Experiment 4: Analysis of an Acid-Base Titration Curve-The Gran Plot

Grading Rubrics for _____

Notebook (**out of 5**): _____

-1: Missing entry in Table of Contents

-1: Printouts not taped to separate pages (this makes it hard for me to write comments!)

-2: Printouts not taped to notebook at all

-1: Incomplete introduction (no discussion of lab purpose)

-1: No discussion of pH behavior close to equivalence point

Data Analysis (**out of 15**) _____

-1: Bad rounding in calculating theoretical equivalence point

-1: Wrong indicator [OH^-]

-1: Wrong first derivative [OH^-]

-3: Incorrect y-values for Gran plots

-1: Wrong Gran plot [OH^-]

-1: Wrong application of Case 1 *t*-test for [OH^-]

-1: No discussion of statistically significant difference in the formal *vs.* measured (indicator-based, first-derivative-based, Gran plot-based) [OH^-]

-1: One incorrect (or missing) concentration in ionic strength calculation

-2: More than one incorrect (or missing) concentration in ionic strength calculation

-1: Incorrect activity coefficients for HP^- and P^{2-}

-1: Incorrect 95% confidence interval for K_a

-2: No 95% confidence interval for K_a

-1: No discussion of error in K_a

Accuracy and Precision of Results (**out of 5**) _____

All groups earned 5/5 for excellent precision and accuracy in [OH^-] determination

TOTAL (**out of 25**) _____