

# LabSolutions

## GC Getting Started Guide

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# NOTICES

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# Types of Manuals

Five Instruction Manuals are provided with LabSolutions.  
You can also display the [Help] menu to confirm the meanings  
and setting ranges of parameters.  
The following shows how to make full use of the manuals.

## ■ Getting Started Guide

This manual is for first-time users.  
Follow the sequence of procedures in this guide to gain  
an understanding of basic LabSolutions operations.

## ■ Operators Guide

This manual gives comprehensive  
information about overall  
data acquisition operations in  
LabSolutions, such as system  
configuration, data analysis, batch  
processing, and report functions.

## ■ System Users Guide

This manual is for system  
administrators.  
This manual describes system  
administration and data  
management.

## ■ Data Acquisition & Processing Theory Guide

This manual describes peak  
detection and quantitation of sample  
components (for advanced users).

## ■ Installation & Maintenance Guide

This manual describes installation  
and maintenance of the LabSolutions  
software.

## ■ Help

Refer to [Help] to learn more about  
the displayed sub-window.  
Click the on-screen [Help] button  
or the [F1] key on the keyboard to  
display [Help].

The meanings of symbols used in this manual are  
as follows.



Useful advice for convenient  
instrument operation



Reference

Shows where to refer to in the  
*Operators Guide*

# What LabSolutions Can Do

LabSolutions software is very easy to use, while incorporating high-grade functions. It provides powerful support for automating and improving the efficiency of sequential data acquisition and analysis operations.

Use LabSolutions to perform the following functions.

- Control of analytical instruments and data acquisition
- Data analysis and viewing of data
- Creation and printing of various customizable reports
- Data management

## System Structure

This Getting Started Guide describes data acquisition operations with the assumption that the system includes the following instruments.

### **Gas Chromatograph GC-2030 / GC-2010**

- **Autosampler**                    **AOC-20i**
- **Split/Splitless**                **Injection unit (SPL)**
- **Capillary column:**        **Stabilwax 30 m × 0.32 mm I.D, 0.5 µm-thick film**
- **Flame ionization detector (FID)**

# File Types

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## **Data file (.gcd)**

This file contains all analysis results and acquisition information from the following files.

### **Method file (.gcm)**

Acquisition conditions,  
analysis conditions,  
calibration curve information,  
and etc.

### **Batch file (.gcb)**

This file is used for  
continuous data acquisition  
of sequential samples.

### **Report format file (.lsr)**

This file is used to print  
data acquisition results.

*-Checks Before Operation-*

# Data Acquisition Flow

## STEP 1

### Set Up the Conditions

**Set up the data acquisition conditions to suit the component to be measured.**

Before starting data acquisition, set up the data acquisition conditions on LabSolutions.

For the data analysis operations described in this manual, set as follows:

Column oven temperature	50 °C (3 min retention) → 150 °C (2 min retention) (temperature rise speed 10 °C/min)
Injection unit temperature	250 °C
Carrier gas	He, linear velocity 40 cm/sec, linear velocity mode
Sample injection method	Split method
Split ratio	1:25
Detector temperature	250 °C
Sample	Alcohol mixed samples, 100, 500 and 1000 ppm standard samples, and 2 unknown samples



## STEP 2

### Data Acquisition

When you have finished setting up the data acquisition conditions,

**start off by acquiring the data.**

On LabSolutions, the operation of analysis samples one at a time is called "single run".

To evaluate the data acquisition conditions, change the data acquisition conditions, measure standard samples and unknown samples, and check the separation state of the target component.

Perform data acquisition on other samples using the data acquisition conditions that provided the optimum separation state.



3 Single Run P.27



Setting up the data acquisition conditions and optimizing the data processing parameters are important for obtaining better data acquisition results. This section describes the basic flow of data analysis.

## STEP 3 Analysis

Process the acquired data, and **apply the analysis conditions.**

Normally, multiple data is analyzed to determine peak integration conditions so that consistent results (e.g. repeatability of retention time and peak area, detection limits of target components, and linearity) can be acquired.

When the data analysis conditions have been fixed, quantitative calculation (i.e. investigation as to how much of the target component is contained in the sample) is performed on the unknown sample based on the data analysis results of the acquired standard sample.

To perform quantitation, a calibration curve must be made from the known concentrations and peak area values of the standard samples. This calibration curve is used to calculate the concentration of the unknown sample.



4 Data Analysis P.29



## STEP 4 Realtime Batch

**Perform data acquisition on sequential samples together.**

Realtime batch is performed to measure sequential samples continuously when the data acquisition conditions have been fixed by performing a single run.



5 Realtime Batch P.35



6 Multiple Data Analysis P.44



## STEP 5 Data Management

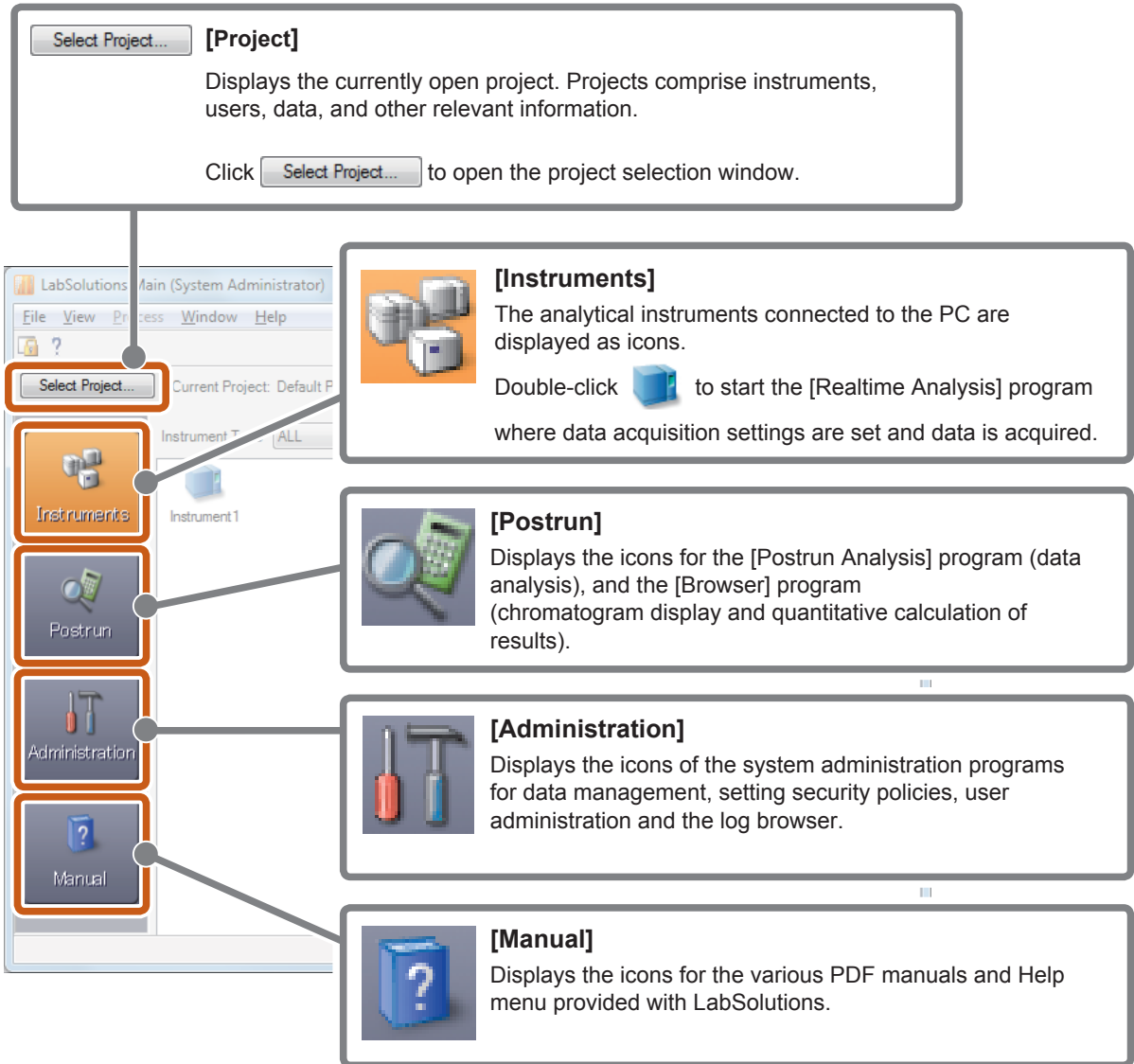
**Display the data files acquired using realtime batch in step ④ by specifying filtering conditions in the Data Manager.**

The Data Manager can display PDF files created during data acquisition.

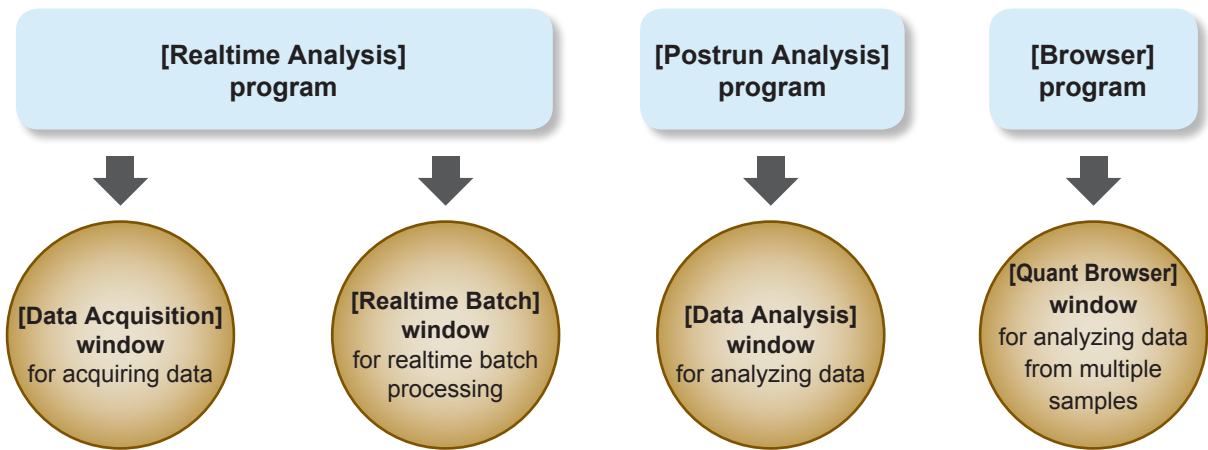


7 Data Management P.52

# LabSolutions Main Window

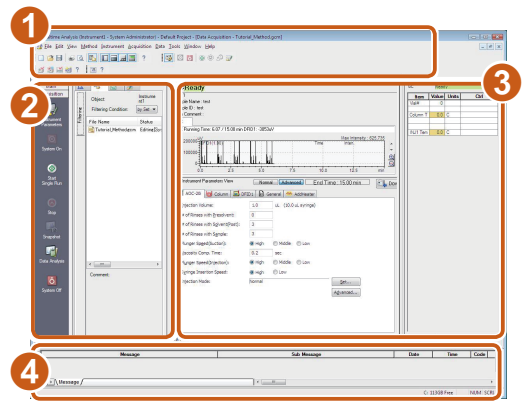


## LabSolutions Main Programs and Main Windows



# LabSolutions Windows

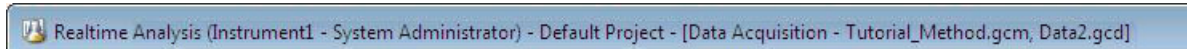
The following example describes the [Realtime Analysis] program window.



1

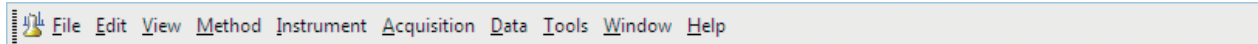
## Title Bar

This bar displays the names of the current program, window, loaded file, and other information.



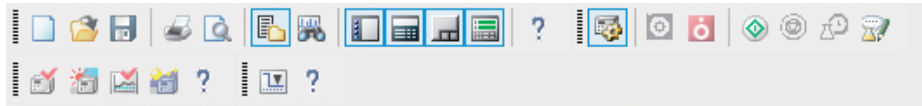
## Menu Bar

This bar displays the current window and menus that are available based on the operating rights of the current user.



## Toolbar

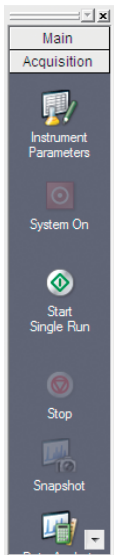
This bar displays icons of frequently used menu items and icons for operating analytical instruments.



2

## Assistant Bar

This bar displays icons for frequently used data acquisition operations.



## Data Explorer

This sub-window displays files for the selected project and instruments.

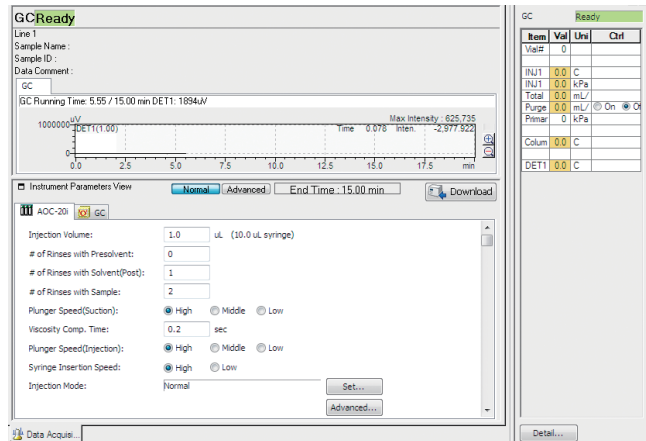


3

## Window

In the [Realtime Analysis] program, [Data Acquisition], [Realtime Batch] and other windows are displayed as icons on the assistant bar.

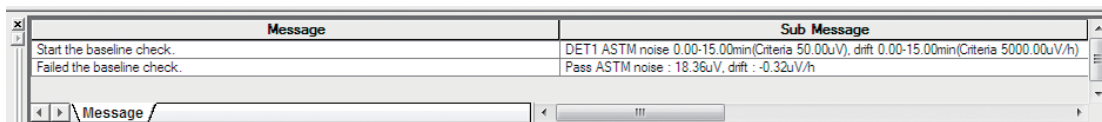
In the [Postrun Analysis] program, [Data Analysis], [Calibration Curve], [Report Format] and other windows are displayed. Switch the windows by clicking the icons on the assistant bar. Instrument Monitor (right side of the window) check the acquisition conditions and connections.



4

## Output Window

This window displays an operation history and error messages that occur.



# How to Open Windows

Note that a project must be selected in order to open windows.

**Reference** **1 Start Up P.12**

## Set the Data Acquisition Parameters and Execute a Single Run:

Open the [Data Acquisition] window from the main window.

- Reference** **2 Set the Instrument Parameters P.20**
- Reference** **3 Single Run P.27**

▼[Realtime Analysis] program

▼[Data Acquisition] window

▲Main Window

## Continuous Data Acquisition of Sequential Samples:

Open the [Realtime Batch] window from the main window.

**Reference** **5 Realtime Batch P.35**

▼[Realtime Analysis] program

▼[Realtime Batch] window

▲Main Window

Analysis	Visit	Sample Name	Sample ID	Sample Type	Method File
1	1	Alcohol Mixture	Standard 100ppm	1 Standard	Tutorial_Metho...
2	1	Alcohol Mixture	Standard 500ppm	1 Standard	Tutorial_Metho...
3	1	Alcohol Mixture	Standard 1000ppm	1 Standard	Tutorial_Metho...
4	1	Alcohol Mixture	Standard 5000ppm	1 Standard	Tutorial_Metho...
5	2	Alcohol Mixture	Standard 500ppm	1 Standard	Tutorial_Metho...
6	2	Alcohol Mixture	Standard 1000ppm	1 Standard	Tutorial_Metho...
7	2	Alcohol Mixture	Standard 5000ppm	1 Standard	Tutorial_Metho...
8	2	Alcohol Mixture	Standard 10000ppm	1 Standard	Tutorial_Metho...
9	2	Alcohol Mixture	Standard 10000ppm	1 Standard	Tutorial_Metho...
10	2	Alcohol Mixture	Standard 10000ppm	1 Standard	Tutorial_Metho...
11	2	Whiskey	Unknown02	0 Unknown	Tutorial_Metho...

## Data Analysis and Quantitative Calculations:

Open the [Data Analysis] window from the main window.

Reference **4** Data Analysis P.29

▼[Postrun Analysis] program

▲Main Window

[Data Analysis] window ▶

Peak#	Ret. Time	Area	Height
1	2.762	21929.969	21929.969
2	5.762	41394	41394
3	6.174	21113	21113
4	9.302	34198	34198
Total		23714.761	23714.761

## Multiple Data Analysis and Quantitative Calculations:

Open the [Quant Browser] window from the main window.

Reference **6** Multiple Data Analysis P.44

▼[Browser] program

▲Main Window

[Quant Browser] window ▶

File Name	Sample Type	Level#	Ret
Sample_001.gal	Standard-Pul	1	2.762
Sample_002.gal	Standard-Pul	2	5.762
Sample_003.gal	Standard-Pul	3	6.174
Sample_004.gal	Standard-Pul	4	9.302
Sample_005.gal	Standard-Pul	5	12.430
Sample_006.gal	Standard-Pul	6	15.558
Sample_007.gal	Standard-Pul	7	18.686
Sample_008.gal	Standard-Pul	8	21.814
Sample_009.gal	Standard-Pul	9	24.942
Sample_010.gal	Standard-Pul	10	28.070

## Chapter

# 1

## Start Up

This chapter describes how to start up LabSolutions.



Refer to "GC Data Acquisition" in *Operators Guide* for details on the "Data Acquisition" window.

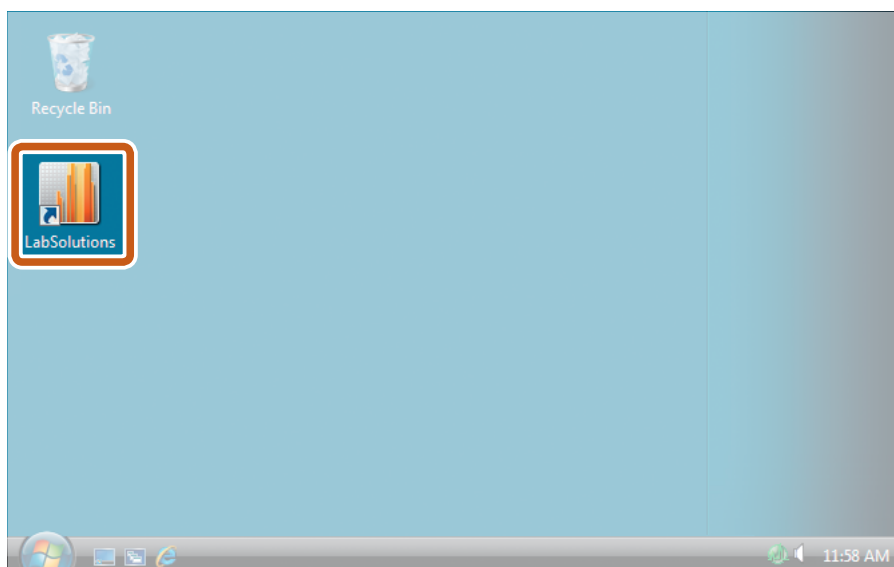
### 1 Supply gas to the GC.

Open the main valve of the carrier gas and other gases to supply gas to the GC.

### 2 Turn the GC and peripheral devices on.

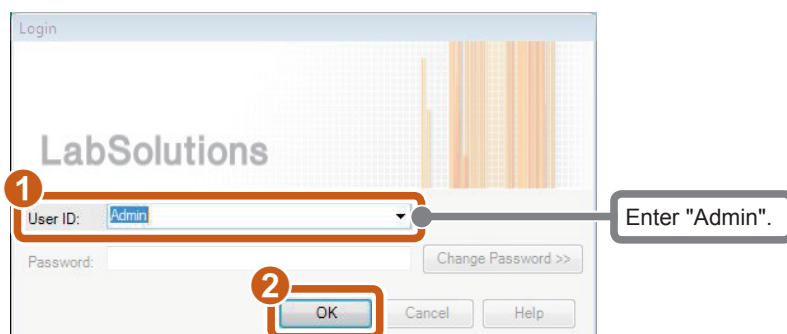
### 3 Turn the PC and printer on.

