

Los Alamos National Laboratory Chemistry Division

Periodic Table of the Elements

1A 1 H 1s ¹ hydrogen 1.008	2A 4 Be [He]2s ² beryllium 9.012	3A 5 B [He]2s ² 2p ¹ boron 10.81	4A 6 C [He]2s ² 2p ² carbon 12.01	5A 7 N [He]2s ² 2p ³ nitrogen 14.01	6A 8 O [He]2s ² 2p ⁴ oxygen 16.00	7A 9 F [He]2s ² 2p ⁵ fluorine 19.00	8A 2 He 1s ² helium 4.003										
3 Li [He]2s ¹ lithium 6.941	11 Na [Ne]3s ¹ sodium 22.99	12 Mg [Ne]3s ² magnesium 24.31	13 Al [Ne]3s ² 3p ¹ aluminum 26.98	14 Si [Ne]3s ² 3p ² silicon 28.09	15 P [Ne]3s ² 3p ³ phosphorus 30.97	16 S [Ne]3s ² 3p ⁴ sulfur 32.07	17 Cl [Ne]3s ² 3p ⁵ chlorine 35.45	18 Ar [Ne]3s ² 3p ⁶ argon 39.95									
19 K [Ar]4s ¹ potassium 39.10	20 Ca [Ar]4s ² calcium 40.08	3B 21 Sc [Ar]4s ² 3d ¹ scandium 44.96	4B 22 Ti [Ar]4s ² 3d ² titanium 47.88	5B 23 V [Ar]4s ² 3d ³ vanadium 50.94	6B 24 Cr [Ar]4s ¹ 3d ⁵ chromium 52.00	7B 25 Mn [Ar]4s ² 3d ⁵ manganese 54.94	8B 26 Fe [Ar]4s ² 3d ⁶ iron 55.85	27 Co [Ar]4s ² 3d ⁷ cobalt 58.93	28 Ni [Ar]4s ² 3d ⁸ nickel 58.69	11B 29 Cu [Ar]4s ¹ 3d ¹⁰ copper 63.55	12B 30 Zn [Ar]4s ² 3d ¹⁰ zinc 65.39	31 Ga [Ar]4s ² 3d ¹⁰ 4p ¹ gallium 69.72	32 Ge [Ar]4s ² 3d ¹⁰ 4p ² germanium 72.58	33 As [Ar]4s ² 3d ¹⁰ 4p ³ arsenic 74.92	34 Se [Ar]4s ² 3d ¹⁰ 4p ⁴ selenium 78.96	35 Br [Ar]4s ² 3d ¹⁰ 4p ⁵ bromine 79.90	36 Kr [Ar]4s ² 3d ¹⁰ 4p ⁶ krypton 83.80
37 Rb [Kr]5s ¹ rubidium 85.47	38 Sr [Kr]5s ² strontium 87.62	39 Y [Kr]5s ² 4d ¹ yttrium 88.91	40 Zr [Kr]5s ² 4d ² zirconium 91.22	41 Nb [Kr]5s ¹ 4d ⁴ niobium 92.91	42 Mo [Kr]5s ¹ 4d ⁵ molybdenum 95.94	43 Tc [Kr]5s ² 4d ⁵ technetium (98)	44 Ru [Kr]5s ¹ 4d ⁷ ruthenium 101.1	45 Rh [Kr]5s ¹ 4d ⁸ rhodium 102.9	46 Pd [Kr]4d ¹⁰ palladium 106.4	47 Ag [Kr]5s ¹ 4d ¹⁰ silver 107.9	48 Cd [Kr]5s ² 4d ¹⁰ cadmium 112.4	49 In [Kr]5s ² 4d ¹⁰ 5p ¹ indium 114.8	50 Sn [Kr]5s ² 4d ¹⁰ 5p ² tin 118.7	51 Sb [Kr]5s ² 4d ¹⁰ 5p ³ antimony 121.8	52 Te [Kr]5s ² 4d ¹⁰ 5p ⁴ tellurium 127.6	53 I [Kr]5s ² 4d ¹⁰ 5p ⁵ iodine 126.9	54 Xe [Kr]5s ² 4d ¹⁰ 5p ⁶ xenon 131.3
