

MassHunter Data Acquisition for Agilent Ultivo LC/TQ

Quick Start Guide

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Use this guide for your first steps with the Agilent Ultivo LC/TQ system, and as a road map for your user information.

What is the Agilent Ultivo LC/TQ system?

The Ultivo LC/TQ is a liquid chromatograph triple quadrupole mass spectrometer that performs MS/MS using three sets of parallel rods (in this case, quadrupole, hexapole, quadrupole). The first quadrupole selects precursor ions that are fragmented in the hexapole into product ions, which are separated by the second quadrupole. Often, two or more precursor ions and their product ions are monitored in sequence in MRM (multiple reaction monitoring) mode. You can monitor up to 4000 MRM transitions by using Dynamic MRM.

The Ultivo LC/TQ instrument is available with the Electrospray (ESI) source or the Agilent Jet Stream (AJS) source. The AJS source uses a super-heated sheath gas to collimate the nebulizer spray, which dramatically increases the number of ions that enter the mass spectrometer.

You can set up an Ultivo LC/TQ with the Agilent 1100, 1200, 1260 or 1290 Infinity, 1260 Infinity II, or 1260 Infinity II Prime LC modules

Also, the Ultivo LC/TQ comes with Agilent MassHunter Workstation Software that includes three separate programs:

- Data Acquisition – From one program you can tune the mass spectrometer, control and monitor instrument parameters, set up acquisition methods and worklists containing multiple samples and monitor real-time run plots.
- Quantitative Analysis – From one program you can set up a batch of data files and quantify, evaluate and requantify the results. From this program you have access to the Method Editor for setting up and editing the quantitation methods. You can run this program in Classic or configurable Quant-My-Way mode.
- Qualitative Analysis – From the Qualitative Analysis Navigator program you can extract and integrate chromatograms, subtract background, extract peak spectra, identify spectra, and compare data from different types of data files. From the Qualitative Analysis Workflows program, you can find compounds using a variety of algorithms and identify those compounds.

What's New in Data Acquisition

Check the **LC/MS Ultivo LC/TQ** online Help for a list of new features after you install an updated LC/MS driver.

in 1.2

- Autotune and checktune are improved to be more robust.
- LC flow is stopped when any MS hardware fault is encountered.
- Standby mode maintains instrument equilibration.
- LC Driver version 3.2 is supported.

in 1.1

- G6465A and G6465B Ultivo LC/TQ are supported.
- Multi-compound optimization is enabled.
- Early Maintenance Feedback (EMF) is supported. The EMF feature includes tracking the number of injections, the rough pump oil, the gas filter, the days since the last Checktune passed, and the days since the last Autotune passed.
- 6420 and 6460 methods can be migrated by simply loading the method. An Inconsistencies Report highlights any parameters that are not correct or require manual resolution.
- User initiated Ultivo specific Tune actions are logged into the system logbook.
- The Progress bar is removed from the Autotune section in the Method Editor window.
- CAV is no longer a method setpoint and has been removed from this software.
- Instrument configuration is now included in the data file for reference and traceability.
- When you start a worklist, it is validated before it is run, and all errors are shown in red. If you hover over a red cell, a tooltip shows the error.
- ECM 3.5 Update 5 is supported in Windows 10.
- You can specify session auto-lockout time in minutes in the System Configuration program when you enable either Compliance (with ECM) or User Management and Audit Trail only.

What's New in Data Acquisition

- Checksum validation is now extended to prevent usage of invalid methods, invalid worklists, and invalid studies when you enable either Compliance (with ECM) or User Management and Audit Trail only.
- If Compliance (with ECM) is enabled, the Qualitative Analysis part of the method is ignored.
- LC Driver version A.02.19 SR2 is supported.
- Multiple adduct ions are supported in MassHunter Optimizer software.

Where to find information

Help

Press F1 To get more information about a pane, window or dialog box, select the part of the pane, window or dialog box of interest and press **F1**.

Help menu From the Help menu, access “How-to” help and reference help.

Installation and User Guides



You can access these guides from the **Ultivo LC/TQ Resource App**.

Some of these guides are also available at www.agilent.com.

MassHunter Workstation Software Installation Quick Start Guide This guide provides instructions to install or upgrade MassHunter Workstation software.

Maintenance Guide (animated) Use this animated guide to help maintain and troubleshoot your Ultivo LC/TQ.

MassHunter Data Acquisition Familiarization Guide Do the exercises to learn to use the Ultivo LC/TQ and the MassHunter Data Acquisition program.

MassHunter Data Acquisition eFamiliarization Guide Follow the eFamiliarization guide to get to know the MassHunter Data Acquisition program.

Study Manager Quick Start Guide Use this guide to learn to use the MassHunter Study Manager program.

MassHunter Optimizer Software Quick Start Guide Use this guide to learn about the MassHunter Optimizer program. The MassHunter Optimizer program provides a way to automatically optimize the data acquisition parameters for MRM mode (multiple-reaction monitoring) on an Ultivo LC/TQ instrument for each individual compound analyzed.

Where to find information

Installation and User Guides

User Management and Audit Trail Quick Start Guide Use this guide to learn how to use the User Management and Audit Trail features of the MassHunter Acquisition program.

MassHunter Workstation Administration Guide This guide includes administration and troubleshooting tasks for your Ultivo LC/TQ.



You can access these guides from the **LC/MS Data Analysis Resource App**.

Qualitative Analysis for Triple Quad LC/MS Familiarization Guide Do the exercises to learn to use the Qualitative Analysis programs.

Qualitative Analysis eFamiliarization Use the interactive guide to learn to use the Qualitative Analysis program.

Quantitative Analysis Familiarization Guide Do the exercises to learn to use the Quantitative Analysis programs.

Quantitative Analysis Audit Trail and Compliance Quick Start Guide Use this guide to set up and use Quantitative Analysis compliance features, including audit trail and user management.

Quantitative Analysis eFamiliarization for LC/TQ Use the interactive guide to learn to use the Quantitative Analysis program in Classic mode.

Quant-My-Way Flavors Setup Familiarization Guide Follow the guide to learn how to set up different Quant-My-Way flavors.

Quant-My-Way eFamiliarization Follow the guide to learn to use the Quantitative Analysis program in Quant-My-Way mode.

Training

Familiarization Guides Use the exercises in the Familiarization Guides with the MassHunter programs to learn the MassHunter Workstation.

eFamiliarization Guides Use all of the interactive guides to get to know the software.

Quick Start Guides Use the Quick Start guides for Study Manager, Optimizer and Audit Trail to get to know these programs or features.

Report Training DVD Use the videos and familiarization exercises to learn how to print reports and customize reports using the Report Designer Add-in and Excel.

Training Courses Visit www.agilent.com to view a listing of training courses for the Ultivo LC/TQ.

