CHEQ 1094: LABORATORY TECHNIQUES II: TITRATION

Date: _____   *Name: _____*   *Lab Day/Time: _____*

Objective

The objective of this experiment is to learn the technique of titration, and use it to determine the concentration of citric acid in various fruit juices.

Procedure

As in the Chem 1094 lab manual, pages _____

Observations

Data

Table 1. Concentration of NaOH

Grams of HCl neutralized by 1mL of NaOH	
Grams of Citric Acid neutralized by 1 mL of NaOH	

Table 2. Titration of unknown HCl solution

	First try	Second try
Volume of unknown acid pipetted into flask		
Initial buret reading		
Final buret reading		
Volume of NaOH solution used		
Colour of solution at final buret reading		

Part III: Acidity of fruit juices

	First Juice	**Second Juice**	**Third Juice**
Type of juice			
Mass of empty Erlenmeyer flask			
Mass of flask and fruit juice			
Mass of fruit juice in flask			
Initial buret reading			
Final buret reading			
Volume of NaOH used			
Colour of solution at final buret reading			

Calculations

Calculate the concentration of the HCl solution in g/L.

Calculate the concentration of the HCl solution in moles/L.

Calculate the mass of fruit juice for each run.

Based on the volume of NaOH used, and the grams of citric acid neutralized by one mL of NaOH, calculate the mass of citric acid present for each run.

Using the formula below, calculate the mass percent of citric acid in the fruit juice for each run.

$$\% \text{ citric acid} = \frac{\text{mass of citric acid}}{\text{mass of fruit juice}} \times 100\%$$

Summary of Results

	First Run	Second Run	Average
[HCl] in g/L			
[HCl] in moles/L			

	First Juice	Second Juice	Third Juice
Type of juice			
Mass percent citric acid			

Questions

Answer any assigned questions here.