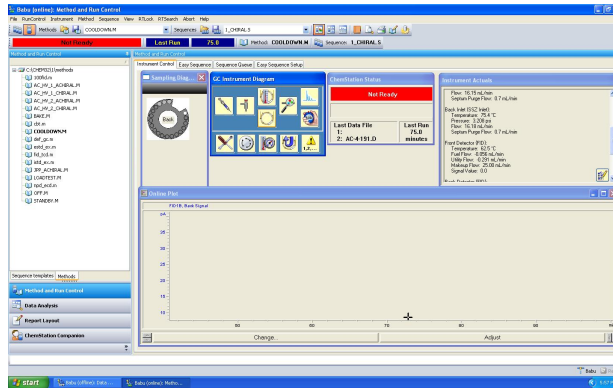
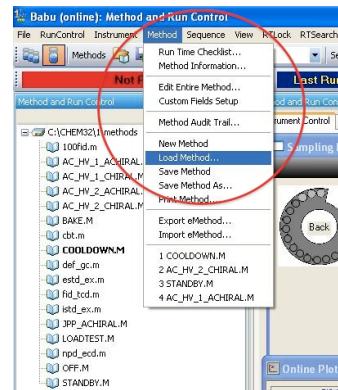
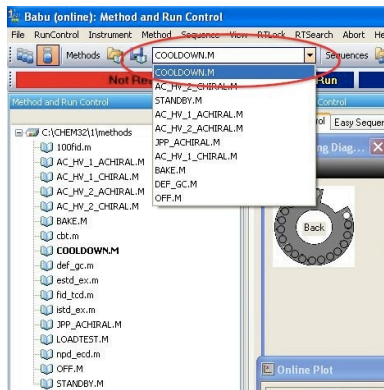


# Agilent 7820A GC

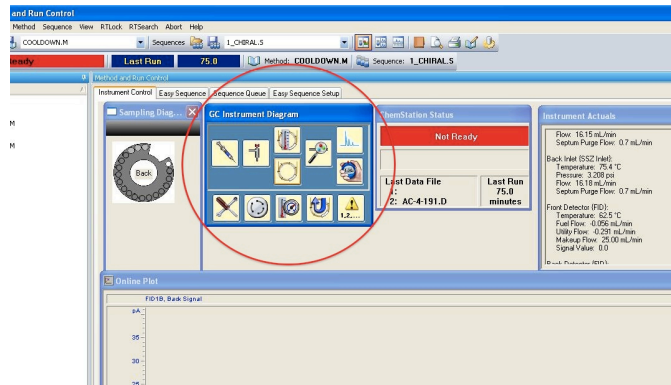
- Double click on the “Instrument 1 Online” icon on the desktop to open the control screen.



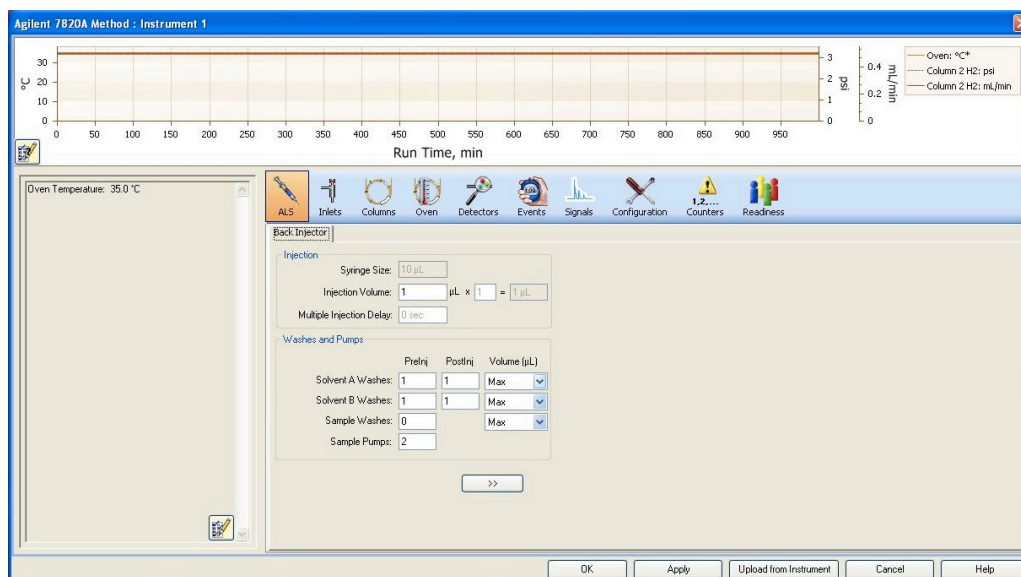
- Load a method by either clicking the scroll down menu and selecting a method or by clicking the method tab at the top of the screen and selecting “Load Method...”



