

Problem Set 7: Bonding

1) Define the following: ionic bond, covalent bond, polar covalent bond.

2) Use the electronegativity difference to determine the type of bond that would form between each pair of atoms listed.

Cobalt and bromine

Nickel and oxygen

Sodium and fluoride

Hydrogen and oxygen

Carbon and hydrogen

3) Draw the following Lewis structures.

a) CH_3OH

b) CH_2O

c) ClF_3

d) BrO_3^-

4) Draw the equivalent resonance structures for the following compounds.

a) SO_3

b) O_3

5) Draw the three possible Lewis structures for carbonyl dichloride (CCl_2O), assign formal charge and select the preferred structure.