

# Chem 51A – SSI 2014

## Discussion 1 Worksheet

**Dr. Renee Link**

This worksheet will focus on concepts to be discussed or already discussed, for Chapter 1. Those concepts being 1) Lewis Structures 2) Formal Charge and 3) Bonding and Geometry.

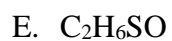
On a practical note, we **STRONGLY** recommend you work on these sheets using erasable pencil.

### 1. Bonding and Geometry

<u>Molecular Formula</u>	<u>Lewis Structure</u>	<u>VSEPR Structure</u>	<u>Geometry</u>	<u>Bond Angles</u>	<u>Hybridization</u>
Methane: CH <sub>4</sub>					
Methyl Anion: CH <sub>3</sub> <sup>-</sup>					
Ethane: CH <sub>3</sub> CH <sub>3</sub>					
Ethene: CH <sub>2</sub> CH <sub>2</sub>					
Ethyne: CHCH					

**2. Lewis Structures, formal charge, etc.**

For each of the following, draw valid Lewis structures, label formal charges, show the VSEPR structure, and point out which is the most electronegative atom.



G.  $\text{CH}_3\text{OH}$

H.  $\text{CH}_3\text{COCl}$

I.  $\text{CH}_2\text{NO}$

J.  $\text{CH}_3\text{CHN}_2$

K.  $(\text{CH}_3\text{O})_3\text{P}(\text{CH}_3)\text{Cl}$  [This is called a Wittig salt. Hint: P can have more than a full octet]