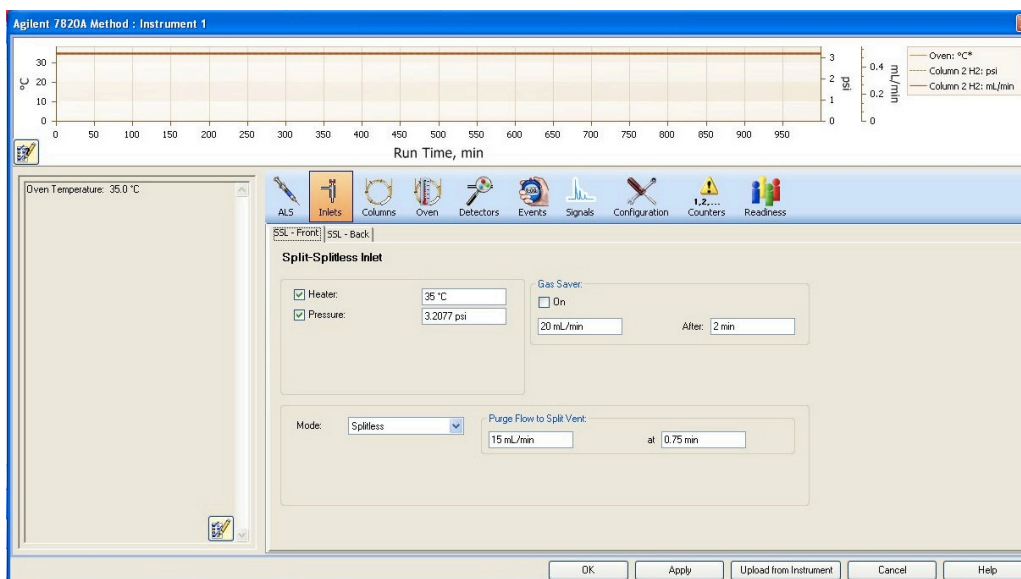
- To create a new method: either modify an existing method and save it as a different name or select “New Method” in the Method tab.
- To change the GC parameters: click on any icon in the “GC Instrument Diagram” window.



- Clicking on the ALS button on the top of the GC Instrument window opens the options to configure the auto-sampler. Standard parameters are shown below:

