G. Dussel, E. Caurier, and A.P. Zuker Masses

† Nuclide is unstable to one-particle emission
‡ Nuclide is unstable to two-particle, but not one particle emission

Isotope	Mass Excess
^{56}Ni	-54.660
^{57}Ni	-56.150
^{58}Ni	-60.430
^{59}Ni	-61.040
^{60}Ni	-64.360
^{61}Ni	-63.970
^{62}Ni	-66.530
^{63}Ni	-65.400
^{64}Ni	-67.150
^{65}Ni	-65.340
^{66}Ni	-66.380
^{67}Ni	-63.950
^{68}Ni	-64.260
^{69}Ni	-61.120
^{58}Cu	-51.720
^{59}Cu	-56.290
^{60}Cu	-58.090
^{61}Cu	-61.530
^{62}Cu	-62.190
^{63}Cu	-64.770
^{64}Cu	-64.690
^{65}Cu	-66.460
^{66}Cu	-65.670
^{67}Cu	-66.860
^{68}Cu	-65.370
^{69}Cu	-65.980
^{70}Cu	-63.770
^{71}Cu	-63.630
^{60}Zn	-54.670
^{61}Zn	-56.400
^{62}Zn	-60.930
^{63}Zn	-61.820
^{64}Zn	-65.430
^{65}Zn	-65.360
^{66}Zn	-68.260
^{67}Zn	-67.500
^{68}Zn	-69.640
^{69}Zn	-68.230
^{70}Zn	-69.700
^{71}Zn	-67.720
^{72}Zn	-68.500
^{73}Zn	-65.850
^{74}Zn	-66.190
^{75}Zn	-63.090
^{76}Zn	-62.600
^{77}Zn	-59.020
^{78}Zn	-57.770
^{62}Ga	-51.730
^{63}Ga	-56.540
^{64}Ga	-58.600
^{65}Ga	-62.330
^{66}Ga	-63.290
^{67}Ga	-66.200
^{68}Ga	-66.470
^{69}Ga	-68.620
^{70}Ga	-68.210
^{71}Ga	-69.820
^{72}Ga	-68.770
^{73}Ga	-69.830
^{74}Ga	-68.100
^{75}Ga	-68.460
^{76}Ga	-66.480
^{77}Ga	-66.310
^{78}Ga	-63.460
^{79}Ga	-62.660
^{80}Ga	-59.380
^{81}Ga	-57.980
^{64}Ge	-54.680
^{65}Ge	-56.650

Isotope	Mass Excess
^{66}Ge	-61.460
^{67}Ge	-62.640
^{68}Ge	-66.570
^{69}Ge	-66.830
^{70}Ge	-70.100
^{71}Ge	-69.710
^{72}Ge	-72.250
^{73}Ge	-71.260
^{74}Ge	-73.180
^{75}Ge	-71.660
^{76}Ge	-72.920
^{77}Ge	-70.780
^{78}Ge	-71.650
^{79}Ge	-69.110
^{80}Ge	-69.180
^{81}Ge	-66.200
^{82}Ge	-65.570
^{83}Ge	-61.470
^{66}As	-51.730
^{67}As	-56.810
^{68}As	-59.150
^{69}As	-63.180
^{70}As	-64.460
^{71}As	-67.710
^{72}As	-68.350
^{73}As	-70.880
^{74}As	-70.890
^{75}As	-72.930
^{76}As	-72.320
^{77}As	-73.860
^{78}As	-72.630
^{79}As	-73.500
^{80}As	-72.050
^{81}As	-72.440
^{82}As	-70.180
^{83}As	-69.980
^{84}As	-66.590
^{85}As	-63.510
^{68}Se	-54.680
^{69}Se	-56.920
^{70}Se	-62.020
^{71}Se	-63.510
^{72}Se	-67.770
^{73}Se	-68.380
^{74}Se	-72.020
^{75}Se	-72.030
^{76}Se	-74.980
^{77}Se	-74.440
^{78}Se	-76.810
^{79}Se	-75.770
^{80}Se	-77.540
^{81}Se	-75.930
^{82}Se	-77.340
^{83}Se	-75.360
^{84}Se	-76.030
^{85}Se	-73.130
^{86}Se	-70.800
^{87}Se	-66.140
^{70}Br	-51.740
^{71}Br	-57.090
^{72}Br	-59.720
^{73}Br	-64.070
^{74}Br	-65.690
^{75}Br	-69.310
^{76}Br	-70.320
^{77}Br	-73.260
^{78}Br	-73.690
^{79}Br	-76.170
^{80}Br	-76.040
^{81}Br	-78.070

Isotope	Mass Excess
^{82}Br	-77.340
^{83}Br	-78.740
^{84}Br	-77.860
^{85}Br	-78.810
^{86}Br	-76.430
^{87}Br	-74.350
^{88}Br	-70.560
^{89}Br	-68.000
^{90}Br	-63.610
^{72}Kr	-54.690
^{73}Kr	-57.210
^{74}Kr	-62.610
^{75}Kr	-64.430
^{76}Kr	-69.030
^{77}Kr	-70.020
^{78}Kr	-74.040
^{79}Kr	-74.470
^{80}Kr	-77.850
^{81}Kr	-77.760
^{82}Kr	-80.610
^{83}Kr	-80.070
^{84}Kr	-82.350
^{85}Kr	-81.280
^{86}Kr	-83.250
^{87}Kr	-81.270
^{88}Kr	-80.070
^{89}Kr	-76.450
^{90}Kr	-74.610
^{91}Kr	-70.440
^{92}Kr	-68.270
^{93}Kr	-63.390
^{74}Rb	-51.750
^{75}Rb	-57.380
^{76}Rb	-60.330
^{77}Rb	-65.010
^{78}Rb	-66.990
^{79}Rb	-70.980
^{80}Rb	-72.390
^{81}Rb	-75.750
^{82}Rb	-76.620
^{83}Rb	-79.570
^{84}Rb	-79.910
^{85}Rb	-82.450
^{86}Rb	-82.250
^{87}Rb	-84.200
^{88}Rb	-82.930
^{89}Rb	-81.940
^{90}Rb	-79.110
^{91}Rb	-77.500
^{92}Rb	-74.190
^{93}Rb	-72.130
^{94}Rb	-68.250
^{95}Rb	-65.650
^{96}Rb	-61.110
^{97}Rb	-58.210
^{98}Rb	-52.640
^{99}Rb	-49.190
^{76}Sr	-54.690
^{77}Sr	-57.520
^{78}Sr	-63.240
^{79}Sr	-65.390
^{80}Sr	-70.360
^{81}Sr	-71.730
^{82}Sr	-76.160
^{83}Sr	-77.010
^{84}Sr	-80.850
^{85}Sr	-81.220
^{86}Sr	-84.560
^{87}Sr	-84.540
^{88}Sr	-87.360

