

Experiment 4 Worksheet – Organic Acid (i & ii)

Name _____

Date of Experiment: ___/___/___

Date of Report: ___/___/___

Experimental Results

Number of Unknown _____

Titration of Unknown acid:

Give the average of your results with its standard deviation.

Molecular Weight (from your data) _____ \pm _____

pK_a (from your data) _____ \pm _____

Name of Unknown _____

Attach three graphs similar to those shown in Figs. 1, 2, and 3 for each titration. Analyze the plots graphically as demonstrated in those schematics. Mark significant points (equivalence point, half-equivalence point) on the axes. Use a small enough range for the axes to achieve the best resolution. Introduce symbols and use these in equations for your numerical analysis. Also attach your IR spectrum. Mark significant observations in your spectrum. List all your evidence (data), compare it to the literature values provided (using your experimental error to put possible deviations into perspective) and discuss how you reached your conclusion about the identity of the unknown acid (inference). If not all the evidence points in the same direction, explain why you place more weight on some results.