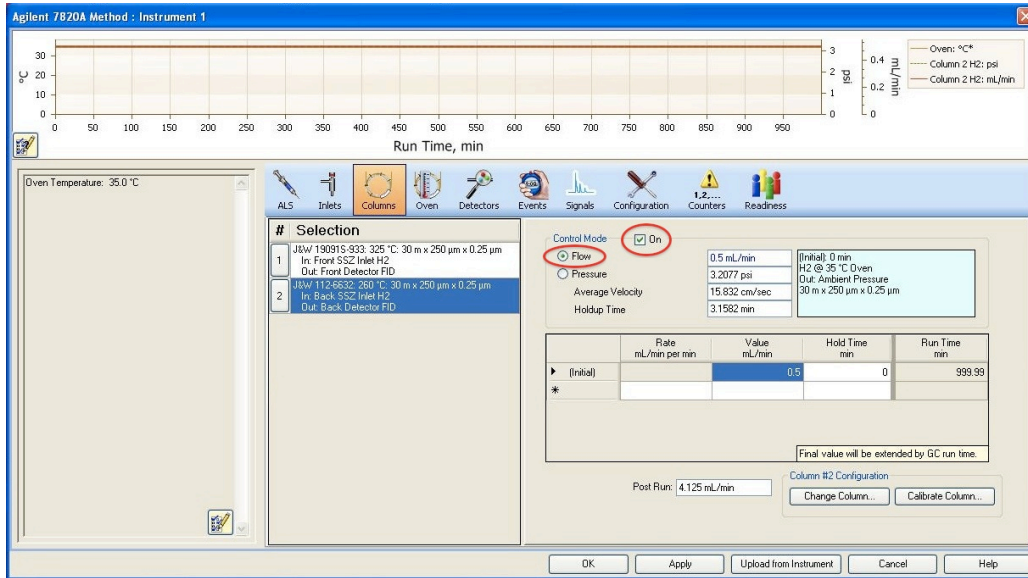


- Clicking the Inlets button opens the options to configure the inlet temperatures and flow rates. **NOTE:** Make sure the “heater” and “pressure” boxes are checked in both the front and back inlet windows. Standard conditions include inlet temperatures @ 250-300 °C and a flow rate of 100 mL/min @ 100:1 split. To conserve gases, the inlet that is not being used for the method should be set to a splitless flow of 15 mL/min.

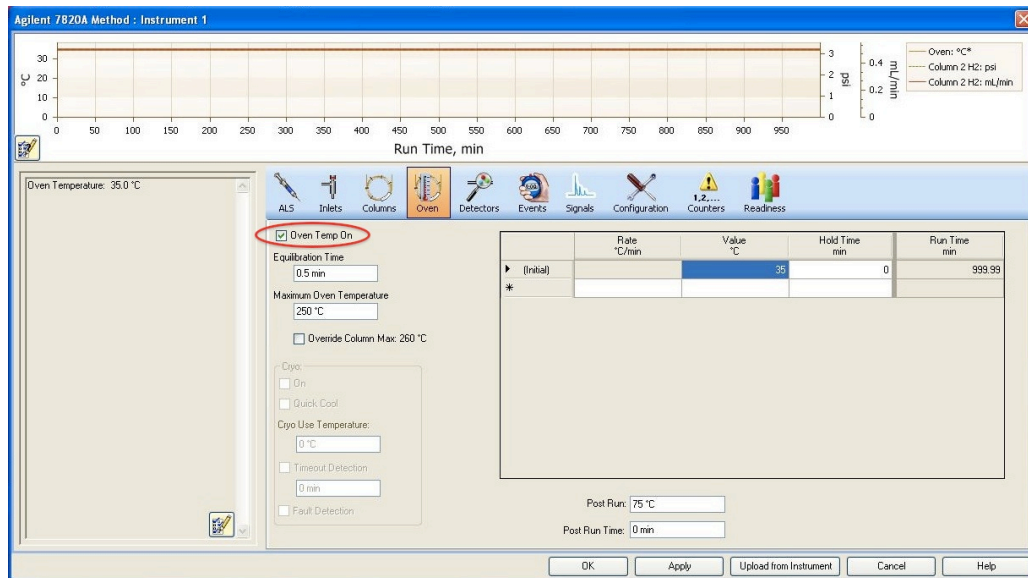


- Click the Columns button to configure the flow rates and pressures of the carrier gas through the columns. **NOTE:** Always maintain a flow rate of at least 0.5 mL/min through the columns, even if that particular column is not in use during the run. Either a constant flow rate or a constant pressure can be used for a method by selecting the appropriate circle. **NOTE:** Make sure the “on” box (above the flow rate and pressure boxes) is checked for both

