

Lab 1: Acid Base Titration of Unknown Concentration

Unknown assigned _____

- 1) Measure exactly 5.00 mL of unknown acid into a conical flask.
- 2) Add about 10 mL of deionized water and a few drops of phenolphthalein indicator.
- 3) Titrate with 0.100 M solution of NaOH until you observe a color change.
- 4) Repeat 3 more times and find the average volume of titre. Write down all observations you have made. (such as color changes, tints).
- 5) Find out which type of acid you had as an unknown from the instructor.
- 6) Write down the reaction equation (neutralization reaction) and determine the concentration of your unknown.
- 7) Find the uncertainty of the *measured* raw data.
- 8) Compare the concentration you found with the actual concentration (ask your instructor for this as well) and find the *percentage error*.

Groups must turn in a write up which includes...

- 1) **Your names** and the **letter of the unknown** you are assigned.
- 2) **Title**
- 3) **Purpose**
- 4) **Procedure**
- 5) **Balanced equation** for your 'unknown'
- 6) Raw **data tables** from the four titrations you did, including units and uncertainties
- 7) **Calculations** for unknown concentration, uncertainty of measurements **and** percent error.
- 8) Discussion of **sources of error** for titrations. State which error is higher, the measured raw data or percent error. Why do you think this is the case?