

First and Last Name: _____

Student ID Number: _____

Regular TA: _____

Lab Section: _____

Date Performed: _____

Make-up TA (If applicable): _____

Part 1: Preparing NaOH solution from a stock solution

NaOH stock solution, V(mL)	
NaOH stock solution M(mol/L)	~1.2 M
Volume of H ₂ O used for dilution	
Estimated concentration of diluted NaOH, M (mol/L)	

Part 2: Standardization of NaOH

- Please report your measured values with the **correct number of significant figures**.
- Calculate the exact volume of NaOH used for titration with the **correct number of significant figures**.

Run#	Exact mass of potassium hydrogen phthalate, (g)	Initial burette volume reading, V_i (mL)	Final burette volume reading, V_f (mL)	Exact volume of NaOH used for titration, $V(\text{NaOH}) = V_f - V_i$ (mL)	Volume of NaOH used for titration, $V(L)$

Part 3. Determining if there are outliers in your titration results and if you need to repeat the titration.

- Calculate the $n(\text{KHP})$ for each run ($\text{MW} = 204.23 \text{ g/mol}$), report the $n(\text{NaOH})$ for each run and calculate the $M(\text{NaOH})$ for each run. Report your values with the **correct number of significant figures**.

$$M_{\text{NaOH}}(\text{mol/L}) = n_{\text{NaOH}}(\text{mol})/V_{\text{NaOH}}(L)$$

Run#	$n(\text{KHP})$, mol	$n(\text{NaOH})$, mol	$M_{\text{NaOH}}(\text{mol/L})$
		Average $M_{\text{NaOH}}(\text{mol/L})$	

- Compare your calculated values with the estimated NaOH molar concentration value in Part 1 Table and explain whether the M_{NaOH} you obtained make sense.

- Do you have an outlier in your molar concentrations? Explain

Yes/No

- If you do have an outlier, repeat your titration and add your results to a corresponding table

Part 4. Calculating SD and RSD

- Calculate SD and RSD using Excel and report the results with **the correct number of significant figures and units.**

Results	Units	Values
SD		
RSD		
$M_{\text{average}} \pm \text{SD}$		