**Chem 101 Laboratory Exercise #2 Laboratory Notebook**Moles, Concentration, Acid-Base Reactions and Quantitative Analysis by Titration

Name: Arfaz Hossain

Lab Section: B12??

Quad: ??

Date: October 5, 2023

In-lab Notes:

EXPERIMENT 1:

Experimental Procedure for standardising a solution of NaOH using a titration:

Initial Without NaOH Solution Volume: 200mL

Final with added NaOH Solution: 212mL

1st

KHP Amount: 560g

Burette Reading Initial: 41.5mL

Burette Reading Final: 26.2mL

2nd

KHP Amount: 536g

Burette Reading Initial: 42.8mL

Burette Reading Final: 29.5mL

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3rd

KHP Amount: 583g

Burette Reading Initial: 44.6mL

Burette Reading Final: 32.5mL

EXPERIMENT 2 (Vineger):

1st

Vineger Amount: 23mL

Burette Reading Initial: 30.1mL

Burette Reading Final: 10.5mL

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1st

Vineger Amount: 23mL

Burette Reading Initial: 41.4mL

Burette Reading Final: 24.7mL

1st

Vineger Amount: 23mL

Burette Reading Initial: 24.7mL

Burette Reading Final: 5.1mL

**Chem 101 Laboratory**

**Exercise #2 Laboratory**

**Notebook**

**Moles, Concentration, Acid-Base Reactions and Quantitative Analysis by Titration**

**Name:** Arfaz Hossain

**Lab Section:** B12

**Quad:** 2

**Date:** October 5, 2023

**Experimental Procedures:**

﻿**Abstract:**

﻿**Data:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Experiment 1** | **Trial #1** | **Trial #2** | **Trial #3** |
| **KHP Mass (g)** | 560 g | 536 g | 583 g |
| **NaOH Initial (mL)** | 41.5 mL | 42.8 mL | 44.6 mL |
| **NaOH Final (mL)** | 26.2 mL | 29.5 mL | 32.5 mL |
| **NaOH Difference (mL)** | 15.3 mL | 13.3 mL | 12.1 mL |
|  | | | |
| **Experiment 2** | **Trial #1** | **Trial #2** | **Trial #3** |
| **Vinegar Volume (mL)** | 23.5 mL | 27 mL | 26 mL |
| **NaOH Initial (mL)** | 30.1 mL | 41.4 mL | 24.7 mL |
| **NaOH Final (mL)** | 10.5 mL | 24.7 mL | 5.1 mL |
| **NaOH Difference (mL)** | 19.6 mL | 16.7 mL | 19.6 mL |

**Results:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Experiment 1** | **Trial #1** | **Trial #2** | **Trial #3** |
| KHP Moles | 2.74 moles | 2.62 moles | 2.85 moles |
| Volume of NaOH used | 0.0153 L | 0.0133 L | 0.0121 L |
| Standardized NaOH Concentration (g/moles) | 179.08 mol/L | 196.99 mol/L | 235.53 mol/L |
|  | | | |
| **Experiment 1** | **Trial #1** | **Trial #2** | **Trial #3** |
| CH­­3COOH Moles | 0.02003845 moles | 0.0230229 moles | 0.0221702 moles |
| Volume of NaOH used | 0.0196 L | 0.0167L | 0.0196 L |
| Standardized NaOH Concentration (g/moles) | mol/L | mol/L | mol/L |

**Algebraic Equations:**

﻿**Discussion:**

﻿**Conclusions:**

﻿**References:**