

Homework #11
(Orbital hybridization and geometries)
CHEM 11 (S 2016, LAC)
(Due Wednesday, May 178)

Write the correct Lewis dot structure for the following showing the general steps you have used. Then use the circle-diagram to show the correct electron configuration for the atom indicated. From this show any electron promotion that is necessary and the resulting hybridization of the valence orbitals on that atom. Finally state the geometry of the valence electron orbitals and the overall molecular geometry about the specified atom.

- (a) CH₂CH₂ (hybridize on the first C)
- (b) COF₂ (hybridize on the C-atom)
- (c) PH₃ (from geometry data, it must be hybridized on the P-atom)
- (d) NO (create two resonance forms; find the formal charge on each atom for both forms; on one form hybridize on N)
- (e) SF₆ (hybridize on S)
- (f) KrF₂ (hybridize on Kr)