

I. Standardizing the Base (NaOH)

Using 1.000 M HCl - Acculate

Titration #1

$$\text{Base} = \frac{\text{end}}{\text{start}}$$

$$\text{Acid} = \frac{\text{end}}{\text{start}}$$

Titration #2

$$\text{Base} = \frac{\text{end}}{\text{start}}$$

$$\text{Acid} = \frac{\text{end}}{\text{start}}$$

Titration #3

$$\text{Base} = \frac{\text{end}}{\text{start}}$$

$$\text{Acid} = \frac{\text{end}}{\text{start}}$$

Calculations:



$$\#1) \quad \text{Molarity of NaOH} = \frac{1.000 \text{ M HCl} \times \frac{1 \text{ mole NaOH}}{1 \text{ mole HCl}} \times \frac{1 \text{ L HCl}}{1000 \text{ mL HCl}} \times \frac{\text{mL HCl}}{\text{mL NaOH}} \times \frac{1000 \text{ mL NaOH}}{1 \text{ L NaOH}}}{1 \text{ L NaOH}}$$

#2) repeat

#3) repeat

Average Molarity of NaOH =

Titration of Vinegar with NaOH

NAME _____

#1 Vinegar
 end = _____
 start = _____

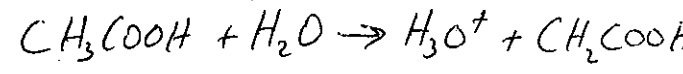
NaOH
 end = _____
 start = _____

#2 Vinegar
 end = _____
 start = _____

NaOH
 end = _____
 start = _____

#3 Vinegar
 end = _____
 start = _____

NaOH
 end = _____
 start = _____



Calculations

To find M of acetic acid in Vinegar:

$$\#1) \frac{x \text{ mole CH}_3\text{COOH}}{1 \text{ l}} = \frac{\text{mole NaOH}}{1 \text{ l sol'n (NaOH)}} \times \frac{1 \text{ mole CH}_3\text{COOH}}{1 \text{ mole NaOH}} \times \frac{1 \text{ l NaOH}}{1000 \text{ ml NaOH}} \times \frac{\text{ml NaOH}}{\text{ml CH}_3\text{COOH}} \times \frac{1000 \text{ ml}}{1 \text{ l}} =$$

#2) repeat =

#3) repeat =

ave. =

To find % acetic acid in Vinegar:

$$\frac{x \text{ g CH}_3\text{COOH}}{100 \text{ ml Vinegar}} = \frac{\text{mole CH}_3\text{COOH}}{1 \text{ l}} \times \frac{1 \text{ l}}{1000 \text{ ml}} \times \frac{60 \text{ g CH}_3\text{COOH}}{1 \text{ mole CH}_3\text{COOH}} = \quad \times 100 =$$