

A. Pape and M.S. Anthony Masses

† Nuclide is unstable to one-particle emission

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

Isotope	Mass Excess	Isotope	Mass Excess	Isotope	Mass Excess	Isotope	Mass Excess	Isotope	Mass Excess	Isotope	Mass Excess
⁸ C	35.890±0.440 †	³¹ Ar	11.450±0.360 ‡	⁴⁹ Co	-9.370±0.250 †	⁶⁷ Se	-46.610±0.100	⁷⁴ Mo	34.910±0.300 †	⁹⁴ In	-21.000±0.470 †
⁹ C	28.880±0.330	³² Ar	-2.270±0.280	⁵⁰ Co	-17.340±0.120	⁶² Br	14.180±0.240 †	⁷⁵ Mo	25.470±0.270 †	⁸⁵ Sn	101.960±0.450 †
¹⁰ C	15.680±0.220	³³ Ar	-9.530±0.210	⁵¹ Co	-27.150±0.090	⁶³ Br	1.470±0.210 †	⁷⁶ Mo	13.200±0.240 †	⁸⁶ Sn	86.760±0.420 †
¹¹ C	10.420±0.110	³⁴ Ar	-18.430±0.140	⁵² Co	-34.250±0.060	⁶⁴ Br	-7.300±0.180 †	⁷⁷ Mo	4.940±0.210 †	⁸⁷ Sn	74.660±0.390 †
		³⁵ Ar	-23.110±0.070	⁵³ Co	-42.590±0.030	⁶⁵ Br	-16.890±0.150 †	⁷⁸ Mo	-6.480±0.180 †	⁸⁸ Sn	60.360±0.360 †
¹⁰ N	39.980±0.510 †					⁶⁶ Br	-24.040±0.120 †	⁷⁹ Mo	-13.900±0.150 †	⁸⁹ Sn	49.380±0.330 †
¹¹ N	25.440±0.330 †	³⁰ K	49.380±0.610 †	⁴⁶ Ni	44.680±0.500 †	⁶⁷ Br	-32.550±0.090 †	⁸⁰ Mo	-24.200±0.120	⁹⁰ Sn	36.900±0.300 †
¹² N	17.300±0.220	³³ K	7.520±0.350 †	⁴⁷ Ni	32.470±0.450 †	⁶⁸ Br	-38.570±0.120 †	⁸¹ Mo	-31.130±0.110	⁹¹ Sn	27.410±0.270 †
¹³ N	5.300±0.110	³⁴ K	-1.550±0.280 †	⁴⁸ Ni	17.440±0.400 ‡	⁶⁹ Br	-46.030±0.040	⁸² Mo	-40.750±0.510	⁹² Sn	15.400±0.240 †
		³⁵ K	-11.150±0.210	⁴⁹ Ni	8.310±0.350 ‡					⁹³ Sn	6.560±0.210 †
¹¹ O	49.670±0.560 †	³⁶ K	-17.430±0.140	⁵⁰ Ni	-3.610±0.180	⁶² Kr	35.610±0.300 †	⁷⁵ Tc	48.540±0.330 †	⁹⁴ Sn	-4.660±0.180 †
¹² O	32.950±0.440 †	³⁷ K	-24.760±0.070	⁵¹ Ni	-11.710±0.150	⁶³ Kr	24.280±0.270 †	⁷⁶ Tc	38.280±0.300 †	⁹⁵ Sn	-12.900±0.210 †
¹³ O	23.080±0.330			⁵² Ni	-22.500±0.120	⁶⁴ Kr	10.400±0.240 †	⁷⁷ Tc	25.910±0.270 †	⁹⁶ Sn	-23.420±0.190
¹⁴ O	7.770±0.220	³¹ Ca	59.530±0.860 †	⁵³ Ni	-29.620±0.090	⁶⁵ Kr	1.370±0.210 †	⁷⁸ Tc	16.770±0.240 †	⁹⁴ Sb	19.710±0.240 †
