**Chem 155 Homework #2** Due at the start of class on Weds Jan 23 (MLK day Mon Jan 21)

Reading: Finish Chapter 15 (if you haven't already!), Read all of Chapter 16

**Problems:**

**Chapter 15 Problems**
**15.77**
**15.116**
**15.118**

**Chapter 16 Problems**
**16.3**
**16.14**
**16.22**
**16.29**
**16.34**
**16.52**
**16.54**
**16.35**
**16.59**
**16.76 (Note: Oxtoby typo: amphoteric equilibrium is section 15.9 not 10.8!)**

**Extra Problem:**
The article by R.A. Feely et al. Science, v304 p362-366 (2004) gives a complicated account of the various processes that take place as $CO_2$ is dissolved in the ocean. You will need to use information provided in this paper to answer the following two questions. The UW libraries homepage has instructions for accessing library journals from off campus http://www.lib.washington.edu/help/connect.html. *Part of the homework assignment is to access the journal yourself, please do not post the article to the discussion board, or share your copies with your classmates.*

1a) According to wikipedia, seawater has a density of 1.025 g/mL and is 0.04% calcium by mass. Assuming $k_{sp}$ for calcite is $3.3 \times 10^{-9}$, determine the concentration of dissolved $[CO_3^{-2}]$ off the Washington state coast at a depth of ~500 m using the data in the paper.

1b) At this same depth, is $\Omega$ larger or smaller for aragonite (explain briefly)?