

Weekly Lecture Schedule

CHEM 14A
FALL 2005

Instructor: Dr. Laurence Lavelle

WEEK 7

Chemical Equilibrium

Read: Ch 9 (Omit 9.3, 9.12, 9.13)

Do Problems: 1, 5, 7, 9, 11, 27, 29, 31, 33, 35, 37, 43, 45, 47, 49, 51, 55, 57, 59, 61, 63, 71, 73, 75, 77, 79, 81, 83

Self study, review Gases, Read: Ch 4.1 - 4.11
(Notes will be available.)

After going through the readings & problems and attending the lectures & discussion groups, you should be able to:

- Write the equilibrium constant for a chemical reaction and calculate its value given equilibrium concentrations.
- Calculate the effect on K of reversing a reaction or multiplying the chemical equation by a factor.
- Determine an equilibrium concentration or partial pressure.
- Determine the direction of a reaction, given K and the concentrations of all reactants and products.
- Use an equilibrium table to calculate K , equilibrium composition, and the initial concentrations of reactants and products.
- Explain how the value of the reaction quotient, Q , allows the direction of reaction to be predicted.
- Use Le Chatelier's principle to predict how the equilibrium composition of a reaction mixture is affected by: adding or removing reagents; compressing or expanding a gaseous mixture; and by raising or lowering the temperature.