Isotope	Mass Excess
^{89}Sr	-86.200
^{90}Sr	-85.990
^{91}Sr	-83.360
^{92}Sr	-82.600
^{93}Sr	-79.430
^{94}Sr	-78.070
^{95}Sr	-74.390
^{96}Sr	-72.720
^{97}Sr	-68.360
^{98}Sr	-66.200
^{99}Sr	-61.260
^{100}Sr	-58.390
^{101}Sr	-52.150
^{78}Y	-51.750
^{79}Y	-57.700
^{80}Y	-60.970
^{81}Y	-66.000
^{82}Y	-68.350
^{83}Y	-72.730
^{84}Y	-74.560
^{85}Y	-78.350
^{86}Y	-79.680
^{87}Y	-83.100
^{88}Y	-83.950
^{89}Y	-87.010
^{90}Y	-86.300
^{91}Y	-86.340
^{92}Y	-84.460
^{93}Y	-83.880
^{94}Y	-81.490
^{95}Y	-80.330
^{96}Y	-77.490
^{97}Y	-75.890
^{98}Y	-72.510
^{99}Y	-70.420
^{100}Y	-66.400
^{101}Y	-64.050
^{102}Y	-59.030
^{103}Y	-56.160
^{80}Zr	-54.700
^{81}Zr	-57.840
^{82}Zr	-63.890
^{83}Zr	-66.410
^{84}Zr	-71.750
^{85}Zr	-73.520
^{86}Zr	-78.380
^{87}Zr	-79.670
^{88}Zr	-83.970
^{89}Zr	-84.830
^{90}Zr	-88.680
^{91}Zr	-88.070
^{92}Zr	-88.930
^{93}Zr	-87.200
^{94}Zr	-87.390
^{95}Zr	-85.160
^{96}Zr	-84.830
^{97}Zr	-82.100
^{98}Zr	-81.180
^{99}Zr	-77.980
^{100}Zr	-76.790
^{101}Zr	-72.940
^{102}Zr	-71.290
^{103}Zr	-66.890
^{104}Zr	-64.560
^{105}Zr	-58.880
^{82}Nb	-51.760
^{83}Nb	-58.020
^{84}Nb	-61.640
^{85}Nb	-67.040
^{86}Nb	-69.780

Isotope	Mass Excess
^{87}Nb	-74.570
^{88}Nb	-76.820
^{89}Nb	-81.070
^{90}Nb	-82.860
^{91}Nb	-86.790
^{92}Nb	-86.760
^{93}Nb	-87.860
^{94}Nb	-86.800
^{95}Nb	-87.210
^{96}Nb	-85.710
^{97}Nb	-85.540
^{98}Nb	-83.560
^{99}Nb	-82.830
^{100}Nb	-80.430
^{101}Nb	-79.300
^{102}Nb	-76.390
^{103}Nb	-74.800
^{104}Nb	-71.290
^{105}Nb	-69.460
^{106}Nb	-64.990
^{107}Nb	-62.660
^{84}Mo	-54.710
^{85}Mo	-58.170
^{86}Mo	-64.580
^{87}Mo	-67.470
^{88}Mo	-73.210
^{89}Mo	-75.400
^{90}Mo	-80.690
^{91}Mo	-82.440
^{92}Mo	-87.220
^{93}Mo	-87.140
^{94}Mo	-88.960
^{95}Mo	-88.100
^{96}Mo	-89.310
^{97}Mo	-87.940
^{98}Mo	-88.500
^{99}Mo	-86.670
^{100}Mo	-86.740
^{101}Mo	-84.440
^{102}Mo	-83.960
^{103}Mo	-81.210
^{104}Mo	-80.490
^{105}Mo	-77.120
^{106}Mo	-75.980
^{107}Mo	-72.080
^{108}Mo	-70.290
^{109}Mo	-65.160
^{86}Tc	-51.760
^{87}Tc	-58.370
^{88}Tc	-62.350
^{89}Tc	-68.130
^{90}Tc	-71.260
^{91}Tc	-76.480
^{92}Tc	-79.180
^{93}Tc	-83.890
^{94}Tc	-84.490
^{95}Tc	-86.500
^{96}Tc	-86.370
^{97}Tc	-87.790
^{98}Tc	-87.060
^{99}Tc	-87.820
^{100}Tc	-86.690
^{101}Tc	-86.900
^{102}Tc	-85.320
^{103}Tc	-85.000
^{104}Tc	-83.040
^{105}Tc	-82.350
^{106}Tc	-79.900
^{107}Tc	-78.790
^{108}Tc	-75.770
^{109}Tc	-74.450

Isotope	Mass Excess
^{110}Tc	-70.500
^{111}Tc	-68.710
^{88}Ru	-54.710
^{89}Ru	-58.530
^{90}Ru	-65.300
^{91}Ru	-68.580
^{92}Ru	-74.730
^{93}Ru	-77.350
^{94}Ru	-83.100
^{95}Ru	-83.610
^{96}Ru	-86.320
^{97}Ru	-86.340
^{98}Ru	-88.460
^{99}Ru	-87.910
^{100}Ru	-89.450
^{101}Ru	-88.420
^{102}Ru	-89.350
^{103}Ru	-87.890
^{104}Ru	-88.350
^{105}Ru	-86.450
^{106}Ru	-86.390
^{107}Ru	-84.080
^{108}Ru	-83.810
^{109}Ru	-80.910
^{110}Ru	-80.250
^{111}Ru	-76.860
^{112}Ru	-75.580
^{113}Ru	-70.980
^{90}Rh	-51.770
^{91}Rh	-58.730
^{92}Rh	-63.090
^{93}Rh	-69.260
^{94}Rh	-72.820
^{95}Rh	-78.470
^{96}Rh	-79.790
^{97}Rh	-82.680
^{98}Rh	-83.320
^{99}Rh	-85.600
^{100}Rh	-85.760
^{101}Rh	-87.490
^{102}Rh	-87.080
^{103}Rh	-88.180
^{104}Rh	-87.400
^{105}Rh	-87.970
^{106}Rh	-86.780
^{107}Rh	-86.850
^{108}Rh	-85.300
^{109}Rh	-85.040
^{110}Rh	-83.040
^{111}Rh	-82.380
^{112}Rh	-79.840
^{113}Rh	-79.010
^{114}Rh	-75.560
^{115}Rh	-74.300
^{92}Pd	-54.720
^{93}Pd	-58.900
^{94}Pd	-66.060
^{95}Pd	-69.740
^{96}Pd	-76.320
^{97}Pd	-77.720
^{98}Pd	-81.250
^{99}Pd	-82.110
^{100}Pd	-85.070
^{101}Pd	-85.350
^{102}Pd	-87.750
^{103}Pd	-87.500
^{104}Pd	-89.350
^{105}Pd	-88.640
^{106}Pd	-89.910
^{107}Pd	-88.810

Isotope	Mass Excess
^{108}Pd	-89.650
^{109}Pd	-88.140
^{110}Pd	-88.490
^{111}Pd	-86.590
^{112}Pd	-86.760
^{113}Pd	-84.310
^{114}Pd	-84.120
^{115}Pd	-81.210
^{116}Pd	-80.430
^{117}Pd	-76.340
^{94}Ag	-51.780
^{95}Ag	-59.110
^{96}Ag	-63.850
^{97}Ag	-70.440
^{98}Ag	-72.960
^{99}Ag	-76.560
^{100}Ag	-77.990
^{101}Ag	-81.100
^{102}Ag	-81.980
^{103}Ag	-84.520
^{104}Ag	-84.950
^{105}Ag	-86.960
^{106}Ag	-86.860
^{107}Ag	-88.270
^{108}Ag	-87.830
^{109}Ag	-88.750
^{110}Ag	-87.920
^{111}Ag	-88.380
^{112}Ag	-87.220
^{113}Ag	-87.380
^{114}Ag	-85.800
^{115}Ag	-85.580
^{116}Ag	-83.500
^{117}Ag	-83.140
^{118}Ag	-80.180
^{119}Ag	-79.430
^{120}Ag	-75.880
^{121}Ag	-74.670
^{96}Cd	-54.730
^{97}Cd	-59.280
^{98}Cd	-66.840
^{99}Cd	-69.710
^{100}Cd	-74.080
^{101}Cd	-75.640
^{102}Cd	-79.370
^{103}Cd	-80.460
^{104}Cd	-83.640
^{105}Cd	-84.170
^{106}Cd	-86.830
^{107}Cd	-86.860
^{108}Cd	-89.010
^{109}Cd	-88.610
^{110}Cd	-90.200
^{111}Cd	-89.440
^{112}Cd	-90.640
^{113}Cd	-89.500
^{114}Cd	-90.230
^{115}Cd	-88.740
^{116}Cd	-89.330
^{117}Cd	-87.310
^{118}Cd	-87.570
^{119}Cd	-85.130
^{120}Cd	-84.830
^{121}Cd	-81.240
^{122}Cd	-80.860
^{123}Cd	-77.710
^{98}In	-51.780
^{99}In	-59.500
^{101}In	-68.390
^{102}In	-70.640
^{103}In	-74.420
^{104}In	-76.040
^{105}In	-79.360
^{106}In	-80.470

