

### Chem 4A Scholars Worksheet 3

#### Lewis Structure, VSEPR Theory and resonance structures

#### VSEPR Table:

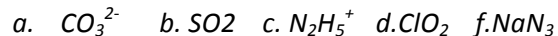
Steric No.	VSEPR Geometries				
	Basic Geometry 0 lone pair	1 lone pair	2 lone pairs	3 lone pairs	4 lone pairs
2	 Linear				
3	 Trigonal Planar	 Bent or Angular			
4	 Tetrahedral	 Trigonal Pyramidal	 Bent or Angular		
5	 Trigonal Bipyramidal	 Sawhorse or Seesaw	 T-shape	 Linear	
6	 Octahedral	 Square Pyramidal	 Square Planar	 T-shape	 Linear

[http://wikis.lawrence.edu/display/CHEM/2.2+VSEPR+Model++Part+II+\(Mohit+Gupta\)](http://wikis.lawrence.edu/display/CHEM/2.2+VSEPR+Model++Part+II+(Mohit+Gupta))

**This table is very important. You should memorize it!**

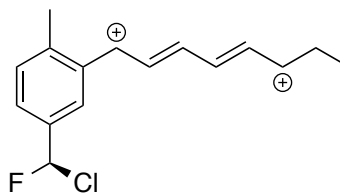
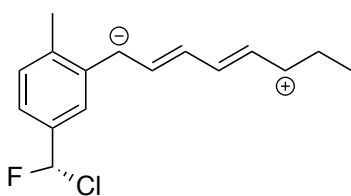
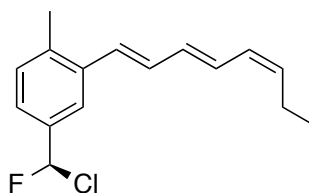
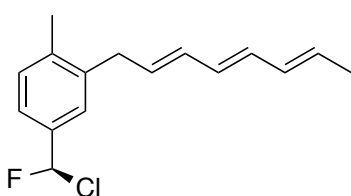
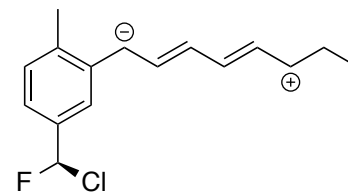
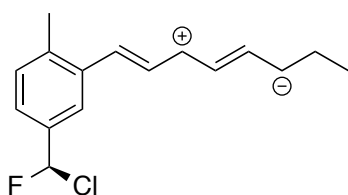
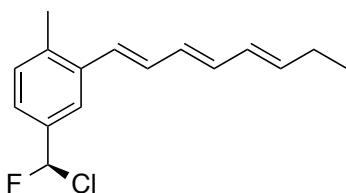
#### Questions:

1. Draw the lewis structure for the following species, make sure to note formal charge and resonance structures:



2. Draw and name the molecular geometry of the above molecules.

3. Which of the following structures are the resonance structures of the molecule below:



4. Which of the following has smaller bond angle? ( $NF_3$ ,  $NH_3$ )