HONORS CHEMISTRY UNIT 7 NOTES

TYPES OF CHEMICAL BONDS

What is a chemical bond?

Bond energy

Bond length and bond strength

Types of chemical bonds



Ionic bonds

Covalent bonds

* (Nonpolar) covalent bonds
* Polar (covalent) bonds

Metallic

ELECTRONEGATIVITY

Using electronegativity to determine types of bonds

EXAMPLES

1. HF
2. H2O
3. NaF
4. SiH4
5. Br2

STABLE ELECTRON CONFIGURATIONS AND CHARGES ON IONS: A REVIEW

Electron configuration of ions

1.

2.

Electron configurations and Bonding

1.

2.

IONIC BONDING AND STRUCTURES OF IONIC COMPOUNDS



Sizes of ions

Polyatomic ions: Bonding

LEWIS STRUCTURES

Lewis Structure

Writing Lewis Structures for single atoms and ions

Predicting the number of bonds

Steps for Writing Lewis Structures of simple molecules

1.

2.

3.

EXAMPLES

H2O

HCl

SiCl4

LEWIS STRUCTURES OF MOLECULES WITH MULTIPLE BONDS

CO2 an example

Single bond

Double bond

Triple Bond

Resonance

NO2- an example

How do you decide which one is the central atom?

EXAMPLES

HF

N2

NH3

CH4

NO+

NO3-