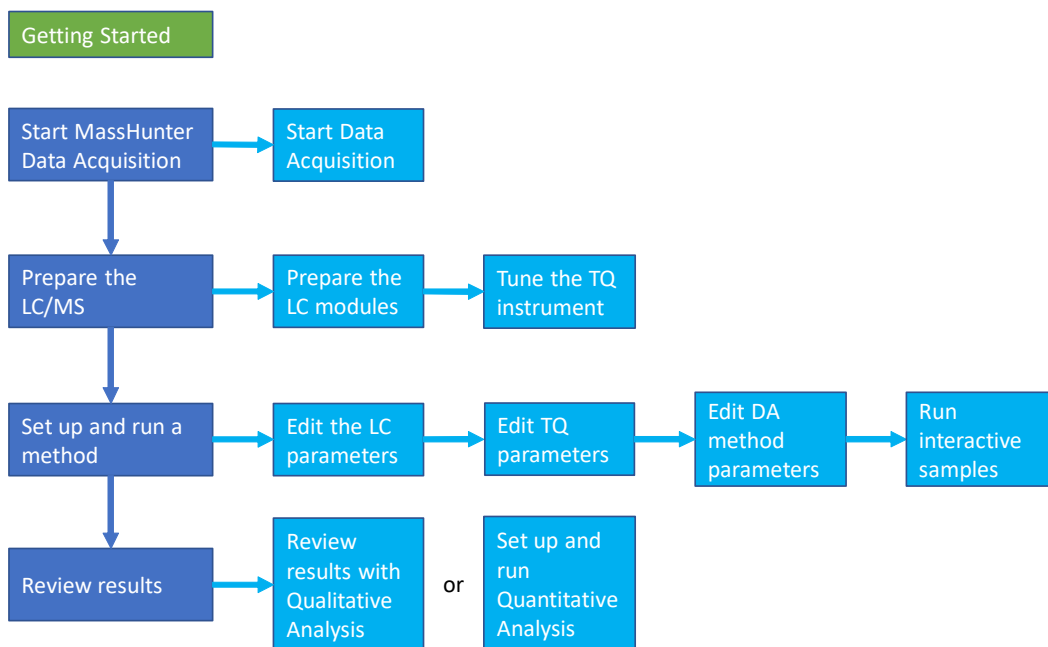
Getting Started

Install the Ultivo LC/TQ hardware and software

Make sure the hardware and software are installed and verified.

Set up, run, and analyze samples

The roadmap below shows you the steps to set up and run a batch of samples from start to finish. Follow the instructions on the next pages to get started and to learn where to find the information to help you with each step in this roadmap.



Getting Started

Step 1. Start the Data Acquisition software

Step 1. Start the Data Acquisition software

The instructions below include the following assumptions:

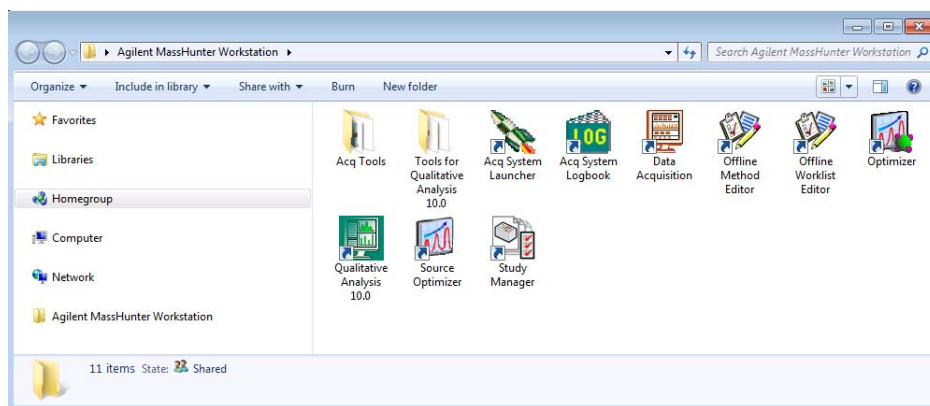
- The hardware and software are installed.
- The instrument is configured.

Refer to the *Administration Guide* any time you change the LC configuration.

The LC modules and the Ultivo LC/TQ are turned on, but the LC pump is not running.

After installation, you see all of the MassHunter Workstation icons on your Desktop. To start the Data Acquisition program, double-click the Data Acquisition icon. You can instead click the **Start** button and then click **Agilent > MassHunter Acquisition > Data Acquisition**.

The Data Acquisition window appears.



NOTE

When Data Acquisition opens, the software engines automatically start. If you need to restart them, right-click the **Acq System Launcher** button in the system tray, and click **Start Engines**.

If you have recently changed LC modules, remember to configure the instrument again. See the *Administration Guide* for instructions.

Getting Started

Step 1. Start the Data Acquisition software

Windows—where you do most of your work

When you first start the Data Acquisition program, the main window appears. You do almost all of your work within the eight windows of this main window. These windows provide the tools to set up acquisition methods, run samples interactively or automatically, monitor instrument status, monitor runs and tune the instrument.