¹⁵ O	2.670±0.110	³² Ca	41.870±1.680	⁵⁴ Ni	-39.280±0.060	⁶⁶ Kr	-9.380±0.180 †	⁷⁹ Tc	5.270±0.210 †	⁹⁵ Sb	8.160±0.210 †
		³⁴ Ca	14.550±0.420 ‡	⁵⁵ Ni	-45.410±0.030	⁶⁷ Kr	-16.690±0.150 †	⁸⁰ Tc	-3.190±0.180 †	⁹⁶ Sb	-0.480±0.180 †
¹³ F	45.870±0.740 †	³⁵ Ca	4.640±0.350			⁶⁸ Kr	-26.370±0.120 ‡	⁸¹ Tc	-13.440±0.160 †	⁹⁷ Sb	-11.340±0.340 †
¹⁴ F	33.170±0.440 †	³⁶ Ca	-6.480±0.280	⁴⁸ Cu	44.940±0.500 †	⁶⁹ Kr	-32.280±0.090	⁸² Tc	-21.320±0.160 †		
¹⁵ F	17.590±0.330 †	³⁷ Ca	-13.190±0.210	⁴⁹ Cu	29.250±0.450 †			⁸³ Tc	-30.880±0.130 †	⁹⁵ Te	31.770±0.270 †
¹⁶ F	11.210±0.220 †	³⁸ Ca	-22.050±0.140	⁵⁰ Cu	19.210±0.240 †	⁶⁴ Rb	37.080±0.300 †	⁷⁴ Ru	85.970±0.420 †	⁹⁶ Te	19.450±0.240 †
¹⁷ F	2.140±0.110	³⁹ Ca	-27.330±0.070	⁵¹ Cu	6.960±0.210 †	⁶⁵ Rb	23.110±0.270 †	⁷⁵ Ru	73.830±0.390 †	⁹⁷ Te	10.460±0.210 †
¹⁴ Ne	54.360±0.670 †	³⁵ Sc	26.980±0.490 †	⁵² Cu	-2.070±0.180 †	⁶⁶ Rb	13.110±0.240 †	⁷⁶ Ru	59.470±0.360 †	⁹⁸ Te	-0.930±0.180 †
¹⁵ Ne	41.830±0.550 †	³⁶ Sc	16.020±0.420 †	⁵³ Cu	-13.500±0.150 †	⁶⁷ Rb	2.380±0.210 †	⁷⁷ Ru	48.930±0.330 †	⁹⁹ Te	-9.280±0.210 †
¹⁶ Ne	24.760±0.440 ‡	³⁷ Sc	4.060±0.350 †	⁵⁴ Cu	-21.620±0.120 †	⁶⁸ Rb	-6.170±0.180 †	⁷⁸ Ru	35.750±0.300 †		
¹⁷ Ne	16.730±0.330	³⁸ Sc	-4.460±0.280 †	⁵⁵ Cu	-31.650±0.090 †	⁶⁹ Rb	-15.760±0.150 †	⁷⁹ Ru	26.420±0.270 †	⁹⁸ I	23.990±0.240 †
¹⁸ Ne	5.500±0.220	³⁹ Sc	-13.810±0.210 †	⁵⁶ Cu	-38.570±0.060	⁷⁰ Rb	-22.810±0.130 †	⁸⁰ Ru	14.080±0.240 †	⁹⁹ I	12.280±0.210 †
¹⁹ Ne	1.830±0.110	⁴⁰ Sc	-20.300±0.100	⁵⁷ Cu	-47.220±0.030	⁷³ Rb	-46.170±0.140	⁸¹ Ru	5.780±0.210 †	¹⁰⁰ I	3.420±0.200 †
¹⁷ Na	35.810±0.550 †	⁴¹ Sc	-28.380±0.050	⁴⁹ Zn	55.450±0.630 †	⁶⁵ Sr	48.680±0.330 †	⁸² Ru	-5.710±0.180 †	¹⁰¹ I	-7.160±0.230 †
¹⁸ Na	25.670±0.440 †			⁵⁰ Zn	40.120±0.300 †	⁶⁶ Sr	33.180±0.300 †	⁸³ Ru	-13.260±0.160 †	⁹⁹ Xe	35.950±0.270 †
¹⁹ Na	13.290±0.330 †	³³ Ti	83.100±1.380 †	⁵¹ Zn	29.670±0.270 †	⁶⁷ Sr	23.030±0.270 †	⁷⁹ Rh	49.350±0.330 †	¹⁰⁰ Xe	23.560±0.240 †
