

Refractory Metals

Hydrogen H 1.008 1																	Helium He 4.003 2
Lithium Li 6.941 3	Beryllium Be 9.012 4											Boron B 10.81 5	Carbon C 12.01 6	Nitrogen N 14.01 7	Oxygen O 16.00 8	Fluorine F 19.00 9	Neon Ne 20.18 10
Sodium Na 22.99 11	Magnesium Mg 24.31 12											Aluminum Al 26.98 13	Silicon Si 28.09 14	Phosphorus P 30.97 15	Sulfur S 32.07 16	Chlorine Cl 35.45 17	Argon Ar 39.95 18
Potassium K 39.10 19	Calcium Ca 40.08 20	Scandium Sc 44.96 21	Titanium Ti 47.87 22	Vanadium V 50.94 23	Chromium Cr 52.00 24	Manganese Mn 54.94 25	Iron Fe 55.85 26	Cobalt Co 58.93 27	Nickel Ni 58.69 28	Copper Cu 63.55 29	Zinc Zn 65.39 30	Gallium Ga 69.72 31	Germanium Ge 72.63 32	Arsenic As 74.92 33	Selenium Se 78.96 34	Bromine Br 79.90 35	Krypton Kr 83.80 36
Rubidium Rb 85.47 37	Sr 87.62 38	Yttrium Y 88.91 39	Zirconium Zr 91.22 40	Niobium Nb 92.91 41	Molybdenum Mo 95.94 42	Technetium Tc 98.91 43	Ruthenium Ru 101.07 44	Rhodium Rh 102.91 45	Palladium Pd 106.42 46	Silver Ag 107.87 47	Cadmium Cd 112.41 48	Indium In 114.82 49	Tin Sn 118.71 50	Antimony Sb 121.76 51	Tellurium Te 127.60 52	Iodine I 126.90 53	Xenon Xe 131.29 54
Cesium Cs 132.91 55	Barium Ba 137.33 56	LANTHANIDES ▼	Hafnium Hf 178.49 72	Tantalum Ta 180.95 73	Tungsten W 183.84 74	Rhenium Re 186.21 75	Osmium Os 190.23 76	Iridium Ir 192.22 77	Platinum Pt 195.08 78	Gold Au 196.97 79	Mercury Hg 200.59 80	Thallium Tl 204.38 81	Lead Pb 207.2 82	Bismuth Bi 208.98 83	Polonium Po [209] 84	Astatine At [210] 85	Radon Rn [222] 86
Francium Fr [223] 87	Radium Ra [226] 88	ACTINIDES ▼	Rutherfordium Rf [261] 104	Dubnium Db [268] 105	Seaborgium Sg [269] 106	Bohrium Bh [270] 107	Hassium Hs [271] 108	Mt [278] 109	Darmstadtium Ds [281] 110	Roentgenium Rg [281] 111	Copernicium Cn [285] 112	Ununtrium Uut [286] 113	Flerovium Fl [289] 114	Ununpentium Uup [289] 115	Livermorium Lv [293] 116	Ununseptium Uus [294] 117	Ununoctium Uuo [294] 118

Lanthanum La 138.91 57	Cerium Ce 140.12 58	Praseodymium Pr 140.91 59	Neodymium Nd 144.24 60	Promethium Pm [145] 61	Samarium Sm 150.36 62	Europium Eu 151.96 63	Gadolinium Gd 157.25 64	Terbium Tb 158.93 65	Dysprosium Dy 162.50 66	Holmium Ho 164.93 67	Erbium Er 167.26 68	Thulium Tm 168.93 69	Ytterbium Yb 173.04 70	Lutetium Lu 174.97 71
Actinium Ac [227] 89	Thorium Th 232.04 90	Protactinium Pa 231.04 91	Uranium U 238.03 92	Neptunium Np [237] 93	Plutonium Pu [244] 94	Americium Am [243] 95	Curium Cm [247] 96	Berkelium Bk [247] 97	Californium Cf [251] 98	Einsteinium Es [252] 99	Fermium Fm [257] 100	Mendelevium Md [258] 101	Nobelium No [259] 102	Lawrencium Lr [262] 103

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