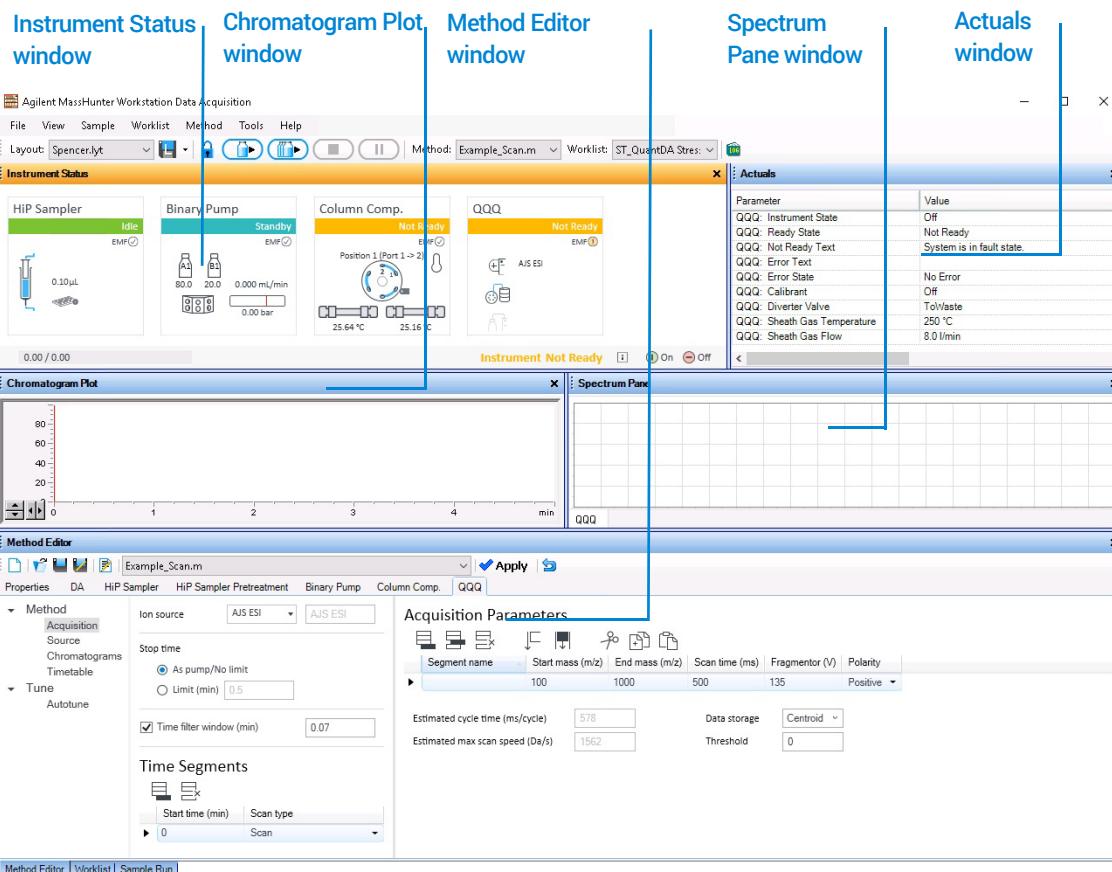


Figure 1. Main window of the Data Acquisition software program. The Sample Run and Worklist windows are tabbed here. These three windows are "sharing" this space. You click the tab to switch to a different window.

Show/hide the windows You can show one window at a time on the screen or up to seven windows. You can never hide all of the windows. To show or hide a window, you click the commands on the **View** menu. You can also hide a window by clicking **X** in the upper right corner of the window.

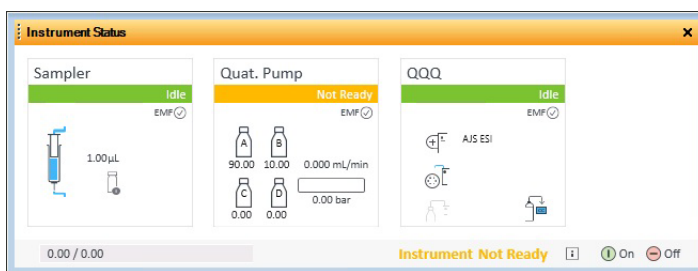
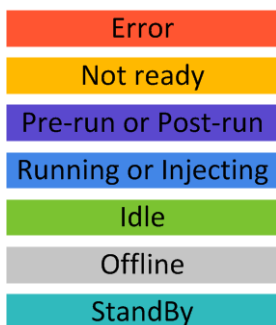
Getting Started

Step 1. Start the Data Acquisition software

When you click a window, the title of the active window changes to a different color. Press **F1** to obtain help on the active window. You can also drag a window border to resize the window. If you double-click the title of the window, the window “floats” outside of the main window. You can double-click the title bar again to “dock” the window.

Instrument Status window With this window you view the status of each device configured with the instrument: **Error**, **Not ready**, **Pre-run**, **Post-run**, **Running**, **Injecting**, **Idle**, **Offline**, or **Standby**. You also set non-method control and configuration parameters for the LC devices and the MS instrument.

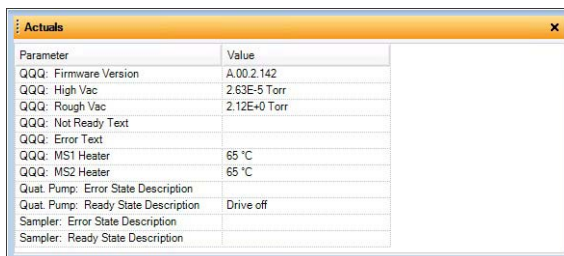
This window displays the current status of each device both as text and by its color-coding:



Actuals window With this window you view the current value of selected instrument parameters. See “**Set up to view real-time parameter values (actuals).**” on page 16 for more information.

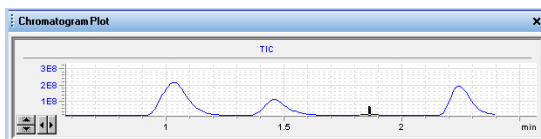
Getting Started

Step 1. Start the Data Acquisition software

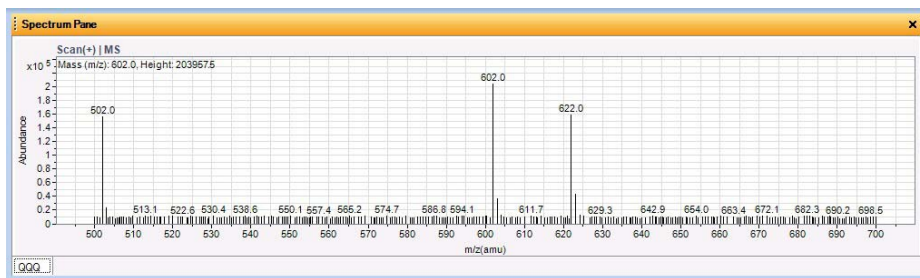


Parameter	Value
QQQ: Firmware Version	A.00.2.142
QQQ: High Vac	2.63E-5 Torr
QQQ: Rough Vac	2.12E+0 Torr
QQQ: Not Ready Text	
QQQ: Error Text	
QQQ: MS1 Heater	65 °C
QQQ: MS2 Heater	65 °C
Quat. Pump: Error State Description	
Quat. Pump: Ready State Description	Drive off
Sampler: Error State Description	
Sampler: Ready State Description	

Chromatogram Plot window With this window you monitor the chromatogram plots in real time. These plots can be user-defined signals and/or instrument parameters. You select the plots in the Chromatograms section in the QQQ tab in the Method Editor window.



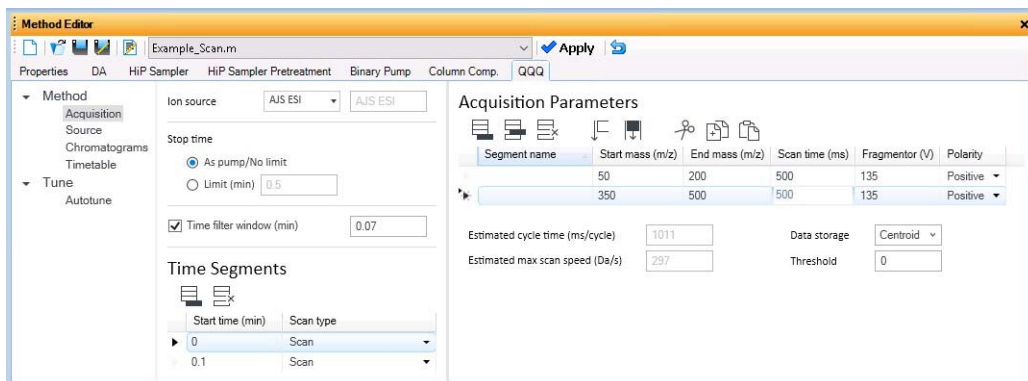
Spectrum Pane window With this window you monitor the spectral plot in real time. This window shows spectra when you are acquiring data and when you are tuning the instrument. A separate tab is added for each detector that you have on the instrument. For example, if you have a Diode Array Detector, then a DAD tab is available in this window.



