

Chem 155 Homework #2 Due at the start of class on Weds Jan 19 (MLK day Mon Jan 17)

Reading: Finish Chapter 10 (if you haven't already!), Read all of Chapter 11

Problems:

Chapter 10 Problems

10.69

10.106

10.108

Chapter 11 Problems

11.3

11.14

11.22

11.29

11.34

11.38

11.40

11.43

11.59

11.76

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>

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 3.3×10^{-9} , determine the concentration of dissolved $[\text{CO}_3^{2-}]$ off the Washington state coast at a depth of ~500 m using the data in the paper.

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