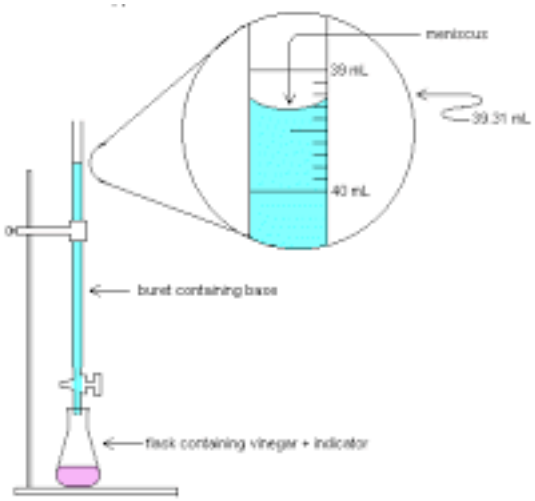

TITRATION LAB

CLASS SET

Part One: Finding Approximate Equivalence Point with Indicator

1. Obtain 10 mL of an acid of unknown concentration, record which acid used. Place acid solution in 50 mL beaker and add 2-3 drops of phenolphthalein indicator. Stir with stirring rod.
2. Add 1-2 mL 0.1M NaOH from the buret and stir. Record the color of solution and the volume of base added on your data table.
3. Repeat until the solution is dark pink/purple in color.
4. Dispose of material in proper receptacle labeled waste in the hood and rinse glassware with distilled water.

Part Two: Finding Equivalence Point with pH paper

1. Obtain another 10 mL of the same unknown acid. Do not put any indicator in the solution. Determine the initial pH using pH paper and record value on your data table.
2. Add 1-2 mL of 0.1M NaOH from the buret and either stir the solution with stir rod or swirl. Determine the pH and record both pH and volume of base used. Repeat until near the equivalence point.
3. When you get close to the equivalence point volume, only add 0.5 mL of base at a time. Continue to record measured pH along with volume of base added in your table.
4. Once past the equivalence point, take two more measurements.

Post Lab Work:

1. On graph paper, using the data obtained in part two, draw a titration curve. (pH on y-axis and volume of base on x-axis).

2. Use the volume of 0.1*M* NaOH at the equivalence point (from part two) to determine the amount of moles of acid in the unknown acid solution. Finally, determine the molarity of the unknown acid.