

CHEM 101B Spring 2019 Exam 1 Concepts

Chapter 10 Liquids & Solids

- Identify intermolecular forces, given chemical formula.
- Use intermolecular forces (see first bullet) to predict and compare properties: boiling point, freezing point, density, surface tension, viscosity, vapor pressure.
- Vapor pressure vs temperature (exponential curve)
- Interpret phase diagrams
- Use Clausius-Clapeyron equation

Chapter 11 Solutions

- Interconvert concentration units: molarity, molality, normality, % by mass, density, mole fraction
- Be familiar with the colligative properties qualitatively (Raoult's Law, boiling point elevation, freezing point depression, osmosis).
- Use colligative properties formulas to determine unknown quantities.
- Application of van 't Hoff factor to colligative properties ($i > 1$ for ionizing solids)

Chapter 12 Kinetics

- Calculate relative rates of loss of reactants and formation of products from other species.
- Know the difference between Differential Rate Law and Integrated Rate Law
- Method of Initial Rates
 - Determine Rate Law ($\text{rate} = k[A]^n$)
 - Calculate the value of the rate constant, k .
 - Determine the unit of k