

Chapter 6 – Chemical Equilibrium

Objectives and Problems

At the end of this chapter you should:

- Know how to write the expression for the equilibrium constant for any chemical reaction
Exercise: 6-A, 6-B, 6-C,
Problems: 6-1, 6-2, 6-4, 6-5, 6-6,
- Understand how equilibrium relates to thermodynamics and Le Chatelier's principle
Problems: 6-3, 6-7, 6-8, 6-9, 6-10, 6-11, 6-12
- Know how to write the expression for the solubility product for a specific chemical reaction
Exercise: 6-D, 6-E, 6-F, 6-G
Problems: 6-14, 6-15, 6-16, 6-18, 6-19, 6-20, 6-21
- Know how to identify a Brønsted-Lowry acid and base (conjugate acid-base pairs)
Problems: 6-29, 6-30, 6-31, 6-32, 6-33, 6-34, 6-35, 6-36
- Be able to determine the pH of any solution
Exercise: 6-H
Problems: 6-37, 6-38, 6-39, 6-40, 6-41
- Be familiar with strong acids, strong bases, weak acids, and weak bases and understand their behavior in an aqueous solution
Problems: 6-42, 6-43,
- Be able to write the expression for the acid dissociation constant of a weak acid and the base hydrolysis constant of a weak base
Problems: 6-44, 6-45, 6-46, 6-47, 6-49, 6-51, 6-52, 6-53

Vocabulary: *Be familiar with all of the terms on page 116 of your text*

Problem Set #3 (Due Monday, October 8th)**Exercise 6-A, 6-F****Problems: 6-4, 6-5, 6-7, 6-14, 6-19, 6-37, 6-46, 6-49****Extra Credit (worth up to 5 pts on Exam #1)**

Problem 6-28

To obtain full credit you must turn in both a hard copy (printout) and an electronic copy (can be sent as an email attachment) of your work. Please refer to p102-104 in your text for this problem. If you have any questions, I will be more than happy to go over the material covered in section 6-4 of your text.