### 4 Double-click on the desktop.



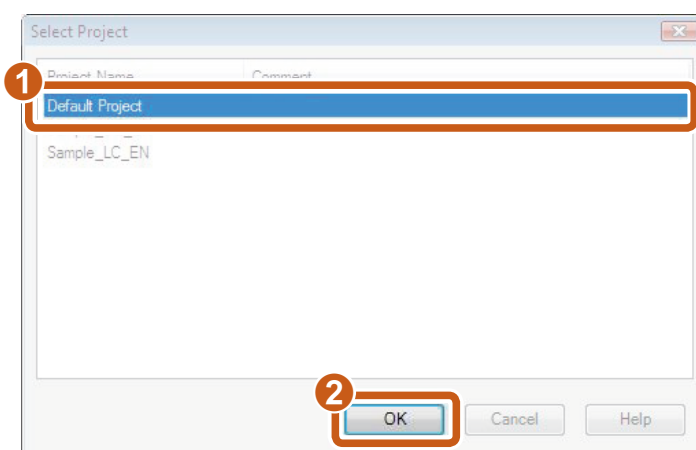
The [Login] sub-window opens.

## 5 Log in.



## 6 Select a project.

Upon initial startup, the project selection window is displayed after logging in. In this case, select the desired project. For subsequent startups, the [Realtime Analysis] program opens using the project selected when the previous session was closed.

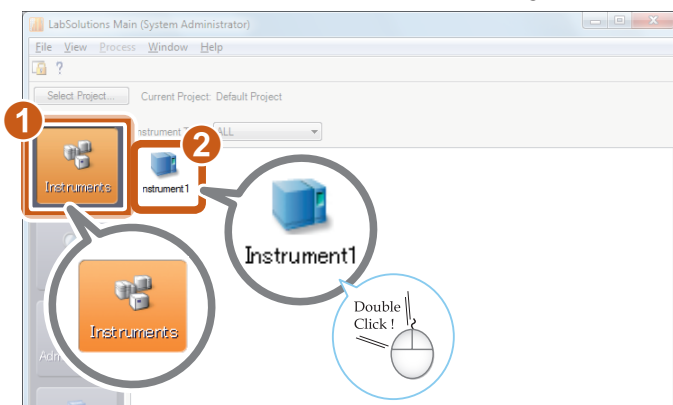


The [Select Project] window is also displayed when logging in for the first time using a newly created user.




Refer to "System Management" in the *Operators Guide* for details on creating users.

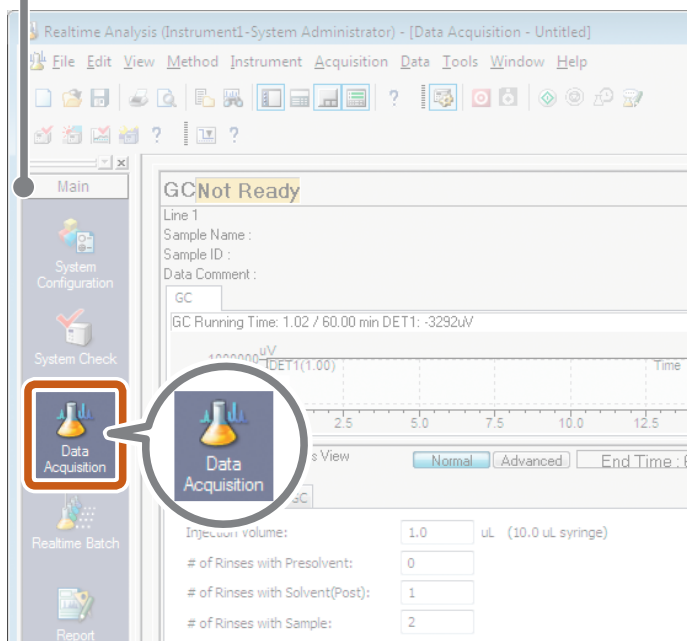
## 7 Open the [Realtime Analysis] program.



Continued on the following page 

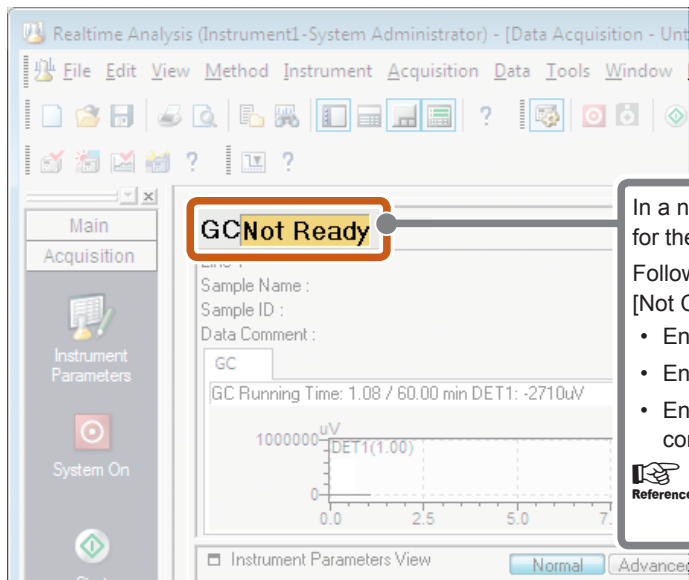
## 8 Open the [Data Acquisition] window.

 **Hint** Click here if the [Main] assistant bar is not displayed.



The screenshot shows the 'Realtime Analysis (Instrument1-System Administrator) - [Data Acquisition - Untitled]' window. The left sidebar contains icons for 'Main', 'System Configuration', 'System Check', 'Data Acquisition' (highlighted with a red box), 'Realtime Batch', and 'Report'. A callout bubble points to the 'Data Acquisition' icon. The main window displays 'GCNot Ready' status, sample information, and a chromatogram plot. Below the plot, there are input fields for 'Injection volume: 1.0 uL (10.0 uL syringe)', '# of Rinses with Presolvent: 0', '# of Rinses with Solvent(Post): 1', and '# of Rinses with Sample: 2'.


## 9 Confirm the status.



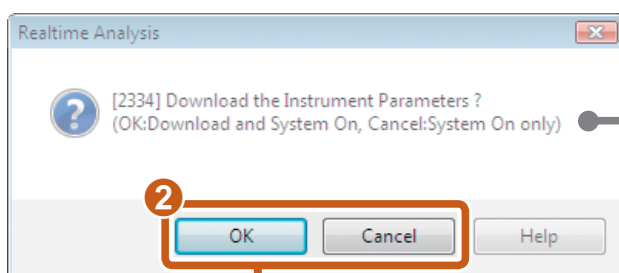
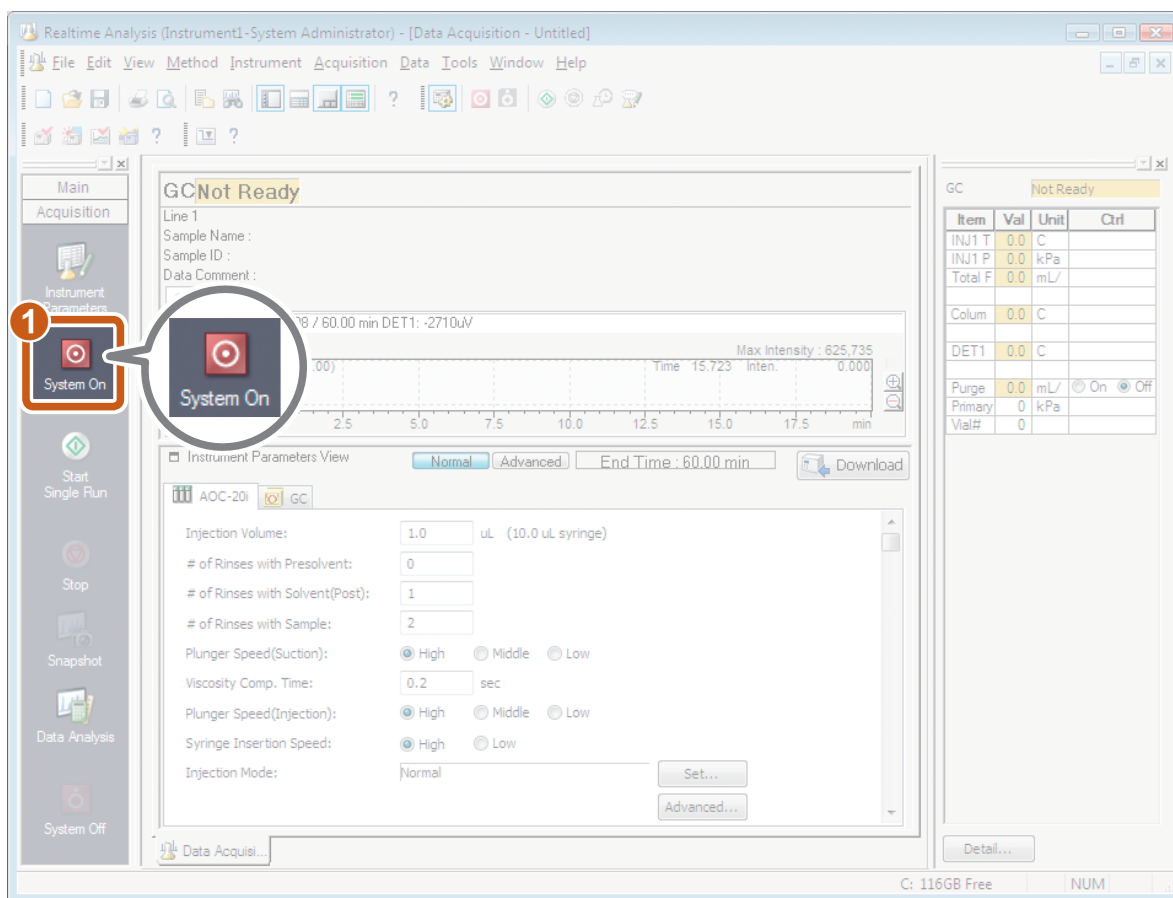
In a normal state, [Not Ready] or [Ready] is displayed for the status.

Follow the recommendations below if [Not Connected] is displayed.

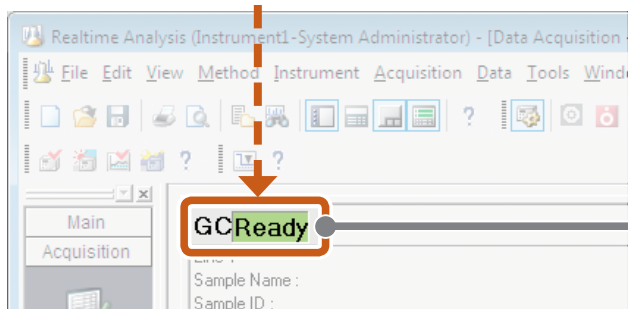
- Ensure that the power is ON.
- Ensure that instruments are connected correctly.
- Ensure that the system configuration settings are correct.

 **Reference** [Re-Set the System Configuration] P.16 for details.

# 10 Start the GC.



This message sometimes is not displayed.




Make sure that [Ready] is displayed for the status after the GC temperature and other preset values are reached.

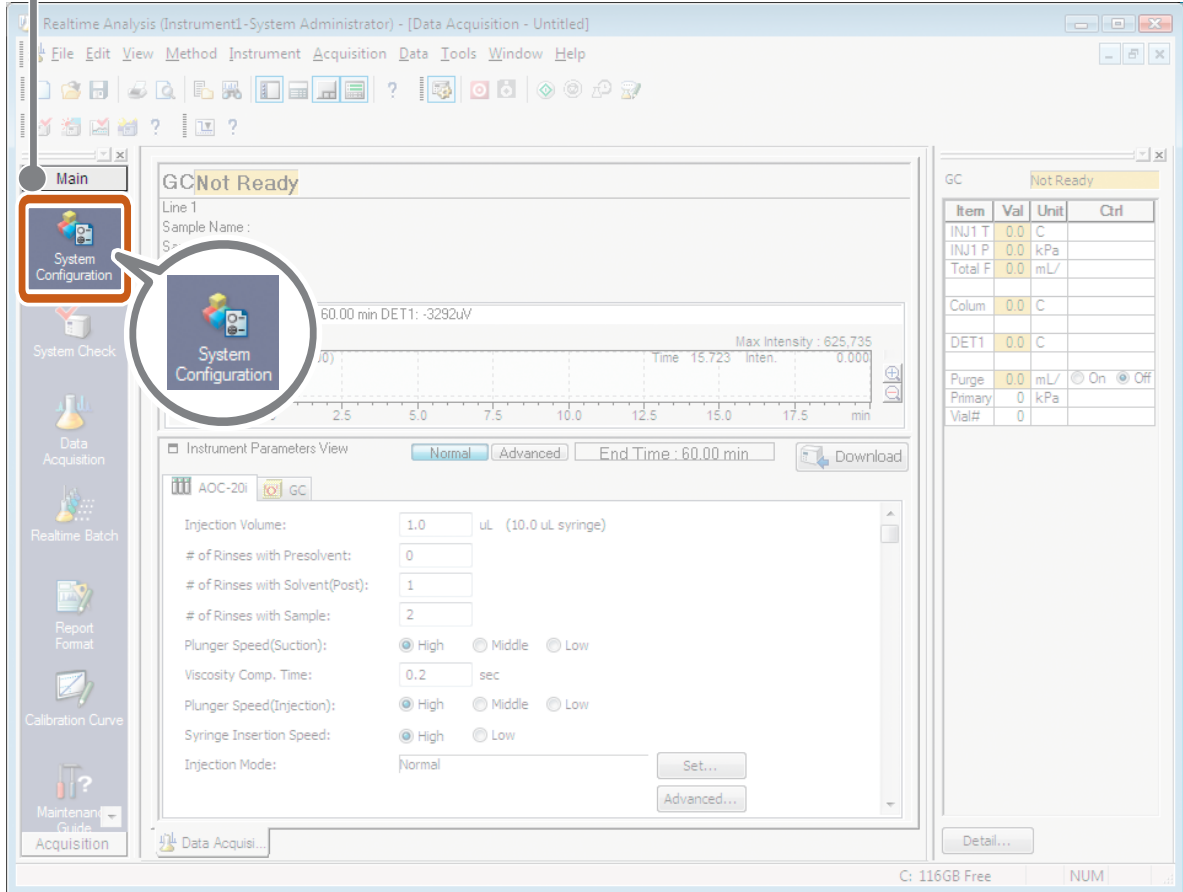
"I want to connect to the system."  
 "I want to change the system configuration."

In such cases

# Re-Set the System Configuration.

## 1 Open the [System Configuration] sub-window.

 **Hint** Click here if the [Main] assistant bar is not displayed.

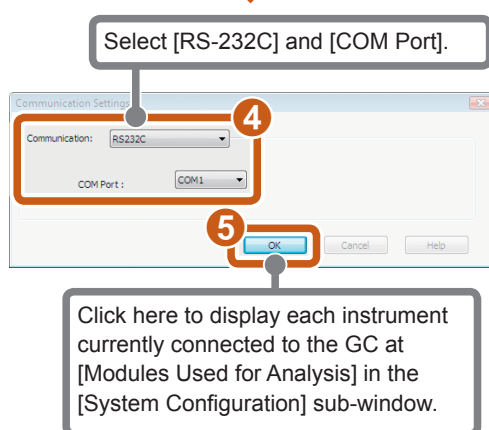
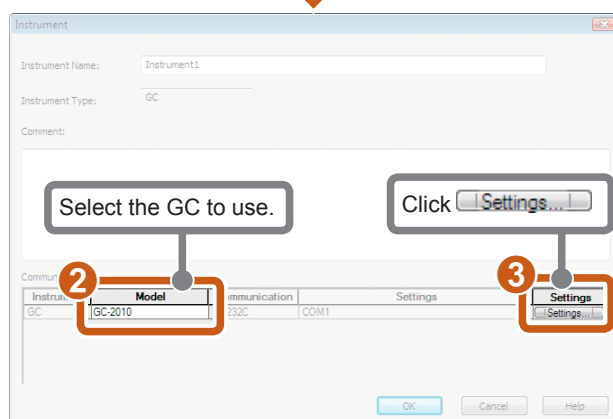
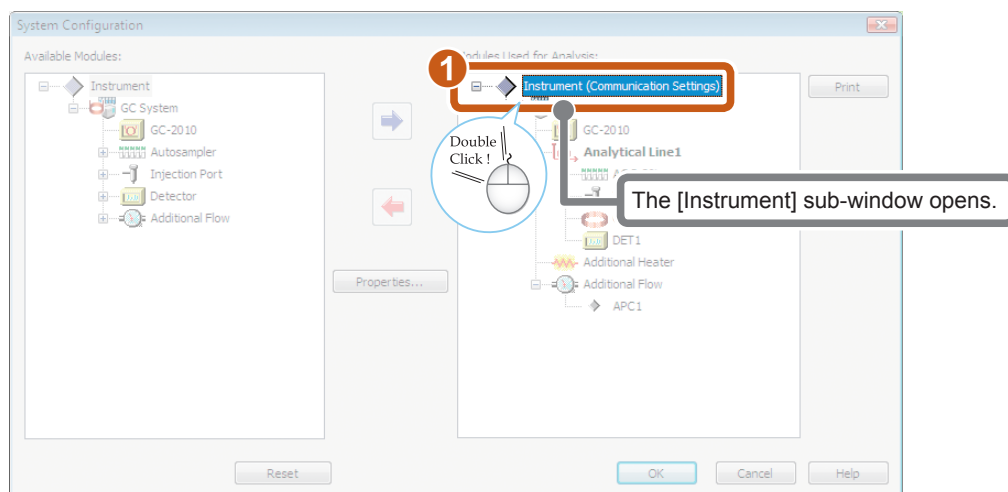


The screenshot shows the LabSolutions software interface. The 'Main' assistant bar is highlighted with a red box, and a callout bubble points to the 'System Configuration' icon within it. The main window displays 'GC Not Ready' status, a chromatogram, and instrument parameters for an AOC-201 GC.

Item	Val	Unit	Ctrl
INJ1 T	0.0	C	
INJ1 P	0.0	kPa	
Total F	0.0	mL/	
Column	0.0	C	
DET1	0.0	C	
Purge	0.0	mL/	<input checked="" type="radio"/> On <input type="radio"/> Off
Primary	0	kPa	
Vial#	0		

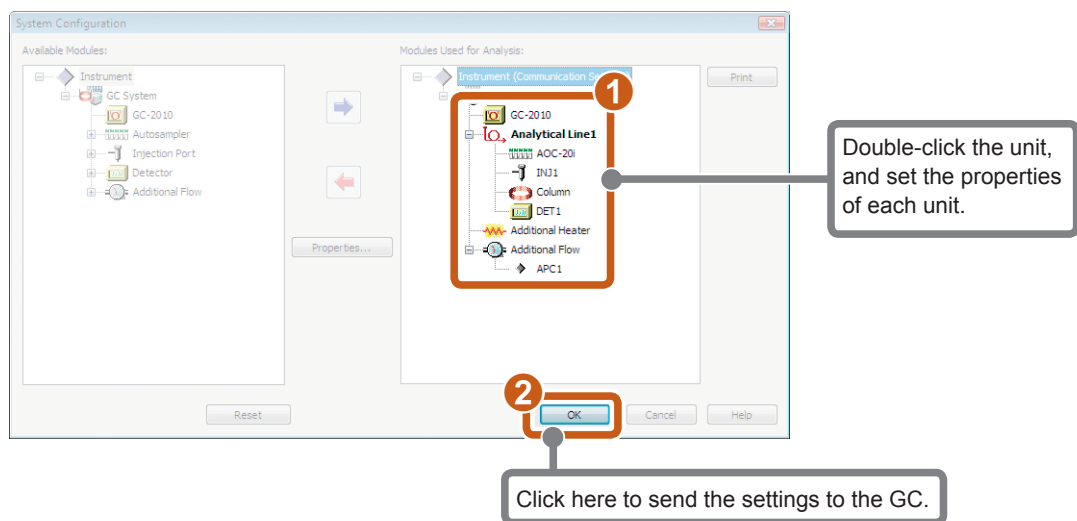
The [System Configuration] sub-window opens.

