

NAME  
DETERMINATION OF MOLAR MASS

Materials:

Buret	.1 Molar KOH	stir bar	graduated cylinders	ring stand
Solid Unknown Acid	pH meter	phenolphthalein	beakers	clamps

**Objective:** Determine the unknown acid, determine the  $K_a$ , and the percent ionization.

**INTRODUCTION:**

In this lab we will be performing a strong base vs. a weak acid. Both substances are monoprotic; therefore, the ratio will be 1 : 1. The goal of this reaction is to determine the molar mass of the unknown acid, determine the  $K_a$ , and the percent ionization. You will need to write up a procedure for this lab. The only piece of information I will provide is that you will want to use about 0.5g of solid acid. Run several trials and determine the unknown based off the list below.

**Procedure:**

You will need to write up a procedure for this lab.

**QUESTIONS:**

1. Why isn't our pH neutral at the equivalence point?
2. Write the hydrolysis equation and the equilibrium expression for your unknown acid.
3. What is the  $K_a$  of the weak acid based on your best trial.?
4. Determine the percent Ionization of the solution just as you dissolve it in water?
5. Determine the molar mass using data from your best trial.
6. From these possible Acids determine which the unknown is

Steric acid	Benzoic acid	Acetic acid	Hydrochloric acid	Ascorbic acid	Citric acid
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