Chem 115
Fall, 2006
Assignment 4

Reading Assignment

Finish reading all of Chapter 4. As previously noted, we hope to complete Chapter 4 before Test 1, although it will not be covered on that exam. We will continue with the material in Chapter 5, all of which you should read.

Test 1

The test will be given during regular class time on **Friday, October 13th**. The test will cover all the material in the lectures corresponding to Chapters 1 through 3 in the text. I will indicate the cut-off point for the test in lecture. Look for the study guide and sample test on the web site under "Information." These should give you a better feel for the coverage and format of the exam.

Discussions During Test Week (Week of 10/9)

The week of the test begins with the Columbus Day holiday on Monday, October 9th. We will not have any regular discussions the rest of the week. However, on Wednesday, October 11th, I will run optional workshop review sessions, open to all students in the course. These will take place at the times and locations of the regular Wednesday discussions: 8:30 in S/2/63, 11:30 in S/2/66, 1:30 in S/2/65. I will bring a set of practice problems for you to try, and we will discuss answers and strategies for each of them. Come prepared to work, just as if you were taking the test. Please note that space in these rooms is very limited. Past experience shows that too few people come to the 8:30 session, and too many come to the later sessions. I would encourage you to come to the first session to avoid having to sit on the floor or in the hall.

Homework Assignment

Do the following problems before coming to discussions during the week of October 3rd.

Chapter 3: 3.43, 3.47, 3.49, 3.51, 3.53, 3.57, 3.59, 3.61, 3.71, 3.73, 3.75, 3.79.

In addition, do the limiting reagent problem on the following page. A worked-out solution, using the "set" method presented in class, has been posted under Solutions on the web site.

Extra Problem 3.1 Aluminum chloride can be made by direct combination of the elements:

$$2\ Al(s) + 3\ Cl_2(g) \rightarrow 2\ AlCl_3(s)$$

Consider the reaction between 2.70 g of solid aluminum with 4.05 g of gaseous chlorine.

(a) Determine the limiting reagent, using the “set” method.

(b) Calculate the theoretical yield of $AlCl_3(s)$ in grams.

(c) How many grams of the excess reagent are left over after the reaction?