## 2 Open the [Data Acquisition] window.



Continued on the following page 

### 3 Check that the system configuration is correct.



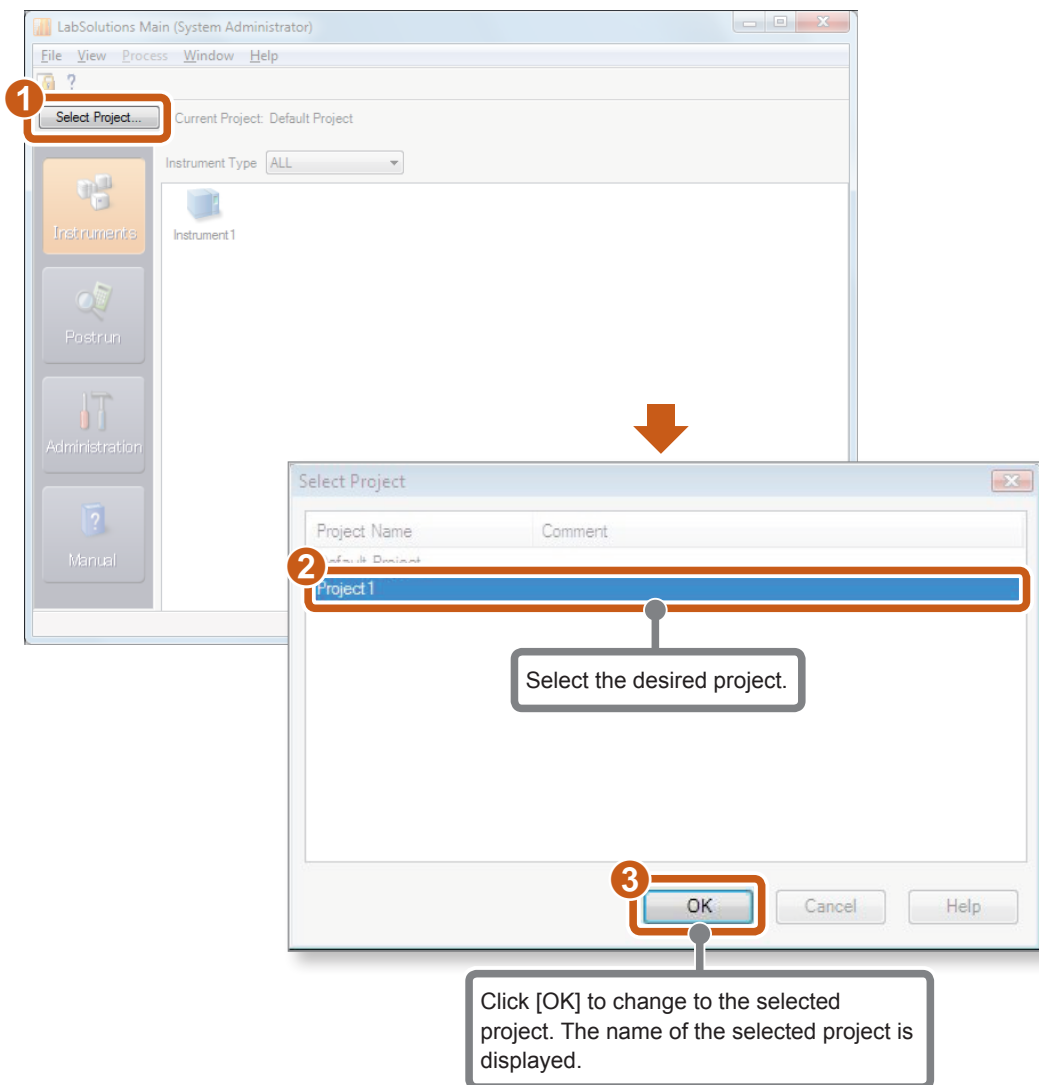
LabSolutions



"I want to change to another project."

In such cases

**Click [Select Project].**



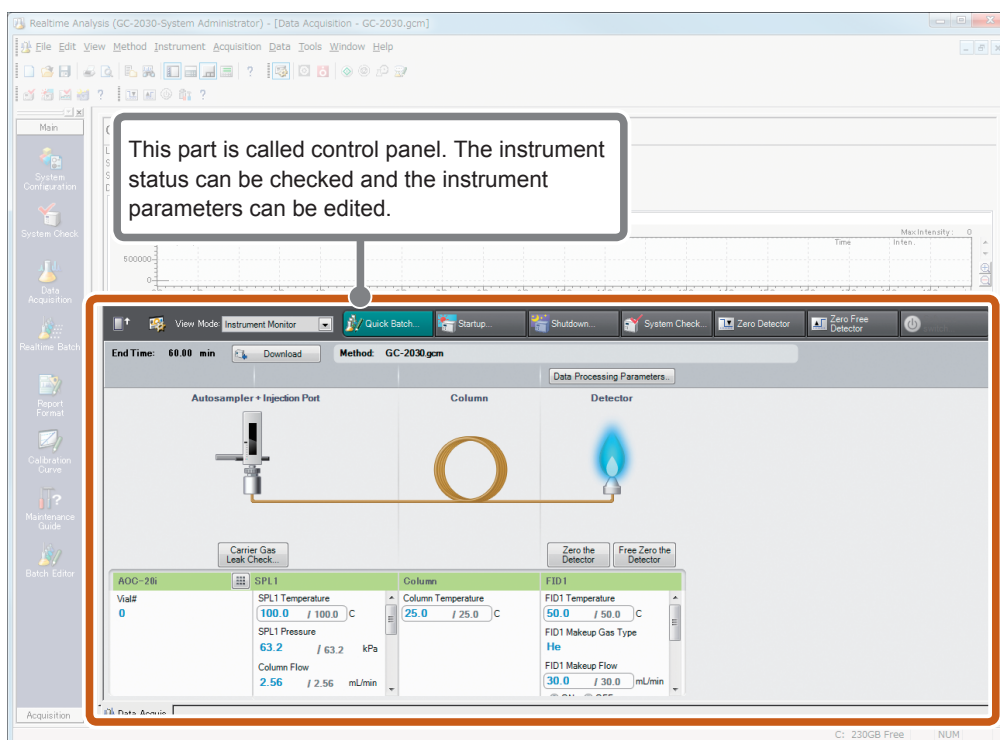
# Chapter 2

## Set the Instrument Parameters

The data acquisition method (instrument parameters) are saved to the method file after they have been set in [Control Panel] in the [Data Acquisition] window.

This chapter explains how to set the instrument parameters.

### 1 Open the [Data Acquisition] window.

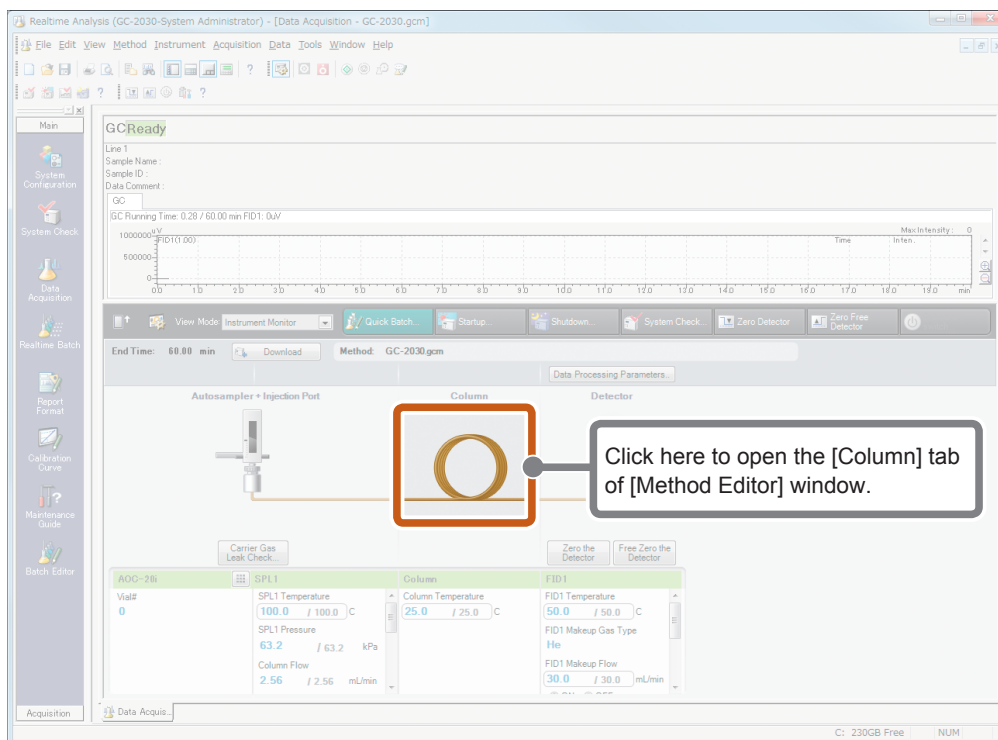


#### Switching Display Settings

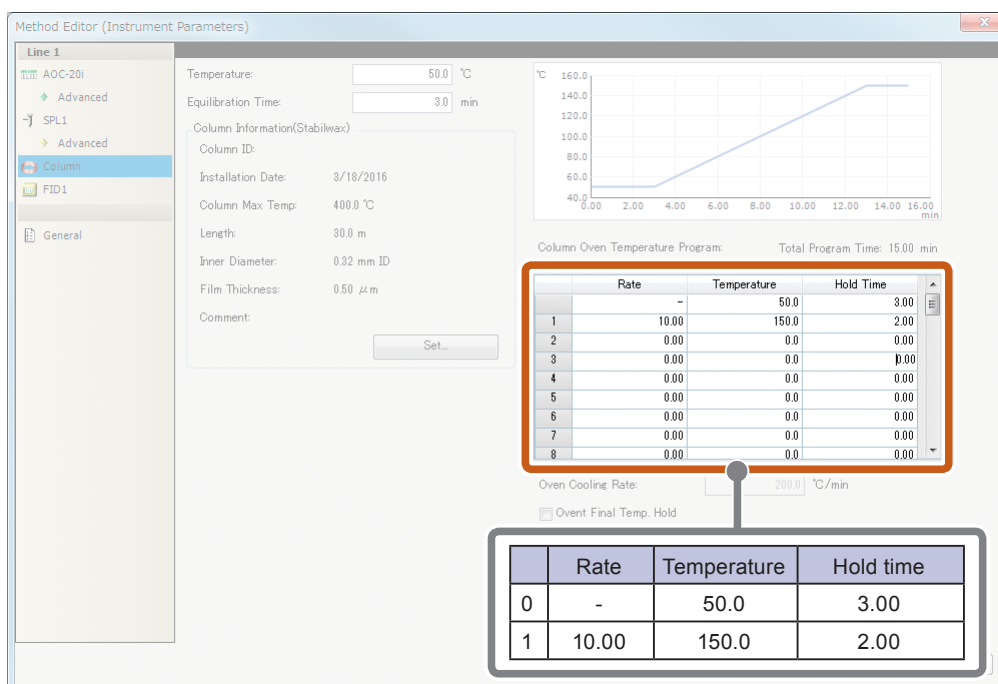
In the [Display Settings of Instrument Parameter View] sub-window, you can select displaying either the control panel or the instrument parameter view.

In case of GC-2030, you can switch [View Mode] ([Instrument Monitor] or [Instrument Parameter]) on the [Control Panel].

## 2 Click [Column] image on the [Control Panel].

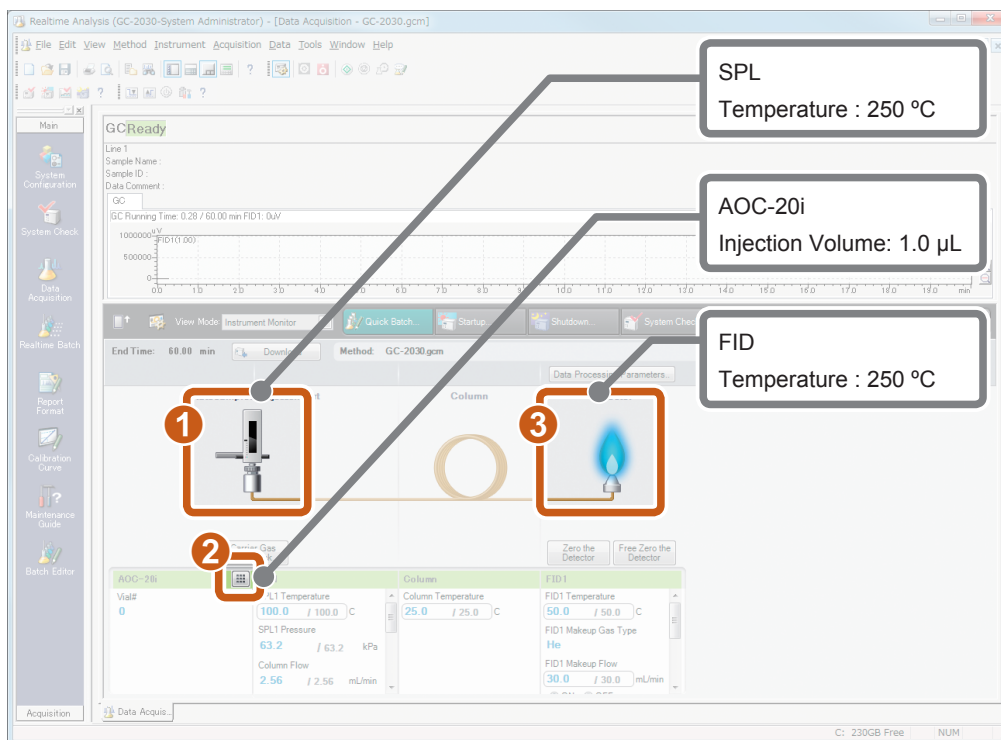


## 3 Edit the time table for the column temperature program.

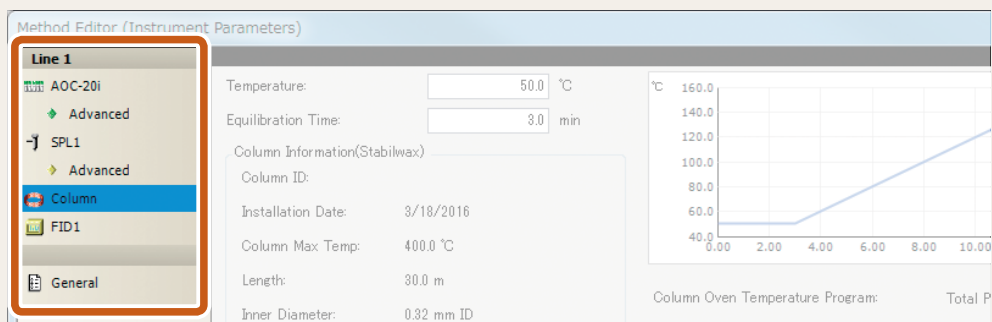


Continued on the following page 

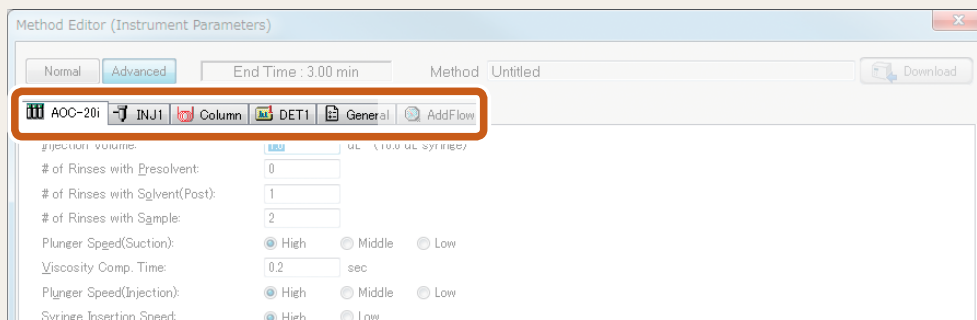
# 4 Click other unit image and edit parameters.



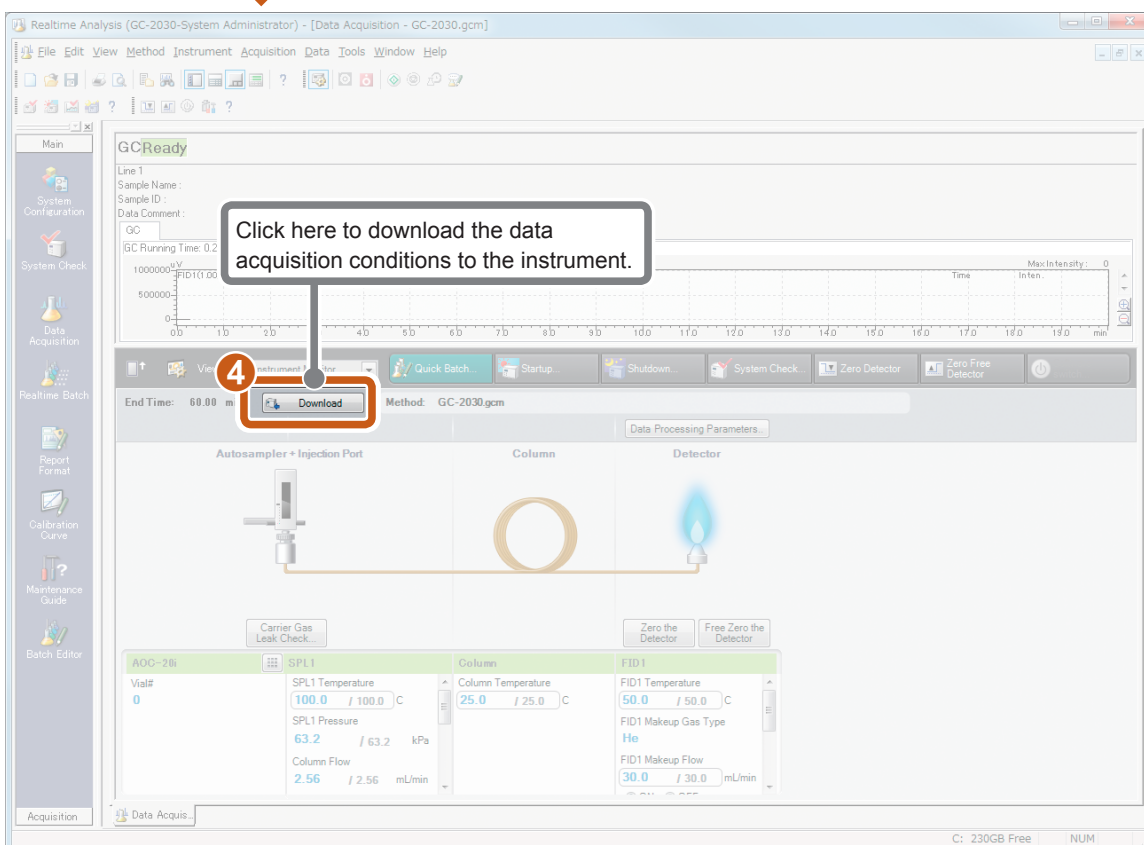
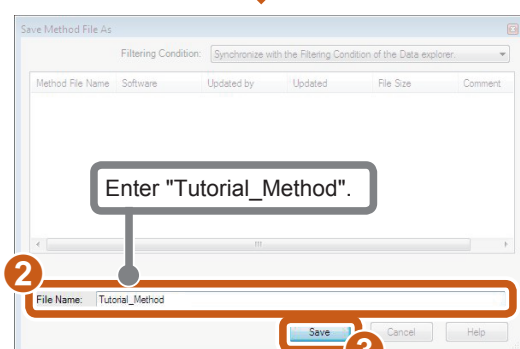
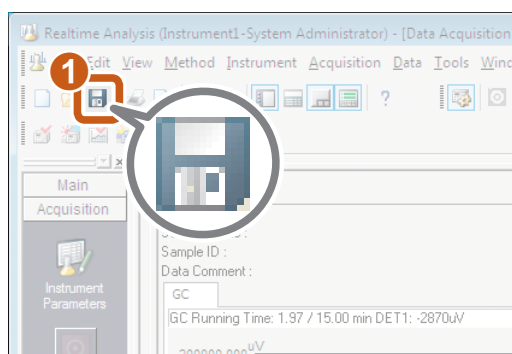
In case of GC-2030, you can select unit from the explorer bar at the left side of [Method Editor]window



In case of GC-2010, you can select unit by clicking tab on the [Method editor]window.



