

Preparing for Exam 1

Chemistry 1220

Spring 2012

Chapter 11

- Be able to identify what types of intermolecular forces exist in a substance:
 - van der Waals forces:
 - London/dispersion
 - Dipole/dipole
 - Hydrogen bonding
 - Ion dipole forces
 - Ion induced dipoles and dipole induced dipoles
 - Ionic bonding
 - Metal bonding
- Be able to predict boiling points based upon the ionic forces in the molecule.
- Understand surface tension and viscosity with regards to intermolecular forces.
- Understand Energy changes that accompany phase changes.(Energy versus temperature.
- Be familiar with heating curves and be able to calculate energy changes in a multiple phase changes.
- What is a critical temperature and pressure?
- Be able to calculate the length of unit cells, given the radius of an atom whether the unit cell is simple, body centered or face centered. Also be able to do related problems

Any related chemskillbuilder, quiz or homework problem

Chapter 13

- Understand:
 - The principles of solvation (entropy and enthalpy).
 - The principles of saturated, supersaturated and undersaturated.
 - How temperature affects solubility of gasses and solids in liquids.
 - How pressure affects the solubility of gases. (Henry's Law)
- Be able to calculate molarity, molality, percent by mass, molar fractions and ppm?
- Be able to calculate between different units of concentration. (density is provided when needed)

Colligative properties

- Be able to calculate freezing points, boiling points, vapor pressures and osmotic pressures.
 - For molecular compounds (non volatile)
 - For ionic compounds
- Be able to calculate molecular mass as the result of a colligative effect.

Chapter 14:

Be able to calculate the average rate of a reaction.

Be able to calculate the instantaneous rate of reaction

Know the relationship between the rate of reaction with regards to a product or reactant and that of other products and reactants.

Any related chemskillbuilder, quiz or homework problem