

conductance against volume of NaOH added. 1st equivalence point in the curve corresponds to the neutralization of HCl and the difference of two equivalence point corresponds to the neutralization of CH₃COOH acid. Calculate the normality and amount of HCl and CH₃COOH present in 1000 cm³ of its solution

Calculation:

$$(NV)_{\text{acid}} = (NV)_{\text{NaOH}}$$

$$\frac{N_{\text{acid}}}{V_{\text{acid}}} = \frac{N_{\text{NaOH}}}{V_{\text{NaOH}}}$$

Amount of HCl or CH₃COOH present in 1000 cm³ of its solution = $\frac{N_{\text{acid}} \times \text{gram equivalent weight of acid}}{1000}$

Model Procedure/Flow Chart:

Model graph:

$$\text{vol-me} \# \text{Naoy} \\ \text{CCs}$$

Model Calculation:

$$N_{\text{HCl}} = (N)_{\text{NaOH}}$$

$$\frac{N_{\text{HCl}}}{V} = \frac{N_{\text{NaOH}}}{V}$$

$$V_{\text{HCl}} = V_{\text{NaOH}}$$

$$\frac{N_{\text{HCl}}}{V_{\text{HCl}}} = \frac{N_{\text{NaOH}}}{V_{\text{NaOH}}}$$

$$\frac{A_{\text{HCl}}}{V_{\text{HCl}}} = \frac{A_{\text{NaOH}}}{V_{\text{NaOH}}}$$

Tabulation:

Volume of NaOH in ml	Conductance in μS	Volume of NaOH in ml	Conductance in μS
0.0		3.6	4
0.2		3.8	
0.4		4.0	
0.6	25	4.2	5.36
0.8	6.48	4.4	5.93
1.0	5.63	4.6	6.32
1.2	5.05	4.8	6.87
1.4	21	5.0	2.3
1.6	3.56	5.2	86
1.8	2.97	5.4	
2.0	2.80	5.6	
2.2	2.8B	5.8	17
2.4	3.02	6.0	
2.6	3.18		
2.8	3.2		
3.0	3.2		
3.2	3.4		
3.4	3.84		

Calculation:

$$\frac{C_w}{N_d} \cdot d(N)_{\text{NaOH}}$$

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$$\frac{C_w}{N_d} \cdot d(N)_{\text{NaOH}} = 0.26$$

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Relevance to Society & Environment:

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Report

1. Normality of HCl = $\frac{S}{N}$, Normality of CH₃COOH =

2. Amount of HCl present in 1000 cm³ of its solution =

3. Amount of CH₃COOH present in 1000 cm³ of its solution =

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Evaluation of experiment 6
Marks

Components	Max	Obtained
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Model Procedure,		
Model Graph &		
Calculation		
Equivalence Point &		
Execution		

201

Inference & Societal		
Relevance		

Total

Signature of Teacher