55 Cs [Xe]6s ¹ cesium 132.9	56 Ba [Xe]6s ² barium 137.3	57 La* [Xe]6s ² 5d ¹ lanthanum 138.9	72 Hf [Xe]6s ² 4f ¹⁴ 5d ² hafnium 178.5	73 Ta [Xe]6s ² 4f ¹⁴ 5d ³ tantalum 180.9	74 W [Xe]6s ² 4f ¹⁴ 5d ⁴ tungsten 183.9	75 Re [Xe]6s ² 4f ¹⁴ 5d ⁵ rhenium 186.2	76 Os [Xe]6s ² 4f ¹⁴ 5d ⁶ osmium 190.2	77 Ir [Xe]6s ² 4f ¹⁴ 5d ⁷ iridium 190.2	78 Pt [Xe]6s ¹ 4f ¹⁴ 5d ⁹ platinum 195.1	79 Au [Xe]6s ¹ 4f ¹⁴ 5d ¹⁰ gold 197.0	80 Hg [Xe]6s ² 4f ¹⁴ 5d ¹⁰ mercury 200.5	81 Tl [Xe]6s ² 4f ¹⁴ 5d ¹⁰ 6p ¹ thallium 204.4	82 Pb [Xe]6s ² 4f ¹⁴ 5d ¹⁰ 6p ² lead 207.2	83 Bi [Xe]6s ² 4f ¹⁴ 5d ¹⁰ 6p ³ bismuth 208.9	84 Po [Xe]6s ² 4f ¹⁴ 5d ¹⁰ 6p ⁴ polonium (209)	85 At [Xe]6s ² 4f ¹⁴ 5d ¹⁰ 6p ⁵ astatine (210)	86 Rn [Xe]6s ² 4f ¹⁴ 5d ¹⁰ 6p ⁶ radon (222)
87 Fr [Rn]7s ¹ francium (223)	88 Ra [Rn]7s ² radium (226)	89 Ac~ [Rn]7s ² 6d ¹ actinium (227)	104 Rf [Rn]7s ² 5f ¹⁴ 6d ² rutherfordium (257)	105 Db [Rn]7s ² 5f ¹⁴ 6d ³ dubnium (260)	106 Sg [Rn]7s ² 5f ¹⁴ 6d ⁴ seaborgium (263)	107 Bh [Rn]7s ² 5f ¹⁴ 6d ⁵ bohrium (262)	108 Hs [Rn]7s ² 5f ¹⁴ 6d ⁶ hassium (265)	109 Mt [Rn]7s ² 5f ¹⁴ 6d ⁷ meitnerium (266)	110 Ds [Rn]7s ¹ 5f ¹⁴ 6d ⁹ darmstadtium (271)	111 Uuu (272)	112 Uub (277)	114 Uuq (296)	116 Uuh (298)	118 Uuo (?)			
Lanthanide Series* 58 Ce [Xe]6s ² 4f ¹ 5d ¹ cerium 140.1	59 Pr [Xe]6s ² 4f ³ praseodymium 140.9	60 Nd [Xe]6s ² 4f ⁴ neodymium 144.2	61 Pm [Xe]6s ² 4f ⁵ promethium (147)	62 Sm [Xe]6s ² 4f ⁶ samarium (150.4)	63 Eu [Xe]6s ² 4f ⁷ europium 152.0	64 Gd [Xe]6s ² 4f ⁷ 5d ¹ gadolinium 157.3	65 Tb [Xe]6s ² 4f ⁹ terbium 158.9	66 Dy [Xe]6s ² 4f ¹⁰ dysprosium 162.5	67 Ho [Xe]6s ² 4f ¹¹ holmium 164.9	68 Er [Xe]6s ² 4f ¹² erbium 167.3	69 Tm [Xe]6s ² 4f ¹³ thulium 168.9	70 Yb [Xe]6s ² 4f ¹⁴ ytterbium 173.0	71 Lu [Xe]6s ² 4f ¹⁴ 5d ¹ lutetium 175.0				
Actinide Series~ 90 Th [Rn]7s ² 6d ² thorium 232.0	91 Pa [Rn]7s ² 5f ² 6d ¹ protactinium (231)	92 U [Rn]7s ² 5f ³ 6d ¹ uranium (238)	93 Np [Rn]7s ² 5f ⁴ 6d ¹ neptunium (237)	94 Pu [Rn]7s ² 5f ⁶ plutonium (242)	95 Am [Rn]7s ² 5f ⁷ americium (243)	96 Cm [Rn]7s ² 5f ⁷ 6d ¹ curium (247)	97 Bk [Rn]7s ² 5f ⁹ berkelium (247)	98 Cf [Rn]7s ² 5f ¹⁰ californium (249)	99 Es [Rn]7s ² 5f ¹¹ einsteinium (254)	100 Fm [Rn]7s ² 5f ¹² fermium (253)	101 Md [Rn]7s ² 5f ¹³ mendelevium (256)	102 No [Rn]7s ² 5f ¹⁴ nobelium (254)	103 Lr [Rn]7s ² 5f ¹⁴ 6d ¹ lawrencium (257)				