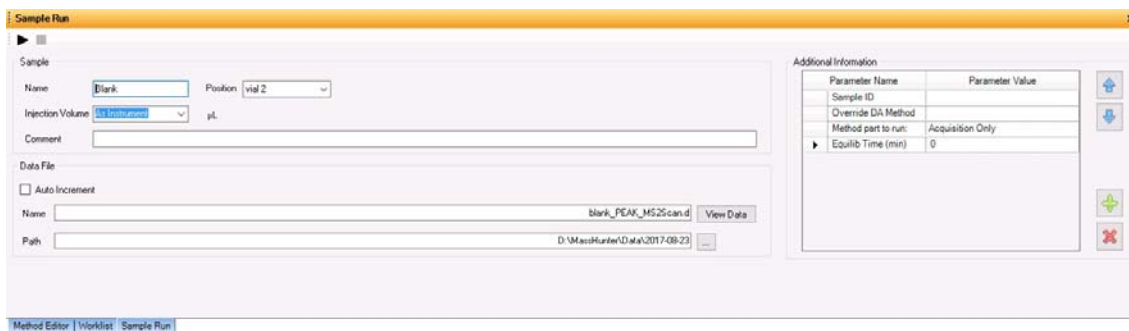
Method Editor window With this window you enter acquisition parameters for the method. In the Autotune section, you can run either Checktune or Autotune.

Getting Started

Step 1. Start the Data Acquisition software



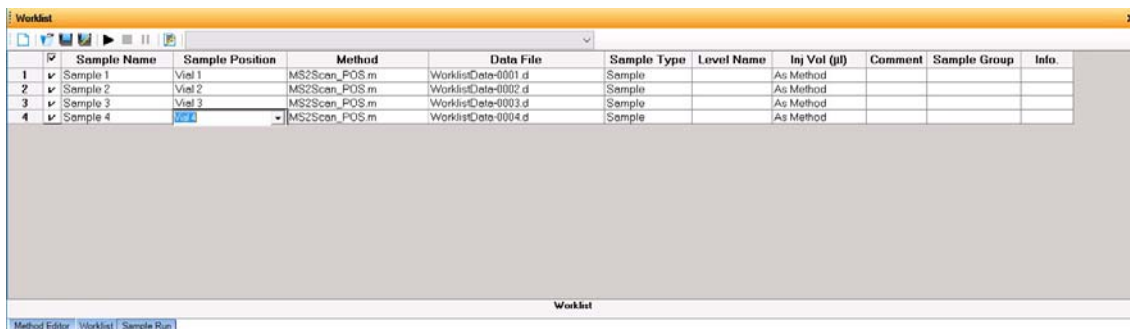
Sample Run window With this window you enter sample information to run individual samples interactively, and you can start a single sample run. You can also specify an **Override DA Method**, and you can select **Both Acquisition and DA**, **Acquisition Only**, or **DA Only** for the **Method Type**. If you select either **Both Acquisition and DA** or **DA Only**, and then Data Analysis is run as part of the method.



Worklist window With this window you enter sample information for multiple samples. When you run the worklist, the samples are automatically run in the order listed in the worklist. You can select whether to run **Acquisition Only**, to run **Both Acquisition and DA**, or to run **DA only** by selecting one of these options for the **Part of method to run** in the Worklist Run Parameters dialog box.

Getting Started

Step 1. Start the Data Acquisition software



Getting Started

Step 2. Prepare the LC modules

Step 2. Prepare the LC modules

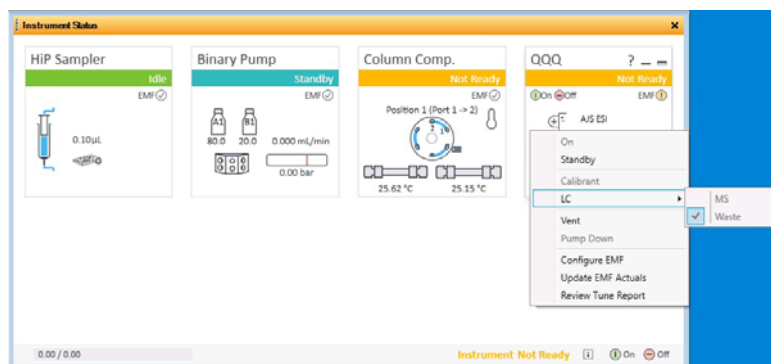
Read and follow the instructions in the *online Help* for each of the tasks in the checklist described on the following pages. While you condition or equilibrate the column, you can tune the Ultivo LC/TQ.

1 Switch LC stream to **Waste**.

When you are not acquiring data, you switch the direction of the LC stream away from the MS ion source and to waste.

If you have the LC connected to a VWD or DAD, you can still monitor the fluctuations of the VWD or DAD real-time chromatogram before a run.

- a In the Instrument Status window, right-click the QQQ device.



- b Click **LC > Waste**.

2 Purge the LC pump.

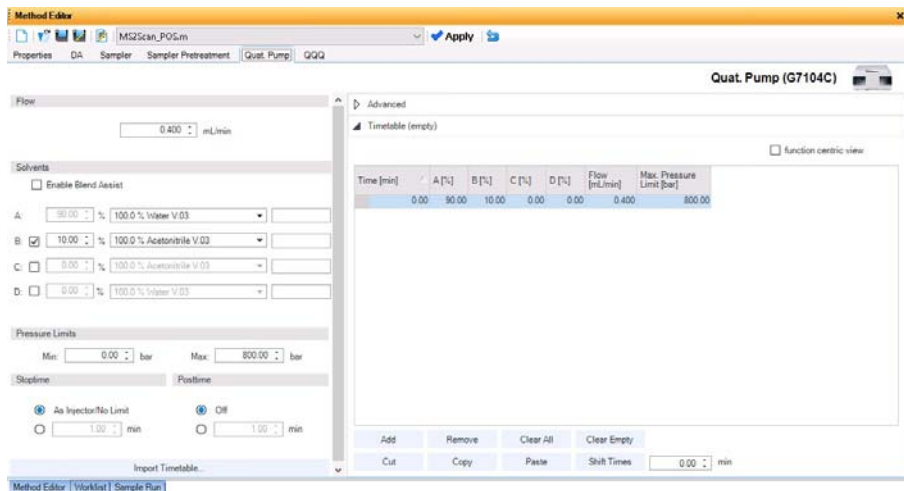
Follow the directions for purging the pump in the *User Guide* for your pump.