# 5 Save the data acquisition conditions.



# Baseline Check

By the baseline check, you can check whether or not noise and drift values on the baseline are within the preset time and at the threshold or below. Baseline check parameters are saved in the method file.

## 1 Set [Baseline Check Parameters].

Set both [Noise] and [Drift] to , and enter [Start], [End] and [Threshold].

**Hint** In the [Baseline Check] sub-window, the noise calculation method can be changed, and the maximum delay time when the result of the baseline check is [Fail] within the preset time. **Reference** Help for details.

## 2 Perform the baseline check.

After measurement ends, the check results are displayed in [Baseline Check Results] sub-window and [Output Window].

[Output Window]

Message	Sub Message
Start the baseline check.	DET1 ASTM noise 0.00-15.00min(Criteria 50.00uV), drift 0.00-15.00min(Criteria 5000.00uV/h)
Failed the baseline check.	Pass ASTM noise : 18.36uV, drift : -0.32uV/h

Baseline Check Results

LabSolutions



## Slope Test

By performing the Slope Test, the peak detection sensitivity (Slope value) of peak integration parameters can be automatically set from the status of the noise and drift appearing on the chromatogram before data acquisition.

The slope value obtained by the slope test is effective when performing isothermal analysis. This section describes the Slope Test.



- Slope values refer to the numerical values for determining the peak start and end points. To be more precise, the peak start point is judged when an ascent slope exceeds the preset value, and, alternatively, the peak end point is judged when a descent slope falls below the preset value.
- Optimum Slope values can be obtained from the data by the Slope Test.

This menu is displayed by right-clicking on [Chromatogram View].

The measurement result is displayed when the test ends.

To apply the measurement result to the peak integration parameters, click here.



To make preset values clearer, set a value rounded up to the nearest integer larger than the displayed slope value. For example, set "200" for "195.218".

# Default Folder and Change the Default Folder

The screenshot shows the LabSolutions software interface. A callout box with a circled '1' points to the 'Folder:' dropdown menu, which currently displays '... \Sample\GC'. A text box next to it states: "This folder is the default folder." Another callout box points to the 'New Folder...' button in the 'Select Folder' dialog box, with the text: "Set this sub-window when changing the folder or creating a new folder." The 'Select Folder' dialog box shows the file tree for 'C:\LabSolutions\Sample\GC'.

Item	Val	Unit	Ctrl
Vial#	0		
INJ1 T	0.0	C	
INJ1 Pr	0.0	kPa	
Total Fl	0.0	mL/	
Purge	0.0	mL/	<input type="radio"/> On <input checked="" type="radio"/> Off
Primary	0	kPa	
Column	0.0	C	
DET1	0.0	C	

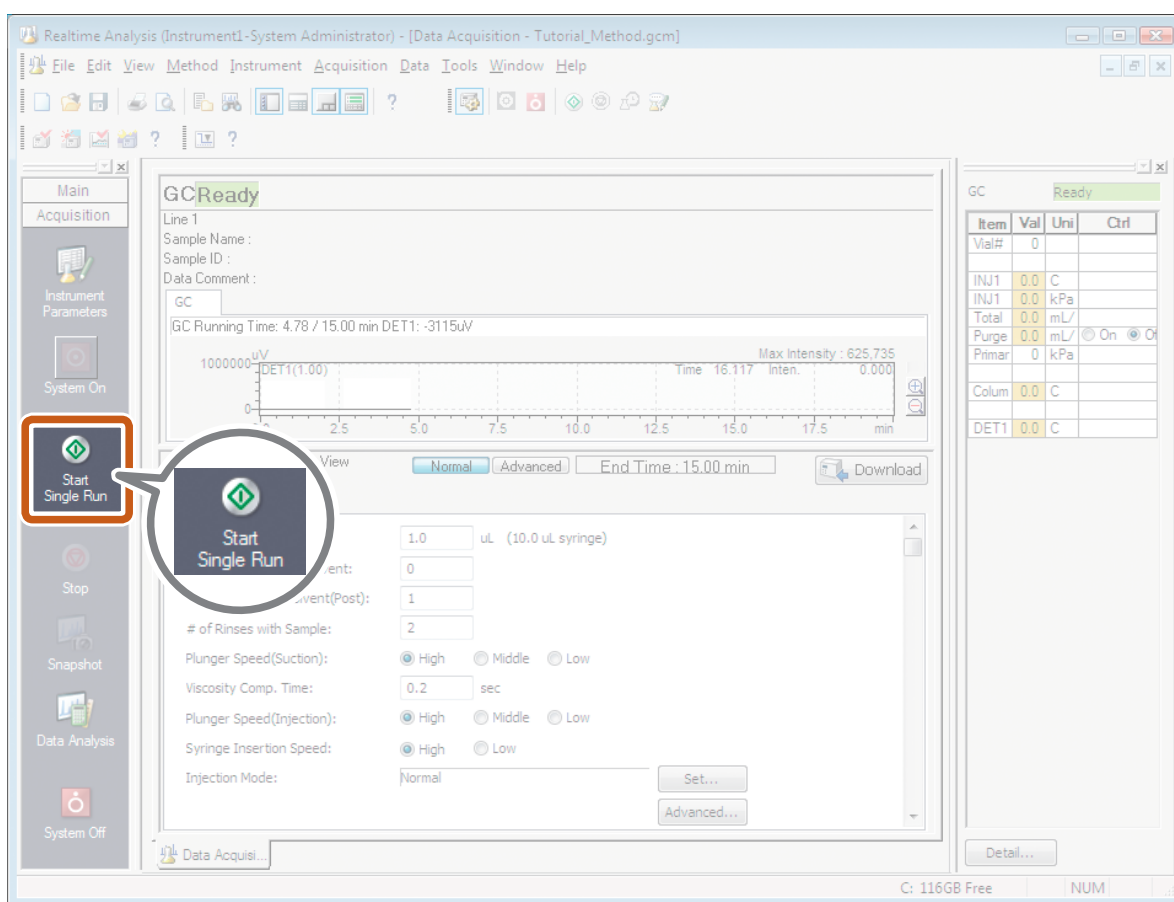
# Chapter 3

## Single Run

This chapter describes the operation of measuring a standard sample once only (single run) using a saved method file "Tutorial\_Method.gcm".  
First, perform single run using a standard sample.

1 Open the [Data Acquisition] window.

2 Open the [Single Run] sub-window.



The [Single Run] sub-window opens.

Continued on the following page 

# 3

## Set the conditions for a single run.

In this example, set the conditions for pouring 100 ppm of alcohol mixed sample into vial No. 1 on the auto-sampler, and injecting that sample.

The 'Single Run' dialog box is shown with the following settings and annotations:

- Line 1** (selected)
- Acquisition
- Acquisition Information:
  - Sample Name: [Empty]
  - Sample ID: [Empty]
  - Option... [Button]
- Method File: Tutorial\_Method.gcm
- 1** Data File: Test.gcd (Create into: [Folder icon])
  - Auto-Increment: 1, 2, ...
- Data Comment: [Empty]
- 2** Samples:
  - Vial#: 1
  - Without sample
  - Barcode: [Empty]
  - Syringe Volume: 10 uL
- Buttons: Advanced > **3** OK, Cancel, Help

Annotations:

- Enter "Test". (points to Data File)
- Vial#: 1 (points to Vial#)
- Click here to start the acquisition. (points to OK)



Data acquisition automatically ends when the [Stop Time] (15.00 min) set in the method file is exceeded.

The status changes to **Ready** when data acquisition ends.

The Realtime Analysis software interface is shown in two states:

- Left Screenshot (GCRunning):** The status bar shows 'GCRunning'. The graph displays 'uV DET1(1.00)' with a y-axis from 0 to 1,000,000. The 'Stop' button in the 'Main' panel is highlighted with a red box and a callout bubble.
- Right Screenshot (GCReady):** The status bar shows 'GCReady'. The graph displays 'uV DET1(1.00)' with a y-axis from 0 to 15,000. The 'Ready' status is highlighted in green.

Annotations:

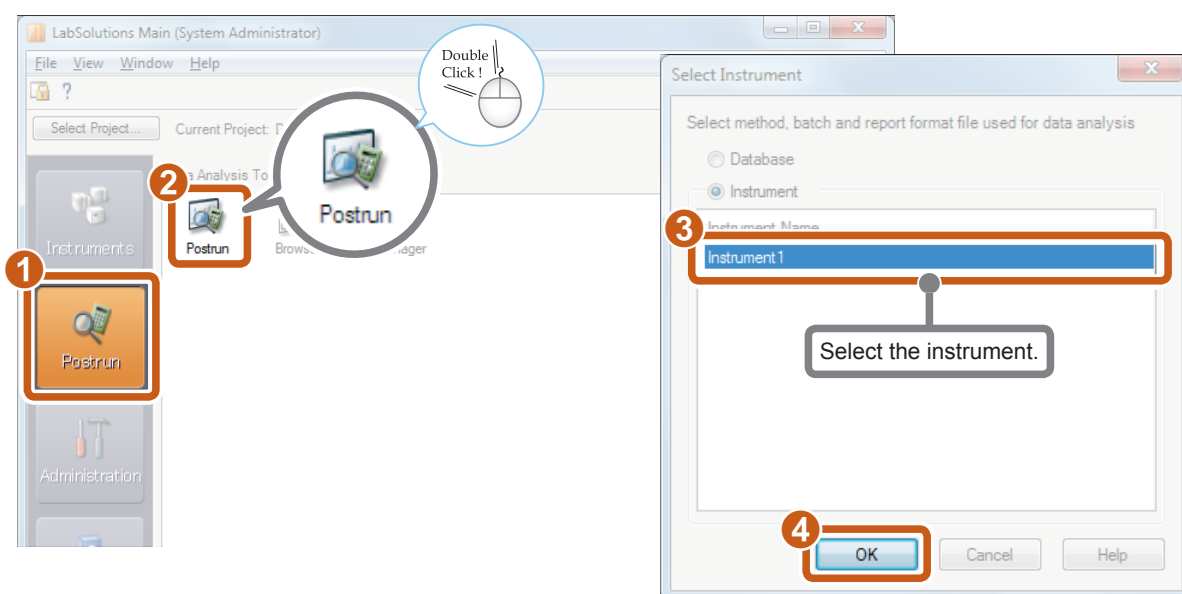
- Click here to cancel data acquisition midway. (points to Stop button)

# Chapter 4

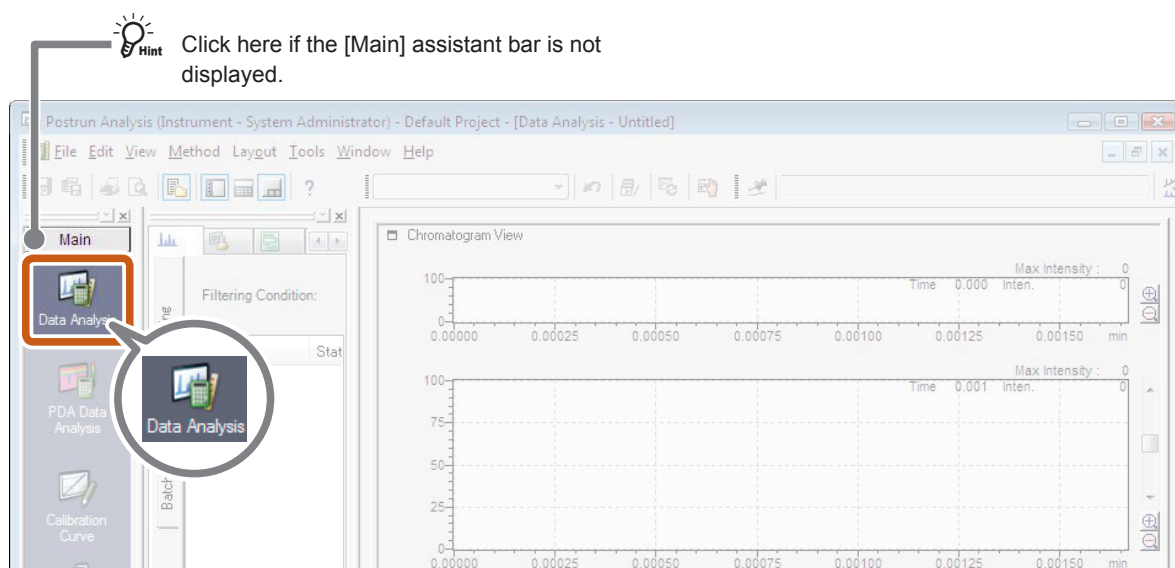
## Data Analysis

After single run ends, check the data to see if the peaks have been detected correctly. This chapter describes how to change the peak integration conditions of the data file "Test.gcd" obtained by performing single run to optimize the peak integration parameters.

### 1 Open the [Postrun Analysis] program.




### 2 Open the [Data Analysis] window.

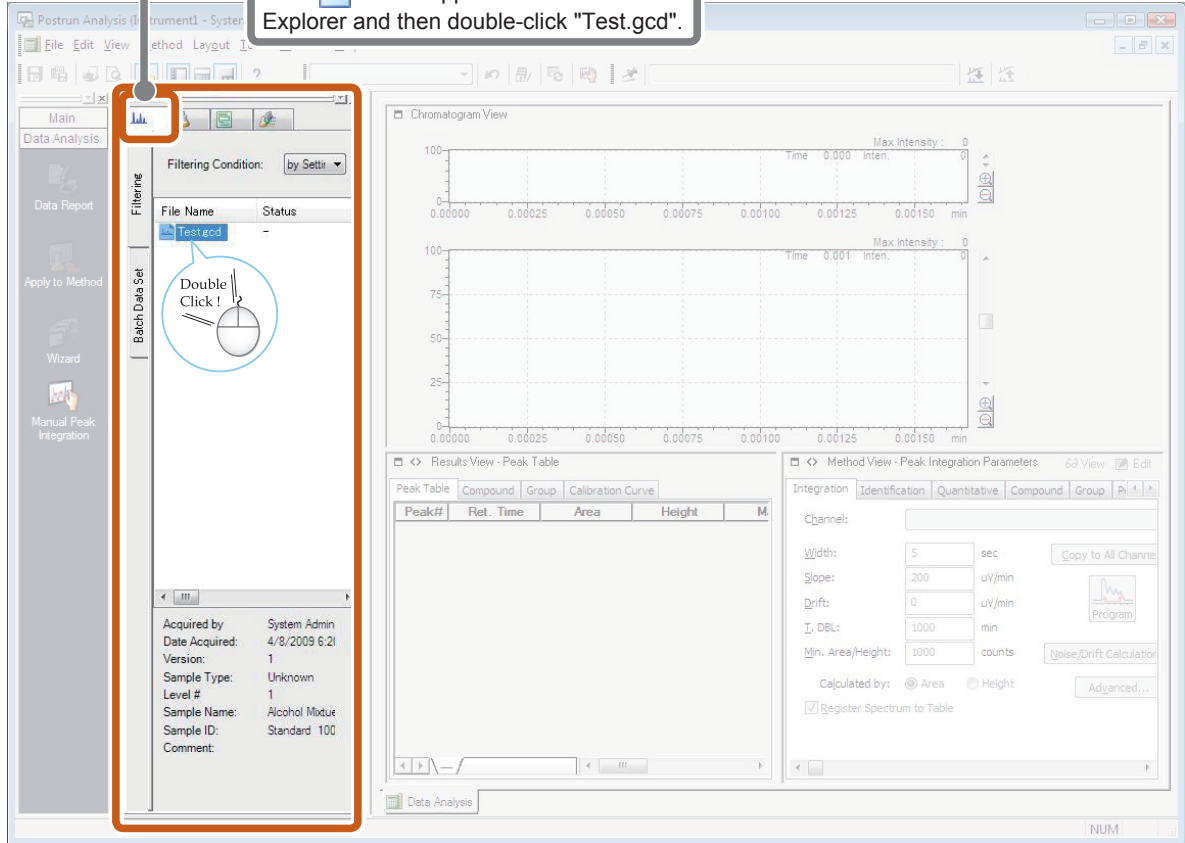


The [Data Analysis] window opens.

Continued on the following page 

# 3 Display "Test.gcd".

Click  on the upper section of the Data Explorer and then double-click "Test.gcd".



The screenshot shows the 'Data Analysis' software interface. The 'Data Explorer' window is highlighted with a red border. It contains a table with the following data:

File Name	Status
Test.gcd	

Below the table, there is a section for file details:

Acquired by: System Admin  
Date Acquired: 4/8/2009 6:21  
Version: 1  
Sample Type: Unknown  
Level #: 1  
Sample Name: Alcohol Mixture  
Sample ID: Standard 100  
Comment:

The main window displays two chromatogram plots and a 'Results View - Peak Table' table. The 'Results View - Peak Table' table is currently empty.

 **Reference** Refer to "Data Analysis" chapter in *Operators Guide* for details on the "Data Analysis" window.

# 4 Enter the peak integration parameters.

Click **Edit** to edit each parameter value.

Click **View** to perform processing on the data, and the processing results are displayed in [Chromatogram View] and [Results View - Peak Table].

Peak#	Ret. Time	Area	Height	Mark
1	4.276	233039765	21822033	
2	5.754	27542	11764	
3	6.674	33118	14002	
4	8.705	34336	15313	
Total		233134761	21883111	

Integration

Width: 3 sec

Slope: 1000 uV/min

Width : 3 sec

Slope : 1000 uV/min



Width values refer to the minimum half-width value (height 1/2 width) of the peak to detect.

Noise peaks are removed by optimizing the Width value.

Determine the start and end points of the peak by the Slope value.

The positions where the absolute values of the baseline slope become these values are the start and end points of the peak.



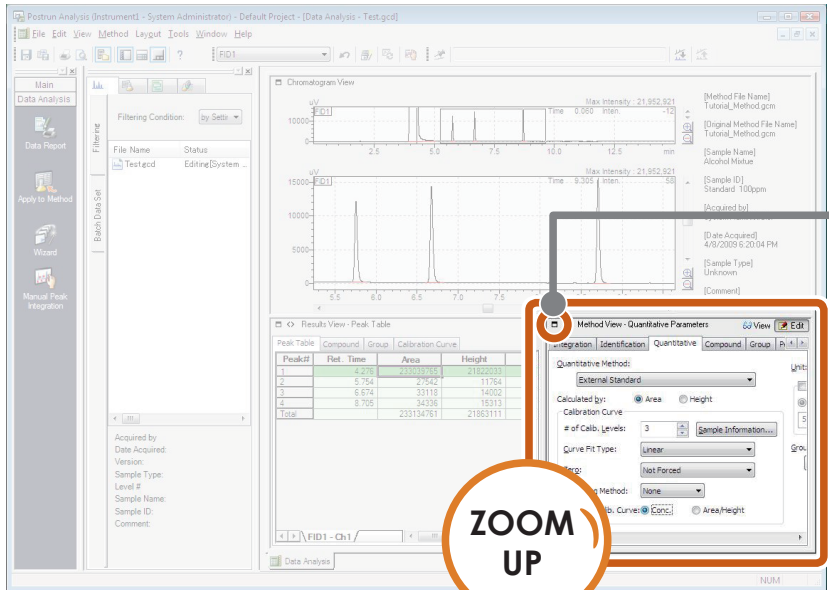
Reference

Refer to "Peak Integration Parameters" of the "Data Analysis" chapter in *Operators Guide* for details on the Peak Integration Parameters.

