Chemistry 146, Spring 2003
Quiz 6 comments
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There were three different versions of the quiz, so I will go over the general format and spend some time pointing out the most common mistakes. Take a close look at this. The mistakes that I saw here are the same as the mistakes that students typically make on the next Exam.

The reaction was H2O + Cl2O <--> 2 HOCl

The first question asked for the equlibrium expression. Most people got this correct, the two mistakes that I saw were leaving out the water (in this reaction the water is not the solvent, all reactants and products were gasses) and not squaring the HOCl.

$$K = \frac{HOCl^2}{(H2O)\cdot(Cl2O)}$$

Different versions of the quiz had different values for the equlibrium conditions. For all quizzes, the solution was

$$K := 0.090$$

The last question is solved by using I,C,F where X is the amount reacting. The correct expression would then be:

$$0.09 = \frac{(2\cdot X)^2}{(H2O - X)\cdot(Cl2O - X)}$$

Then solve for X using the quadratic.

Find HOCl as 2*X (from the stoichiometry)

Common mistakes that I saw at this step. Not using 2X in the numerator. Not squaring the numerator. Assuming the X in the denominator was small enough to ignore. Not correctly solving the quadratic. Not multiplying X by 2 to find HOCl.