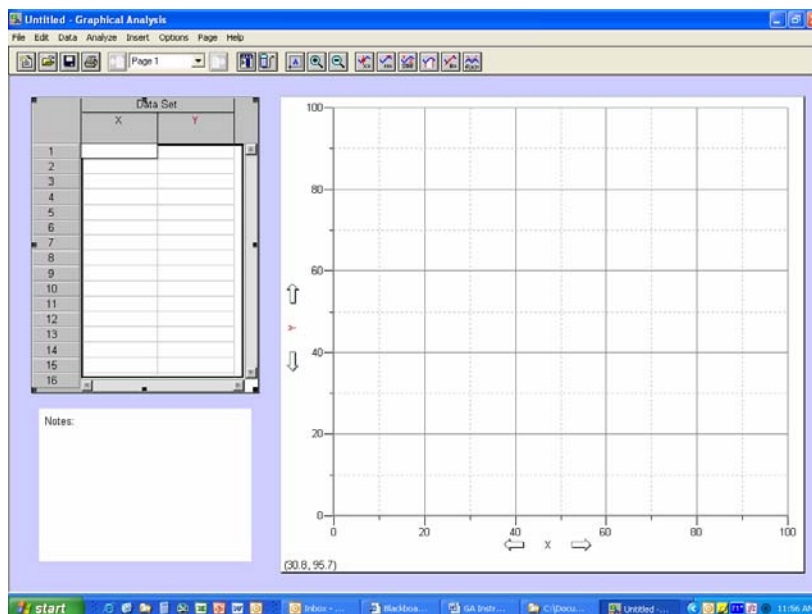


Calorimetry and Hess's Law

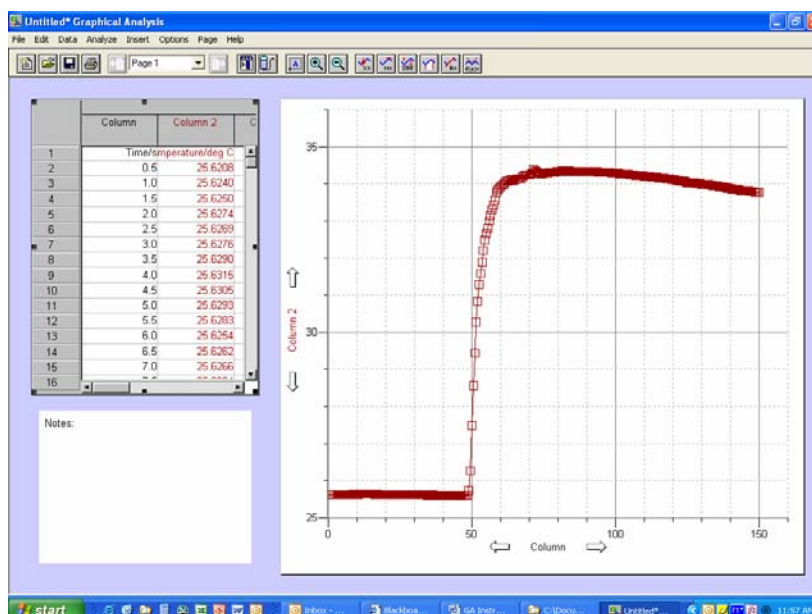
Plotting Your Data in Graphical Analysis CHE 120L, Fall 2003

(Graphical Analysis v. 3.1.1)

1. Open the Graphical Analysis 3.1.1 program.

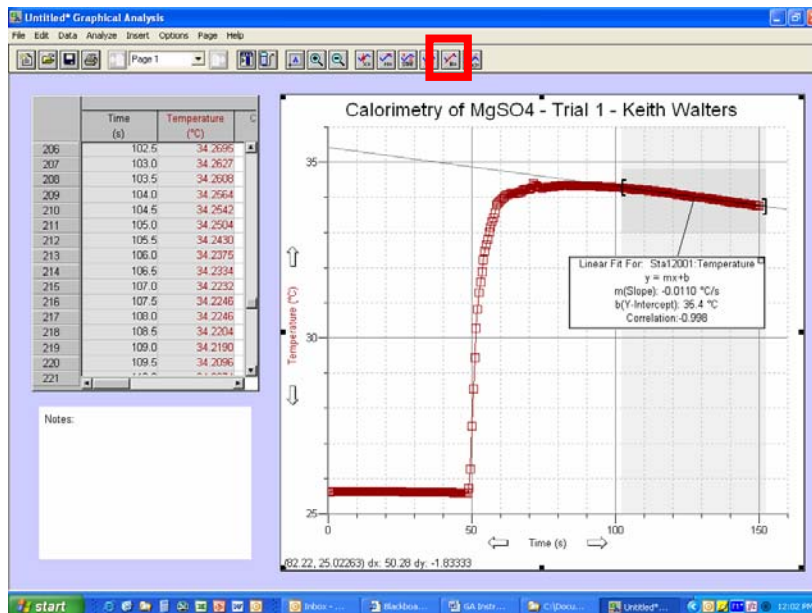


2. Select the **File / Import From / Text File...** menu option. A file selection dialog box will open. Find and select your dataset text file, and click the **OPEN** button. Your dataset is imported into Graphical Analysis and displayed on the screen.