²⁰ Na	6.980±0.180	³⁸ Ti	11.140±0.420 ‡	⁵² Zn	16.360±0.240 †	⁶⁸ Sr	11.210±0.240 †	⁸⁰ Rh	39.080±0.300 †	¹⁰¹ Xe	14.710±0.240 †
²¹ Na	-2.060±0.090	³⁹ Ti	2.580±0.350 ‡	⁵³ Zn	6.650±0.210 †	⁶⁹ Sr	2.550±0.210 †	⁸¹ Rh	26.760±0.270 †	¹⁰³ Xe	-5.100±0.150 †
		⁴⁰ Ti	-8.570±0.200	⁵⁴ Zn	-6.030±0.180 †	⁷⁰ Sr	-8.270±0.180 †	⁸² Rh	17.510±0.240 †	¹⁰³ Cs	16.650±0.210 †
¹⁸ Mg	43.760±0.660 †	⁴¹ Ti	-15.290±0.150	⁵⁵ Zn	-14.660±0.150 ‡	⁷¹ Sr	-15.420±0.150 †	⁸³ Rh	5.980±0.210 †	¹⁰⁵ Cs	-2.740±0.170 †
¹⁹ Mg	32.480±0.550 ‡	⁴² Ti	-24.750±0.100	⁵⁶ Zn	-25.660±0.120	⁷² Sr	-25.460±0.120 ‡	⁸⁴ Rh	-2.650±0.250 †	¹⁰³ Ba	40.320±0.270 †
²⁰ Mg	17.790±0.360	⁴³ Ti	-29.150±0.050	⁵⁷ Zn	-32.760±0.090	⁷³ Sr	-31.430±0.250	⁸⁵ Rh	-12.960±0.180 †	¹⁰⁴ Ba	28.030±0.240 †
²¹ Mg	10.980±0.270	⁴⁰ V	12.170±0.300 †	⁵⁸ Zn	-42.250±0.060	⁷⁴ Sr	-40.460±0.080	⁸⁷ Rh	-30.690±0.320	¹⁰⁵ Ba	19.210±0.210 †
²² Mg	-0.330±0.180	⁴¹ V	0.720±0.250 †	⁵⁹ Zn	-47.240±0.030	⁷⁵ Sr	-46.260±0.100	⁷⁸ Pd	86.030±0.420 †	¹⁰⁶ Ba	7.750±0.190 †
²³ Mg	-5.510±0.090	⁴² V	-7.440±0.200 †			⁶⁷ Y	46.660±0.330 †	⁷⁹ Pd	74.400±0.390 †	¹⁰⁹ La	4.860±0.170 †
		⁴³ V	-17.310±0.150 †	⁵⁴ Ga	17.980±0.240 †	⁶⁸ Y	35.980±0.300 †	⁸⁰ Pd	60.200±0.360 †		
²¹ Al	26.440±0.450 †	⁴⁴ V	-23.480±0.100	⁵⁵ Ga	5.170±0.210 †	⁶⁹ Y	23.990±0.270 †	⁸¹ Pd	49.690±0.330 †	¹⁰⁷ Ce	45.130±0.270 †
²² Al	18.220±0.360	⁴⁵ V	-31.700±0.050	⁵⁶ Ga	-4.490±0.180 †	⁷⁰ Y	14.150±0.240 †	⁸² Pd	36.550±0.300 †	¹⁰⁸ Ce	33.140±0.240 †
²³ Al	6.900±0.270			⁵⁷ Ga	-15.870±0.150 †	⁷¹ Y	3.560±0.210 †	⁸³ Pd	27.350±0.270 †	¹⁰⁹ Ce	25.230±0.210 †
²⁴ Al	-0.050±0.180	⁴⁰ Cr	30.420±0.400 †	⁵⁸ Ga	-23.900±0.120 †	⁷² Y	-4.570±0.180 †	⁸⁴ Pd	14.800±0.240 †	¹¹⁰ Ce	15.270±0.190 †
²⁵ Al	-8.840±0.090	⁴¹ Cr	19.900±0.380 †	⁵⁹ Ga	-33.830±0.090 †	⁷³ Y	-14.610±0.150 †	⁸⁵ Pd	6.420±0.210 †		
		⁴² Cr	6.950±0.300 ‡	⁶⁰ Ga	-39.880±0.060 †	⁷⁴ Y	-21.970±0.120 †	⁸⁷ Pd	-12.930±0.160 †	¹¹³ Pr	12.350±0.170 †