3 Set up to condition or equilibrate the column.

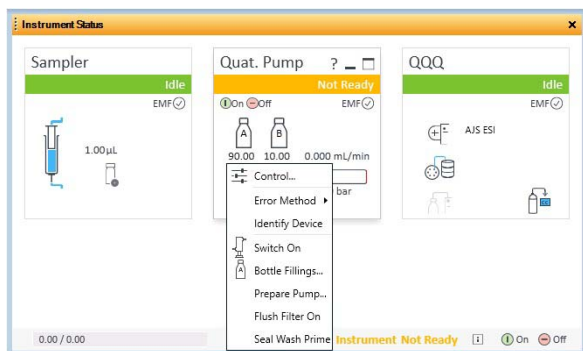
- a Type LC parameters, and click **Apply** on the toolbar to download them to the LC.

Getting Started

Step 2. Prepare the LC modules



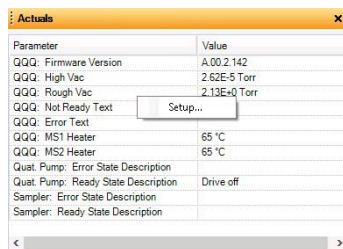
- b In the Instrument Status window, right-click an LC module and click one of the commands to change any non-method control parameters, if needed.



- c Monitor the baseline and adjust the plot to make sure the column is equilibrated and the baseline stable. (See [step 4](#) and [step 5](#) on [page 16](#).)
- 4 Set up to view real-time parameter values (actuals).
As you prepare for a run and during a run, you want to see the actual values of the instrument parameters. You can do this in the Actuals window.
- a Right-click the **Actuals** window to see the **Setup** command.

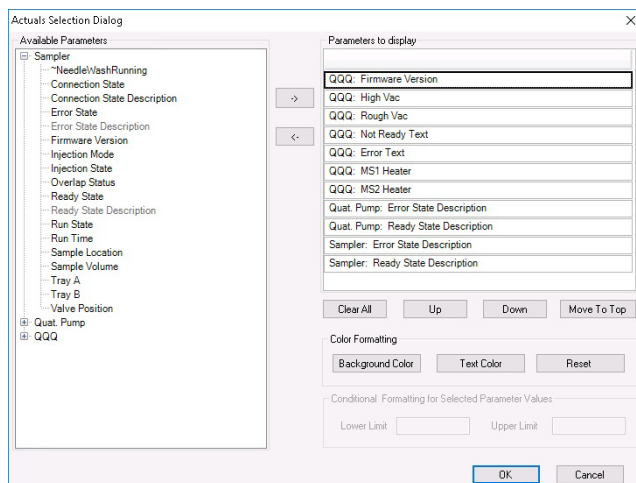
Getting Started

Step 2. Prepare the LC modules



Parameter	Value
QQQ: Firmware Version	A.00.2.142
QQQ: High Vac	2.62E-5 Torr
QQQ: Rough Vac	2.13E+0 Torr
QQQ: Not Ready Text	Setup...
QQQ: Error Text	
QQQ: MS1 Heater	65 °C
QQQ: MS2 Heater	65 °C
Quat. Pump: Error State Description	
Quat. Pump: Ready State Description	Drive off
Sampler: Error State Description	
Sampler: Ready State Description	

b Click **Setup** to bring up the list of Actuals available for monitoring.



c Add all the parameter values you intend to monitor, and click **OK**. Parameters that you may want to monitor include MS values (such as heater, and vacuum pressure) or LC values (such as binary pump, column, DAD, etc.) You can set the background and text color for each parameter. You can also set a range for the parameters which are numbers. If the value of the parameter is not within the limits which you entered, then the background of the parameter is set to red.

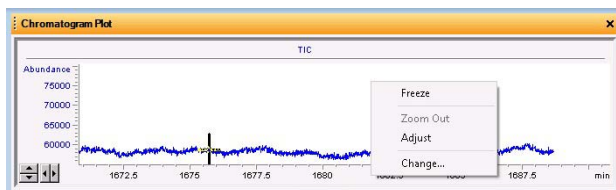
5 Set up real-time plot displays.

As you condition the column, you can set up the displays to monitor the effluent.

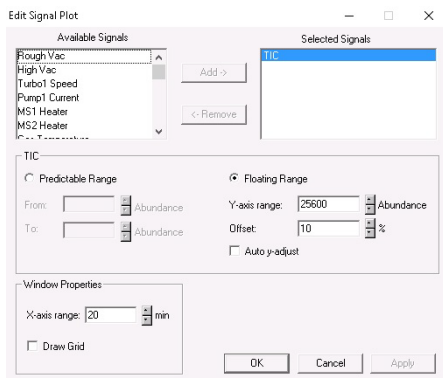
- Right-click the chromatogram plot, and click **Change**.

Getting Started

Step 2. Prepare the LC modules



In the **Edit Signal Plot** dialog box, you can select the type of display signal.




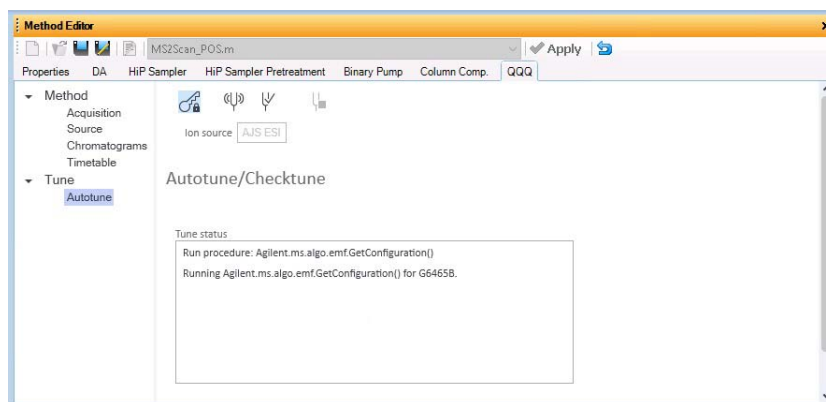
Getting Started


Step 3. Prepare the Ultivo LC/TQ instrument

Step 3. Prepare the Ultivo LC/TQ instrument

Do a Checktune or Autotune

- 1 Click the **QQQ** tab in the Method Editor window.
- 2 Click the **Autotune** section in the left pane of the QQQ tab.
- 3 Click  on the **Autotune** toolbar, which locks the instrument to only allow Tune operations. You cannot start a run when the instrument is locked in Tune.




- 4 Click  to evaluate if the MS parameters are within the limits to produce the specified mass accuracy and resolution. Checktune takes approximately 3 minutes to run for each polarity.

Do a **Checktune** regularly.

You can run a **Checktune** with the following sources: ESI and AJS ESI.

If **Checktune** passes, then skip to **step 6**.

If **Checktune** fails or if Checktune result is **Out of Tolerance**, then use Autotune to fix the problem.

- 5 Click  to tune the MS automatically (approximately 30 minutes). The system automatically changes different tune parameters to tune the MS. You only do an Autotune when it is needed.


You can run an **Autotune** with the following sources: ESI and AJS ESI.

