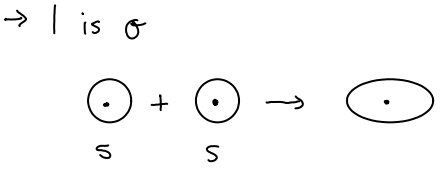
Notes 02/01

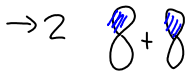
Friday, February 01, 2008
10:05 AM

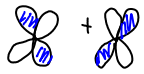
Audio recording started: 10:05 AM Friday, February 01, 2008

Notes 0213

Net interactions of the lobe







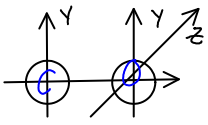
Rules:

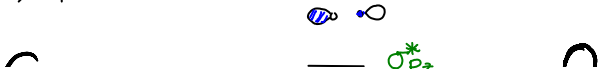
1. Similar size
2. Similar energy
3. Phases overlapped
4. There will be same number of molecular orbitals as original atomic orbitals
5. Most electronegative atoms have lowest energy orbitals

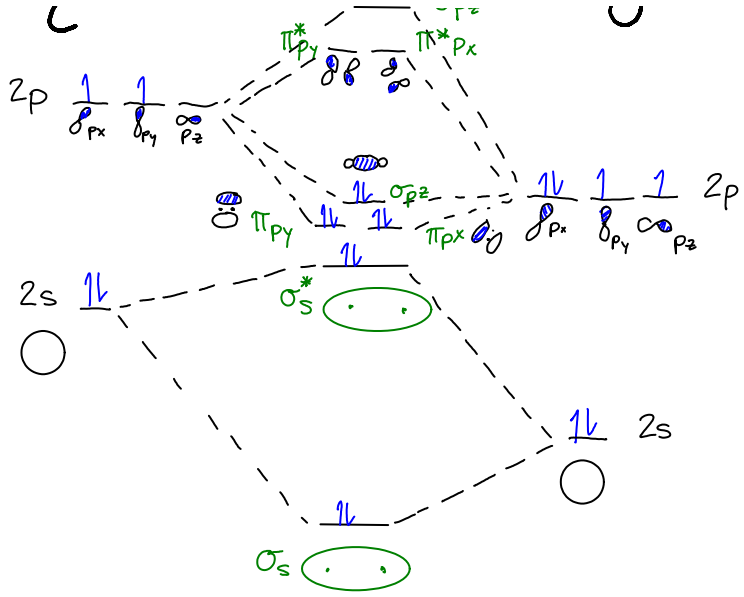
Steps:

1. Draw atoms
2. Figure out valence atomic orbitals
3. Mix

Molecular Orbital of CO



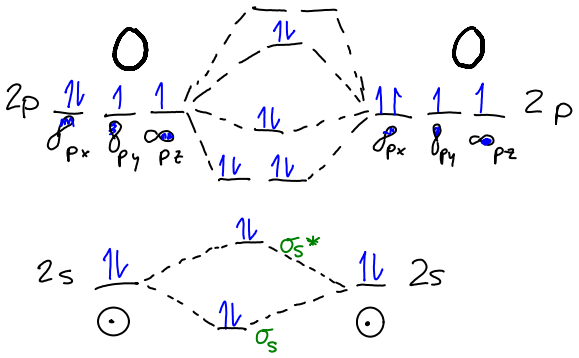




P orbitals are degenerate (same energy) so it doesn't matter if p_x, p_y, p_z is placed first second or third orbital.

Bond order: σ_s^* and σ_s cancels
π_{px}, π_{py}, σ_{pz} so 3 bonds
$:C\equiv O:$

Molecular orbital of O_2



Bond Order = 2

Diatomic Molecular Orbitals