

Enthalpy of Reactions

Hess's Law

Through Calorimetry....

In this experiment, you will measure the temperature change of two reactions, and use Hess's law to determine the enthalpy change, ΔH of a third reaction. You will use a polystyrene foam cup nested in a beaker as a calorimeter, as shown to the right. For purposes of this experiment, you may assume that the heat loss to the calorimeter and the surrounding air is negligible



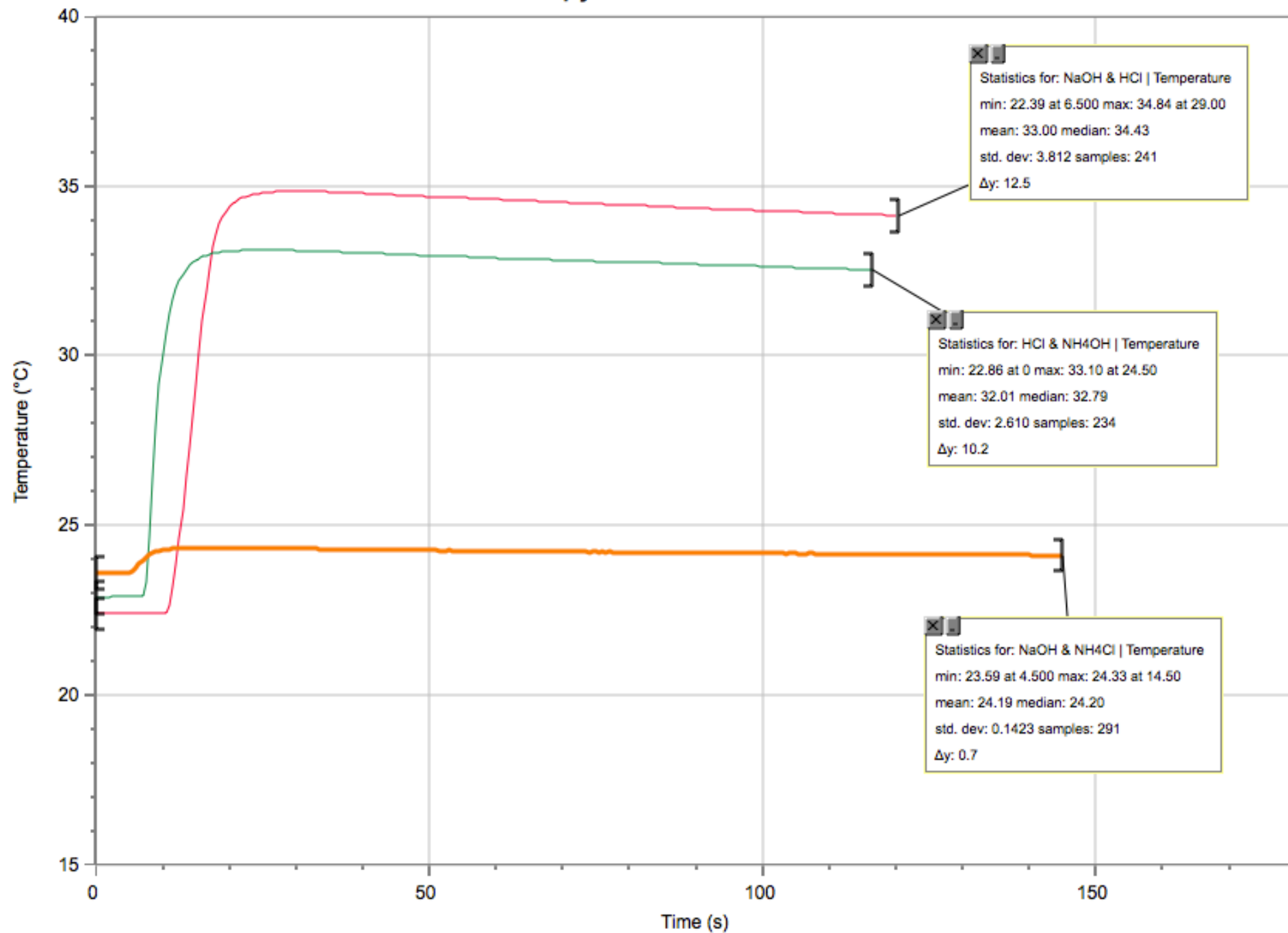
Procedure...ish

1. For each Reaction
 1. $\text{NaOH} + \text{HCl}$
 2. $\text{NaOH} + \text{NH}_4\text{Cl}$
 3. $\text{HCl} + \text{NH}_4\text{OH}$
2. Each solution is 2.0 M and using 50ml of each per reaction
3. Initial temperature will be taken prior to adding the second solution, about 5-10 seconds
4. Final temperature is determined when temperature reaches the highest or lowest point then changes direction
5. Below are 3 separate experiments by 3 different lab groups
6. You are to use all 3 experiments to complete the data table and answering questions. You will be put into smaller groups to work with

