

## 8. Vinegar Titration Lab

### Purpose:

Determine the concentration of acetic acid in vinegar.

### Procedure:

1. Using a clean funnel, fill a buret with NaOH solution, which was determined to have a molarity of 1.00M. Record the initial volume of NaOH in the buret.
2. Measure out 10mL of vinegar using a graduated cylinder. Transfer the vinegar into an Erlenmeyer flask. Add 2 drops of phenolphthalein to the flask.
3. Slowly add the 1.00M NaOH to the vinegar in 1-2mL increments. As the endpoint nears, the color change of the indicator slows. If you feel that you need less than a drop of NaOH, wash the tip of the buret and walls of the flask with a very small amount of distilled water. Continue to add NaOH until the endpoint is reached. The endpoint should be a very faint pink color. Record the final volume of NaOH in the buret.
4. Refill the buret if necessary and repeat the titration process at least 2 more times.
5. Calculate the molarity of the NaOH solutions for each trial.
6. Calculate the percent deviation between the trials.  $(\text{high-low})/\text{avg} \times 100$
7. If the % deviation is greater than 2%, repeat the titration process.

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