Getting Started

Step 3. Prepare the Ultivo LC/TQ instrument

Checktune and Autotune reports are automatically generated after **Autotune** completes successfully. If Autotune result is **Out of Tolerance**, a report will be generated to show the details. If Autotune fails, and a message is displayed. You can check the progress box in the Tune status list to see the reasons why the tune failed. Then, you can either fix the problem, or call the Agilent service engineer and provide this information.

If you cannot get the instrument to tune successfully, then please call your Agilent service engineer.

- 6 Click  to unlock the instrument from Tune control.

Switch LC stream to MS

- After you condition the column and tune the Ultivo LC/TQ, you switch the LC stream from **Waste** to **MS**. See “**Switch LC stream to Waste.**” on page 15 for how to do this.

Monitor MS baseline and spectral displays



If you did not monitor the LC baseline with a VWD or DAD, make sure that the Ultivo LC/TQ baseline is stable, and no spectra of interfering intensity appear in the display.

If you did monitor the LC baseline with a VWD or DAD, you change back to the default Ultivo LC/TQ displays.

- 1 Right-click the chromatogram plot, and click **Change**.
- 2 Select the MS signal, and click **OK**.

View the system logbook for events and errors

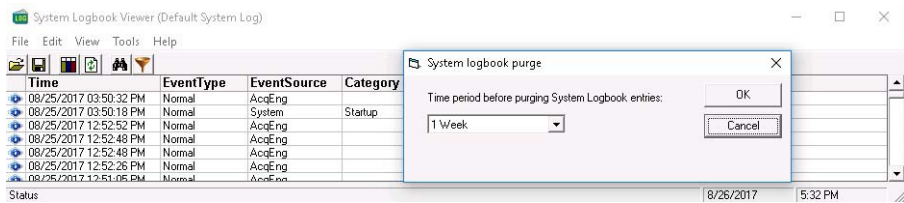
As you prepare the instrument, you may run into an error that you want to troubleshoot. You do this through the System Logbook Viewer.

- Click **Log** () on the toolbar of the Data Acquisition window, and view the logged events, *or*
- Click **Tools > System Logbook Viewer**, *or*
- Click **Enable Notification**, right-click  on the system taskbar, and then click **Configure**. The system can notify you of new errors and warning by showing messages on the taskbar.

Getting Started

Step 3. Prepare the Ultivo LC/TQ instrument

When the System Logbook Viewer is open, you can select the time period to keep System Logbook entries. You can set the value from 1 week to 1 year. To do this, you click **Tools > Purge Settings**. The **System logbook purge** dialog box opens.



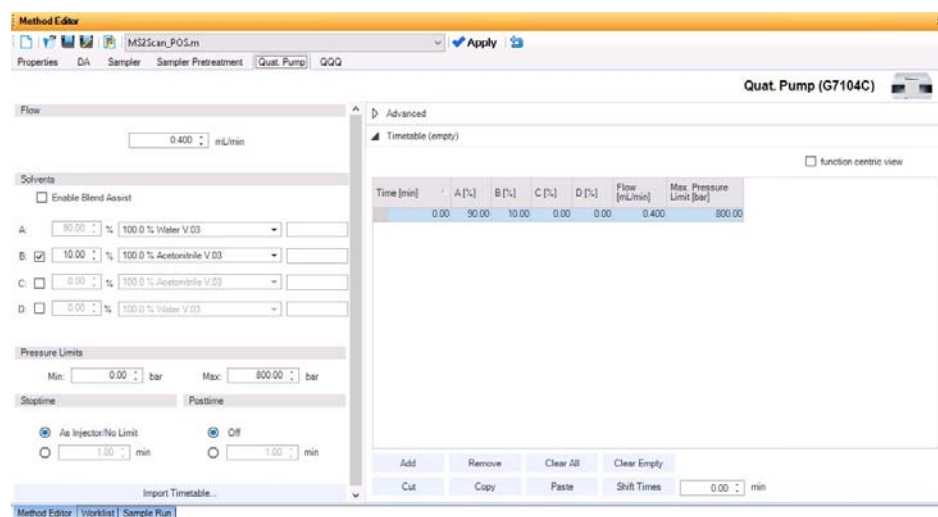
Getting Started

Step 4. Set up and run an acquisition method

Step 4. Set up and run an acquisition method

Read and follow the instructions in the *online Help* for each of the tasks described on the following pages.

- 1 Set up the method:
 - a Type the values and settings for each of the tabs below.
 - b *Optional.* If you want to download the settings to the instrument, click **Apply**.
 - c To save the method, click **Method > Save As**.
 - d Name the method and click **OK**.
- 2 Enter values for all of the LC modules configured for the instrument.

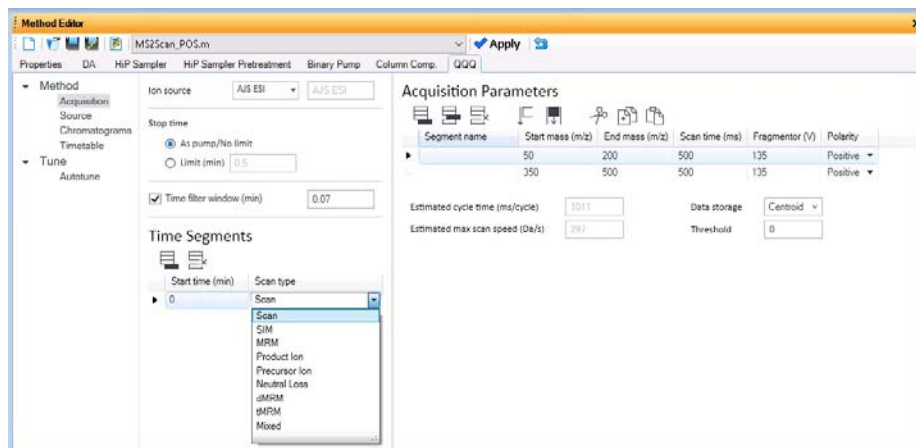



- 3 Enter the QQQ parameter values.
 - a Select the **Scan type** from the list in the **Time Segments** table. The Acquisition Parameters table is cleared when you change the **Scan type**. The parameters available on the right pane change depending on the **Scan type**.

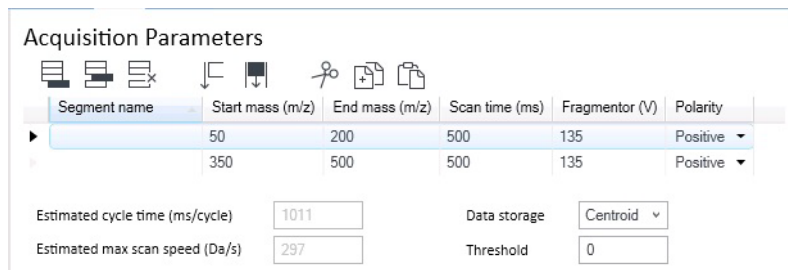
If you are changing the Scan type from **MRM** to **dMRM** or to **tMRM**, in the left pane, click **Convert to dMRM**. See the *online Help* for more information.
 - b Type in any Acquisition values you want to change. You can enter multiple rows in the **Acquisition Parameters**.

