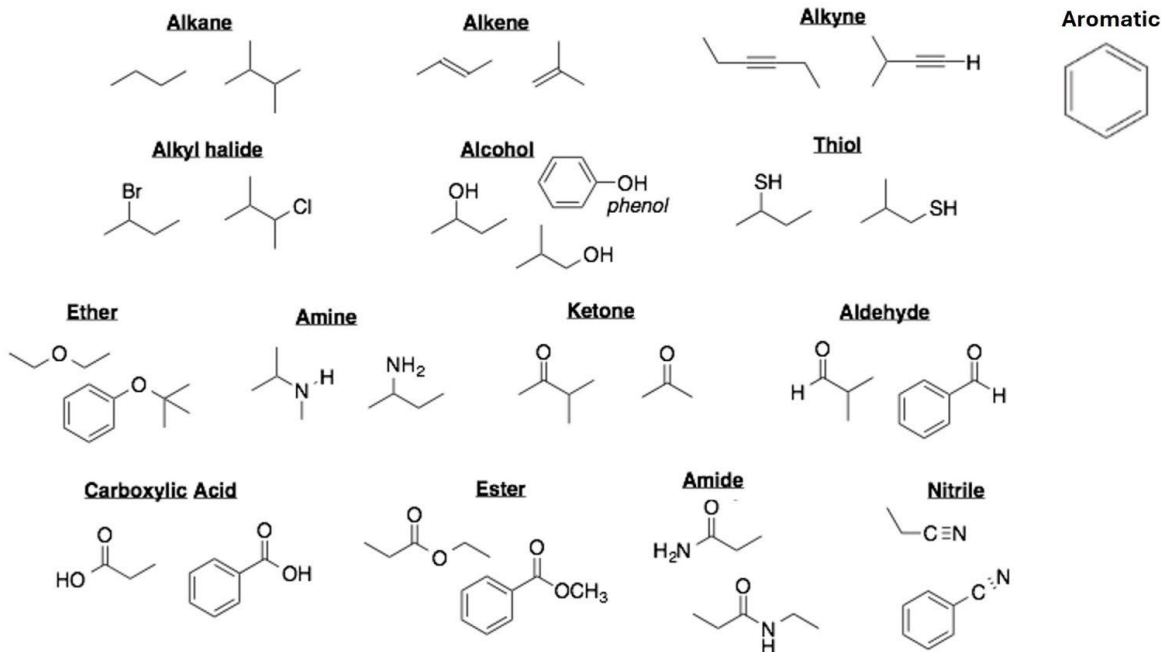


Soluble compounds contain	Except when paired with
Group I metal cations or NH_4^+	None
CH_3COO^- , NO_3^- , ClO_3^- or ClO_4^-	None
Cl^- , Br^- , or I^-	Ag^+ , Hg_2^{2+} , Pb^{2+}
SO_4^{2-}	Ag^+ , Hg_2^{2+} , Pb^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+}
Insoluble compounds contain	Except when paired with
CO_3^{2-} , CrO_4^{2-} , PO_4^{3-} , or SO_3^{2-}	Group I cations or NH_4^+
S^{2-} or OH^-	Group I cations or NH_4^+ , or Ba^{2+}
Ag^+ , Hg_2^{2+} , and Pb^{2+}	CH_3COO^- , NO_3^- , ClO_3^- or ClO_4^-

Strong Acids	Strong Bases
HCl, HBr, HI, HNO_3 , HClO_4 , H_2SO_4	Group I & II metal hydroxides

Type of radiation	Symbol	Mass number	Charge
alpha particle	α or ${}^4_2\text{He}$	4	2+
beta particle	β or ${}^0_{-1}e$	0	1-
gamma ray	γ or ${}^0_0\gamma$	0	0
neutron	1_0n	1	0
positron	β^+ or 0_1e	0	1+

Prefix	Symbol	Multiplier
tera	T	10^{12}
giga	G	10^9
mega	M	10^6
kilo	k	10^3
deci	d	10^{-1}
centi	c	10^{-2}
milli	m	10^{-3}
micro	μ	10^{-6}
nano	n	10^{-9}



PERIOD

1 1A

1 H Hydrogen

2 He Helium

3 1A

3 Li Lithium

4 Be Beryllium

11 Na Sodium

12 Mg Magnesium

19 K Potassium

20 Ca Calcium

21 Sc Scandium

22 Ti Titanium

23 V Vanadium

24 Cr Chromium

25 Mn Manganese

26 Fe Iron

27 Co Cobalt

28 Ni Nickel

29 Cu Copper

30 Zn Zinc

31 Ga Gallium

32 Ge Germanium

33 As Arsenic

34 Se Selenium

35 Br Bromine

36 Kr Krypton

37 Rb Rubidium

38 Sr Strontium

39 Y Yttrium

40 Zr Zirconium

41 Nb Niobium

42 Mo Molybdenum

43 Tc Technetium

44 Ru Ruthenium

45 Rh Rhodium

46 Pd Palladium

47 Ag Silver

48 Cd Cadmium

49 In Indium

50 Sn Tin

51 Sb Antimony

52 Te Tellurium

53 I Iodine

54 Xe Xenon

55 Cs Cesium

56 Ba Barium

57 La Lanthanum

71 Lu Lutetium

72 Hf Hafnium

73 Ta Tantalum

74 W Tungsten

75 Re Rhenium

76 Os Osmium

77 Ir Iridium

78 Pt Platinum

79 Au Gold

80 Hg Mercury

81 Tl Thallium

82 Pb Lead

83 Bi Bismuth

84 Po Polonium

85 At Astatine

86 Rn Radon

87 Fr Francium

88 Ra Radium

103 Lr Lawrencium

104 Rf Rutherfordium

105 Db Dubnium

106 Sg Seaborgium

107 Bh Bohrium

108 Hs Hassium

109 Mt Meitnerium

110 Ds Darmstadtium

111 Rg Roentgenium

112 Cn Copernicium

113 Nh Nihonium

114 Fl Flerovium

115 Mc Moscovium

116 Lv Livermorium

117 Ts Tennessine

118 Og Oganesson

57 La Lanthanum

58 Ce Cerium

59 Pr Praseodymium

60 Nd Neodymium

61 Pm Promethium

62 Sm Samarium

63 Eu Europium

64 Gd Gadolinium

65 Tb Terbium

66 Dy Dysprosium

67 Ho Holmium

68 Er Erbium

69 Tm Thulium

70 Yb Ytterbium

89 Ac Actinium

90 Th Thorium

91 Pa Protactinium

92 U Uranium

93 Np Neptunium

94 Pu Plutonium

95 Am Americium

96 Cm Curium

97 Bk Berkelium

98 Cf Californium

99 Es Einsteinium

100 Fm Fermium

101 Md Mendelevium

102 No Nobelium