Creating a Method

The method contains the parameters for controlling the modules of your instrument, the parameters for identifying and quantitating your chromatographic peaks, and the parameters for determining the suitability of your system for a run. Before you can run a preliminary sample, you must create a method that contains your instrument control parameters. After you run a preliminary sample, you can graphically optimize the integration of the resulting chromatogram(s) and to you can graphically add a Peak table for the identification and quantitation of your unknowns to your method.

To enter the Instrument Setup parameters:

If you are developing a new chromatographic separation, begin by entering the control parameters for the modules of your instrument as follows:

1. From the menu bar, choose **File > Method > New**.

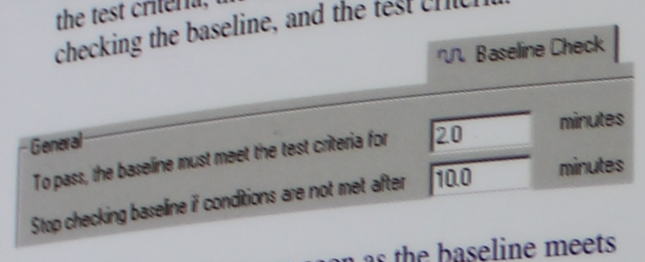
   ChromQuest opens the Instrument Setup window and the default method for the configured modules.

2. In the Instrument Setup window, do the following:

   a. Enter the new instrument control parameters for each configured module.

   b. In the Aux Traces page, select the pump pressure trace if you want to record the backpressure of your system during a run.

   c. In the Baseline Check page, enter the following: the length of time for which the baseline must meet the test criteria, the maximum length of time for checking the baseline, and the test criteria.



   In the example above, as soon as the baseline meets the test criteria for an interval of 2 min, the run begins. If the baseline does not meet the test criteria for 2 min within the maximum test period of 10 min, ChromQuest aborts the run or the sequence.

   d. In the Trigger page, select a trigger type. Typically, the pump and detector are externally triggered by the autosampler.

3. Save the method.

To enter the column parameters:

1. From the menu bar, choose **Method > Advanced** to display the Advanced Method Options window.
2. Then click on the Column / Performance tab to display the Column / Performance page.
3. Enter the following information about your column:
   - Unretained Peak Time
   - Column Length
   - Particle Diameter
4. Select the Calculate Performance Parameters for This Channel Check Box, and then select a Calculation Method. *This Channel* refers to the detector.
5. Save the method.

To add annotations to a trace:

After you collect a chromatogram, add annotations that will enable you to determine the performance of your chromatographic separation. These parameters typically include capacity factor, resolution, and asymmetry.

1. Right-click in the Chromatogram window to access the shortcut menu.
2. Click on **Annotations** to display the Trace Annotation Properties dialog box. In the Available Annotations pane, double-click on each annotation that you want to add to the trace.
3. After you finish adding annotations, click on **OK** to exit the dialog box.
4. Save the method.

To transfer a method:

If you are transferring a working method from another data system, enter the method contents as follows:

1. From the menu bar, choose **File > Method > Method Wizard** to display the Method Wizard.
2. In the Method Wizard, click on the **Create a Method icon**

   ChromQuest displays the Instrument Setup window, as well as an additional toolbar at the bottom of the Instrument window.

3. Click on the **Next Method Dialog button** to move through the sections of the method. Enter the appropriate parameters in each dialog box.
4. After you have entered the contents of your method, click on the **Save Method As button** in the toolbar at the bottom of the Instrument window.

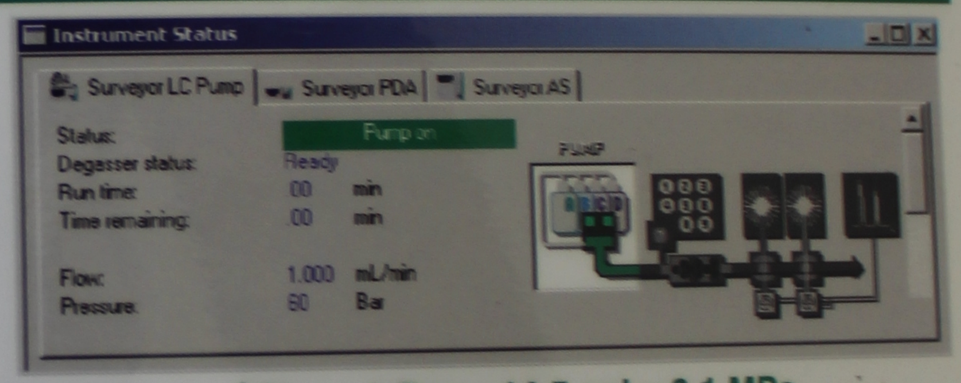
✓ Tip

If the **Baseline Check** option in the Configuration Options dialog box is enabled, include at least one discrete channel in your scan methods.

Preparing Your Instrument for a Run

Before you run a sample:

- Download the method to equilibrate your column and warm up the detector lamps.
- Check the status of the configured modules.
- Check the volume of the solvent in your Needle Wash Bottle and the volume of the solvents in the Solvent Reservoir Bottles.
- Purge the pump if the pressure is fluctuating or if the solvent lines contain air.
- Flush the syringe if it contains air or if the tubing from the Needle Wash Bottle contains air.
- Preview the baseline.



✓ Tip 1 Bar = 14.5 psi = 0.1 MPa

To download the method:

From the menu bar, choose **Control > Download Method**.

To check the Instrument Status:

1. From the menu bar, choose **Control > Instrument Status**.
2. In the Instrument Status window, confirm that the Status readout for each of the modules of your instrument displays *Ready*, with the exception of the Status readout for the Surveyor LC Pump, which displays *Pump on*, before you start a run.

To preview the baseline:

1. Click on the **Preview button** ChromQuest begins the baseline preview.
2. To stop previewing the baseline, click on the **Stop button**

To flush the Surveyor AS syringe:

1. Access the Direct Commands in ChromQuest as follows: From the Instrument Status window, click on the Surveyor AS tab to display the Surveyor AS Instrument Status page. Then click on **Diagnostics**.

   ChromQuest displays the Direct Controls page of the Diagnostics dialog box.

2. From the Direct Commands list box, select *Flush Syringe*, enter the appropriate parameters. Then click on **Submit**.

To purge the Surveyor LC Pump:

1. Open the drain valve by turning the drain valve knob counter-clockwise 180∞to the purge position. The word DRAIN on the knob will be upside down.

2. Access the Purge group box in ChromQuest as follows: From the Instrument Status window, click on the Surveyor LC Pump tab to open the Surveyor LC Pump page. Then click on **Diagnostics**.

   ChromQuest displays the Operation page, which contains the Purge group box.

3. In the Purge group box, select a solvent valve and a purge time. Then click on **Purge**.
4. After you finish flushing the solvent lines, close the drain valve by gently turning it clockwise as far as it will go.