

# Laboratory Report Guideline

## Rate Law for the Reaction of Iodide and Bromate Ions

### 1. Cover Page

### 2. Abstract

### 3. Theory

briefly discuss reaction rates and reaction order  
what type of data is used to determine the order of a reaction  
how should the data be analyzed  
how is the overall order determined

### 4. Procedure

### 5. Data

a reactant volume table and the time required to change color  
a final concentration table with the rate of each run and their corresponding rate constant value  
a logarithm table

### 6. Calculation

three graphs – one for each reactant –  $I^-$ ,  $H^+$ ,  $BrO_3^-$   
state the x, y, and z value obtained from the graphs (3 decimal points)  
show a set of calculations for one of the reactants

### 7. Error Analysis

determine the average and standard deviation of the results for run #1.  
determine the average and standard deviation of the rate constant values  
use these values to discuss of the reproducibility of the data

### 8. Questions

answer questions on page 44 (be specific with your answers, especially for question 4)

### 9. Reference

Reminder – make sure all the graphs and calculations have units, appropriate significant figures, and labels