Isotope	Mass Excess
^{107}In	-83.240
^{108}In	-83.930
^{109}In	-86.210
^{110}In	-86.400
^{111}In	-88.110
^{112}In	-87.980
^{113}In	-89.240
^{114}In	-88.750
^{115}In	-89.580
^{116}In	-88.800
^{117}In	-89.350
^{118}In	-88.180
^{119}In	-88.390
^{120}In	-86.750
^{121}In	-86.850
^{122}In	-84.360
^{123}In	-84.100
^{124}In	-81.050
^{125}In	-80.360
^{126}In	-77.820
^{127}In	-77.440
^{128}In	-73.990
^{129}In	-73.000
^{130}In	-69.950
^{131}In	-68.500
^{100}Sn	-54.730
^{102}Sn	-64.810
^{103}Sn	-67.180
^{104}Sn	-71.710
^{105}Sn	-73.440
^{106}Sn	-77.350
^{107}Sn	-78.640
^{108}Sn	-82.040
^{109}Sn	-82.800
^{110}Sn	-85.710
^{111}Sn	-86.000
^{112}Sn	-88.420
^{113}Sn	-88.320
^{114}Sn	-90.220
^{115}Sn	-89.790
^{116}Sn	-91.320
^{117}Sn	-90.530
^{118}Sn	-91.640
^{119}Sn	-90.540
^{120}Sn	-91.520
^{121}Sn	-89.920
^{122}Sn	-90.620
^{123}Sn	-88.620
^{124}Sn	-88.780
^{125}Sn	-85.670
^{126}Sn	-85.790
^{127}Sn	-83.150
^{128}Sn	-83.310
^{129}Sn	-80.630
^{130}Sn	-80.190
^{131}Sn	-77.370
^{132}Sn	-76.610
^{133}Sn	-70.360
^{104}Sb	-59.210
^{105}Sb	-64.070
^{106}Sb	-66.450
^{107}Sb	-70.600
^{108}Sb	-72.510
^{109}Sb	-76.050
^{110}Sb	-77.680
^{111}Sb	-80.620
^{112}Sb	-81.470
^{113}Sb	-84.160
^{114}Sb	-84.550
^{115}Sb	-86.870
^{116}Sb	-86.860
^{117}Sb	-88.470
^{118}Sb	-88.110
^{119}Sb	-89.410

Isotope	Mass Excess
^{120}Sb	-88.670
^{121}Sb	-89.640
^{122}Sb	-88.480
^{123}Sb	-89.190
^{124}Sb	-87.720
^{125}Sb	-88.150
^{126}Sb	-86.440
^{127}Sb	-86.630
^{128}Sb	-84.680
^{129}Sb	-84.560
^{130}Sb	-82.360
^{131}Sb	-81.990
^{132}Sb	-79.730
^{133}Sb	-79.040
^{134}Sb	-73.600
^{135}Sb	-69.760
^{106}Te	-58.220
^{107}Te	-60.630
^{108}Te	-65.690
^{109}Te	-67.830
^{110}Te	-72.250
^{111}Te	-73.630
^{112}Te	-77.580
^{113}Te	-78.550
^{114}Te	-82.020
^{115}Te	-82.470
^{116}Te	-85.430
^{117}Te	-85.470
^{118}Te	-87.940
^{119}Te	-87.590
^{120}Te	-89.550
^{121}Te	-88.780
^{122}Te	-90.450
^{123}Te	-89.340
^{124}Te	-90.610
^{125}Te	-89.150
^{126}Te	-90.080
^{127}Te	-88.410
^{128}Te	-88.990
^{129}Te	-87.100
^{130}Te	-87.350
^{131}Te	-85.280
^{132}Te	-85.200
^{133}Te	-82.900
^{134}Te	-82.530
^{135}Te	-77.650
^{136}Te	-74.510
^{137}Te	-69.370
^{108}I	-52.610
^{109}I	-57.840
^{110}I	-60.590
^{111}I	-65.100
^{112}I	-67.360
^{113}I	-71.250
^{114}I	-73.230
^{115}I	-76.510
^{116}I	-77.700
^{117}I	-80.730
^{118}I	-81.450
^{119}I	-84.090
^{120}I	-84.400
^{121}I	-86.330
^{122}I	-86.280
^{123}I	-87.900
^{124}I	-87.460
^{125}I	-88.730
^{126}I	-87.870
^{127}I	-88.870
^{128}I	-87.690
^{129}I	-88.400
^{130}I	-86.970
^{131}I	-87.430
^{132}I	-85.750
^{133}I	-85.900

Isotope	Mass Excess
^{134}I	-83.970
^{135}I	-83.850
^{136}I	-79.400
^{137}I	-76.490
^{138}I	-72.160
^{139}I	-68.830
^{110}Xe	-51.600
^{111}Xe	-54.370
^{112}Xe	-59.780
^{113}Xe	-62.270
^{114}Xe	-67.030
^{115}Xe	-68.760
^{116}Xe	-73.040
^{117}Xe	-74.350
^{118}Xe	-78.140
^{119}Xe	-78.920
^{120}Xe	-82.190
^{121}Xe	-82.540
^{122}Xe	-85.330
^{123}Xe	-85.280
^{124}Xe	-87.540
^{125}Xe	-87.070
^{126}Xe	-89.040
^{127}Xe	-88.210
^{128}Xe	-89.770
^{129}Xe	-88.590
^{130}Xe	-89.790
^{131}Xe	-88.400
^{132}Xe	-89.250
^{133}Xe	-87.620
^{134}Xe	-88.130
^{135}Xe	-86.310
^{136}Xe	-86.480
^{137}Xe	-82.450
^{138}Xe	-80.100
^{139}Xe	-75.780
^{140}Xe	-73.140
^{141}Xe	-68.510
^{142}Xe	-65.440
^{113}Cs	-51.550
^{114}Cs	-54.630
^{115}Cs	-59.490
^{116}Cs	-62.080
^{117}Cs	-66.300
^{118}Cs	-68.610
^{119}Cs	-72.200
^{120}Cs	-73.710
^{121}Cs	-77.050
^{122}Cs	-78.070
^{123}Cs	-81.020
^{124}Cs	-81.630
^{125}Cs	-83.860
^{126}Cs	-84.090
^{127}Cs	-85.990
^{128}Cs	-85.830
^{129}Cs	-87.390
^{130}Cs	-86.800
^{131}Cs	-88.070
^{132}Cs	-87.150
^{133}Cs	-88.130
^{134}Cs	-86.950
^{135}Cs	-87.670
^{136}Cs	-86.240
^{137}Cs	-86.630
^{138}Cs	-82.910
^{139}Cs	-80.880
^{140}Cs	-77.090
^{141}Cs	-74.680
^{142}Cs	-70.850
^{143}Cs	-68.030
^{144}Cs	-63.730
^{145}Cs	-60.240
^{146}Cs	-55.690
^{147}Cs	-52.830

