

CHE 102 – Review – E1 – Miscellaneous

1. Vocabulary: Define the following terms and provide an example illustrating the term:

Homologous Series (Give an example for an Alkene)	Saturated vs. Unsaturated Hydrocarbons
Structural Isomer:	R-Group:
Geometric Isomer:	Halogen:
Identify if a molecule has a Cis-Trans Isomer (2 rules)	Draw/Name a Cis-Trans Isomer

2. Valence Bond Theory:

List 2 failures of Lewis Structures	Define Valence Bond Theory:
Define and draw an example of: Promotion (Fig 19.5):	Define and draw an example of Hybridization (Fig 19.5):
Define and give an example of (Sigma vs Pi bonds):	Why are Alkenes and Alkynes much more reactive than Alkanes?
Draw a sp^3 hybrid orbitals. Label it appropriately	Draw a sp^2 hybrid orbitals. Label it appropriately
Draw a sp hybrid orbitals. Label it appropriately	

3. Miscellaneous

Solubility of Alkanes/Alkenes/Alkynes (with each other and water):	Define Polar and Non-Polar and list the IMF's typically associated with each. Also give an example molecule for each
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4. List the 6 shapes of molecules discussed in class.

Shape	Bond Angle	Hybridization	Draw an Example

5. IMF's

Intermolecular Force	Definition + Important Details	Example	Miscellaneous
London Dispersion Forces (LDF)			
Dipole-Dipole (DD)			
H-bonding (HB)			
Ion-Dipole (ID)			
Ionic (I)			