²² Si	32.520±0.550 ‡	⁴³ Cr	-1.430±0.250	⁶¹ Ga	-47.010±0.030	⁷⁵ Y	-31.380±0.090 †			¹¹² Nd	41.060±0.290 †
²³ Si	23.440±0.480	⁴⁴ Cr	-12.790±0.200			⁷⁶ Y	-38.420±0.080 †	⁸⁴ Ag	39.550±0.300 †	¹¹³ Nd	33.100±0.220 †
²⁴ Si	10.790±0.360	⁴⁵ Cr	-19.150±0.150	⁵⁵ Ge	28.340±0.290 †	⁷⁷ Y	-46.710±0.150	⁸⁵ Ag	27.240±0.270 †		
²⁵ Si	3.690±0.270	⁴⁶ Cr	-29.240±0.100	⁵⁶ Ge	14.600±0.240 †			⁸⁶ Ag	17.880±0.240 †	¹¹⁷ Sm	40.670±0.280 †
²⁶ Si	-7.190±0.180	⁴⁷ Cr	-34.430±0.050	⁵⁷ Ge	4.540±0.210 †	⁶⁸ Zr	58.340±0.360 †	⁸⁷ Ag	6.410±0.210 †		
²⁷ Si	-12.520±0.090			⁵⁸ Ge	-8.240±0.180 †	⁶⁹ Zr	47.200±0.330 †	⁸⁸ Ag	-12.690±0.150 †		
		⁴³ Mn	17.250±0.360 †	⁵⁹ Ge	-16.680±0.150 ‡	⁷⁰ Zr	34.250±0.300 †			⁸¹ Cd	101.560±0.450 †
²⁵ P	19.690±0.450 †	⁴⁴ Mn	7.210±0.300 †	⁶⁰ Ge	-27.540±0.120 ‡	⁷¹ Zr	24.320±0.270 †	⁸² Cd	86.410±0.420 †	⁸² Cd	86.410±0.420 †
²⁶ P	11.150±0.360 †	⁴⁵ Mn	-4.280±0.250 †	⁶¹ Ge	-33.990±0.090	⁷² Zr	12.290±0.240 †	⁸³ Cd	74.680±0.390 †	⁸³ Cd	74.680±0.390 †
²⁷ P	-0.560±0.270	⁴⁶ Mn	-12.000±0.200	⁶² Ge	-42.270±0.060	⁷³ Zr	4.100±0.210 †	⁸⁴ Cd	60.730±0.360 †	⁸⁴ Cd	60.730±0.360 †
²⁸ P	-7.180±0.180	⁴⁷ Mn	-22.210±0.150	⁶³ Ge	-47.120±0.100	⁷⁴ Zr	-7.210±0.180 †	⁸⁵ Cd	50.250±0.330 †	⁸⁵ Cd	50.250±0.330 †
²⁹ P	-16.900±0.090	⁴⁸ Mn	-29.060±0.100			⁷⁵ Zr	-14.410±0.150 †	⁸⁶ Cd	36.920±0.300 †	⁸⁶ Cd	36.920±0.300 †
		⁴⁹ Mn	-37.490±0.050	⁵⁹ As	3.100±0.210 †	⁷⁶ Zr	-24.740±0.120 ‡	⁸⁷ Cd	27.240±0.270 †	⁸⁷ Cd	27.240±0.270 †
²⁶ S	27.520±0.540 †			⁶⁰ As	-6.250±0.180 †	⁷⁷ Zr	-31.410±0.090 ‡	⁸⁸ Cd	15.230±0.240 †	⁸⁸ Cd	15.230±0.240 †
²⁷ S	17.770±0.450	⁴³ Fe	40.170±0.450 †	⁶¹ As	-17.560±0.150 †	⁷¹ Nb	48.130±0.330 †	⁸⁹ Cd	6.650±0.210 †	⁸⁹ Cd	6.650±0.210 †
²⁸ S	4.320±0.360	⁴⁴ Fe	25.100±0.400 †	⁶² As	-25.000±0.120 †	⁷² Nb	37.500±0.300 †	⁹⁰ Cd	-4.770±0.180 †	⁹⁰ Cd	-4.770±0.180 †
²⁹ S	-3.240±0.270	⁴⁵ Fe	14.520±0.350								