Isotope	Mass Excess
^{148}Cs	-48.420
^{117}Ba	-56.600
^{118}Ba	-61.680
^{119}Ba	-63.720
^{120}Ba	-68.320
^{121}Ba	-69.930
^{122}Ba	-74.030
^{123}Ba	-75.110
^{124}Ba	-78.670
^{125}Ba	-79.320
^{126}Ba	-82.390
^{127}Ba	-82.630
^{128}Ba	-85.170
^{129}Ba	-84.970
^{130}Ba	-87.210
^{131}Ba	-86.650
^{132}Ba	-88.470
^{133}Ba	-87.550
^{134}Ba	-89.010
^{135}Ba	-87.860
^{136}Ba	-88.960
^{137}Ba	-87.570
^{138}Ba	-88.310
^{139}Ba	-85.010
^{140}Ba	-83.420
^{141}Ba	-79.720
^{142}Ba	-77.850
^{143}Ba	-74.020
^{144}Ba	-71.890
^{145}Ba	-67.770
^{146}Ba	-65.220
^{147}Ba	-61.260
^{148}Ba	-58.330
^{149}Ba	-54.020
^{150}Ba	-51.210
^{123}La	-67.690
^{124}La	-69.480
^{125}La	-73.110
^{126}La	-74.420
^{127}La	-77.650
^{128}La	-78.540
^{129}La	-81.030
^{130}La	-81.540
^{131}La	-83.700
^{132}La	-83.800
^{133}La	-85.610
^{134}La	-85.270
^{135}La	-86.790
^{136}La	-86.110
^{137}La	-87.330
^{138}La	-86.380
^{139}La	-87.330
^{140}La	-84.500
^{141}La	-83.080
^{142}La	-79.770
^{143}La	-78.220
^{144}La	-74.900
^{145}La	-72.990
^{146}La	-69.660
^{147}La	-67.350
^{148}La	-63.580
^{149}La	-61.340
^{150}La	-57.730
^{151}La	-54.720
^{152}La	-50.530
^{125}Ce	-65.310
^{126}Ce	-69.690
^{127}Ce	-71.050
^{128}Ce	-74.890
^{129}Ce	-75.810
^{130}Ce	-79.140
^{131}Ce	-79.640
^{132}Ce	-82.440
^{133}Ce	-82.490

Isotope	Mass Excess
^{134}Ce	-84.970
^{135}Ce	-84.660
^{136}Ce	-86.710
^{137}Ce	-86.040
^{138}Ce	-87.720
^{139}Ce	-86.800
^{140}Ce	-88.120
^{141}Ce	-85.590
^{142}Ce	-84.650
^{143}Ce	-81.470
^{144}Ce	-80.340
^{145}Ce	-77.120
^{146}Ce	-75.730
^{147}Ce	-72.400
^{148}Ce	-70.760
^{149}Ce	-67.150
^{150}Ce	-65.470
^{151}Ce	-61.990
^{152}Ce	-59.670
^{153}Ce	-55.580
^{154}Ce	-52.980
^{127}Pr	-62.970
^{128}Pr	-65.030
^{129}Pr	-68.930
^{130}Pr	-70.500
^{131}Pr	-73.990
^{132}Pr	-75.120
^{133}Pr	-77.870
^{134}Pr	-78.620
^{135}Pr	-81.030
^{136}Pr	-81.360
^{137}Pr	-83.400
^{138}Pr	-83.290
^{139}Pr	-85.040
^{140}Pr	-84.570
^{141}Pr	-86.000
^{142}Pr	-83.970
^{143}Pr	-83.070
^{144}Pr	-80.560
^{145}Pr	-79.600
^{146}Pr	-76.750
^{147}Pr	-75.680
^{148}Pr	-72.850
^{149}Pr	-71.430
^{150}Pr	-68.600
^{151}Pr	-67.310
^{152}Pr	-64.380
^{153}Pr	-62.120
^{154}Pr	-58.720
^{155}Pr	-55.930
^{156}Pr	-51.960
^{129}Nd	-60.490
^{130}Nd	-65.130
^{131}Nd	-66.740
^{132}Nd	-70.830
^{133}Nd	-71.990
^{134}Nd	-75.570
^{135}Nd	-76.300
^{136}Nd	-79.330
^{137}Nd	-79.620
^{138}Nd	-82.320
^{139}Nd	-82.230
^{140}Nd	-84.500
^{141}Nd	-84.040
^{142}Nd	-85.930
^{143}Nd	-84.140
^{144}Nd	-83.730
^{145}Nd	-81.260
^{146}Nd	-80.780
^{147}Nd	-78.050
^{148}Nd	-77.390
^{149}Nd	-74.640
^{150}Nd	-73.740
^{151}Nd	-70.890

Isotope	Mass Excess
^{152}Nd	-70.170
^{153}Nd	-67.330
^{154}Nd	-65.710
^{155}Nd	-62.440
^{156}Nd	-60.330
^{157}Nd	-56.450
^{158}Nd	-54.080
^{131}Pm	-58.040
^{132}Pm	-60.350
^{133}Pm	-64.500
^{134}Pm	-66.300
^{135}Pm	-70.020
^{136}Pm	-71.390
^{137}Pm	-74.360
^{138}Pm	-75.340
^{139}Pm	-77.960
^{140}Pm	-78.510
^{141}Pm	-80.760
^{142}Pm	-80.850
^{143}Pm	-82.800
^{144}Pm	-81.540
^{145}Pm	-81.210
^{146}Pm	-79.270
^{147}Pm	-78.810
^{148}Pm	-76.740
^{149}Pm	-76.240
^{150}Pm	-73.860
^{151}Pm	-73.260
^{152}Pm	-70.920
^{153}Pm	-70.650
^{154}Pm	-68.280
^{155}Pm	-67.000
^{156}Pm	-64.280
^{157}Pm	-62.230
^{158}Pm	-59.040
^{159}Pm	-56.470
^{160}Pm	-52.710
^{133}Sm	-55.460
^{134}Sm	-60.340
^{135}Sm	-62.180
^{136}Sm	-66.490
^{137}Sm	-67.880
^{138}Sm	-71.680
^{139}Sm	-72.620
^{140}Sm	-75.870
^{141}Sm	-76.360
^{142}Sm	-79.270
^{143}Sm	-79.370
^{144}Sm	-81.840
^{145}Sm	-80.630
^{146}Sm	-80.890
^{147}Sm	-79.070
^{148}Sm	-79.090
^{149}Sm	-77.070
^{150}Sm	-77.030
^{151}Sm	-74.750
^{152}Sm	-74.560
^{153}Sm	-72.280
^{154}Sm	-72.420
^{155}Sm	-70.140
^{156}Sm	-69.330
^{157}Sm	-66.680
^{158}Sm	-65.270
^{159}Sm	-62.210
^{160}Sm	-60.310
^{161}Sm	-56.650
^{162}Sm	-54.490
^{135}Eu	-52.910
^{136}Eu	-55.450
^{137}Eu	-59.810
^{138}Eu	-61.830
^{139}Eu	-65.760
^{140}Eu	-67.340
^{141}Eu	-70.520