EXPERIMENT 1

Logger Pro

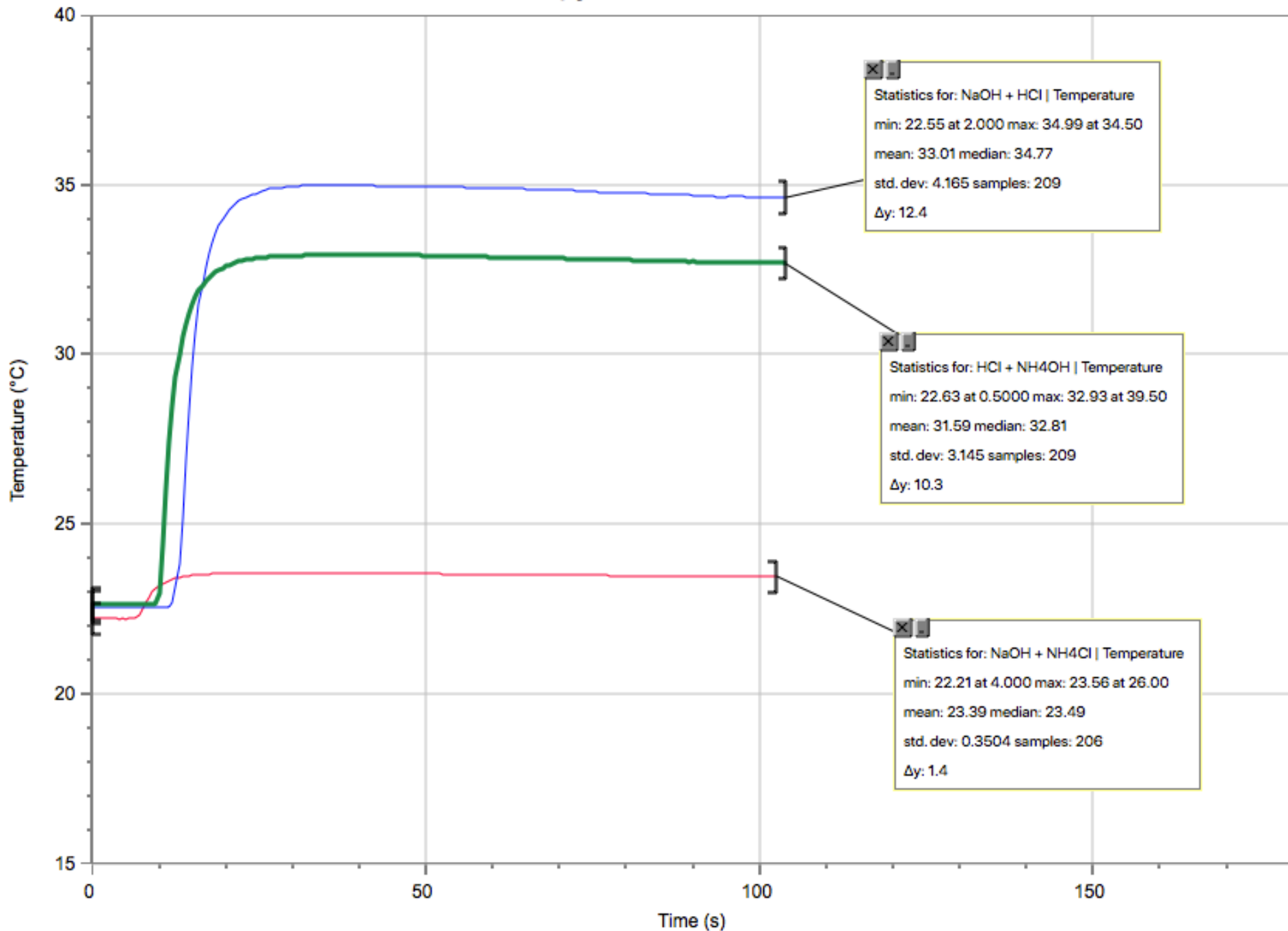
The Enthalpy of a Chemical Reaction



EXPERIMENT 2

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The Enthalpy of a Chemical Reaction



EXPERIMENT 3

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