THE COMMON ION EFFECT

NAME   SECTION

1. a. Transfer the pH data you obtained earlier (Acids, Bases and pH, pg. 55 and Salts I, pg. 63) for 0.100 M $HC_2H_3O_2$ and for 0.100 M $NaC_2H_3O_2$ and add this data to the following table.

Solution	pH
0.100 M $HC_2H_3O_2$	
0.100 M $NaC_2H_3O_2$	
0.100 M $HC_2H_3O_2$/ 0.100 M $NaC_2H_3O_2$	

   b. Write the equilibrium expression for the hydrolysis (reaction with water) of the weak acid $HC_2H_3O_2$. What is the K_a for this reaction? Use Le Châtelier's Principle to predict what would happen if you added $NaC_2H_3O_2$ to this solution.

   c. Go to http://introchem.chem.okstate.edu/DCICLA/pHbuffer20.html [†] and complete the previous table for 0.100 M $HC_2H_3O_2$ / 0.100 M $NaC_2H_3O_2$. Compare the pH of this solution with your prediction in the previous question.

[†] If you do not have access to this DCI's Web site link, your instructor will provide you with the data you will need.

    d. Provide an example of an aqueous solution containing a weak base and the soluble salt of the base.

    e. How is the extent of dissociation of a weak acid or weak base affected by the presence of its soluble salt?

2. Calculate the pH of a solution which is 0.53 M $HC_6H_4NO_2$ and 0.50 M $NaC_6H_4NO_2$.

3. Calculate the pH of a solution which is 0.245 M NH_3 and 0.245 M NH_4NO_3.