}Tm	5731.36(11)	1.17(22)	0.021(4)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{169}Tm	5737.51(11)	1.42(7)	0.0255(13)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{59}Co	5742.53(4)	0.766(23)	0.0394(12)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{51}V	5752.064(22)	0.366(24)	0.0218(14)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{191}Ir	5783.01(3)	1.34(6)	0.0211(10)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{141}Pr	5843.026(5)	0.147(6)	0.00316(13)	176.8630(1.06), 140.9050(0.479), *1575.6(0.426)d*
^{203}Tl	5917.48(16)	0.084(4)	0.00125(6)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{55}Mn	5920.39(8)	1.06(3)	0.0585(17)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{56}Fe	5920.449(21)	0.225(5)	0.0122(3)	7631.136(0.653), 7645.5450(0.549), 352.347(0.273)
^{169}Tm	5941.47(11)	1.51(7)	0.0271(13)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{169}Tm	5943.09(11)	1.03(20)	0.018(4)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{191}Ir	5958.28(3)	1.79(8)	0.0282(13)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{199}Hg	5967.02(4)	62.5(15)	0.944(23)	367.947(251), 1693.296(56.2), 4739.43(30.1)
^{59}Co	5975.98(4)	2.9(4)	0.149(21)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{169}Tm	6001.61(11)	0.99(10)	0.0178(18)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{76}Se	6006.973(21)	0.289(20)	0.0111(8)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{71}Ga	6007.25(14)	0.069(5)	0.00300(22)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{19}F	6016.802(16)	0.00094(4)	$1.50(6)\times10^{-4}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{56}Fe	6018.532(20)	0.227(5)	0.0123(3)	7631.136(0.653), 7645.5450(0.549), 352.347(0.273)
^{89}Y	6080.171(22)	0.76(4)	0.0259(14)	776.613(0.659), 202.53(0.289), 574.106(0.174)
^{191}Ir	6082.48(3)	2.62(11)	0.0413(17)	351.689(10.9), *328.448(9.1)d,* 84.2740(7.7)
^{35}Cl	6110.842(18)	6.59(6)	0.563(5)	1164.8650(8.91), 517.0730(7.58), 1951.1400(6.33)
^{71}Ga	6111.72(24)	0.055(4)	0.00239(17)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{182}W	6144.28(3)	0.174(11)	0.00287(18)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{203}Tl	6166.61(14)	0.166(6)	0.00246(9)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{133}Cs	6175.412(17)	0.252(16)	0.0057(4)	176.4040(2.47), 205.615(1.560), 510.795(1.54)
^{203}Tl	6183.05(15)	0.081(4)	0.00120(6)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{182}W	6190.78(3)	0.45(4)	0.0074(7)	*685.73(3.24)d, 479.550(2.59)d, 72.002(1.32)d*
^{159}Tb	6218.56(7)	0.190(22)	0.0036(4)	75.0500(1.78), 63.6860(1.46), 64.1100(1.2)
^{203}Tl	6222.57(16)	0.065(4)	0.00096(6)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{91}Zr	6295.13(16)	0.0279(20)	0.00093(7)	934.4640(0.125), 1465.7(0.063), 1205.6(0.042)
^{14}N	6322.428(12)	0.01450(22)	0.00314(5)	5269.159(0.0236), 5297.821(0.01680), 5533.395(0.0155)
^{71}Ga	6358.61(14)	0.138(5)	0.00600(22)	*834.08(1.65)d, 2201.91(0.52)d, 629.96(0.490)d*
^{28}Si	6379.801(21)	0.0207(6)	0.00223(7)	3538.966(0.1190), 4933.889(0.1120), 2092.902(0.0331)
^{169}Tm	6387.37(11)	1.48(7)	0.0265(13)	200.(8.72), 149.7180(7.11), 140.(5.96)
^{23}Na	6395.478(15)	0.1000(20)	0.0132(3)	*1368.66(0.530)d, 2754.13(0.530)d, 472.202(0.478)d*
^{48}Ti	6418.426(14)	1.96(6)	0.124(4)	1381.745(5.18), 6760.084(2.97), 341.706(1.840)