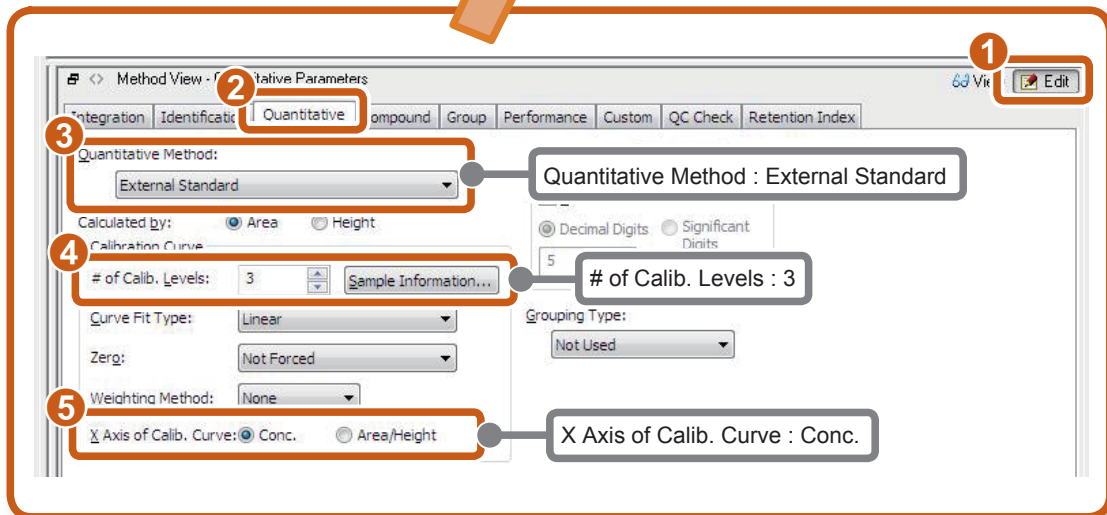
Continued on the following page



# 5 Enter the quantitative parameters.



**Hint** Click to enlarge the window.



- The [External Standard] method involves calculating concentrations from the peak area (height) of unknown samples using a calibration curve made based on a standard sample.
- At [# of Calib. Levels], set the number of concentration points for the standard sample required for creating the calibration curve.
- When creating calibration curves with the least squares method, set [X Axis of Calib. Curve] to [Conc.].

# 6 Fill in the Compound Table.

The screenshot shows the software interface with a chromatogram and a compound table. A magnifying glass labeled "ZOOM UP" points to the compound table.

Peak#	Ret. Time	Area	Height	N
1	5.754	21893975	21893975	1
2	6.674	33110	14022	1
3	8.705	34326	15913	1
Total		233134761	21889111	

The detailed view of the "Method View - Compound Table" shows the following table:

ID#	Name	Type	Ret. Time	Conc. (1)	Conc. (2)	Conc. (3)
1	1-Propylalcohol	Target	5.754	100.000	500.000	1000.000
2	Isobutylalcohol	Target	6.674	100.000	500.000	1000.000
3	Isoamylalcohol	Target	8.705	100.000	500.000	1000.000
4	Target		0.001	100.000	500.000	1000.000

Click **View** to change the cell background color to yellow to fix the newly edited parameters.



- The result obtained by performing data acquisition is used for [Ret. Time].
- Selecting the [Ret. Time] cell, and clicking the peak in [Chromatogram View] automatically enters the retention time of that peak to the currently selected [Ret. Time] cell. The retention time can be set by simply clicking the mouse.



Reference

Refer to "Compound Table Retention Times Using the Mouse" of the "Data Analysis" chapter in *Operators Guide* for details on setting retention times.

Continued on the following page

# 7 Save the processing results to a data file.

Click here to save the processing results to "test.gcd".

# 8 Save the method file.

Click here to open the [Save Method As] sub-window.


Click here to save the new data processing parameters to "Tutorial\_Method.gcm".

Select "Tutorial\_Method.gcm".

Set to  Data Processing Parameters



To use saved data processing parameters for other data, perform either of the following operations to save the new data processing parameters to the method file (in this example, "Tutorial\_Method.gcm").

- Click [Save Data and Method File] on the [File] menu.
- Click  (Apply to Method) on the [Data Analysis] assistant bar (operation in step 8 above).

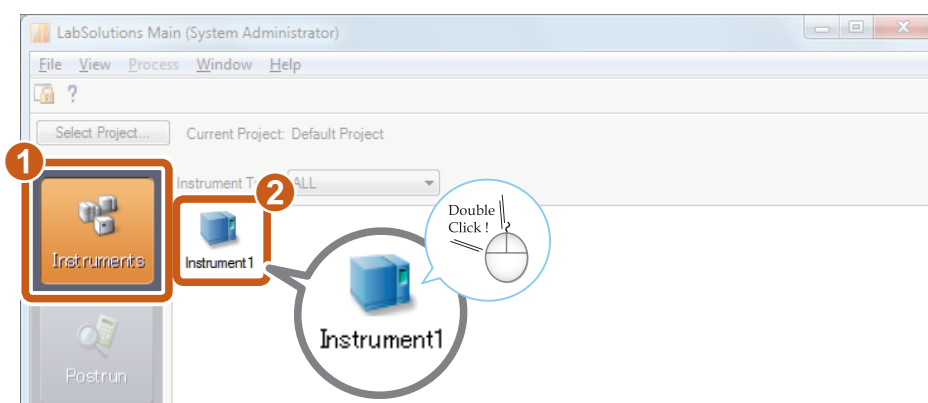
# Chapter 5 Realtime Batch

To perform data acquisition continuously on multiple samples (realtime batch), a Batch Table must first be created. Batch Tables can be easily created by using the table easy setting feature of LabSolutions.

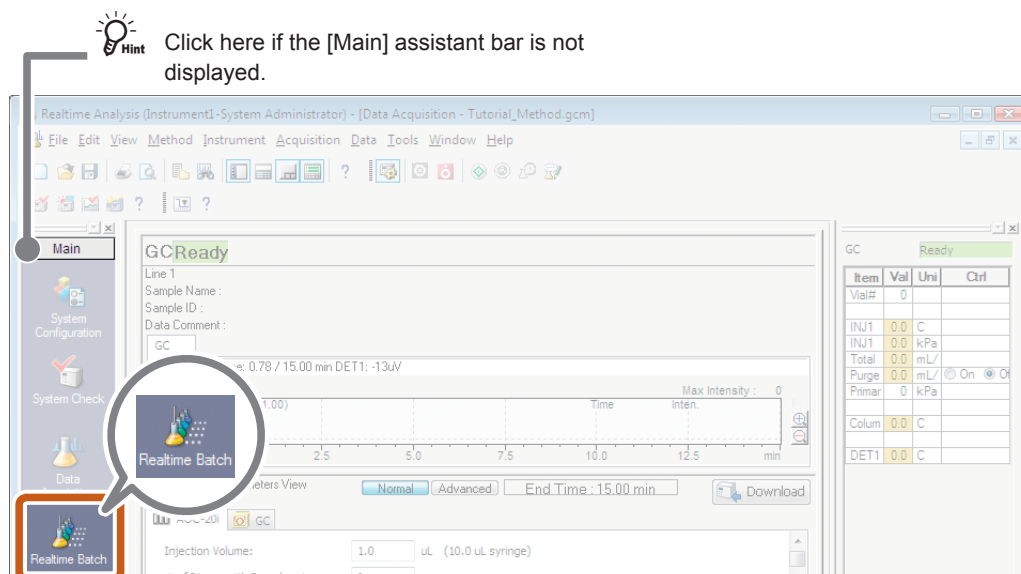
## 5.1 Create a Batch Table

In the following example, create a Batch Table with standard samples set to 1st to 9th rows, and unknown samples set to the 10th and 11th rows.

### 1 Open the [Realtime Analysis] program.



### 2 Open the [Realtime Batch] window.



The [Realtime Batch] window opens.

Continued on the following page 

# 3 Edit the Batch Table.

1. Select [Table Easy Settings...]

2. Select [New].

3. Set [Standard] to .  
 Vial# : 1 to 3  
 Injection Volume : 1 µL  
 Repetitions : 3  
 Data File : Tutorial\_Std

4. Set [Unknown] to .  
 Vial# : 4 to 5  
 Injection Volume : 1 µL  
 Data File : Tutorial\_Unk

5. Click here to create a Batch Table made up of 11 rows.

Analysis	Vial#	Sample Name	Sample ID	Sample Type	Method File	Data File	Level#	Report Output	Report Format File	Data C
1	1			1:Standard (/)	Tutorial_Method.gcm	Tutorial_Std001.gcd	1			
2	1			1:Standard	Tutorial_Method.gcm	Tutorial_Std002.gcd	1			
3	1			1:Standard	Tutorial_Method.gcm	Tutorial_Std003.gcd	1			
4	2			1:Standard	Tutorial_Method.gcm	Tutorial_Std004.gcd	2			
5	2			1:Standard	Tutorial_Method.gcm	Tutorial_Std005.gcd	2			
6	2			1:Standard	Tutorial_Method.gcm	Tutorial_Std006.gcd	2			
7	3			1:Standard	Tutorial_Method.gcm	Tutorial_Std007.gcd	3			
8	3			1:Standard	Tutorial_Method.gcm	Tutorial_Std008.gcd	3			
9	3			1:Standard	Tutorial_Method.gcm	Tutorial_Std009.gcd	3			
10	4			0:Unknown	Tutorial_Method.gcm	Tutorial_Unk001.gcd	0			
11	5			0:Unknown	Tutorial_Method.gcm	Tutorial_Unk002.gcd	0			

**Hint** • In Batch Tables, you can set the sample information of each sample and output of reports.

**Reference** Refer to "Edit Batch Tables" of the "Realtime Batch" chapter, "Edit Batch Tables" of the "Calibration Curves" chapter in *Operators Guide* for details on the editing batch tables.

• When performing cleanup, enter "-1" in [Vial#] if the autosampler is used.

# 4 Copy a cell.

Analysis	Vial#	Sample ID	Sample Type	Method File	Data File	Level#	Report Output
1	1	Tutorial_Method.gcm		Tutorial_Method.gcm	Tutorial_Std001.gcd	1	
2	1	Tutorial_Method.gcm		Tutorial_Method.gcm	Tutorial_Std002.gcd	1	
3	1	Tutorial_Method.gcm		Tutorial_Method.gcm	Tutorial_Std003.gcd	1	
4	2	Tutorial_Method.gcm		Tutorial_Method.gcm	Tutorial_Std004.gcd	2	
		Tutorial_Method.gcm		Tutorial_Method.gcm	Tutorial_Std005.gcd	2	
		Tutorial_Method.gcm		Tutorial_Method.gcm	Tutorial_Std006.gcd	2	
		Tutorial_Method.gcm		Tutorial_Method.gcm	Tutorial_Std007.gcd	3	
		Tutorial_Method.gcm		Tutorial_Method.gcm	Tutorial_Std008.gcd	3	

1 Select here. 2 Fill Down

Sample Name

Row #: 1

9

Sample Name: Alcohol Mixture

Auto-increment Repetitions: 1

5 OK Cancel Help

Analysis	Vial#	Sample Name	Sample ID	Sample Type	Method File	Data File	Level#	Report Output
1	1	Alcohol Mixture		1:Standard:()	Tutorial_Method.gcm	Tutorial_Std001.gcd	1	
2	1	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std002.gcd	1	
3	1	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std003.gcd	1	
4	2	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std004.gcd	2	
5	2	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std005.gcd	2	
6	2	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std006.gcd	2	
7	3	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std007.gcd	3	
8	3	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std008.gcd	3	
9	3	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std009.gcd	3	
10	4	Liquor		0:Unknown	Tutorial_Method.gcm	Tutorial_Unk001.gcd	0	
11	5	Whiskey		0:Unknown	Tutorial_Method.gcm	Tutorial_Unk002.gcd	0	

# 5 Enter a numbered series.

Analysis	Vial#	Sample Name	Sample ID	Sample Type	Method File	Data File	Level#	Report Output
1	1	Alcohol Mixture		1:Standard:()	Tutorial_Method.gcm	Tutorial_Std001.gcd	1	
2	1	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std002.gcd	1	
3	1	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std003.gcd	1	
4	2	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std004.gcd	2	
5	2	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std005.gcd	2	
6	2	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std006.gcd	2	
7	3	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std007.gcd	3	
8	3	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std008.gcd	3	
9	3	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std009.gcd	3	
10	4	Liquor		0:Unknown	Tutorial_Method.gcm	Tutorial_Unk001.gcd	0	
11	5	Whiskey		0:Unknown	Tutorial_Method.gcm	Tutorial_Unk002.gcd	0	

Select here. 1 2 Fill Series

Sample ID

Row #: 10

11

Sample ID: Unknown01

Auto-increment Repetitions: 1

5 OK Cancel Help

Analysis	Vial#	Sample Name	Sample ID	Sample Type	Method File	Data File	Level#	Report Output
1	1	Alcohol Mixture		1:Standard:()	Tutorial_Method.gcm	Tutorial_Std001.gcd	1	
2	1	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std002.gcd	1	
3	1	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std003.gcd	1	
4	2	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std004.gcd	2	
5	2	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std005.gcd	2	
6	2	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std006.gcd	2	
7	3	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std007.gcd	3	
8	3	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std008.gcd	3	
9	3	Alcohol Mixture		1:Standard	Tutorial_Method.gcm	Tutorial_Std009.gcd	3	
10	4	Liquor		0:Unknown	Tutorial_Method.gcm	Tutorial_Unk001.gcd	0	
11	5	Whiskey		0:Unknown	Tutorial_Method.gcm	Tutorial_Unk002.gcd	0	

Unknown01  
Unknown02

Continued on the following page



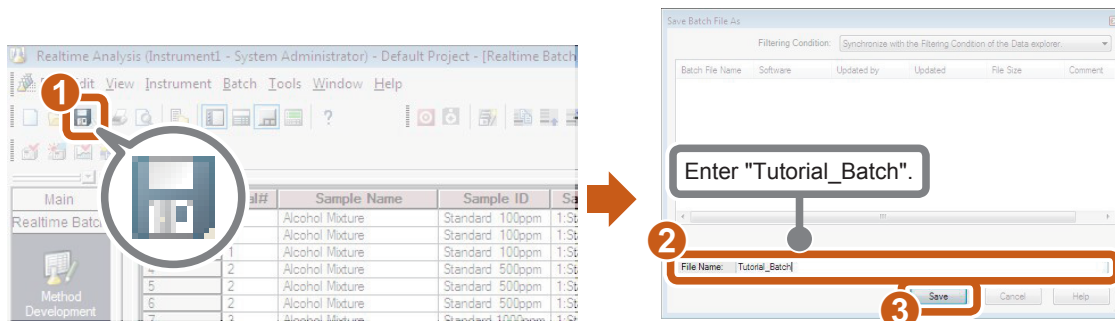
# 6

Directly enter remaining items to the Batch Table to create the Batch Table shown below.

Analysis	Vial#	Sample Name	Sample ID	Sample Type	Method File	Data File	Level#	Report Output	Report Format File	Data Comment
1	1	Alcohol Mixture	Standard 100ppm	1:Standard (0)	Tutorial_Method.gcm	Tutorial_Std001.gcd	1	<input checked="" type="checkbox"/>	PeakReport_1.lsr	
2	1	Alcohol Mixture	Standard 100ppm	1:Standard	Tutorial_Method.gcm	Tutorial_Std002.gcd	1	<input checked="" type="checkbox"/>	PeakReport_1.lsr	
3	1	Alcohol Mixture	Standard 100ppm	1:Standard	Tutorial_Method.gcm	Tutorial_Std003.gcd	1	<input checked="" type="checkbox"/>	PeakReport_1.lsr	
4	2	Alcohol Mixture	Standard 500ppm	1:Standard	Tutorial_Method.gcm	Tutorial_Std004.gcd	2	<input checked="" type="checkbox"/>	PeakReport_1.lsr	
5	2	Alcohol Mixture	Standard 500ppm	1:Standard	Tutorial_Method.gcm	Tutorial_Std005.gcd	2	<input checked="" type="checkbox"/>	PeakReport_1.lsr	
6	2	Alcohol Mixture	Standard 500ppm	1:Standard	Tutorial_Method.gcm	Tutorial_Std006.gcd	2	<input checked="" type="checkbox"/>	PeakReport_1.lsr	
7	3	Alcohol Mixture	Standard 100ppm	1:Standard	Tutorial_Method.gcm	Tutorial_Std007.gcd	3	<input checked="" type="checkbox"/>	PeakReport_1.lsr	
8	3	Alcohol Mixture	Standard 100ppm	1:Standard	Tutorial_Method.gcm	Tutorial_Std008.gcd	3	<input checked="" type="checkbox"/>	PeakReport_1.lsr	
9	3	Alcohol Mixture	Standard 100ppm	1:Standard	Tutorial_Method.gcm	Tutorial_Std009.gcd	3	<input checked="" type="checkbox"/>	PeakReport_1.lsr	
10	4	Liquor	Unknown01	0:Unknown	Tutorial_Method.gcm	Tutorial_Unk001.gcd	0	<input checked="" type="checkbox"/>	PeakReport_1.lsr	
11	5	Whiskey	Unknown02	0:Unknown	Tutorial_Method.gcm	Tutorial_Unk002.gcd	0	<input checked="" type="checkbox"/>	PeakReport_1.lsr	

# 7

Save the batch file.



LabSolutions



# Create Batch Table Using Quick Batch

You can also create a Batch Table using quick batch.

**1** Click the **Quick Batch** button.

**2** Enter the sample information.

**3** Select a sample type and vials.

**4** Click here to add settings to a Batch Table. In this figure, a Batch Table for the standard sample (vial 1) and unknown samples (vial 2-4) is created.

Editor	Vial#	Sample Name	Sample ID	Sample Type	Method File	Data File	Level#	Report Output	Report
1	1	TutorialStandard	001	1 Standard	project1\WGC-2030.gcm	(Auto Filename)	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	2	TutorialSample0	002	0 Unknown	project1\WGC-2030.gcm	(Auto Filename)	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	3	TutorialSample0	003	0 Unknown	project1\WGC-2030.gcm	(Auto Filename)	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	4	TutorialSample0	004	0 Unknown	project1\WGC-2030.gcm	(Auto Filename)	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**5** Start realtime batch.

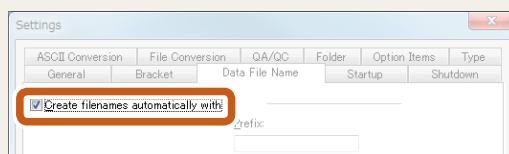


**Reference** Refer to Help for details on operations and the applicable mobile.



When [(Auto Filename)] is displayed in the [Data File Name] field, you cannot directly enter a data file name. To enter a data file name directly, click [Settings] in the [Quick Batch] sub-window.

On the [Data File Name] tab page in the displayed [Settings] sub-window, clear the [Create filenames automatically with] checkbox.



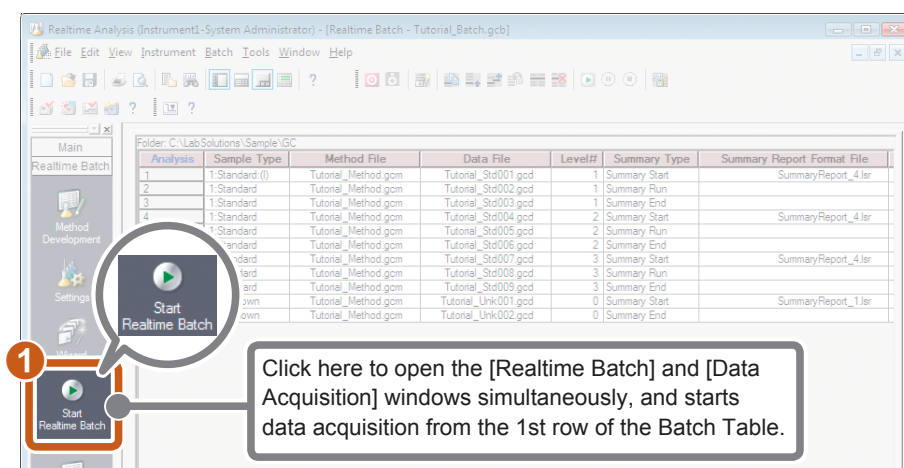
# 5.2 Realtime Batch Processing

Execute realtime batch using the Batch Table you created.

