

CHAPTER 8 NOTES
MOLECULAR SHAPE
P. 255 – 277

8-1 Notes

What kind of information does a structural model provide?

What kind of information does a ball-and-stick model provide that is lacking with a structural model?

Why are atoms in many small molecules arranged symmetrically?

Define the VSEPR theory.

What molecules are exceptions to the VSEPR theory?

Fill in the table for the five most common models.

Model	Typical # of atoms	Shape	Bond angles	Structural formula	Molecular Shape
Linear					

Model	Typical # of atoms	Shape	Bond angles	Structural formula	Molecular Shape
Trigonal planar					
Tetra-hedral					
Pyramidal					
Bent					

(Practice problems on page 262-263)

What are hybrid orbitals?

3 common types of hybrid orbitals

Hybrid Orbital	Geometry	Examples
sp		
sp ²		
sp ³		

Explain the two trends in bond length.

8-2 Notes

State the difference between a polar bond and a nonpolar bond.

What is a dipole?

What factors determine the polarity of a molecule?

Explain why formaldehyde and water are polar molecules.

Why is carbon monoxide a nonpolar molecule?

What determines the shape of large molecules? Is this true for small molecules?