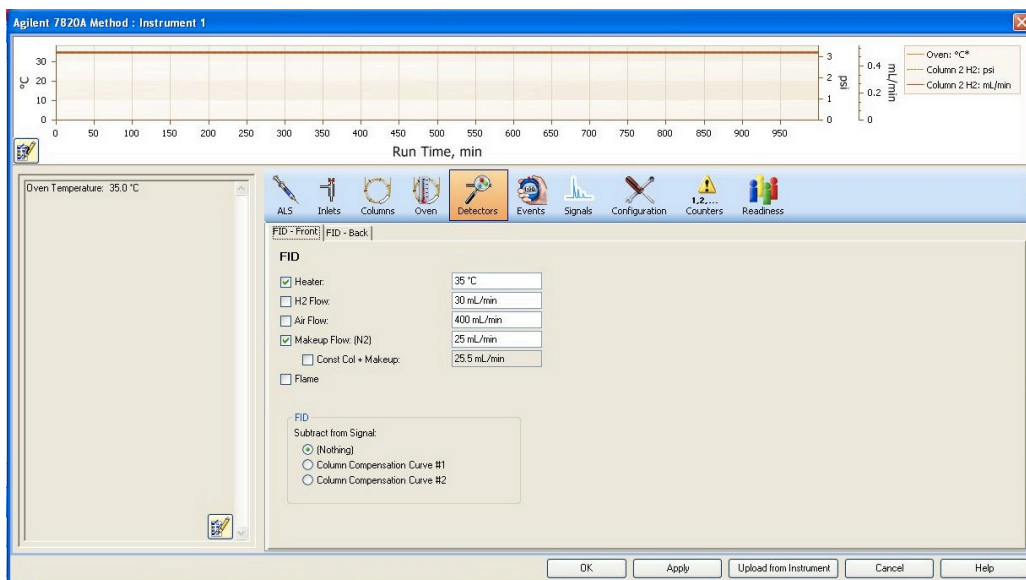
columns or else the carrier gas will not flow through the column and seriously damage the columns at high temperatures. Standard conditions for the column *in use* are a constant flow rate of 1 mL/min and a constant flow rate of 0.5 mL/min for the column *not in use*.



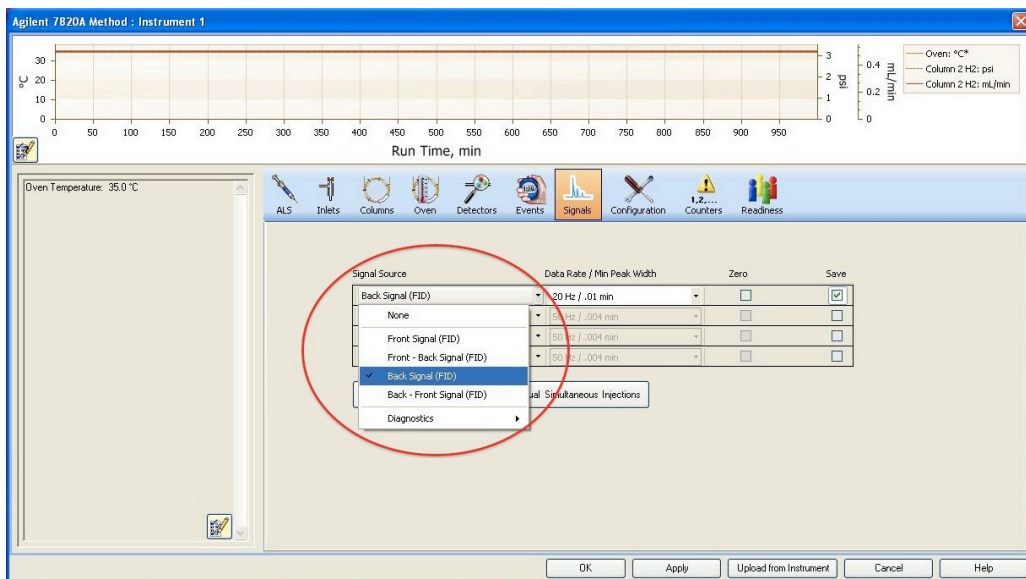
- Click the Oven button to configure the oven temperature, ramp settings, and time of the run. **NOTE:** Make sure the “Oven Temp On” box is checked in order to turn the oven on.



