C₂H₅O₄K(aq) + NaOH(aq) → C₂H₄O₄KNa(aq) + H₂O(l)

1. Calculate moles of KHP from mass:

\[ \text{mass of KHP} \times \frac{1 \text{ mol KHP}}{MW \text{ KHP} = 204.229} = ? \text{ mol KHP} \]

2. Molality of KHP solution:

\[ \frac{? \text{ mol KHP}}{0.0500 \text{ L}} = ? \text{ M KHP} \]

3. moles of KHP you used → final − initial

\[ ? \text{ M KHP (V of KHP used in L)} = ? \text{ mol KHP used} \]

4. \[ ? \text{ mol KHP used} \times \frac{1 \text{ mol H}^+}{1 \text{ mol KHP}} \times \frac{1 \text{ mol OH}^-}{1 \text{ mol H}^+} \times \frac{1 \text{ mol NaOH}}{1 \text{ mol OH}^-} = ? \text{ mol NaOH} \]

5. \[ \frac{? \text{ mol NaOH}}{V \text{ NaOH used in L}} = ? \text{ M NaOH in L per trial} \]

Today: CH₃COOH(aq) + NaOH(aq) → NaCH₃COO(aq) + H₂O(l)
primary standard - KHP, standardized we calculated concentration from mass & volume data you obtained

Secondary standard - NaOH, calculated concentration from a titration with Primary Standard