

Chapter 14 – Introduction to Electrochemistry

Objectives and Problems

At the end of this chapter you should:

- Be able to explain basic concepts and terms of electricity and electrochemistry such as: ampere, anode, cathode, coulomb, current, E° , electric potential, electrode, Faraday constant, galvanic cell, half-reaction, Nernst equation, Ohm's law, oxidation, oxidizing agent, potentiometer, redox reaction, reducing agent, reduction, salt bridge, standard hydrogen electrode, standard reduction potential, volt
Problems: 14-1, 14-2, 14-3, 14-4, 14-5, 14-6
- Be able to diagram and label a basic galvanic (voltaic) cell
Exercise: 14-A
Problems: 14-7, 14-8, 14-9, 14-10, 14-11
- Be able to write a given half-reaction and the complete redox reaction using line notation
Exercise: 14-B, 14-C, 14-D
Problems: 14-7, 14-8, 14-9, 14-10, 14-11
- Be able to use the Nernst equation to determine the electric potential of a given galvanic cell
Exercise: 14-A, 14-B, 14-C, 14-D
Problems: 14-14, 14-15, 14-16, 14-17, 14-18, 14-19, 14-20, 14-21, 14-22
- Be able to determine the equilibrium constant from the Nernst equation and understand the relationship between electric potential and equilibrium
Problems: 14-24, 14-25, 14-26, 14-27, 14-28, 14-29, 14-30, 14-31

Problem Set #8 (Due Friday November 30th)**Exercise: 14-B, 14-C, 14-D****Problems: 14-1, 14-7, 14-8, 14-14, 14-16, 14-29**