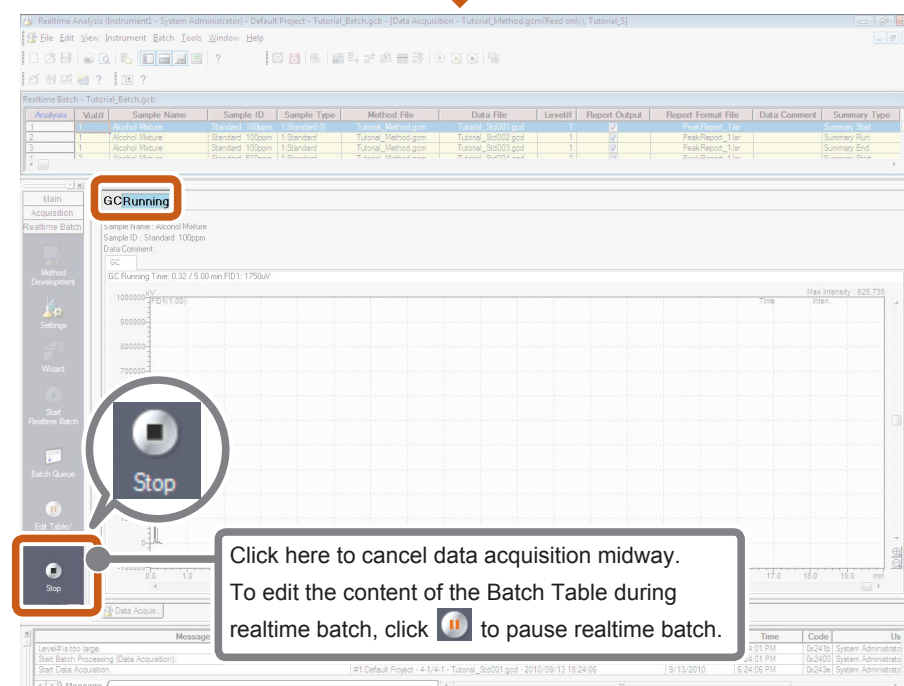
## 1 Place the samples in the autosampler.

Vial 1 (level 1)	Alcohol mixed sample	100 ppm solution (standard solution)
Vial 2 (level 2)	Alcohol mixed sample	500 ppm solution (standard solution)
Vial 3 (level 3)	Alcohol mixed sample	1000 ppm solution (standard solution)
Vial 4	Liquor (unknown sample)	
Vial 5	Whiskey (unknown sample)	

## 2 Start realtime batch processing.



Click here to open the [Realtime Batch] and [Data Acquisition] windows simultaneously, and starts data acquisition from the 1st row of the Batch Table.



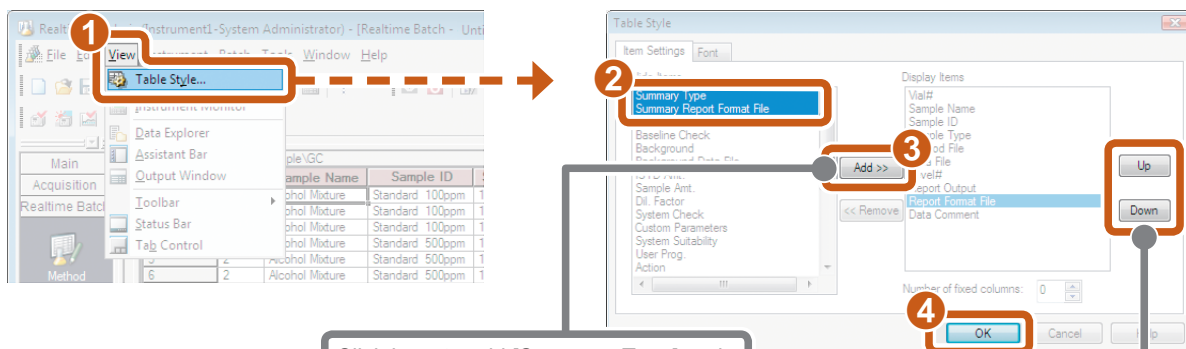
Click here to cancel data acquisition midway. To edit the content of the Batch Table during realtime batch, click [Pause] to pause realtime batch.

LabSolutions



# Print a Summary Report

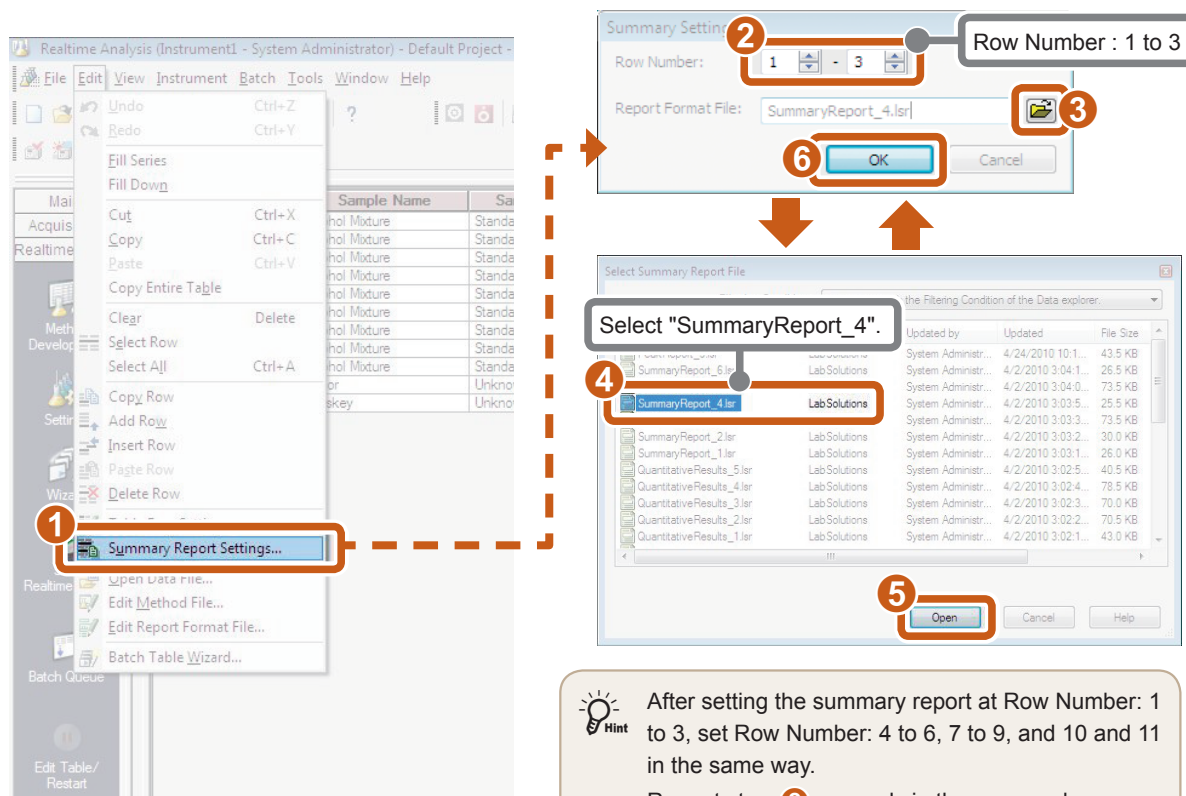
## 1 Add items to display in the Batch Table.



Click here to add [Summary Type] and [Summary Report Format File] to the items to display in the Batch Table.

**Hint** The order of display items in the Batch Table can be changed by clicking [Up] or [Down].

## 2 Set up the summary report.



**Hint** After setting the summary report at Row Number: 1 to 3, set Row Number: 4 to 6, 7 to 9, and 10 and 11 in the same way. Repeat step 2 onwards in the same order.

Continued on the following page

# 3

## Check the output configuration of the summary report.

Analysis	Sample Name	Sample ID	Sample Type	Method File	Data File	Level	Summary Type	Summary Report Format File	Report Output
1	Alcohol Mixture	Standard 100ppm	1-Standard	Tutorial_Method.gcm	Tutorial_Std001.gcd		Summary Start	SummaryReport_4.lsr	<input checked="" type="checkbox"/>
2	Alcohol Mixture	Standard 100ppm	1-Standard	Tutorial_Method.gcm	Tutorial_Std002.gcd		Summary Run		<input checked="" type="checkbox"/>
3	Alcohol Mixture	Standard 100ppm	1-Standard	Tutorial_Method.gcm	Tutorial_Std003.gcd		Summary End		<input checked="" type="checkbox"/>
4	Alcohol Mixture	Standard 500ppm	1-Standard	Tutorial_Method.gcm	Tutorial_Std004.gcd		Summary Start	SummaryReport_4.lsr	<input checked="" type="checkbox"/>
5	Alcohol Mixture	Standard 500ppm	1-Standard	Tutorial_Method.gcm	Tutorial_Std005.gcd		Summary Run		<input checked="" type="checkbox"/>
6	Alcohol Mixture	Standard 500ppm	1-Standard	Tutorial_Method.gcm	Tutorial_Std006.gcd		Summary End		<input checked="" type="checkbox"/>
7	Alcohol Mixture	Standard 1000ppm	1-Standard	Tutorial_Method.gcm	Tutorial_Std007.gcd		Summary Start	SummaryReport_4.lsr	<input checked="" type="checkbox"/>
8	Alcohol Mixture	Standard 1000ppm	1-Standard	Tutorial_Method.gcm	Tutorial_Std008.gcd		Summary Run		<input checked="" type="checkbox"/>
9	Alcohol Mixture	Standard 1000ppm	1-Standard	Tutorial_Method.gcm	Tutorial_Std009.gcd		Summary End		<input checked="" type="checkbox"/>
10	Liquor	Unknown01	0-Unknown	Tutorial_Method.gcm	Tutorial_Unk001.gcd		Summary Start	SummaryReport_1.lsr	<input checked="" type="checkbox"/>
11	Whiskey	Unknown02	0-Unknown	Tutorial_Method.gcm	Tutorial_Unk002.gcd		Summary End		<input checked="" type="checkbox"/>

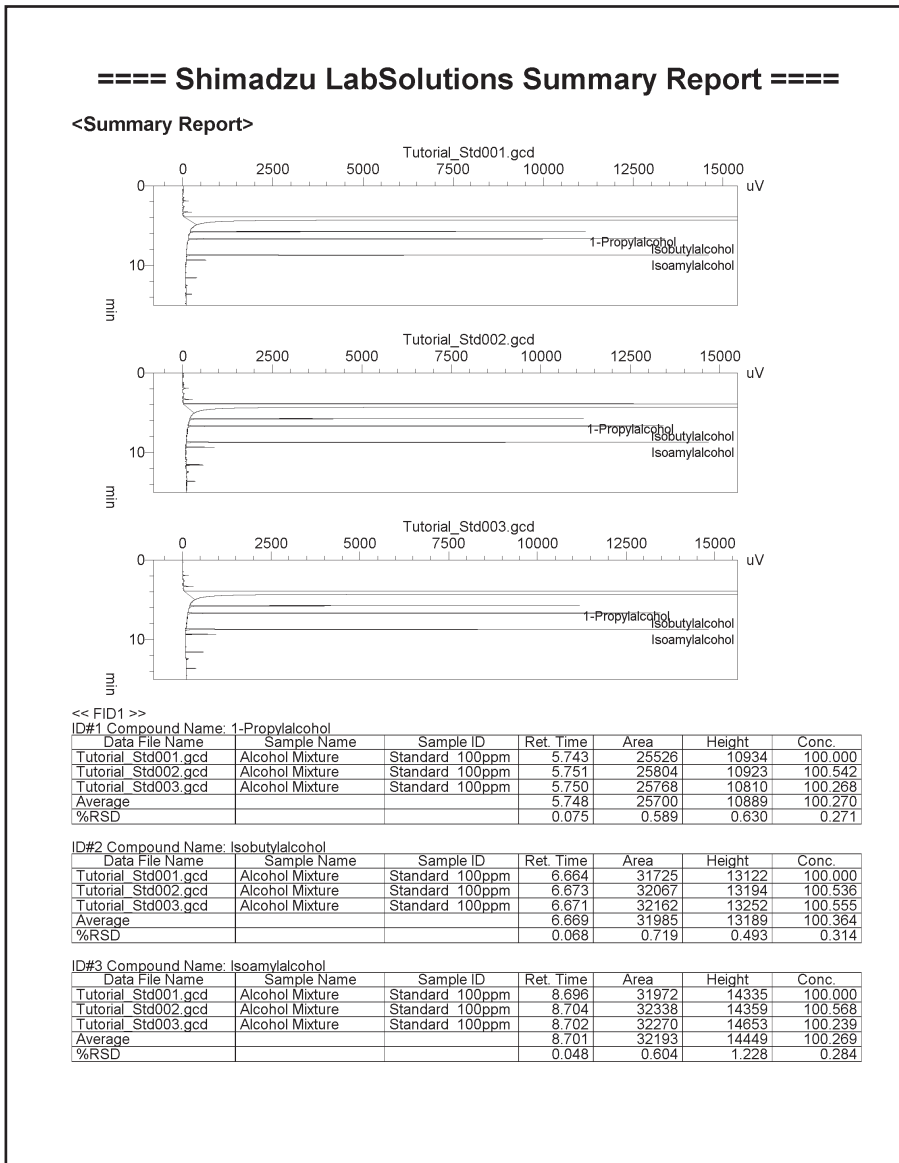
When you have finished the output configuration of the summary report, execute realtime batch to print the summary report.



Reference Refer to "5.2 Realtime Batch Processing" P.40 for details on executing realtime batch.

## [Printout Example]

### Standard samples

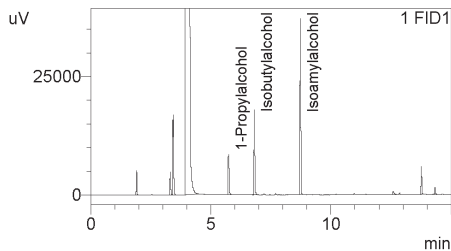


Unknown samples

==== Shimadzu LabSolutions Summary Report ====

Sample Name : Liquor  
 Sample ID : Unknown01  
 Data Filename : Tutorial\_Unk001.gcd  
 Method Filename : Tutorial\_Method.gcm  
 Batch Filename : Tutorial\_Batch.gcb  
 Vial # : 1-4  
 Injection Volume : 1 uL  
 Date Acquired : 4/9/2009 2:33:04 AM  
 Date Processed : 7/13/2010 2:24:41 PM

Sample Type : Unknown  
 Acquired by : System Administrator  
 Processed by : System Administrator

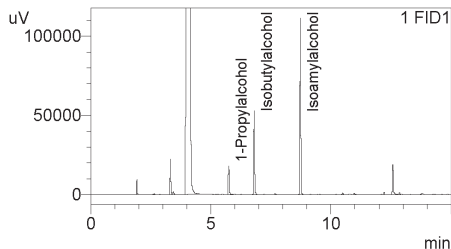


Peak#	Ret. Time	Area	Height	ID#
1	1.900	7737	5018	
2	3.299	10799	4830	
3	3.426	41993	16732	
4	4.080	42735188	8790611	
5	5.733	20659	8448	1
6	6.802	45081	17880	2
7	8.722	90812	36867	3
8	12.596	2747	680	
9	13.766	14329	5873	
10	14.336	3850	1453	
Total		42973196	8888393	

ID#	Name	Conc.	Unit
1	1-Propylalcohol	85.137	ppm
2	Isobutylalcohol	143.676	ppm
3	Isoamylalcohol	277.442	ppm

Sample Name : Whiskey  
 Sample ID : Unknown02  
 Data Filename : Tutorial\_Unk002.gcd  
 Method Filename : Tutorial\_Method.gcm  
 Batch Filename : Tutorial\_Batch.gcb  
 Vial # : 1-5  
 Injection Volume : 1 uL  
 Date Acquired : 4/9/2009 2:54:45 AM  
 Date Processed : 7/13/2010 2:24:42 PM

Sample Type : Unknown  
 Acquired by : System Administrator  
 Processed by : System Administrator



Peak#	Ret. Time	Area	Height	ID#
1	1.908	16371	9651	
2	2.632	1945	989	
3	3.305	49735	22059	
4	3.438	5679	1993	
5	4.118	64884225	11137946	
6	5.742	43193	17713	1
7	6.798	126351	52765	2
8	7.684	1424	666	
9	8.726	263828	110858	3
10	10.489	2765	1054	
11	10.983	2300	893	
12	12.223	2935	1336	
13	12.585	47370	18734	
14	12.869	2493	1116	
15	13.773	1625	623	
Total		65452236	11378396	

ID#	Name	Conc.	Unit
1	1-Propylalcohol	168.318	ppm
2	Isobutylalcohol	394.559	ppm

ID#	Name	Conc.	Unit
3	Isoamylalcohol	791.143	ppm

# Chapter 6

## Multiple Data Analysis

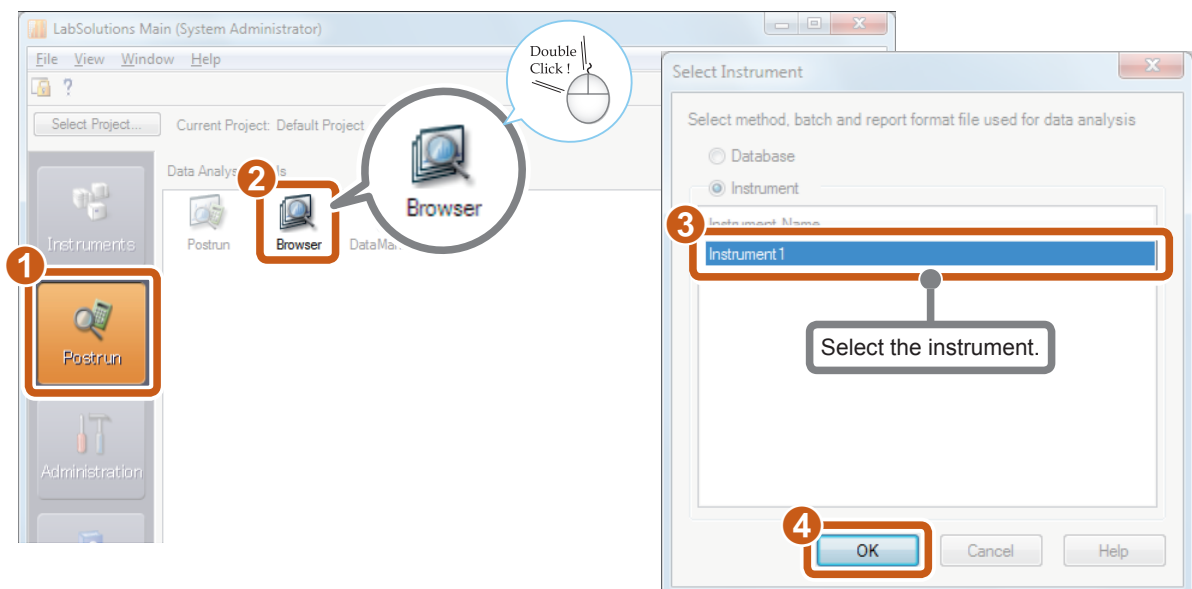
The LabSolutions [Browser] program is handy for checking the quantitative calculation results and chromatograms of multiple data.

In the [Quant Browser] window of the [Browser] program, you can check multiple data, and change the data processing parameters of the currently displayed method file to modify calibration curves and perform postrun batch on multiple data.