^{40}Ca	6419.59(5)	0.176(5)	0.0133(4)	1942.67(0.352), 4418.52(0.0708), 2001.31(0.0659)
^{51}V	6464.887(18)	0.43(4)	0.0256(24)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{131}Xe	6467.09(12)	1.33(19)	0.031(4)	667.79(6.7), 772.72(1.78), 536.17(1.71)
^{59}Co	6485.99(3)	2.32(5)	0.119(3)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{203}Tl	6514.57(15)	0.129(5)	0.00191(7)	139.94(0.400), 347.96(0.361), 318.88(0.325)
^{51}V	6517.282(19)	0.78(4)	0.0464(24)	*1434.10(4.81)d,* 125.082(1.61), 645.703(0.769)
^{121}Sb	6523.52(7)	0.075(3)	0.00187(8)	*564.24(2.700)d,* 61.4130(0.75), 78.0910(0.48)
^{19}F	6600.175(16)	0.00096(3)	$1.53(5)\times10^{-4}$	*1633.53(0.0096)d,* 583.561(0.00356), 656.006(0.00197)
^{76}Se	6600.690(21)	0.623(20)	0.0239(8)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{35}Cl	6619.615(19)	2.530(23)	0.2163(20)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{35}Cl	6627.821(18)	1.470(16)	0.1257(14)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{53}Cr	6645.61(8)	0.183(13)	0.0107(8)	834.849(1.38), 8884.36(0.78), 749.09(0.569)
^{59}Co	6706.01(3)	3.02(6)	0.155(3)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{157}Gd	6750.11(5)	965(30)	18.6(6)	181.931(7200), 79.5100(4010), 944.174(3090)
^{48}Ti	6760.084(14)	2.97(9)	0.188(6)	1381.745(5.18), 6418.426(1.96), 341.706(1.840)
^{55}Mn	6783.74(12)	0.378(17)	0.0209(9)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)

Table II. Energy-Ordered Table of Most Intense Thermal Neutron Capture Gamma Rays, continued

	E(γ)-keV	σ(γ)-barns	k_0	Eγ(σγ) for intense gamma rays
^{31}P	6785.504(24)	0.0267(15)	0.00261(15)	512.646(0.079), 78.083(0.059), 636.663(0.0311)
^{75}As	6808.872(8)	0.160(8)	0.0065(3)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{9}Be	6809.61(3)	0.0058(5)	0.00195(17)	3367.448(0.00285), 853.630(0.00208), 2590.014(0.00191)
^{75}As	6810.898(8)	0.56(3)	0.0227(12)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{62}Ni	6837.50(3)	0.458(8)	0.0236(4)	8998.414(1.49), 464.978(0.843), 8533.509(0.721)
^{45}Sc	6839.09(4)	0.95(4)	0.064(3)	227.773(7.13), 147.011(6.08), *142.528(4.88)d*
^{45}Sc	6840.34(4)	0.76(11)	0.051(7)	227.773(7.13), 147.011(6.08), *142.528(4.88)d*
^{51}V	6874.157(19)	0.49(6)	0.029(4)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{59}Co	6877.16(3)	3.02(6)	0.155(3)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{66}Zn	6958.8(3)	0.043(3)	0.00199(14)	1077.335(0.356), 115.225(0.167), 7863.55(0.1410)
^{59}Co	6985.41(3)	1.05(13)	0.054(7)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{63}Cu	6988.68(5)	0.126(6)	0.0060(3)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{75}As	7020.139(8)	0.104(7)	0.0042(3)	*559.10(2.00)d,* 165.0490(0.996), 86.7880(0.579)
^{55}Mn	7057.89(9)	1.22(3)	0.0673(17)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{53}Cr	7099.91(6)	0.146(9)	0.0085(5)	834.849(1.38), 8884.36(0.78), 749.09(0.569)
^{55}Mn	7159.63(10)	0.643(24)	0.0355(13)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{51}V	7162.898(15)	0.59(4)	0.0351(24)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{63}Cu	7176.68(5)	0.0925(17)	0.00441(8)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{76}Se	7179.492(21)	0.261(25)	0.0100(10)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{28}Si	7199.199(23)	0.0125(4)	0.00135(4)	3538.966(0.1190), 4933.889(0.1120), 2092.902(0.0331)