Getting Started

Step 4. Set up and run an acquisition method



- 4 Set up to change Ultivo LC/TQ parameters with segments and scans:
 - a To add a segment to the Acquisition Parameters table, click  on the Acquisition Parameters toolbar.
 - b Type the parameters for each segment.

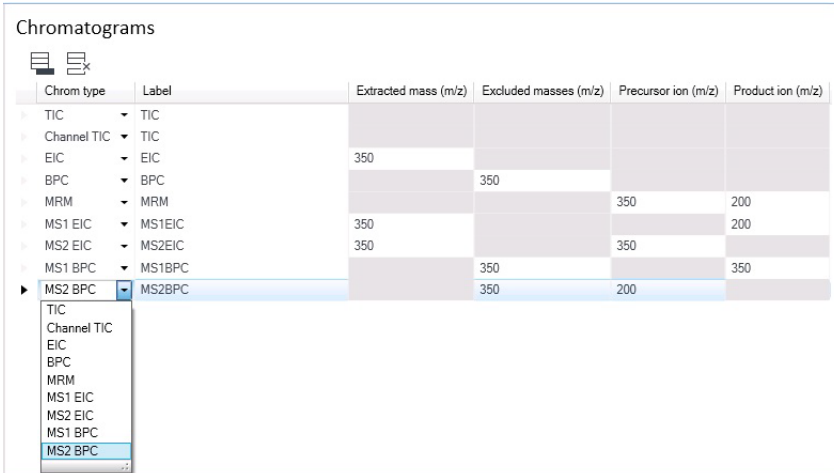


- 5 Set up signals for the Chromatogram plot:
 - a Click the **Chromatograms** section.
 - b Select the **Chrom type**, and type other plot values.


Getting Started

Step 4. Set up and run an acquisition method

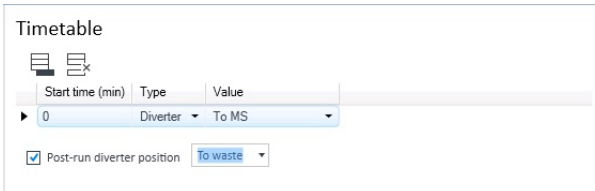
Chromatograms



Chrom type	Label	Extracted mass (m/z)	Excluded masses (m/z)	Precursor ion (m/z)	Product ion (m/z)
TIC	TIC				
Channel TIC	TIC				
EIC	EIC	350			
BPC	BPC		350		
MRM	MRM			350	200
MS1 EIC	MS1EIC	350			200
MS2 EIC	MS2EIC	350		350	
MS1 BPC	MS1BPC		350		350
MS2 BPC	MS2BPC		350	200	

- 6 Set up the **Timetable** in the Timetable section.
 - a Click the **Timetable** section.
 - b Enter the **Start time (min)** and select **To MS**. You can select to start acquiring data after the start of the run.
 - c (optional) Add another row to the Timetable. You can click  on the **Timetable** toolbar to add a row. You can then set the **Diverter** value to **To Waste** before the end of the run.
 - d Mark or clear the **Post-run diverter position** check box. If you mark this check box, then you select either **To MS** or **To waste**.

Timetable




Start time (min)	Type	Value
0	Diverter	To MS

Post-run diverter position To waste

- 7 Set up the data analysis (**DA**) parameters.

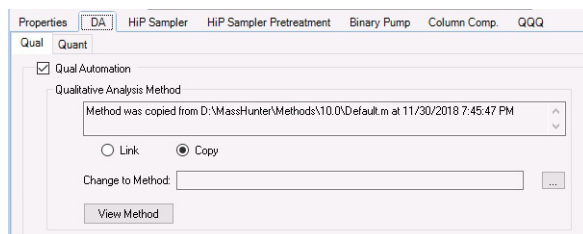
A method can contain Qualitative Analysis parameters, Quantitative Analysis parameters, or both. You can mark the **Qual Automation** check box on the Qual tab, and the **Quant Automation** check box on the Quant tab.

- a Click the **DA** tab.
- b *Optional.* Mark the **Qual Automation** check box. The name of the current Qualitative Analysis method is shown in the box. If you want to change the Qualitative Analysis method that is connected, click  to select a

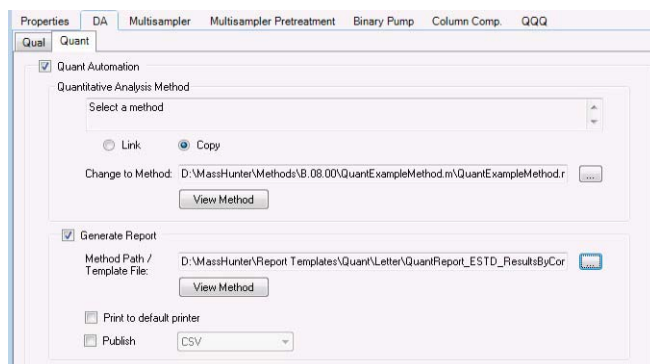
Getting Started

Step 4. Set up and run an acquisition method

different method. When the Data Acquisition method is saved, the Qualitative Analysis method that you selected is copied or linked to the Data Acquisition method.



- c *Optional.* Click the **Quant** tab. Mark the **Quant Automation** check box. The name of the current Quantitative Analysis method is shown in the list. If you want to change the Quantitative Analysis method that is connected, click [...] to select a different method. When the Data Acquisition method is saved, the Quantitative Analysis method that you selected is copied or linked to the Data Acquisition method.
- d *Optional.* Mark the **Generate Report** check box on the Quant tab. Then, you select the **Method Path / Template File** to use. If you want to print the report, mark the **Print to default printer** check box. You can also mark the **Publish** check box to create a CSV file, a TXT file, or a PDF file.

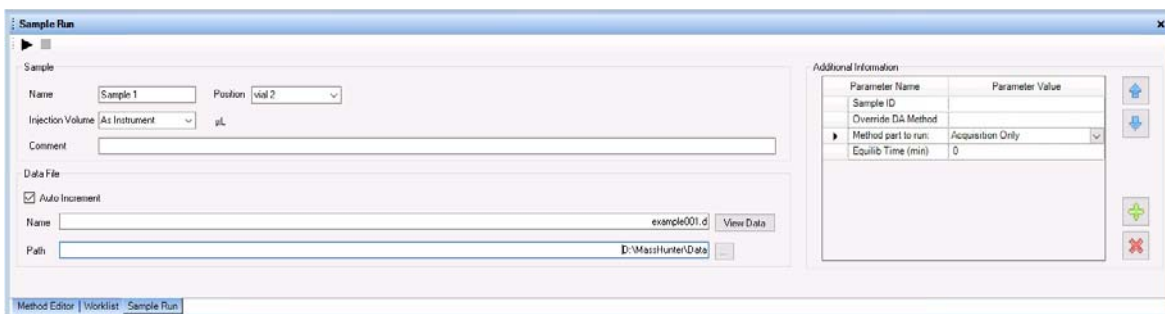


- 8 Set up the Properties for this method.
 - a Click the **Properties** tab.
 - b Click [...] to select the **Pre Run Script**.
 - c Click [...] to select the **Post Run Script**.
 - d Type the **Description** for this method.