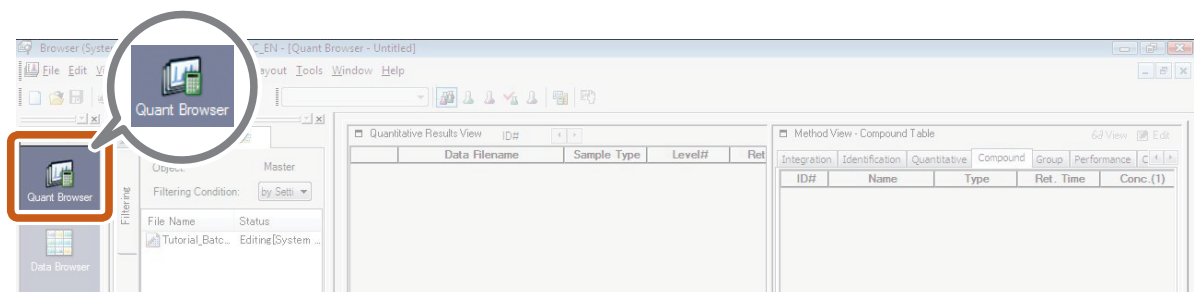


**Reference** Refer to "Quant Browser" chapter in *Operators Guide* for details on the "Quant Browser" window.

### 1 Open the [Browser] program.



### 2 Open the [Quant Browser] window.



Open the [Quant Browser] window.

# 3 Load the batch file.

Drag and drop this file to display the quantitative results data.

Quantitative Results View

Data Filename	Sample Type	Level#	Ret.
---------------	-------------	--------	------

Method View - Compound Table

ID#	Name	Type	Channel	ISTD Group	I
-----	------	------	---------	------------	---

Chromatogram View

Chromatogram Sample Info

Max intensity: 0

Time Inten.

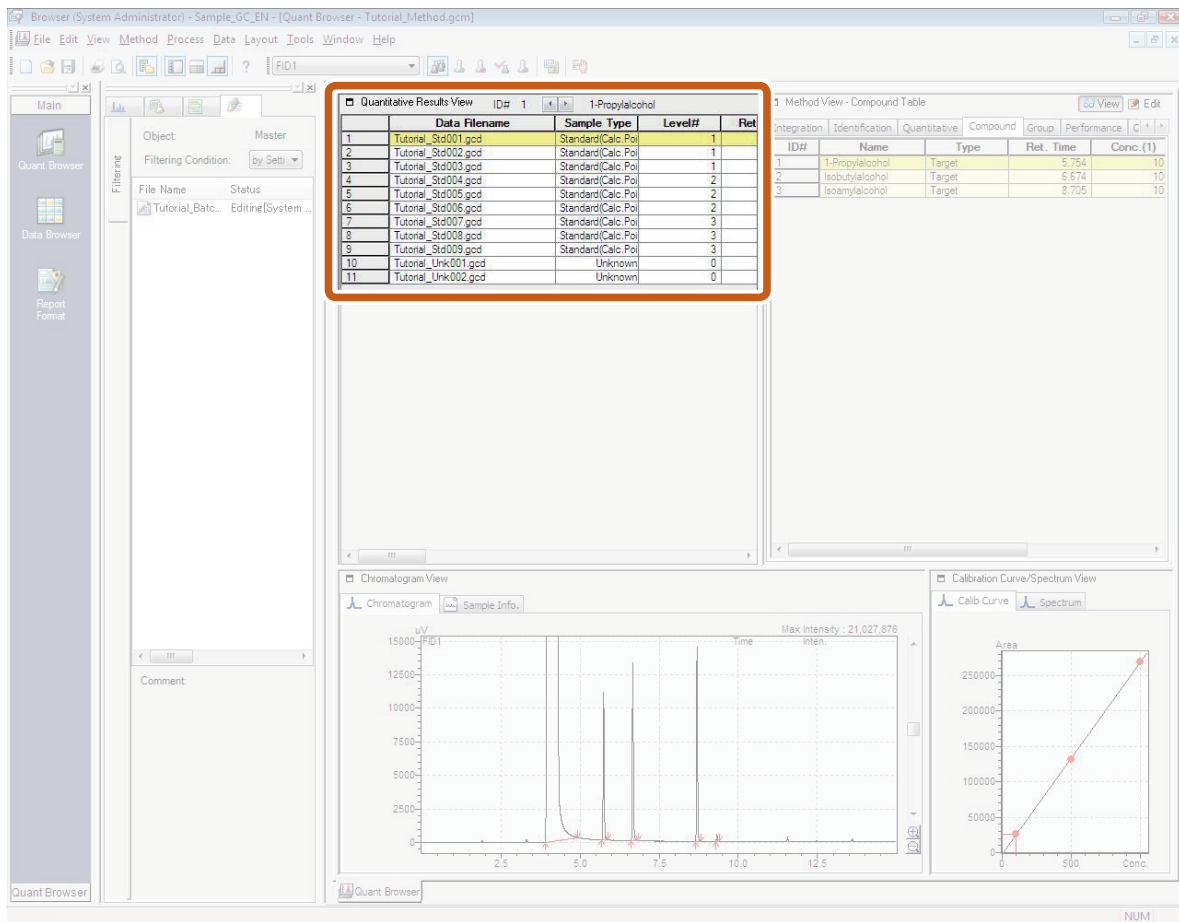
Calibration Curve/Spectrum View

Calb Curve Spectrum

NUM SCRL

Continued on the following page 

# 4 Confirm quantitative results.



LabSolutions



# Modify Calibration Curves

## 1 Confirm peak integration parameters.

Confirm the peak integration parameters when peak detection is inappropriate.

**ZOOM UP**

**1** Edit

**2** Integration

**3** Go View

Click here to perform postrun batch on all data.

Make sure that these values are appropriate.

ID#	Data Filename	Sample Type	Level#	Ret
1	Tutorial_Std001.gcd	Standard/Calc Pol	1	
2	Tutorial_Std002.gcd	Standard/Calc Pol	1	
3	Tutorial_Std003.gcd	Standard/Calc Pol	1	
4	Tutorial_Std004.gcd	Standard/Calc Pol	2	
5	Tutorial_Std005.gcd	Standard/Calc Pol	2	
6	Tutorial_Std006.gcd	Standard/Calc Pol	2	
7	Tutorial_Std007.gcd	Standard/Calc Pol	3	
8	Tutorial_Std008.gcd	Standard/Calc Pol	3	
9	Tutorial_Std009.gcd	Standard/Calc Pol	3	
10	Tutorial_Unk001.gcd	Unknown	3	
11	Tutorial_Unk002.gcd	Unknown	3	

Method View - Peak Integration Parameters

Integration Identification Quantitative Compound Group Performance Custom QC Check Retention Index

Width: 3 sec  
Slope: 1000 uV/min  
Drift: 0 uV/min  
I. DBL: 1000 min  
Min. Area/Height: 1000 counts

Calculated by:  Area  Height

Calibration Curve/Spectrum View

Y = 270.9025X - 2405.050  
R<sup>2</sup> = 0.9998318 r = 0.9999159

Continued on the following page

## 2 Confirm identification parameters.

Confirm the identification parameters and Compound Table when peaks are not identified correctly.

The screenshot displays the 'Method View - Identification Parameters' dialog box. A magnifying glass labeled 'ZOOM UP' points to the 'Window/Band' section. A callout box with the text 'Make sure that these values are appropriate.' points to the 'Window/Band' settings: 'Window/Band: Window', 'Window: 5 %', and 'Default Bandwidth: 0.01 min'. The 'Peak Selection' is set to 'All Peaks'. To the right, a 'Calibration Curve/Spectrum View' shows a linear plot of Area vs. Conc. with the equation  $Y = 270.9025X - 2405.050$  and  $r^2 = 0.999318$ .

Integration	Identification	Quantitative	Compound	Group	Performance
1	Tutorial_Sid001.god	Standard Calc. Poi			
2	Tutorial_Sid002.god	Standard Calc. Poi			
3	Tutorial_Sid003.god	Standard Calc. Poi			
4	Tutorial_Sid004.god	Standard Calc. Poi			
5	Tutorial_Sid005.god	Standard Calc. Poi			
7	Tutorial_Sid006.god	Standard Calc. Poi			
8	Tutorial_Sid007.god	Standard Calc. Poi			
9	Tutorial_Sid008.god	Standard Calc. Poi			
10	Tutorial_Unk001.god	Unknown			
11	Tutorial_Unk002.god	Unknown			

## 3 Confirm the Compound Table.

The screenshot displays the 'Method View - Compound Table' dialog box. A magnifying glass labeled 'ZOOM UP' points to the table. A callout box with the text 'Make sure that these values are appropriate.' points to the 'Conc. (1)' column. To the right, a 'Calibration Curve/Spectrum View' shows a linear plot of Area vs. Conc. with the equation  $Y = 270.9025X - 2405.050$  and  $r^2 = 0.999318$ .

Integration	Identification	Quantitative	Compound	Group	Performance	Custom	QC Check	Retention Index
1	1-Propylalcohol	Target	5.754	100	500	1000		
2	Isobutylalcohol	Target	6.674	100	500	1000		
3	Isobutylalcohol	Target	8.705	100	500	1000		
4		Target	0.001	100	500	1000		

# 4 Confirm calibration points.

The screenshot shows the Quantitative Results View window with a table of results. A callout box labeled 'ZOOM UP' points to the table. Another callout box labeled '1' points to the 'Cal. Point' column in the first row, with a text box stating: 'Make sure that the calibration point on the 1st row is set to '. A third callout box labeled '2' points to the Calibration Curve/Spectrum View window, which displays a graph with the equation  $Y = 270.9025X - 2405.050$  and  $r^2 = 0.9998318$ ,  $r = 0.9999159$ . A text box labeled 'Confirm the calibration curve.' points to the graph.

Data File Name	Sample Type	Level#	Ret
Tutorial_Std001.gcd	Standard/Calc. Poi	1	
Tutorial_Std002.gcd	Standard/Calc. Poi	1	
Tutorial_Std003.gcd	Standard/Calc. Poi	1	
Tutorial_Std004.gcd	Standard/Calc. Poi	2	
Tutorial_Std005.gcd	Standard/Calc. Poi	2	
Tutorial_Std006.gcd	Standard/Calc. Poi	2	
Tutorial_Std007.gcd	Standard/Calc. Poi	3	
Tutorial_Std008.gcd	Standard/Calc. Poi	3	
Tutorial_Std009.gcd	Standard/Calc. Poi	3	
Tutorial_Unk001.gcd	Unknown	0	
Tutorial_Unk002.gcd	Unknown	0	

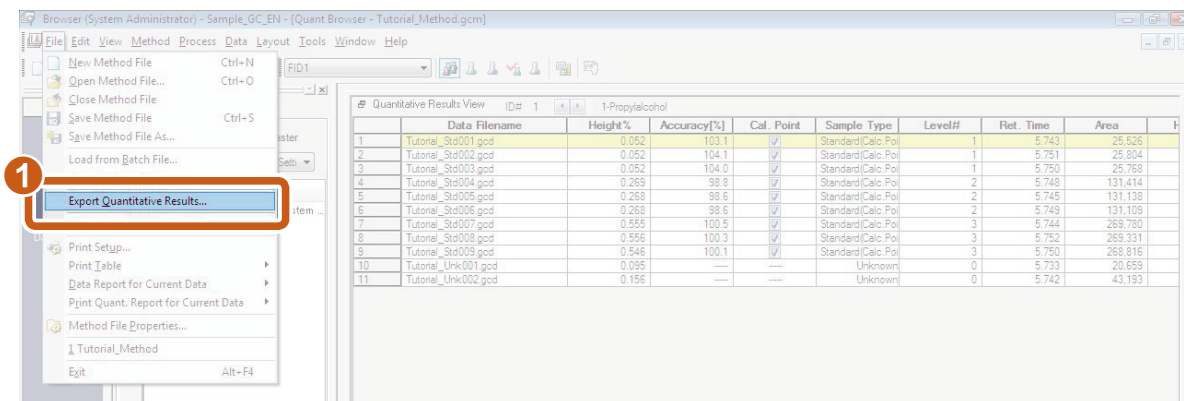
ID#	Name	Type	Ret. Time	Conc. (%)
1	1-Propylalcohol	Target	5.754	10
2	Isobutylalcohol	Target	6.674	10
3	Isomylalcohol	Target	8.705	10
4		Target	0.001	10

# 5 Save the method file and data file.

The screenshot shows the software interface with a save icon (floppy disk) highlighted in the top-left corner of the window. The background shows the same Quantitative Results View and Method View - Compound Table as in the previous step.

# Export Quantitative Calculation Results

This section describes how to save quantitative calculation results as a text file.



Export to

Copy to Clipboard

Output File:

Items to Output

All Items

Items Displayed on the Screen

IDs to Output

All IDs

Designate IDs:

Delimiter

Select [Output File], and enter "QuantitativeResult" as the file name.

Select [Items Displayed on the Screen].

Select [All IDs].

Click here to save the "QuantResult.txt" file in the Sample folder.



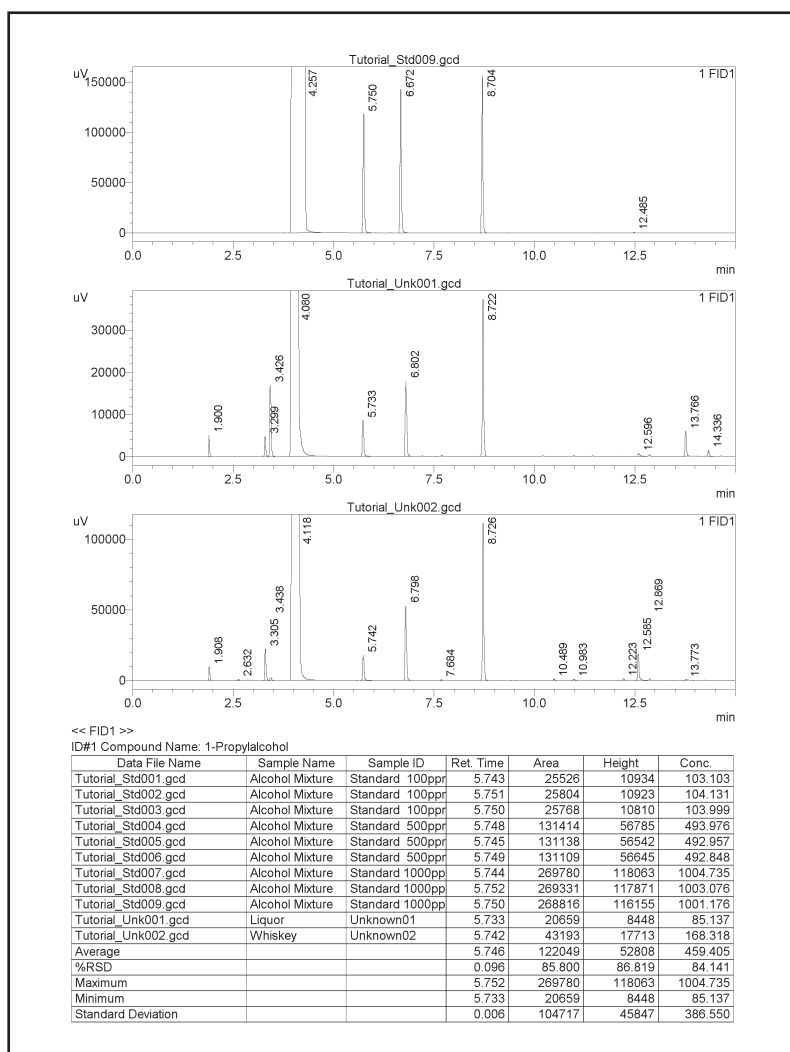
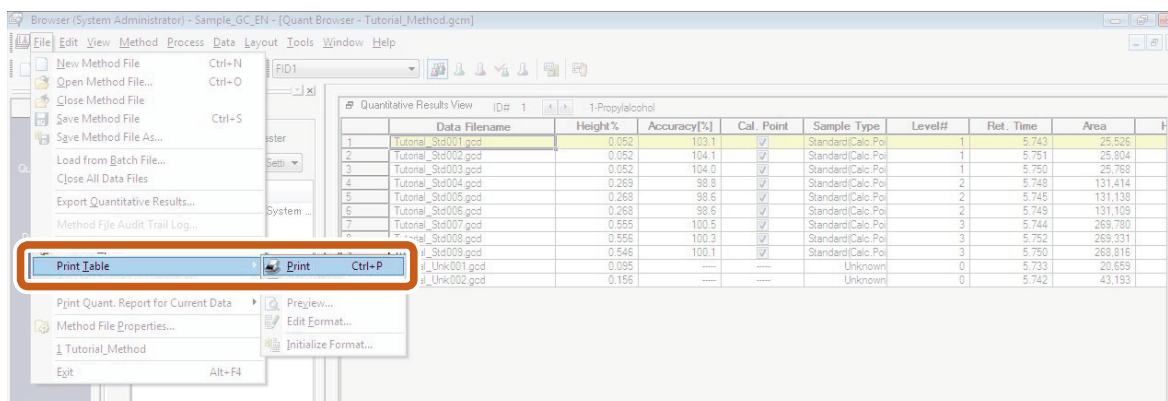
Refer to "Export the Quantitative Results" of the "Quant Browser" chapter in *Operators Guide* for details on exporting quantitative results.

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# Print the Quantitative Results Table

To print a browser report, select [Print] at [Print Table] on the [File] menu.



Select [Edit Format] from [Print Table] on the [File] menu to edit the report format.

# Chapter 7

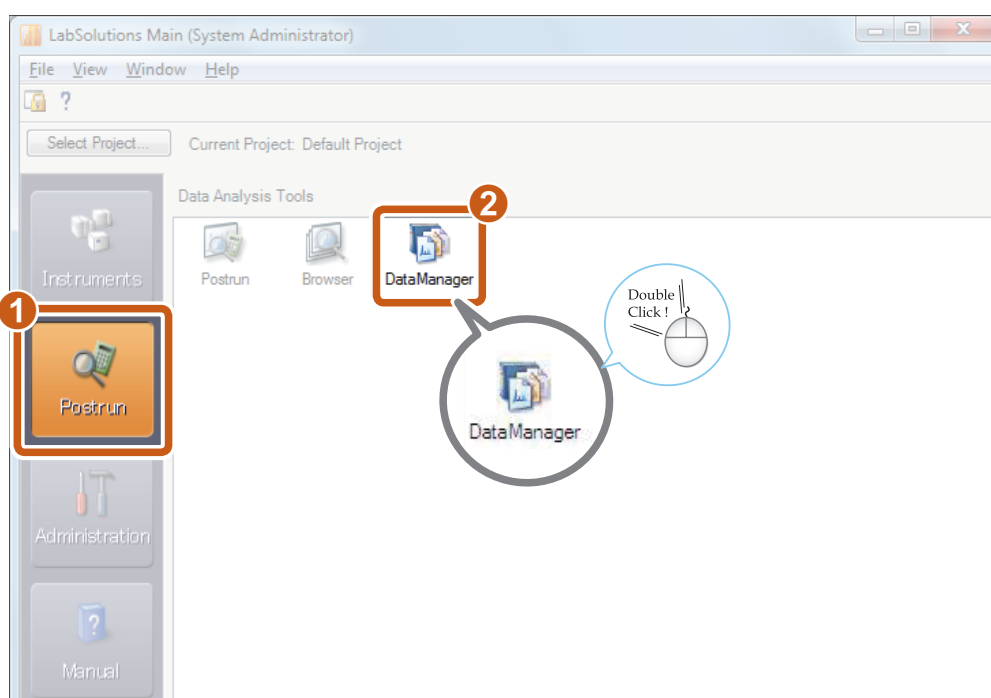
## Data Management

The [DataManager] program in LabSolutions provides a convenient way to filter and view the files used by LabSolutions, which include data files, method files, batch files, and report format files, by specifying filtering conditions, such as the instrument name.



