CH 223 Chapter Sixteen Study Guide

- Be able to describe the differences between kinetics and thermodynamics. What does each provide? How can they compliment each other?

- Realize that entropy is a measure of matter and/or energy dispersal. Entropy is often synonymous with disorder.

- Be able to predict the sign of the entropy change for a reaction of a change in state.

- Be able to calculate the entropy change for a change of state or for a chemical reaction.

- Recall past lectures concerning enthalpy - what is it, how it is measured, etc.

- Be able to use entropy and enthalpy changes to predict whether a reaction is product- or reactant- favored.

- Understand the subtle difference between Gibbs Free Energy and the entropy of the universe. Know how this applies to the second law of thermodynamics.

- Realize the connection between entropy, enthalpy and Gibbs Free energy. Know the definition of spontaneity and know how it applies to Gibbs free energy.

- Be able to calculate a change of entropy, enthalpy and/or Gibbs free energy from the reactants and products.

- Be able to determine the relationship between the free energy change for a reaction and its equilibrium constant.

- Be able to determine the temperature at which a reaction can become product favored, if applicable.

- Be able to solve and understand the assigned problems in problem set #4 & #5.