CONCEPT: LEWIS STRUCTURE

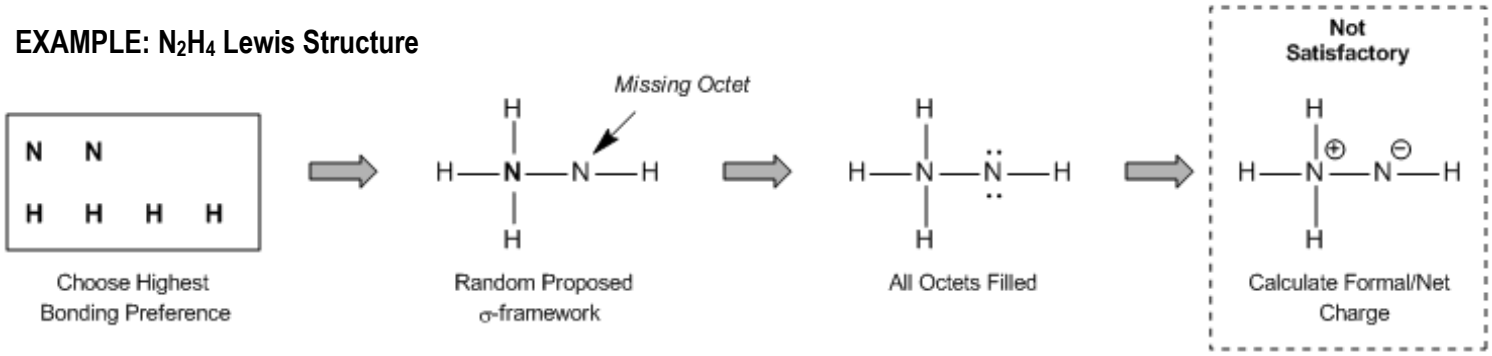
Lewis structures are used to determine chemical structures based on based on the ***octet rule*** and ***bonding preferences***.

1. Draw the atom with highest bond preference in the middle and propose a σ-bond framework.
    a. If two atoms have the same bonding preference, place the bigger one in the center
2. Complete octets using lone pairs

OR USE Formal Charges

3. Calculate the theoretical number of valence electrons
4. Calculate the actual number of valence electrons
5. Actual – Theoretical = Electron Difference
    a. If electron difference is positive, create double bonds
    b. If electron difference is negative, add lone pairs.

EXAMPLE: N_2H_4 Lewis Structure



OPTIONS:

1. Rearrange σ-framework
2. Add π–bonds to remove excess lone pairs

PRACTICE: Draw the Lewis Structure for the following molecules:

HCN

PRACTICE: Draw the Lewis Structures for the following molecules

a. HNO_3

b. H_2CO_3