Chemistry Lab 9 proc

Part A

- Measure out ~25 mL of HCl and ~25 mL NaOH into separate 50-mL graduated cylinders.
  - Remember to record the volumes and concentrations
- Set up the Microlab instrument
- Assemble the coffee cup calorimeter, using 2 Styrofoam cups, a plastic lid, and a magnetic stir bar.
  - Remember to record the mass
  - You will probably have to poke a hole in the lid to allow for the thermistor to enter the cup, however note that the thermistor only needs its tip to be submerged.
- Pour the NaOH into the calorimeter, and turn on the stir plate, lowering the temperature sensor
  - 150-200 RPM is around the ballpark. Make sure to adjust the speed and to move the cup around so that the stirring bar can mix freely without hitting the thermistor.
  - DONT BREAK THROUGH THE STYROFOAM
- Once set up, begin collecting data. Wait 30 seconds before adding solutions to ensure a stable temperature.
- Pour the HCL solution quickly into the calorimeter, and close the lid over the cup.
- Collect temperature data for about 6-7 minutes once the reactions seems to be complete. End the collection, then measure and record the mass of the full calorimeter
- Use a table to record the time at which the HCL was poured, and the initial temperature of the solution.
- Rinse and dry the temperature sensor. Dump the solution in waste, then dry off the calorimeter.
- Swap the inner and outer cups, then set up the calorimeter again.
- SAVE THE DATA FILE
  - C:/ProgramFiles/Microlab*v6_2_16/Saved Experiments/{initials}/{name}* {SectionNumber}_{Term}_neutralization

Part B

- Weigh the calorimeter
- Add ~20mL of DI water to the calorimeter
- Put ~4g of ammonium chloride into a beaker and record the mass
- Repeat the calorimeter procedure, however take extra care to ensure the water is spinning before the salt is added.
    - Remember to record the mass of the full calorimeter.
- Save the data file.
    - C:/ProgramFiles/Microlab*v6_2_16/Saved Experiments/{initials}/{name}* {SectionNumber}_{Term}_dissolution
- Record the time the salt was added to the calorimeter, and the initial temperature of the solution, as before.
- After cleaning up as in Part A, put the cleaned stir bar back into the stir plate, turned off.

Waste

Everything goes in the waste beaker.