Isotope	Mass Excess
^{142}Eu	-71.690
^{143}Eu	-74.500
^{144}Eu	-75.250
^{145}Eu	-77.680
^{146}Eu	-76.940
^{147}Eu	-77.350
^{148}Eu	-76.110
^{149}Eu	-76.200
^{150}Eu	-74.690
^{151}Eu	-74.670
^{152}Eu	-73.050
^{153}Eu	-73.010
^{154}Eu	-71.820
^{155}Eu	-71.720
^{156}Eu	-69.840
^{157}Eu	-69.270
^{158}Eu	-67.100
^{159}Eu	-66.020
^{160}Eu	-63.500
^{161}Eu	-61.660
^{162}Eu	-58.690
^{163}Eu	-56.320
^{164}Eu	-52.790
^{137}Gd	-50.230
^{138}Gd	-55.320
^{139}Gd	-57.370
^{140}Gd	-61.890
^{141}Gd	-63.470
^{142}Gd	-67.470
^{143}Gd	-68.610
^{144}Gd	-72.040
^{145}Gd	-72.710
^{146}Gd	-75.800
^{147}Gd	-75.330
^{148}Gd	-76.060
^{149}Gd	-74.850
^{150}Gd	-75.530
^{151}Gd	-74.120
^{152}Gd	-74.580
^{153}Gd	-72.990
^{154}Gd	-73.400
^{155}Gd	-72.070
^{156}Gd	-72.410
^{157}Gd	-70.620
^{158}Gd	-70.510
^{159}Gd	-68.420
^{160}Gd	-67.800
^{161}Gd	-65.360
^{162}Gd	-64.150
^{163}Gd	-61.290
^{164}Gd	-59.610
^{165}Gd	-56.160
^{166}Gd	-54.230
^{139}Tb	-47.570
^{140}Tb	-50.310
^{141}Tb	-54.870
^{142}Tb	-57.090
^{143}Tb	-61.210
^{144}Tb	-62.970
^{145}Tb	-66.330
^{146}Tb	-67.680
^{147}Tb	-70.660
^{148}Tb	-70.520
^{149}Tb	-71.460
^{150}Tb	-70.820
^{151}Tb	-71.630
^{152}Tb	-70.800
^{153}Tb	-71.310
^{154}Tb	-70.240
^{155}Tb	-71.090
^{156}Tb	-70.080
^{157}Tb	-70.560
^{158}Tb	-69.200
^{159}Tb	-69.280

Isotope	Mass Excess
^{160}Tb	-67.590
^{161}Tb	-67.210
^{162}Tb	-65.240
^{163}Tb	-64.360
^{164}Tb	-62.040
^{165}Tb	-60.410
^{166}Tb	-57.650
^{167}Tb	-55.500
^{168}Tb	-52.190
^{141}Dy	-44.790
^{142}Dy	-50.070
^{143}Dy	-52.300
^{144}Dy	-57.010
^{145}Dy	-58.770
^{146}Dy	-62.940
^{147}Dy	-64.250
^{148}Dy	-67.840
^{149}Dy	-67.770
^{150}Dy	-69.300
^{151}Dy	-68.870
^{152}Dy	-70.000
^{153}Dy	-69.190
^{154}Dy	-70.290
^{155}Dy	-69.300
^{156}Dy	-70.440
^{157}Dy	-69.380
^{158}Dy	-70.270
^{159}Dy	-68.940
^{160}Dy	-69.450
^{161}Dy	-67.850
^{162}Dy	-67.930
^{163}Dy	-66.030
^{164}Dy	-65.600
^{165}Dy	-63.360
^{166}Dy	-62.360
^{167}Dy	-59.710
^{168}Dy	-58.230
^{169}Dy	-55.010
^{170}Dy	-53.290
^{143}Ho	-42.030
^{144}Ho	-44.950
^{145}Ho	-49.680
^{146}Ho	-52.070
^{147}Ho	-56.360
^{148}Ho	-58.280
^{149}Ho	-61.800
^{150}Ho	-62.050
^{151}Ho	-63.810
^{152}Ho	-63.740
^{153}Ho	-65.070
^{154}Ho	-64.820
^{155}Ho	-66.040
^{156}Ho	-65.620
^{157}Ho	-66.870
^{158}Ho	-66.310
^{159}Ho	-67.270
^{160}Ho	-66.430
^{161}Ho	-67.080
^{162}Ho	-65.900
^{163}Ho	-66.170
^{164}Ho	-64.670
^{165}Ho	-64.480
^{166}Ho	-62.700
^{167}Ho	-62.020
^{168}Ho	-59.910
^{169}Ho	-58.480
^{170}Ho	-55.940
^{171}Ho	-54.010
^{172}Ho	-50.920
^{145}Er	-39.150
^{146}Er	-44.590
^{147}Er	-46.990
^{148}Er	-51.850
^{149}Er	-53.770

Isotope	Mass Excess
^{150}Er	-58.090
^{151}Er	-58.460
^{152}Er	-60.620
^{153}Er	-60.680
^{154}Er	-62.590
^{155}Er	-62.540
^{156}Er	-64.070
^{157}Er	-63.670
^{158}Er	-65.290
^{159}Er	-64.750
^{160}Er	-66.120
^{161}Er	-65.220
^{162}Er	-66.280
^{163}Er	-65.120
^{164}Er	-65.820
^{165}Er	-64.390
^{166}Er	-64.660
^{167}Er	-62.960
^{168}Er	-62.730
^{169}Er	-60.680
^{170}Er	-59.880
^{171}Er	-57.440
^{172}Er	-56.180
^{173}Er	-53.170
^{174}Er	-51.680
^{147}Tm	-36.290
^{148}Tm	-39.360
^{149}Tm	-44.240
^{150}Tm	-46.780
^{151}Tm	-51.210
^{152}Tm	-51.710
^{153}Tm	-54.180
^{154}Tm	-54.650
^{155}Tm	-56.780
^{156}Tm	-57.090
^{157}Tm	-58.800
^{158}Tm	-58.950
^{159}Tm	-60.800
^{160}Tm	-60.720
^{161}Tm	-62.040
^{162}Tm	-61.640
^{163}Tm	-62.770
^{164}Tm	-62.100
^{165}Tm	-62.930
^{166}Tm	-61.930
^{167}Tm	-62.380
^{168}Tm	-61.060
^{169}Tm	-61.070
^{170}Tm	-59.480
^{171}Tm	-59.010
^{172}Tm	-57.100
^{173}Tm	-55.880
^{174}Tm	-53.540
^{175}Tm	-51.830
^{176}Tm	-48.960
^{149}Yb	-33.300
^{150}Yb	-38.890
^{151}Yb	-41.420
^{152}Yb	-46.420
^{153}Yb	-47.240
^{154}Yb	-50.050
^{155}Yb	-50.770
^{156}Yb	-53.280
^{157}Yb	-53.720
^{158}Yb	-55.870
^{159}Yb	-56.060
^{160}Yb	-58.360
^{161}Yb	-58.140
^{162}Yb	-59.960
^{163}Yb	-59.580
^{164}Yb	-61.110
^{165}Yb	-60.380
^{166}Yb	-61.610
^{167}Yb	-60.630

Isotope	Mass Excess
^{168}Yb	-61.500
^{169}Yb	-60.260
^{170}Yb	-60.720
^{171}Yb	-59.210
^{172}Yb	-59.170
^{173}Yb	-57.330
^{174}Yb	-56.730
^{175}Yb	-54.500
^{176}Yb	-53.450
^{177}Yb	-50.650
^{178}Yb	-49.380
^{151}Lu	-30.330
^{152}Lu	-33.540
^{153}Lu	-38.560
^{154}Lu	-39.580
^{155}Lu	-42.720
^{156}Lu	-43.730
^{157}Lu	-46.540
^{158}Lu	-47.380
^{159}Lu	-49.790
^{160}Lu	-50.420
^{161}Lu	-52.730
^{162}Lu	-53.090
^{163}Lu	-54.980
^{164}Lu	-55.060
^{165}Lu	-56.530
^{166}Lu	-56.300
^{167}Lu	-57.590
^{168}Lu	-57.090
^{169}Lu	-58.100
^{170}Lu	-57.280
^{171}Lu	-57.910
^{172}Lu	-56.780
^{173}Lu	-56.980
^{174}Lu	-55.590
^{175}Lu	-55.310
^{176}Lu	-53.600
^{177}Lu	-52.600
^{178}Lu	-50.470
^{179}Lu	-48.980
^{180}Lu	-46.330
^{153}Hf	-27.240
^{154}Hf	-32.950
^{155}Hf	-34.390
^{156}Hf	-37.790
^{157}Hf	-38.980
^{158}Hf	-42.050
^{159}Hf	-42.910
^{160}Hf	-45.980
^{161}Hf	-46.470
^{162}Hf	-49.270
^{163}Hf	-49.600
^{164}Hf	-52.050
^{165}Hf	-51.980
^{166}Hf	-53.950
^{167}Hf	-53.730
^{168}Hf	-55.420
^{169}Hf	-54.860
^{170}Hf	-56.260
^{171}Hf	-55.460
^{172}Hf	-56.510
^{173}Hf	-55.460
^{174}Hf	-56.100
^{175}Hf	-54.780
^{176}Hf	-54.940
^{177}Hf	-53.300
^{178}Hf	-52.900
^{179}Hf	-50.880
^{180}Hf	-50.040
^{181}Hf	-47.460
^{182}Hf	-46.410
^{183}Hf	-43.310
^{184}Hf	-41.510
^{155}Ta	-24.180

