**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ AP Chemistry Hydrolysis of Salts**

Purpose: To observe and calculate the hydrolysis of various salts.

PreLab:

1. Explain how to determine if a salt will be acidic, basic, or neutral given the acid and base.

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1. Which part of the salt will undergo hydrolysis? Show a hydrolysis equation for NH4Cl.

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Part One: Test each of the solutions with pH paper and record the relative pH, name, and molarity.

1. Salt: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Molarity: \_\_\_\_\_\_\_\_\_\_ pH: \_\_\_\_\_\_\_\_\_
2. Salt: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Molarity: \_\_\_\_\_\_\_\_\_\_ pH: \_\_\_\_\_\_\_\_\_

What properties do all these salts have in common? (Hint: what type of acids and bases did they originate from?)

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Part Two: Test each of the solutions with pH paper and record the relative pH, Ka, name, and molarity.

1. Salt: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Molarity: \_\_\_\_\_\_\_\_\_\_ pH: \_\_\_\_\_\_\_\_\_ K\_: \_\_\_\_\_\_\_\_\_\_
2. Salt: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Molarity: \_\_\_\_\_\_\_\_\_\_ pH: \_\_\_\_\_\_\_\_\_ K\_: \_\_\_\_\_\_\_\_\_\_

Based on the Molarity and Ka, verify the pH of the salt using ice box for salt three:

Based on the Molarity and Ka, verify the pH of the salt using ice box for salt four:

Part Three: Test each of the solutions with pH paper and record the relative pH, Ka, name, and molarity.

1. Salt: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Molarity: \_\_\_\_\_\_\_\_\_\_ pH: \_\_\_\_\_\_\_\_\_ K\_: \_\_\_\_\_\_\_\_\_\_
2. Salt: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Molarity: \_\_\_\_\_\_\_\_\_\_ pH: \_\_\_\_\_\_\_\_\_ K\_: \_\_\_\_\_\_\_\_\_\_

Based on the Molarity and pH, verify the Ka of the salt using ice box for salt five (calculate Ka and %E):

Based on the Molarity and pH, verify the Ka of the salt using ice box for salt six(calculate Ka and %E):

Questions:

1. Write hydrolysis equations for all six salts you tested.

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2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Underarm antiperspirants use salts containing aluminum ions. Explain how the aluminum ions wok to help keep your underarms dry and what negative side effect results when it does work.

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