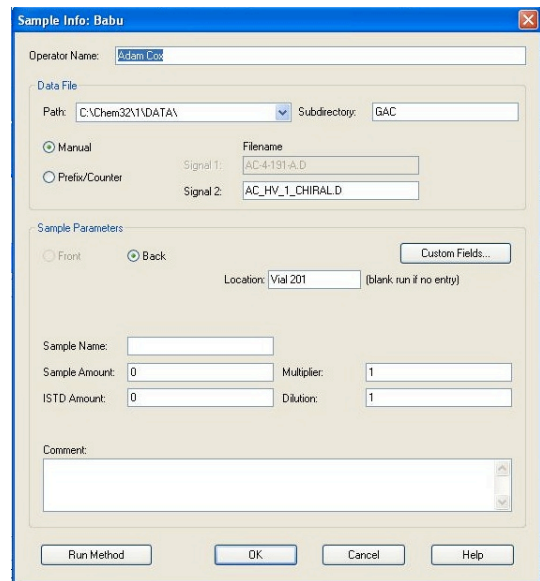
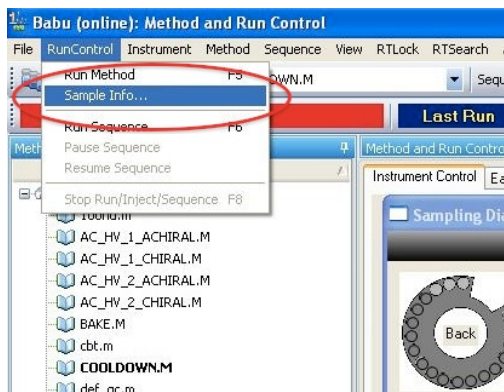
- Click on the Detectors buttons to configure the detector settings. Standard conditions for the detector *in use*: Heater: 250-300 °C, H<sub>2</sub> Flow: 30 mL/min, Air Flow: 400 mL/min, Makeup Flow (N<sub>2</sub>): 25 mL/min, and the Flame box should be checked. All boxes should be checked. **NOTE:** Do not alter the flow rates of any of these gases, the only setting that should be changed on this screen is the Heater temperature. For the detector *not in use*: simply uncheck the Flame box. Doing this will automatically uncheck the H<sub>2</sub> Flow and Air Flow boxes, but the Makeup Flow (N<sub>2</sub>) will remain checked to protect the detector at high temperatures.



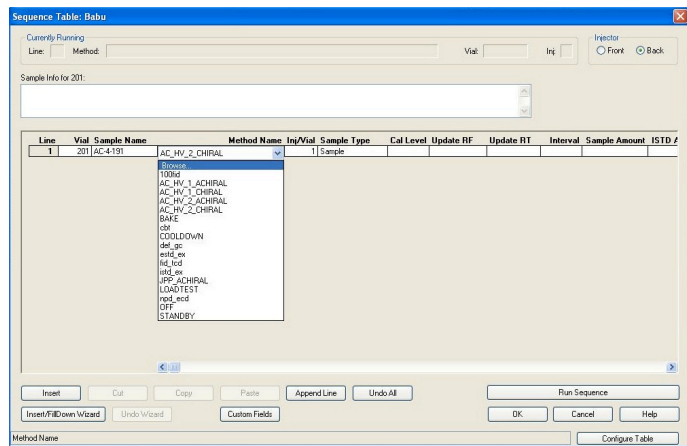
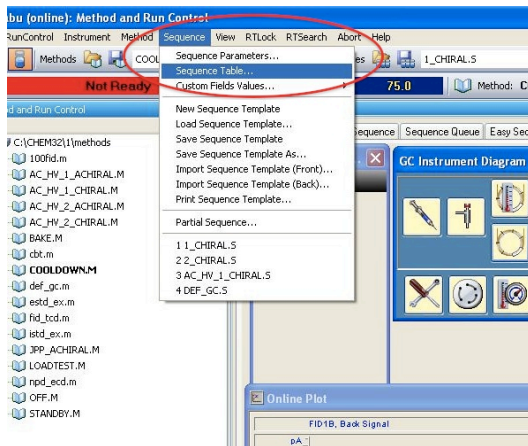
- Click the Signals button to assign the proper detector for the method. If injecting on the front column, then select the Front Signal (FID) under the Signal Source and vice versa for the back column. The Data Rate should be set to either 20 or 50 Hz and the “Save” box should be checked.