Isotope	Mass Excess
^{156}Ta	-25.910
^{157}Ta	-29.550
^{158}Ta	-31.050
^{159}Ta	-34.440
^{160}Ta	-35.600
^{161}Ta	-38.890
^{162}Ta	-39.850
^{163}Ta	-42.710
^{164}Ta	-43.480
^{165}Ta	-45.930
^{166}Ta	-46.440
^{167}Ta	-48.480
^{168}Ta	-48.710
^{169}Ta	-50.350
^{170}Ta	-50.270
^{171}Ta	-51.730
^{172}Ta	-51.410
^{173}Ta	-52.590
^{174}Ta	-51.950
^{175}Ta	-52.760
^{176}Ta	-51.820
^{177}Ta	-52.210
^{178}Ta	-51.010
^{179}Ta	-50.940
^{180}Ta	-49.440
^{181}Ta	-48.640
^{182}Ta	-46.730
^{183}Ta	-45.450
^{184}Ta	-43.020
^{185}Ta	-41.580
^{186}Ta	-38.620
^{158}W	-23.750
^{159}W	-25.600
^{160}W	-29.270
^{161}W	-30.520
^{162}W	-34.240
^{163}W	-35.230
^{164}W	-38.430
^{165}W	-39.050
^{166}W	-41.990
^{167}W	-42.460
^{168}W	-45.060
^{169}W	-45.140
^{170}W	-47.270
^{171}W	-47.210
^{172}W	-49.060
^{173}W	-48.670
^{174}W	-50.240
^{175}W	-49.610
^{176}W	-50.840
^{177}W	-49.970
^{178}W	-50.800
^{179}W	-49.670
^{180}W	-50.030
^{181}W	-48.590
^{182}W	-48.400
^{183}W	-46.580
^{184}W	-45.960
^{185}W	-43.590
^{186}W	-42.760
^{187}W	-39.890
^{188}W	-38.310
^{189}W	-35.420
^{190}W	-34.130
^{161}Re	-20.720
^{162}Re	-22.260
^{163}Re	-26.180
^{164}Re	-27.450
^{165}Re	-30.870
^{166}Re	-31.960
^{167}Re	-34.960
^{168}Re	-35.860
^{169}Re	-38.460
^{170}Re	-39.110

Isotope	Mass Excess
^{171}Re	-41.300
^{172}Re	-41.690
^{173}Re	-43.490
^{174}Re	-43.570
^{175}Re	-45.200
^{176}Re	-45.050
^{177}Re	-46.400
^{178}Re	-45.940
^{179}Re	-46.940
^{180}Re	-46.190
^{181}Re	-46.770
^{182}Re	-45.770
^{183}Re	-45.890
^{184}Re	-44.590
^{185}Re	-44.000
^{186}Re	-42.300
^{187}Re	-41.240
^{188}Re	-39.030
^{189}Re	-37.810
^{190}Re	-35.480
^{191}Re	-34.290
^{192}Re	-31.770
^{163}Os	-16.480
^{164}Os	-20.550
^{165}Os	-21.920
^{166}Os	-25.760
^{167}Os	-26.870
^{168}Os	-30.200
^{169}Os	-30.960
^{170}Os	-34.040
^{171}Os	-34.650
^{172}Os	-37.400
^{173}Os	-37.630
^{174}Os	-39.910
^{175}Os	-40.010
^{176}Os	-42.030
^{177}Os	-41.800
^{178}Os	-43.540
^{179}Os	-43.080
^{180}Os	-44.500
^{181}Os	-43.810
^{182}Os	-44.830
^{183}Os	-43.890
^{184}Os	-44.440
^{185}Os	-43.200
^{186}Os	-43.220
^{187}Os	-41.600
^{188}Os	-41.190
^{189}Os	-39.050
^{190}Os	-38.440
^{191}Os	-36.280
^{192}Os	-35.780
^{193}Os	-33.220
^{194}Os	-32.280
^{195}Os	-29.560
^{196}Os	-28.160
^{166}Ir	-13.200
^{167}Ir	-17.230
^{168}Ir	-18.630
^{169}Ir	-22.180
^{170}Ir	-23.400
^{171}Ir	-26.520
^{172}Ir	-27.570
^{173}Ir	-30.310
^{174}Ir	-31.110
^{175}Ir	-33.450
^{176}Ir	-33.990
^{177}Ir	-35.940
^{178}Ir	-36.200
^{179}Ir	-37.990
^{180}Ir	-38.010
^{181}Ir	-39.530
^{182}Ir	-39.260
^{183}Ir	-40.440

Isotope	Mass Excess
^{184}Ir	-39.870
^{185}Ir	-40.650
^{186}Ir	-39.840
^{187}Ir	-39.510
^{188}Ir	-38.130
^{189}Ir	-38.400
^{190}Ir	-36.800
^{191}Ir	-36.770
^{192}Ir	-35.020
^{193}Ir	-34.630
^{194}Ir	-32.730
^{195}Ir	-31.880
^{196}Ir	-29.700
^{197}Ir	-28.480
^{198}Ir	-26.130
^{168}Pt	-11.150
^{169}Pt	-12.640
^{170}Pt	-16.600
^{171}Pt	-17.830
^{172}Pt	-21.300
^{173}Pt	-22.190
^{174}Pt	-25.410
^{175}Pt	-26.160
^{176}Pt	-29.050
^{177}Pt	-29.430
^{178}Pt	-31.870
^{179}Pt	-32.130
^{180}Pt	-34.310
^{181}Pt	-34.250
^{182}Pt	-36.160
^{183}Pt	-35.880
^{184}Pt	-37.470
^{185}Pt	-36.400
^{186}Pt	-37.760
^{187}Pt	-36.730
^{188}Pt	-37.820
^{189}Pt	-36.580
^{190}Pt	-37.360
^{191}Pt	-35.840
^{192}Pt	-36.330
^{193}Pt	-34.650
^{194}Pt	-34.780
^{195}Pt	-32.990
^{196}Pt	-32.810
^{197}Pt	-30.600
^{198}Pt	-30.000
^{199}Pt	-27.630
^{200}Pt	-26.580
^{201}Pt	-23.860
^{173}Au	-12.800
^{174}Au	-14.150
^{175}Au	-17.420
^{176}Au	-18.600
^{177}Au	-21.480
^{178}Au	-22.430
^{179}Au	-24.920
^{180}Au	-25.610
^{181}Au	-27.730
^{182}Au	-28.140
^{183}Au	-30.100
^{184}Au	-30.290
^{185}Au	-31.890
^{186}Au	-31.770
^{187}Au	-33.170
^{188}Au	-32.610
^{189}Au	-33.840
^{190}Au	-33.060
^{191}Au	-34.110
^{192}Au	-33.030
^{193}Au	-33.600
^{194}Au	-32.320
^{195}Au	-32.600
^{196}Au	-31.180
^{197}Au	-31.120