**Reference** Refer to the *System Users Guide* for details on the [DataManager] window.

### 1 Open the [DataManager] program.



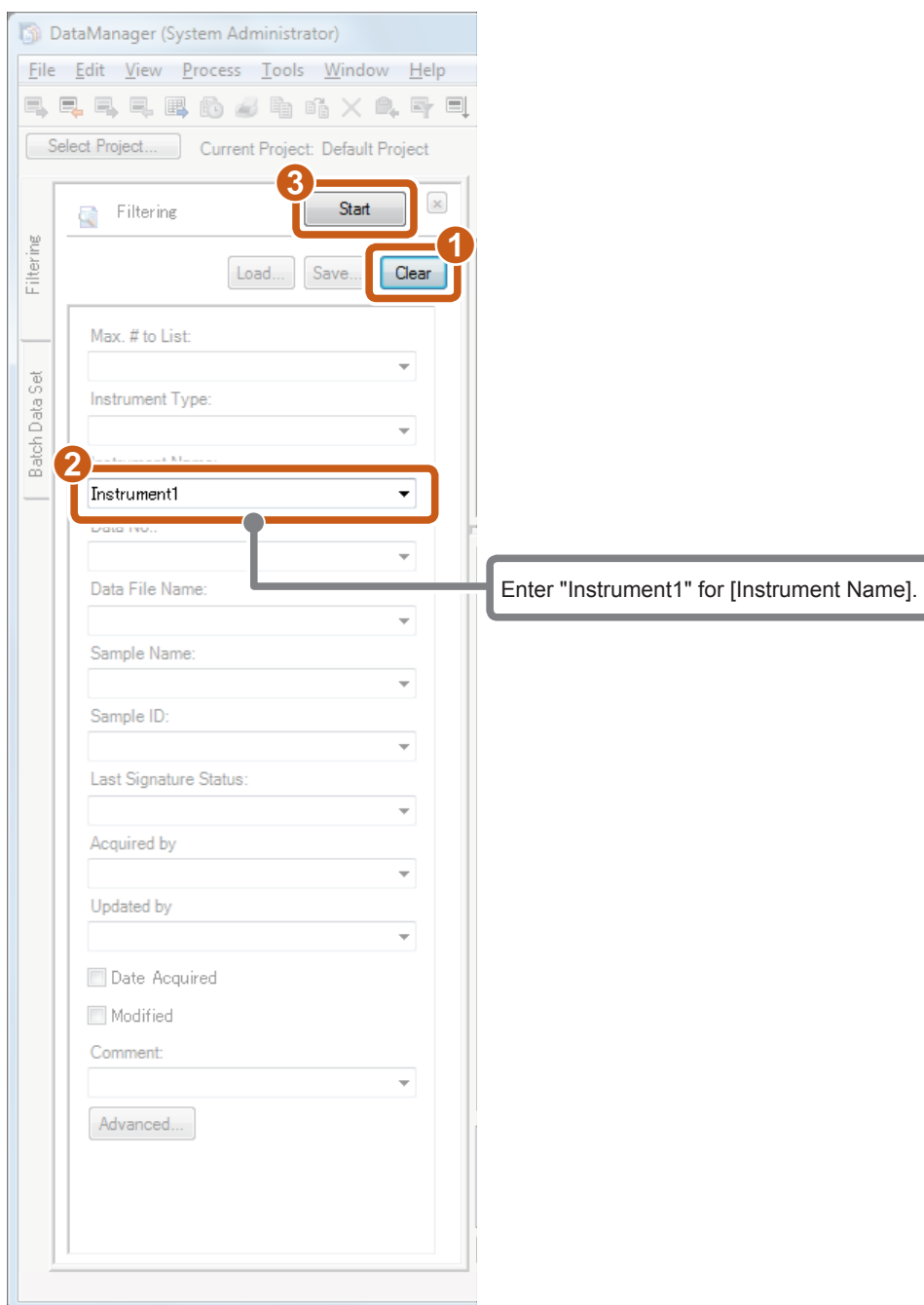
### 2 Select [Data] for [Files of type].



The Data Manager can be used to view information on methods, batches, and report format files.

To view such information, clicking on [Show Method/Batch/Report Format in Database] in the [Tools] menu allows you to select method, batch, or report for [Files of type].

# 3 Filter the data using the [Instrument Name] condition.



The screenshot shows the DataManager (System Administrator) interface. The 'Filtering' section is active, and the 'Instrument1' dropdown is highlighted with a red box and a callout box pointing to it with the text "Enter 'Instrument1' for [Instrument Name].". The 'Start' button is highlighted with a red box and a callout box with the number '3'. The 'Clear' button is highlighted with a red box and a callout box with the number '1'. The 'Max. # to List' dropdown is highlighted with a red box and a callout box with the number '2'.

Continued on the following page 

# 4 Check the filtered data.

Check the filtered data file names.

Data File Name	Data No.	Date Register	Registered by	Date Acquired	Acquired by	Modified	Updated by	Instrument I
Tutorial_Unk002.gcd	16	9/13/2010 65022	System Administr	4/9/2009 25445	System Administr	9/13/2010 65022	System Administr	GC
Tutorial_Unk001.gcd	15	9/13/2010 65021	System Administr	4/9/2009 23304	System Administr	9/13/2010 65020	System Administr	GC
Tutorial_Std009.gcd	14	9/13/2010 65028	System Administr	4/9/2009 21125	System Administr	9/13/2010 65027	System Administr	GC
Tutorial_Std008.gcd	13	9/13/2010 65027	System Administr	4/8/2009 14940	System Administr	9/13/2010 65027	System Administr	GC
Tutorial_Std007.gcd	12	9/13/2010 65026	System Administr	4/9/2009 12758	System Administr	9/13/2010 65026	System Administr	GC
Tutorial_Std006.gcd	11	9/13/2010 65026	System Administr	4/9/2009 10617	System Administr	9/13/2010 65026	System Administr	GC
Tutorial_Std005.gcd	10	9/13/2010 65025	System Administr	4/9/2009 124432	System Administr	9/13/2010 65025	System Administr	GC
Tutorial_Std004.gcd	9	9/13/2010 65025	System Administr	4/9/2009 122252	System Administr	9/13/2010 65024	System Administr	GC
Tutorial_Std003.gcd	8	9/13/2010 65024	System Administr	4/8/2009 120109	System Administr	9/13/2010 65024	System Administr	GC
Tutorial_Std002.gcd	7	9/13/2010 65023	System Administr	4/8/2009 113926	System Administr	9/13/2010 65023	System Administr	GC
Tutorial_Std001.gcd	6	9/13/2010 65023	System Administr	4/8/2009 111635	System Administr	9/13/2010 65023	System Administr	GC

# 5 Check the information of the selected data.

Click on "Tutorial\_Std002.gcd".

1

Check the information contained in the data.

ZOOM UP

GC	Detector	Channel/W	Line	Peak#	ID#	Retention	Relative R	Concentra	Unit	Area	Height	Peak Start	Peak End
1	FID1	FID1	1	1	1	4.261		0.000		215182424	20938578	3.902	5.054
2	FID1	FID1	1	2	1	5.751		104.131	ppm	2694	1823	5.689	5.960
3	FID1	FID1	1	3	2	6.673		103.501	ppm	32067	13194	6.608	6.814
4	FID1	FID1	1	4	3	8.704		103.827	ppm	32338	14359	8.634	8.844
5	FID1	FID1	1	5	3	9.329		0.000		1518	773	9.282	9.404

# 6 Display the PDF result file for the data file.

The screenshot shows the DataManager (System Administrator) interface. The main window displays a list of data files with columns: Register, Registered by, Date Acquired, Acquired by, Modified, Updated by, and Instrument T. The file 'Tutorial\_Std002.gcd' is highlighted, and a callout labeled '1' points to it with the text 'Click on "Tutorial\_Std002.gcd".' Below the file list is a chromatogram (GC) with columns: Detector, Channel/W, Line, Peak#, ID#, Retention, Relative R, Concentra, Unit, Area, Height, Peak Start, and Peak End. The file explorer at the bottom shows 'Tutorial\_Std002.pdf' highlighted, with a callout labeled '2' pointing to it and the text 'Double-click on "Tutorial\_Std002.pdf".'

Register	Registered by	Date Acquired	Acquired by	Modified	Updated by	Instrument T
10 65022	System Administr	4/9/2009 254:45	System Administr	9/13/2010 650:22	System Administr	GC
2	Tutorial_Std001.gcd	9/13/2010 650:21	System Administr	4/9/2009 233:04	System Administr	GC
3	Tutorial_Std002.gcd	9/13/2010 650:23	System Administr	4/9/2009 211:25	System Administr	GC
4	Tutorial_Std003.gcd	9/13/2010 650:27	System Administr	4/9/2009 149:40	System Administr	GC
5	Tutorial_Std004.gcd	9/13/2010 650:26	System Administr	4/9/2009 127:88	System Administr	GC
6	Tutorial_Std005.gcd	9/13/2010 650:26	System Administr	4/9/2009 106:17	System Administr	GC
7	Tutorial_Std006.gcd	9/13/2010 650:25	System Administr	4/9/2009 1244:32	System Administr	GC
8	Tutorial_Std007.gcd	9/13/2010 650:25	System Administr	4/9/2009 122:52	System Administr	GC
9	Tutorial_Std008.gcd	9/13/2010 650:24	System Administr	4/9/2009 1220:09	System Administr	GC
10	Tutorial_Std009.gcd	9/13/2010 650:24	System Administr	4/9/2009 1139:26	System Administr	GC
11	Tutorial_Std010.gcd	9/13/2010 650:23	System Administr	4/8/2009 1116:36	System Administr	GC

Detector	Channel/W	Line	Peak#	ID#	Retention	Relative R	Concentra	Unit	Area	Height	Peak Start	Peak End
1	FID1	FID1	1	2	4.261		0.000		215192424	20998578	3.902	6.054
2	FID1	FID1	1	2	5.751		104.131	ppm	25604	10923	5.689	5.960
3	FID1	FID1	1	3	6.673		103.501	ppm	32067	13194	6.508	6.814
4	FID1	FID1	1	4	8.704		103.927	ppm	32338	14369	8.604	8.844
5	FID1	FID1	1	5	9.329		0.000		1518	773	9.282	9.404

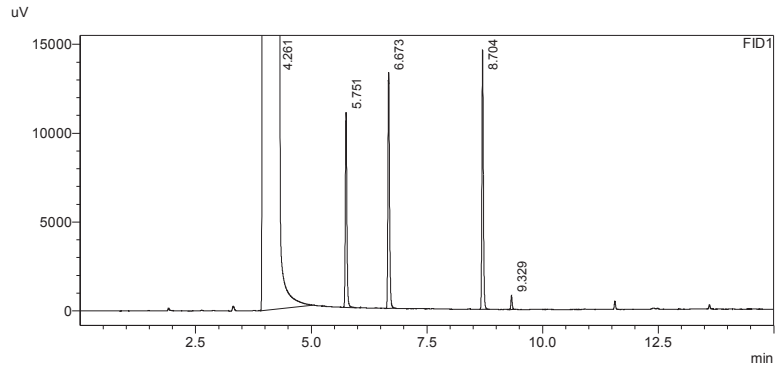


# Analysis Report

**<Sample Information>**

Sample Name	: Alcohol Mixture	Sample Type	: Standard
Sample ID	: Standard_100ppm	Level	: 1
Data Filename	: Tutorial_Std002.gcd	Acquired by	: System Administrator
Method Filename	: Tutorial_Method.gcm	Processed by	: System Administrator
Batch Filename	: Tutorial_Batch.gcb		
Vial #	: 1-1		
Injection Volume	: 1 uL		
Date Acquired	: 4/8/2009 11:39:26 PM		
Date Processed	: 9/13/2010 6:53:14 PM		

**<Chromatogram>**



**<Peak Table>**

Peak#	Ret. Time	Area	Height	Conc.	Unit	Mark	Name
1	4.261	215182424	20938578	0.000			
2	5.751	25804	10923	104.131	ppm		1-Propylalcohol
3	6.673	32067	13194	103.501	ppm		Isobutylalcohol
4	8.704	32338	14359	103.827	ppm		Isoamylalcohol
5	9.329	1518	773	0.000			
Total		215274151	20977827				

Sample\_GC\_EN - 0-1/0-7 - Tutorial\_Std002.gcd

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## Open the [Postrun Analysis] Program.

The procedure for opening the [Postrun Analysis] program from the Data Manager is described below.

Select "Tutorial\_Std002.gcd", right-click on the file name, and then click [Open with Related Application].

Registered by	Date Acquired	Acquired by	Modified	Updated by	Instrument
System Administr	4/8/2009 2:44:46	System Administr	9/13/2010 6:50:23	System Administr	GC
System Administr	4/9/2009 2:33:04	System Administr	9/13/2010 6:50:20	System Administr	GC
System Administr	4/9/2009 2:11:25	System Administr	9/13/2010 6:50:27	System Administr	GC
System Administr	4/9/2009 1:49:40	System Administr	9/13/2010 6:50:27	System Administr	GC
System Administr	4/9/2009 1:27:58	System Administr	9/13/2010 6:50:26	System Administr	GC
System Administr	4/9/2009 1:06:17	System Administr	9/13/2010 6:50:26	System Administr	GC
System Administr	4/9/2009 1:24:43	System Administr	9/13/2010 6:50:25	System Administr	GC
System Administr	4/9/2009 1:22:52	System Administr	9/13/2010 6:50:24	System Administr	GC
System Administr	4/9/2009 1:20:09	System Administr	9/13/2010 6:50:24	System Administr	GC
System Administr	4/8/2009 11:39:26	System Administr	9/13/2010 6:53:17	System Administr	GC
System Administr	4/8/2009 11:16:35	System Administr	9/13/2010 6:50:23	System Administr	GC



The [Postrun Analysis] program opens.

Peak#	Ret. Time	Area	Height	Mark	Co
1	4.261	215182424	20938578		
2	5.751	25804	13923		
3	6.673	32367	13194		
4	8.704	32338	14359		
5	9.329	1518	773		
Total		215274151	2097827		

# Chapter 8 ShutDown

Last of all, this chapter describes how to exit LabSolutions.

## 1 Stop the GC.

The screenshot displays the LabSolutions software interface. The main window is titled "GCReady" and shows a chromatogram with a y-axis labeled "uV" (0 to 15000) and an x-axis labeled "Time" (0.0 to 17.5 min). The chromatogram shows several peaks, with the highest peak at approximately 8.5 minutes. The status bar at the top indicates "GC Running Time: 15.73 / 15.00 min DET1: -14uV".

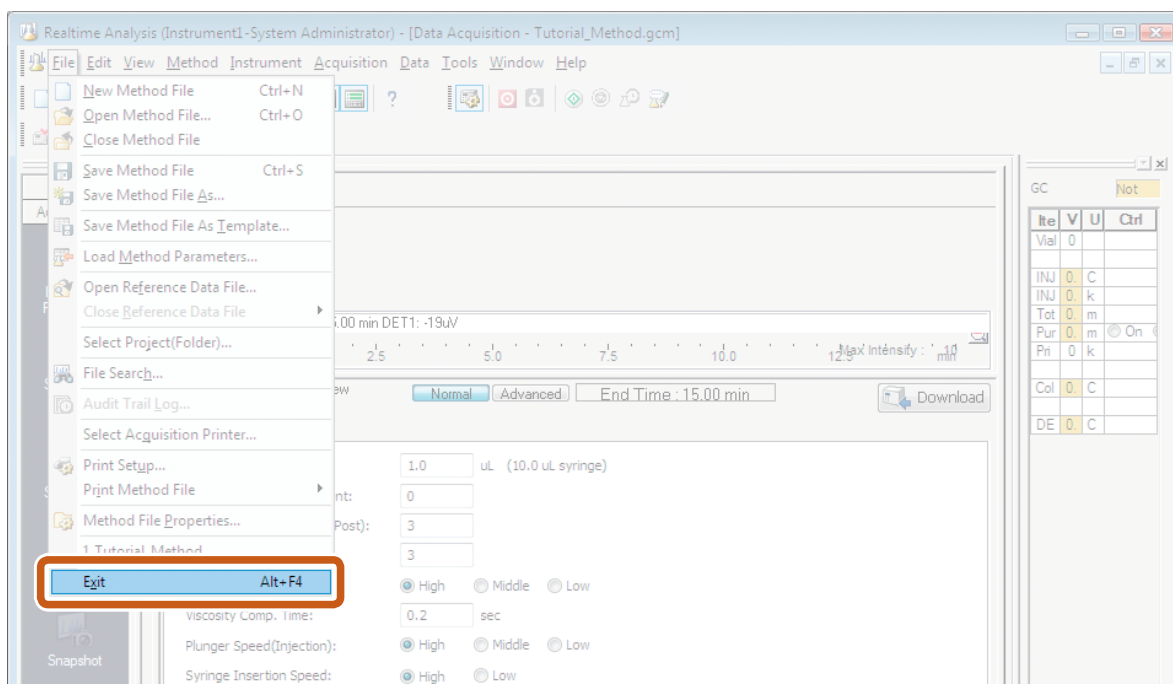
On the left side, there is a vertical toolbar with several icons. The "System Off" icon, which is a red square with a white circle and a red dot, is highlighted with a red box. A callout bubble points to this icon with the text "System Off".

On the right side, there is a "GC" control panel with a "Ready" status. It contains a table with the following data:

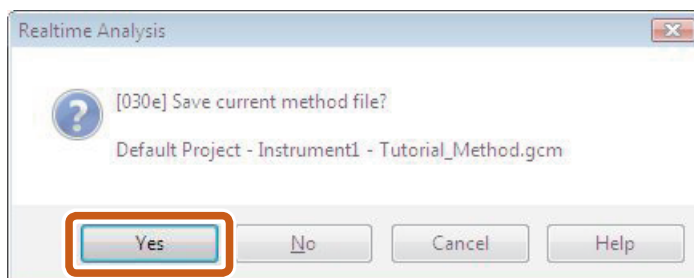
Item	Val	Unit	Ctrl
Vial#	0		
INJ1 T	0.0	C	
INJ1 Pr	0.0	kPa	
Total Fl	0.0	mL/	
Purge	0.0	mL/	<input type="radio"/> On <input checked="" type="radio"/> Off
Primary	0	kPa	
Column	0.0	C	
DET1	0.0	C	

At the bottom of the window, the status bar shows "C: 116GB Free" and "NUM".

## 2 Select [Exit] when the oven has cooled down.



## 3 Click [Yes].



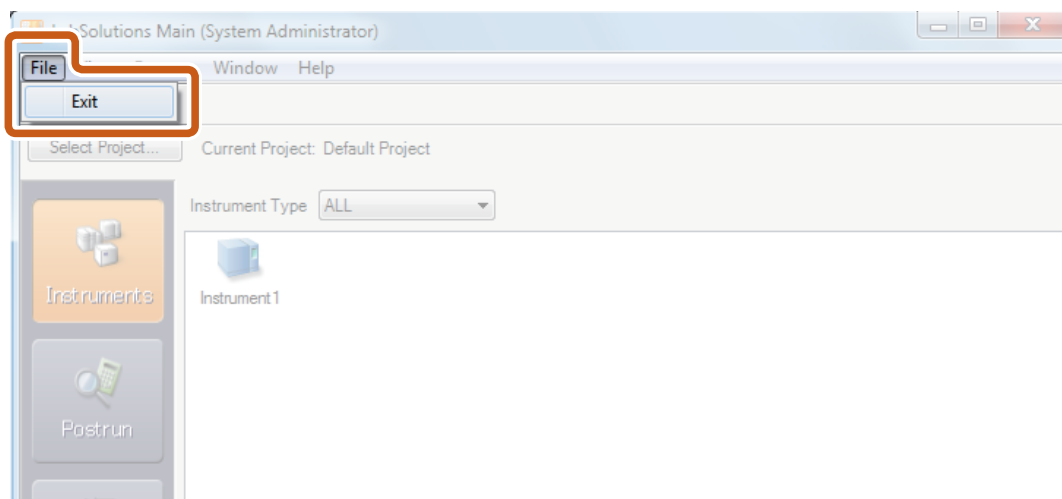
When there is a file that has not yet been saved, a window to confirm whether or not to save the file when exiting the [Realtime Analysis] program opens.

Continued on the following page 

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## 4 Exit LabSolutions.

If the [Postrun Analysis] program or [Browser] program is open, click [Exit] on the [File] menu of each program to exit the respective program.



---

5 Shutdown Windows, and turn the PC and printer off.

---

6 Turn the GC and peripheral devices off.

---

7 Close the main valve of the carrier gas and other gases.