^{59}Co	7214.42(3)	1.38(3)	0.0710(15)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{55}Mn	7243.52(9)	1.36(3)	0.0750(17)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{63}Cu	7253.01(5)	0.1500(23)	0.00715(11)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{55}Mn	7270.14(12)	0.362(15)	0.0200(8)	*846.754(13.10)d, 1810.72(3.62)d,* 26.560(3.42)
^{56}Fe	7278.838(10)	0.137(4)	0.00743(22)	7631.136(0.653), 7645.5450(0.549), 352.347(0.273)
^{14}N	7298.983(17)	0.00746(12)	0.00161(3)	5269.159(0.0236), 5297.821(0.01680), 5533.395(0.0155)
^{63}Cu	7306.93(4)	0.321(17)	0.0153(8)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{51}V	7310.721(15)	0.227(9)	0.0135(5)	*1434.10(4.81)d,* 125.082(1.61), 6517.282(0.78)
^{207}Pb	7367.78(7)	0.137(3)	0.00200(4)	
^{35}Cl	7413.968(18)	3.29(5)	0.281(4)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{76}Se	7418.467(21)	0.350(13)	0.0134(5)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{31}P	7422.022(25)	0.0082(3)	0.00080(3)	512.646(0.079), 78.083(0.059), 636.663(0.0311)
^{59}Co	7491.54(3)	1.16(3)	0.0596(15)	229.879(7.18), 277.161(6.77), 555.972(5.76)
^{60}Ni	7536.637(25)	0.190(4)	0.00981(21)	8998.414(1.49), 464.978(0.843), 8533.509(0.721)
^{79}Br	7577.04(8)	0.108(3)	0.00410(11)	*776.517(0.990)d, 554.3480(0.838)d,* 245.203(0.80)
^{85}Rb	7624.07(11)	0.0114(5)	0.000404(18)	556.82(0.0913), 487.89(0.0494), *555.61(0.0407)d*
^{56}Fe	7631.136(14)	0.653(13)	0.0354(7)	7645.5450(0.549), 352.347(0.273), 6018.532(0.227)
^{63}Cu	7637.40(4)	0.54(7)	0.026(3)	278.250(0.893), 7915.62(0.869), 159.281(0.648)
^{56}Fe	7645.5450(10)	0.549(11)	0.0298(6)	7631.136(0.653), 352.347(0.273), 6018.532(0.227)
^{27}Al	7693.397(4)	0.0081(3)	0.00091(3)	*1778.92(0.232)d,* 30.6380(0.0798), 7724.027(0.0493)
^{27}Al	7724.027(4)	0.0493(15)	0.00554(17)	*1778.92(0.232)d,* 30.6380(0.0798), 3033.896(0.0179)
^{35}Cl	7790.330(18)	2.66(3)	0.227(3)	1164.8650(8.91), 517.0730(7.58), 6110.842(6.59)
^{60}Ni	7819.517(21)	0.336(6)	0.0173(3)	8998.414(1.49), 464.978(0.843), 8533.509(0.721)
^{64}Zn	7863.55(7)	0.1410(19)	0.00653(9)	1077.335(0.356), 115.225(0.167), 1883.12(0.0718)
^{63}Cu	7915.62(4)	0.869(20)	0.0414(10)	278.250(0.893), 159.281(0.648), 7637.40(0.54)
^{52}Cr	7938.46(23)	0.424(11)	0.0247(6)	834.849(1.38), 8884.36(0.78), 749.09(0.569)
^{45}Sc	8175.176(21)	1.80(6)	0.121(4)	227.773(7.13), 147.011(6.08), *142.528(4.88)d*
^{14}N	8310.161(19)	0.00330(6)	0.000714(13)	5269.159(0.0236), 5297.821(0.01680), 5533.395(0.0155)
^{50}Cr	8482.80(9)	0.169(7)	0.0098(4)	834.849(1.38), 8884.36(0.78), 749.09(0.569)
^{50}Cr	8510.77(8)	0.233(8)	0.0136(5)	834.849(1.38), 8884.36(0.78), 749.09(0.569)
^{45}Sc	8532.122(20)	0.89(4)	0.060(3)	227.773(7.13), 147.011(6.08), *142.528(4.88)d*
^{58}Ni	8533.509(17)	0.721(13)	0.0372(7)	8998.414(1.49), 464.978(0.843), 6837.50(0.458)
^{53}Cr	8884.36(5)	0.78(5)	0.045(3)	834.849(1.38), 749.09(0.569), 7938.46(0.424)
^{58}Ni	8998.414(15)	1.49(3)	0.0769(15)	464.978(0.843), 8533.509(0.721), 6837.50(0.458)
^{54}Fe	9297.68(19)	0.0747(25)	0.00405(14)	7631.136(0.653), 7645.5450(0.549), 352.347(0.273)
^{53}Cr	9719.06(5)	0.260(18)	0.0152(10)	834.849(1.38), 8884.36(0.78), 749.09(0.569)
^{77}Se	9883.35(3)	0.220(22)	0.0084(8)	613.724(2.14), 238.9980(2.06), 520.6370(1.260)
^{14}N	10829.120(12)	0.0113(8)	0.00244(17)	5269.159(0.0236), 5297.821(0.01680), 5533.395(0.0155)
^{3}He	20520.46	$4.2(12)\times10^{-11}$	$3.2(9)\times10^{-11}$	