Isotope	Mass Excess
^{198}Au	-29.550
^{199}Au	-29.040
^{200}Au	-27.200
^{201}Au	-26.330
^{202}Au	-24.340
^{203}Au	-23.040
^{204}Au	-20.220
^{175}Hg	-8.120
^{176}Hg	-11.720
^{177}Hg	-12.740
^{178}Hg	-16.100
^{179}Hg	-16.990
^{180}Hg	-20.030
^{181}Hg	-20.570
^{182}Hg	-23.160
^{183}Hg	-23.570
^{184}Hg	-25.920
^{185}Hg	-26.170
^{186}Hg	-28.490
^{187}Hg	-28.130
^{188}Hg	-30.110
^{189}Hg	-29.630
^{190}Hg	-31.270
^{191}Hg	-30.530
^{192}Hg	-31.910
^{193}Hg	-30.970
^{194}Hg	-32.040
^{195}Hg	-30.830
^{196}Hg	-31.620
^{197}Hg	-30.260
^{198}Hg	-30.720
^{199}Hg	-29.250
^{200}Hg	-29.410
^{201}Hg	-27.540
^{202}Hg	-27.280
^{203}Hg	-25.260
^{204}Hg	-24.570
^{205}Hg	-22.210
^{206}Hg	-20.970
^{179}Tl	-7.630
^{180}Tl	-8.950
^{181}Tl	-11.970
^{182}Tl	-13.070
^{183}Tl	-15.710
^{184}Tl	-16.560
^{185}Tl	-19.410
^{186}Tl	-20.010
^{187}Tl	-22.130
^{188}Tl	-22.460
^{189}Tl	-24.360
^{190}Tl	-24.510
^{191}Tl	-26.190
^{192}Tl	-25.900
^{193}Tl	-27.420
^{194}Tl	-26.930
^{195}Tl	-28.270
^{196}Tl	-27.500
^{197}Tl	-28.370
^{198}Tl	-27.400
^{199}Tl	-28.000
^{200}Tl	-26.900
^{201}Tl	-27.170
^{202}Tl	-25.930
^{203}Tl	-25.760
^{204}Tl	-24.270
^{205}Tl	-23.740
^{206}Tl	-22.110
^{207}Tl	-21.170
^{183}Pb	-7.730
^{184}Pb	-11.060
^{185}Pb	-11.660
^{186}Pb	-14.630
^{187}Pb	-15.060
^{188}Pb	-17.720

Isotope	Mass Excess
^{189}Pb	-17.910
^{190}Pb	-20.480
^{191}Pb	-20.380
^{192}Pb	-22.640
^{193}Pb	-22.430
^{194}Pb	-24.350
^{195}Pb	-23.890
^{196}Pb	-25.560
^{197}Pb	-24.910
^{198}Pb	-26.290
^{199}Pb	-25.380
^{200}Pb	-26.490
^{201}Pb	-25.440
^{202}Pb	-26.220
^{203}Pb	-25.080
^{204}Pb	-25.580
^{205}Pb	-24.040
^{206}Pb	-24.130
^{207}Pb	-22.460
^{208}Pb	-22.120
^{209}Pb	-17.480
^{210}Pb	-14.830
^{211}Pb	-10.450
^{212}Pb	-7.640
^{213}Pb	-3.100
^{214}Pb	-0.140
^{188}Bi	-7.380
^{189}Bi	-9.720
^{190}Bi	-10.790
^{191}Bi	-12.930
^{192}Bi	-13.590
^{193}Bi	-15.600
^{194}Bi	-16.150
^{195}Bi	-17.900
^{196}Bi	-17.920
^{197}Bi	-19.580
^{198}Bi	-19.490
^{199}Bi	-20.850
^{200}Bi	-20.440
^{201}Bi	-21.340
^{202}Bi	-20.830
^{203}Bi	-21.460
^{204}Bi	-20.790
^{205}Bi	-20.980
^{206}Bi	-20.100
^{207}Bi	-19.950
^{208}Bi	-18.890
^{209}Bi	-18.280
^{210}Bi	-14.470
^{211}Bi	-11.880
^{212}Bi	-8.080
^{213}Bi	-5.320
^{214}Bi	-1.250
^{215}Bi	1.640
^{216}Bi	5.900
^{192}Po	-7.960
^{193}Po	-8.370
^{194}Po	-11.050
^{195}Po	-11.240
^{196}Po	-13.580
^{197}Po	-13.510
^{198}Po	-15.580
^{199}Po	-15.350
^{200}Po	-17.100
^{201}Po	-16.710
^{202}Po	-18.020
^{203}Po	-17.450
^{204}Po	-18.340
^{205}Po	-17.610
^{206}Po	-18.160
^{207}Po	-17.200
^{208}Po	-17.390
^{209}Po	-16.240
^{210}Po	-16.040

Isotope	Mass Excess
^{211}Po	-12.440
^{212}Po	-10.460
^{213}Po	-6.740
^{214}Po	-4.550
^{215}Po	-0.620
^{216}Po	1.730
^{217}Po	5.830
^{218}Po	8.330
^{194}At	-0.760
^{195}At	-3.110
^{196}At	-3.980
^{197}At	-6.190
^{198}At	-6.910
^{199}At	-8.820
^{200}At	-8.990
^{201}At	-10.790
^{202}At	-10.830
^{203}At	-12.300
^{204}At	-11.980
^{205}At	-12.970
^{206}At	-12.530
^{207}At	-13.210
^{208}At	-12.580
^{209}At	-12.810
^{210}At	-11.940
^{211}At	-11.790
^{212}At	-8.490
^{213}At	-6.670
^{214}At	-3.540
^{215}At	-1.410
^{216}At	1.940
^{217}At	4.250
^{218}At	7.870
^{219}At	10.310
^{220}At	14.110
^{199}Rn	-1.520
^{200}Rn	-4.030
^{201}Rn	-4.120
^{202}Rn	-6.330
^{203}Rn	-6.220
^{204}Rn	-8.090
^{205}Rn	-7.790
^{206}Rn	-9.190
^{207}Rn	-8.690
^{208}Rn	-9.650
^{209}Rn	-8.960
^{210}Rn	-9.530
^{211}Rn	-8.600
^{212}Rn	-8.790
^{213}Rn	-5.650
^{214}Rn	-4.400
^{215}Rn	-1.310
^{216}Rn	0.210
^{217}Rn	3.470
^{218}Rn	5.210
^{219}Rn	8.690
^{220}Rn	10.590
^{221}Rn	14.230
^{222}Rn	16.280
^{201}Fr	3.820
^{202}Fr	2.940
^{203}Fr	0.890
^{204}Fr	0.590
^{205}Fr	-1.320
^{206}Fr	-1.470
^{207}Fr	-3.030
^{208}Fr	-2.780
^{209}Fr	-3.830
^{210}Fr	-3.430
^{211}Fr	-4.150
^{212}Fr	-3.540
^{213}Fr	-3.770
^{214}Fr	-0.940
^{215}Fr	0.250

Isotope	Mass Excess
^{216}Fr	2.820
^{217}Fr	4.190
^{218}Fr	6.860
^{219}Fr	8.550
^{220}Fr	11.440
^{221}Fr	13.300
^{222}Fr	16.460
^{223}Fr	18.450
^{224}Fr	21.800
^{225}Fr	23.920
^{226}Fr	27.200
^{227}Fr	29.590
^{228}Fr	33.420
^{204}Ra	6.130
^{205}Ra	5.910
^{206}Ra	3.580
^{207}Ra	3.590
^{208}Ra	1.630
^{209}Ra	1.850
^{210}Ra	0.380
^{211}Ra	0.830
^{212}Ra	-0.150
^{213}Ra	0.510
^{214}Ra	-0.070
^{215}Ra	2.530
^{216}Ra	3.250
^{217}Ra	5.860
^{218}Ra	6.660
^{219}Ra	9.290
^{220}Ra	10.350
^{221}Ra	13.160
^{222}Ra	14.450
^{223}Ra	17.470
^{224}Ra	18.920
^{225}Ra	22.110
^{226}Ra	23.710
^{227}Ra	27.170
^{228}Ra	28.940
^{229}Ra	32.590
^{230}Ra	34.680
^{209}Ac	8.830
^{210}Ac	8.600
^{211}Ac	6.980
^{212}Ac	7.170
^{213}Ac	6.080
^{214}Ac	6.450
^{215}Ac	5.720
^{216}Ac	8.060
^{217}Ac	8.650
^{218}Ac	10.770
^{219}Ac	11.510
^{220}Ac	13.620
^{221}Ac	14.530
^{222}Ac	16.750
^{223}Ac	17.970
^{224}Ac	20.420
^{225}Ac	21.820
^{226}Ac	24.530
^{227}Ac	26.060
^{228}Ac	28.970
^{229}Ac	30.630
^{230}Ac	33.670
^{231}Ac	35.750
^{232}Ac	38.970
^{212}Th	12.050
^{213}Th	12.210
^{214}Th	10.710
^{215}Th	11.130
^{216}Th	10.130
^{217}Th	12.160
^{218}Th	12.390
^{219}Th	14.430
^{220}Th	14.700
^{221}Th	16.850

