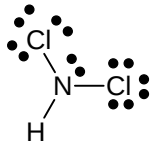
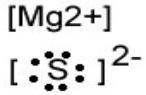
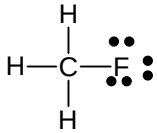
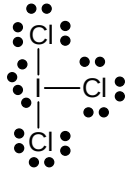
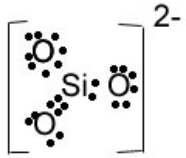
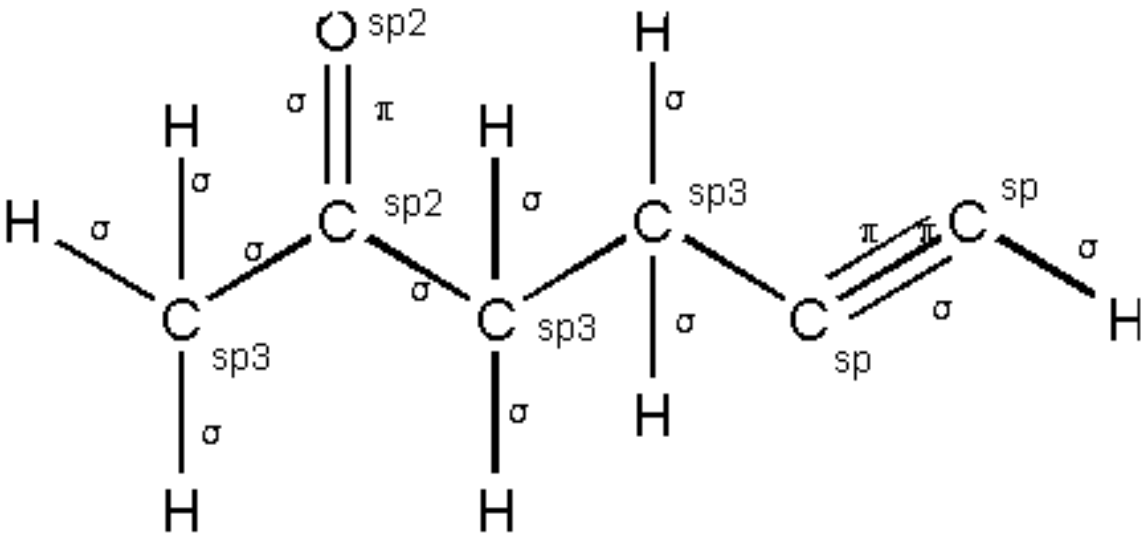
GAGE **CHM 1010**

Worksheet for Molecular Geometry, Polarity, Hybridization

1. Complete the following table. Use N/A where something does not apply. Please use dots for all pairs; because of the drawing application used the bonds cannot be displayed as electron pairs on this answer sheet

Compound/Ion	Dot Structure	Molecular Geometry (name only, no drawings)	Polar or Non-Polar Molecule?	Type of Hybridization
$NHCl_2$		trigonal pyramidal	polar, electron pair and chlorines are negative; H is positive	sp^3
MgS		N/A, ionic so ions are separate	N/A, ionic, not covalent molecule so no electron pair sharing	N/A
CH_3F		tetrahedral	polar with F as negative end of dipole	sp^3
ICl_3		T-shaped	polar with electron pairs as negative end of dipole	dsp^3 or sp^3d
SiO_3^{2-}		trigonal planar	N/A, ion with charge	sp^2

2. Consider the following molecule:



a. Label each carbon atom with the type of hybridization it shows.

b. Label all bonds as sigma (σ) or pi (π).