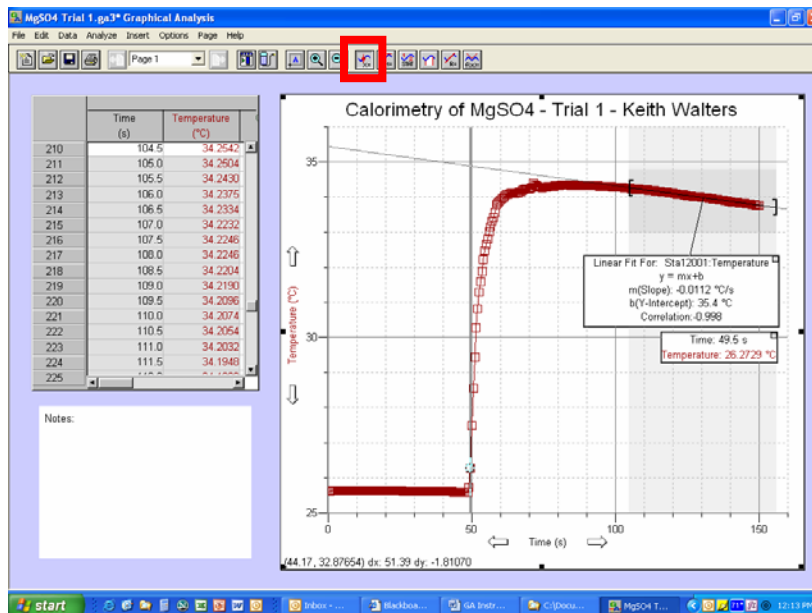


3. Label the graph appropriately (axes titles, graph title, etc.) according to your lab instructor's specifications.

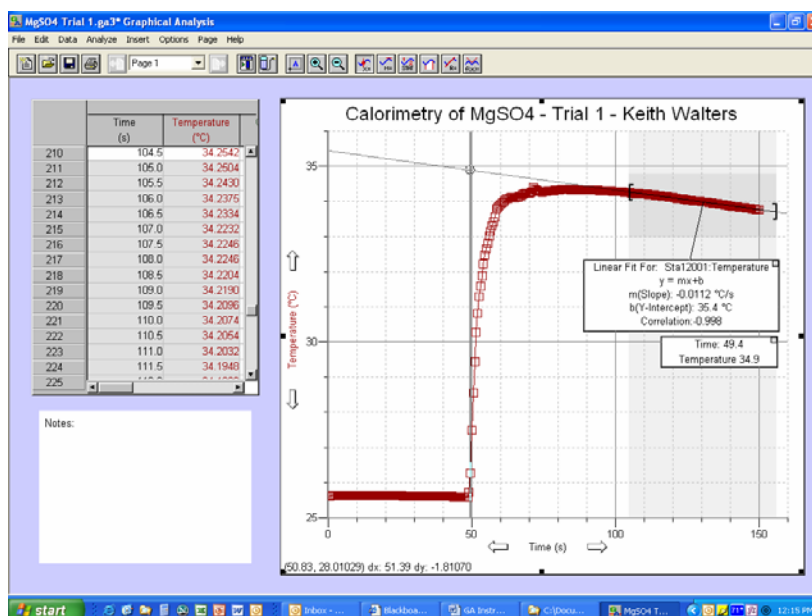
- Using the cursor, drag a box around the linear portion of the graph towards the end of your dataset. Click the “Linear Fit” button on the program toolbar indicated below (second to last button). A line will be drawn, and a box will be displayed describing the specifications of the line. The correlation value should be very close to 1 or -1. If it isn't, delete the line by clicking the close box in the upper right corner of the box and try again. Drag the text box to a spot on the graph that doesn't cover up the dataset.



- Click the “Examine” button on the program toolbar indicated below. A new text box will be displayed that shows the coordinates of the dataset depending on the location of the cursor. Again, drag this text box to a part of the graph that doesn't cover up the dataset. Once the cursor is over the graph, you can move the line back and forth with the left and right arrows. Find the last point of your dataset before the temperature begins to change due to the addition of your compound, and write down the temperature and time values shown in the examine text box. This is your initial temperature (T_i).



- Select the **Analyze / Interpolate** menu option. The textbox now shows the coordinates of the linear fit line you created in step 4. After placing the cursor over the graph, move the cursor back and forth with the left and right arrow keys until the time value in the interpolate text box is as close to the time you wrote down in step 5 as possible. Record the temperature value showing in the Interpolate text box. This value is your final temperature (T_f).



- Print the graph without moving the cursor using the following procedure: Press **ALT-F**, then use the down arrow to select the **Print Graph...** option. Be sure to hand label your printed graphs according to the specifications of your lab instructor.
- Repeat the procedure for all your other datasets.