Isotope	Mass Excess
^{222}Th	17.190
^{223}Th	19.360
^{224}Th	19.980
^{225}Th	22.330
^{226}Th	23.160
^{227}Th	25.730
^{228}Th	26.730
^{229}Th	29.470
^{230}Th	31.060
^{231}Th	33.860
^{232}Th	35.520
^{233}Th	38.620
^{234}Th	40.590
^{235}Th	44.040
^{215}Pa	17.710
^{216}Pa	17.870
^{217}Pa	16.760
^{218}Pa	18.590
^{219}Pa	18.510
^{220}Pa	20.170
^{221}Pa	20.290
^{222}Pa	21.950
^{223}Pa	22.230
^{224}Pa	23.890
^{225}Pa	24.340
^{226}Pa	26.110
^{227}Pa	26.880
^{228}Pa	28.860
^{229}Pa	29.810
^{230}Pa	32.070
^{231}Pa	33.430
^{232}Pa	35.810
^{233}Pa	37.410
^{234}Pa	40.200
^{235}Pa	42.140
^{236}Pa	45.240
^{237}Pa	47.390
^{238}Pa	50.820
^{226}U	27.200
^{227}U	28.920
^{228}U	29.070
^{229}U	30.970
^{230}U	31.810
^{231}U	33.850
^{232}U	34.720
^{233}U	37.010
^{234}U	38.210
^{235}U	40.880
^{236}U	42.410
^{237}U	45.380
^{238}U	47.220
^{239}U	50.540
^{240}U	52.640
^{229}Np	33.630
^{230}Np	34.940
^{231}Np	35.680
^{232}Np	37.320
^{233}Np	38.030
^{234}Np	39.940
^{235}Np	41.090
^{236}Np	43.330
^{237}Np	44.790
^{238}Np	47.440
^{239}Np	49.260
^{240}Np	52.220
^{241}Np	54.250
^{242}Np	57.560
^{243}Np	59.880
^{231}Pu	38.330
^{232}Pu	38.380
^{233}Pu	39.900
^{234}Pu	40.260
^{235}Pu	42.150

Isotope	Mass Excess
^{236}Pu	42.880
^{237}Pu	45.030
^{238}Pu	46.090
^{239}Pu	48.620
^{240}Pu	50.020
^{241}Pu	52.850
^{242}Pu	54.560
^{243}Pu	57.760
^{244}Pu	59.740
^{245}Pu	63.180
^{246}Pu	65.400
^{233}Am	43.150
^{234}Am	44.320
^{235}Am	44.650
^{236}Am	46.130
^{237}Am	46.690
^{238}Am	48.460
^{239}Am	49.460
^{240}Am	51.570
^{241}Am	52.890
^{242}Am	55.410
^{243}Am	57.100
^{244}Am	59.930
^{245}Am	61.840
^{246}Am	65.020
^{247}Am	67.220
^{248}Am	70.520
^{235}Cm	47.960
^{236}Cm	47.860
^{237}Cm	49.230
^{238}Cm	49.440
^{239}Cm	51.180
^{240}Cm	51.750
^{241}Cm	53.770
^{242}Cm	54.690
^{243}Cm	57.080
^{244}Cm	58.340
^{245}Cm	61.050
^{246}Cm	62.630
^{247}Cm	65.710
^{248}Cm	67.560
^{249}Cm	70.880
^{250}Cm	72.990
^{251}Cm	76.650
^{237}Bk	53.150
^{238}Bk	54.160
^{239}Bk	54.340
^{240}Bk	55.670
^{241}Bk	56.080
^{242}Bk	57.700
^{243}Bk	58.560
^{244}Bk	60.530
^{245}Bk	61.720
^{246}Bk	64.100
^{247}Bk	65.650
^{248}Bk	68.360
^{249}Bk	70.140
^{250}Bk	73.200
^{251}Bk	75.290
^{252}Bk	78.460
^{239}Cf	58.320
^{240}Cf	58.060
^{241}Cf	59.270
^{242}Cf	59.330
^{243}Cf	60.920
^{244}Cf	61.350
^{245}Cf	63.230
^{246}Cf	64.010
^{247}Cf	66.260
^{248}Cf	67.390
^{249}Cf	69.970
^{250}Cf	71.420
^{251}Cf	74.370

Isotope	Mass Excess
^{252}Cf	76.100
^{253}Cf	79.300
^{254}Cf	81.290
^{241}Es	63.870
^{242}Es	64.720
^{243}Es	64.740
^{244}Es	65.920
^{245}Es	66.190
^{246}Es	67.660
^{247}Es	68.380
^{248}Es	70.200
^{249}Es	71.250
^{250}Es	73.500
^{251}Es	74.930
^{252}Es	77.510
^{253}Es	79.160
^{254}Es	82.100
^{255}Es	84.070
^{256}Es	87.130
^{243}Fm	69.400
^{244}Fm	68.980
^{245}Fm	70.040
^{246}Fm	69.940
^{247}Fm	71.390
^{248}Fm	71.680
^{249}Fm	73.400
^{250}Fm	74.040
^{251}Fm	76.160
^{252}Fm	77.160
^{253}Fm	79.600
^{254}Fm	80.930
^{255}Fm	83.750
^{256}Fm	85.360
^{257}Fm	88.440
^{247}Md	75.870
^{248}Md	76.890
^{249}Md	77.010
^{250}Md	78.340
^{251}Md	78.920
^{252}Md	80.600
^{253}Md	81.510
^{254}Md	83.630
^{255}Md	84.920
^{256}Md	87.380
^{257}Md	88.900
^{258}Md	91.720
^{251}No	82.580
^{252}No	82.720
^{253}No	84.300
^{254}No	84.800
^{255}No	86.780
^{256}No	87.640
^{257}No	89.960
^{258}No	91.150
^{259}No	93.850
^{253}Lr	88.560
^{254}Lr	89.740
^{255}Lr	90.170
^{256}Lr	91.720
^{257}Lr	92.500
^{258}Lr	94.480
^{259}Lr	95.640
^{260}Lr	97.960
^{255}Rf	94.480
^{256}Rf	94.480
^{257}Rf	95.920
^{258}Rf	96.280
^{259}Rf	98.120
^{260}Rf	98.850
^{261}Rf	101.030
^{257}Ha	100.820
^{258}Ha	101.860

Isotope	Mass Excess
^{259}Ha	102.150
^{260}Ha	103.560
^{261}Ha	104.200
^{262}Ha	106.040
^{260}Sg	106.960
^{261}Sg	108.260
^{262}Sg	108.470
^{263}Sg	110.180
^{262}Ns	114.700
^{263}Ns	114.850
^{264}Ns	116.110
^{264}Hs	120.150
^{265}Hs	121.310
^{266}Mt	128.260