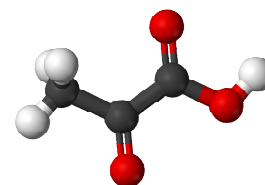


Molecular Geometry



*“The best way to have a good idea is to have a lot of ideas.”
–Linus Pauling*

FORMAT

The test will consist of: vocabulary, short answer, molecular geometry, VSEPR theory, valence bond theory, hybridization, molecular orbitals, IMF's, polarity and review. Many of the questions will require critical thinking on your part. So think! Study and you will do well.

VOCABULARY

sigma bond	hydrogen bond	VSEPR theory	orbital hybridization
pi bond	dispersion force	molecular orbital	valence bond theory
dipole	dipole-dipole force	polar molecule	van der Waals force
lone pair	electronic geometry	ion-ion force	molecular geometry

KNOW

- the eleven basic molecular shapes
- intermolecular forces
- the basic molecular orbitals
- orbital hybridization
- nonpolar and polar molecules
- cations and anions

BE ABLE TO

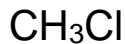
- recognize a molecule's shape (molecular)
- recognize the molecular orbitals (sigma and pi)
- list the intermolecular forces present
- draw structural formulas with the proper shape
- predict the type of chemical bond
- determine polar and nonpolar molecules
- calculate hybrid orbitals

REVIEW

- chemical bonds
- the driving force behind bonding
- predict a compound's molecular formula
- elements' electron configuration
- the periodic table
- significant figures

Practice

DIRECTIONS: Draw the structural formula, describe the shape and label polar or nonpolar.



shape: _____

shape: _____

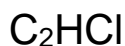
shape: _____

polarity: _____

polarity: _____

polarity: _____

DIRECTIONS: Give the shape and tell which intermolecular forces are present.



shape: _____

shape: _____

shape: _____

forces: _____

forces: _____

forces: _____

DESCRIBE the VSEPR theory.

DESCRIBE the Valence Bond theory.

DESCRIBE why the C=O bond is shorter than the C-O bond

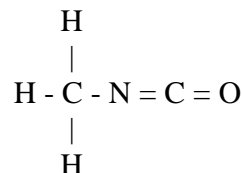
DIRECTIONS: Determine the hybridization of the central atom.

_____ C_2F_6

_____ SF_6

_____ NH_3

DIRECTIONS: Determine how many sigma and pi bonds are present.



CHALLENGE: Draw the overlap model for the following molecule.



"Excellence is the gradual result of always striving to do better." -- Pat Riley