- After the settings have been configured, click “OK” and the GC will apply these settings and display a Ready sign in the Status window when the correct temperatures have been reached.
- Before a *manual injection*: Click on the RunControl tab at the top of the screen and select sample info. Enter the Operator Name and the Subdirectory to which the data will be stored. If you enter a new Subdirectory name, you will be prompted to create a new directory, select OK. Next, enter the Filename (the filename must have the extension “.D”) and Sample Name, then click OK. **NOTE:** Do not change the Path file name.



- To start a run: Inject the sample then push the Start button of the front of the GC.
- Before *auto-sampler injection*: Click on the Sequence tab at the top of the screen and select “Sequence Table...” Under the Vial column, input the correct location of the vial in the sampler (Note: When on the back inlet, vial slot #1 on the turret corresponds to location 201). Then input the Sample Name and select the proper method from the scroll down menu for each sample. Then Click OK.

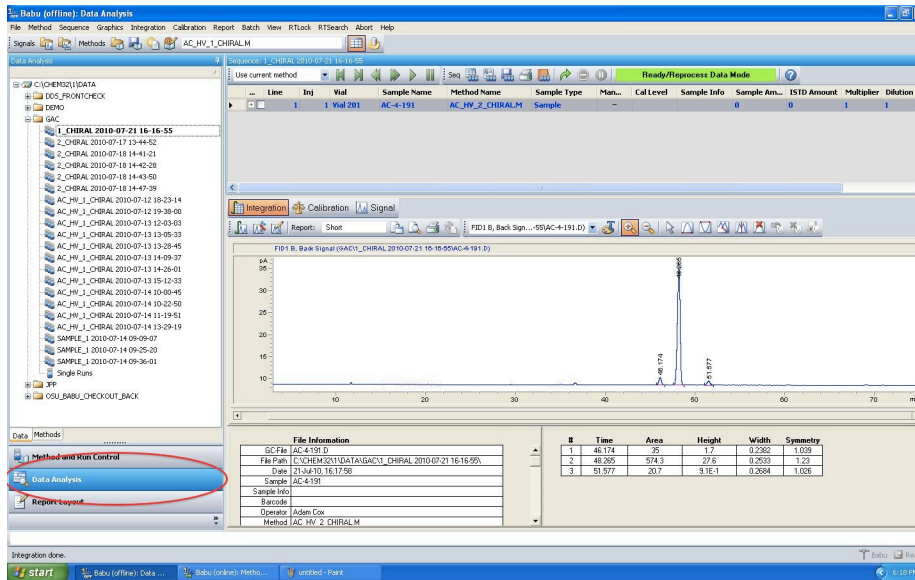


- To start a run: Click the RunControl tab at the top of the screen and select “Run Sequence.”

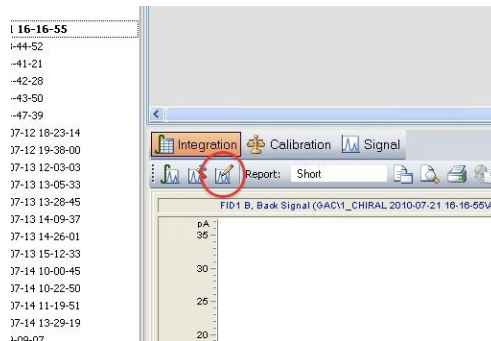


# DATA ANALYSIS

- Data analysis can be done on “Instrument 1 Offline” anytime, but analysis on “Instrument 1 Online” can only be performed when a run is not currently in progress.
- Open the Data Analysis window by clicking on the “Data Analysis” tab on the left-hand side of the screen.



- To edit the integration parameters such as area reject, height, peak width, and slope sensitivity: click on the icon shown below and adjust settings to properly integrate the spectrum.



- To print the spectrum: Click the printer icon and select the appropriate report layout.
- To save as a pdf: Click the File tab at the top of the screen and select “Printer Setup...” Then specify ChemStation PDF as the printer and click OK.