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Step 4. Set up and run an acquisition method

- 9 Save the method.
 - a Click **Method > Save As** or **Method > Save**.
 - b If **User Management & Audit Trail** is enabled, enter the **Reason** for creating a new version of this method. Click **OK**.
 - c If needed, name the method and click **OK**.
- 10 Set up and run interactive samples:
 - a Click the **Sample Run** window. By default, it is tabbed with the **Worklist** and **Method Editor** windows.
 - b Enter the **Sample Name**, the **Data File Name**, the **Path** and other values.
 - c Enter the **Additional Information**. You can change the value of the parameters in the **Additional Information** list.



You can run a Data Analysis method from this window by selecting **Both Acquisition and DA** or **DA Only** for the **Method Type**. In addition, you have to set **Override DA method** to indicate which Data Acquisition method contains the DA (Data Analysis) method to execute. You always have to do this.

- d To start the single sample run, click **Run** (▶) in the Sample Run window or **Run** (🔒▶) on the main toolbar. You can also click **Sample > Run** or press **F5**.

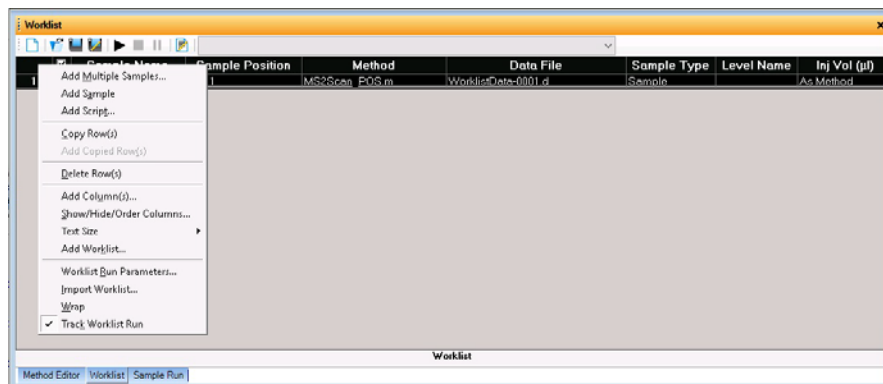
You can run the single sample in either locked or unlocked mode. When the mode is locked, no one can change the method or sample parameters during a run. You also cannot overwrite this data file in the Data Acquisition program. The Lock button (🔒) on the main toolbar indicates that locked mode is on.

- 11 Set up and run worklists
 - a Click the Worklist tab to show the Worklist window. If the Worklist window is not visible, click **View > Worklist**.

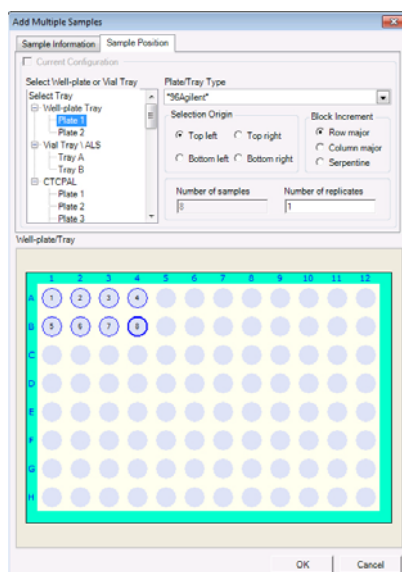
Getting Started

Step 4. Set up and run an acquisition method

- b Right-click the upper left corner of the worklist, or click the **Worklist** menu in the Main Window.





- c Click **Add Multiple Samples**. The **Add Multiple Samples** dialog box opens.
- d Enter all the information on the **Sample Information** tab.
- e Click the **Sample Position** tab to specify the sample vial locations. (Make sure the specific sample tray type has been configured by right-clicking the autosampler device image.)



- f Specify the locations, and click **OK**.

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Step 4. Set up and run an acquisition method

- g** To set up the worklist run, right-click the upper left corner of the worklist, and click **Worklist Run Parameters**.
- h** On the **Run Parameters** tab, type the paths for the method.
- i** Click the **Data File Settings** tab.
- j** Type or select the folders for the data files. Select the File Naming options.
- k** Click the **Additional Parameters** tab.
- l** Review the information and click **OK**.
- m** To start the worklist, click **Run Worklist** () on the main toolbar or **Run** () in the Worklist window. You can also click **Worklist > Run**.

You run the worklist in locked or unlocked mode. When the mode is locked, no one can change the method or the worklist while the worklist is running.

NOTE

To use an acquisition method that has a different DA method than the method entered in the worklist, show the column called **Override DA Method** in the worklist by using the **Show/Hide/Order Columns** dialog box. In this column, type the name of another method containing the DA parameters you want to use for the sample. The DA part of this method is used instead of the DA part of the current method.

You can also type the name of this method in the **Add Multiple Samples** dialog box.

Step 5. Review results with the Qualitative Analysis program

Use the Qualitative Analysis program to do these tasks and more:

- Review results for acquisition method development
- Select the most appropriate precursor and product ions for MRM analyses
- Find compounds
- Identify compounds
- Do molecular feature extraction

Do the exercises in the *Qualitative Analysis Familiarization Guide* to help you learn how to use the Qualitative Analysis program. View the *Qualitative Analysis eFamiliarization Guide for TQ* to get an overview of the software.

Do Exercise 1 of the Data Acquisition for Triple Quadrupole *Familiarization Guide* to help you learn how to use the Qualitative Analysis program to develop acquisition methods.

Also, refer to the *online Help* for the Qualitative Analysis software to learn how to do more operations to analyze your data.

Step 6. Analyze data with the Quantitative Analysis program

Another primary tool for analyzing and reporting Ultivo LC/TQ results is the Quantitative Analysis program.

- Do the exercises in the *Quantitative Analysis Familiarization Guide* to learn how to quantitate the acquired data files:
 - Set up a batch and a method to automatically quantitate a set of samples
 - Review results by learning how to view and use the Batch-at-a-Glance results screen
 - Identify and use outliers to change the method and requantitate the data using a better calibration curve fit or other more appropriate settings

Follow the instructions in the *Quantitative Analysis eFamiliarization Guide* to get an overview of the software.

In this guide

This guide contains brief instructions to help you get started with your Agilent Ultivo LC/TQ. This guide takes a quick look at using the MassHunter Acquisition program to:

- Prepare the instrument for a run.
- Set up and run acquisition methods.
- Set up and run worklists.

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