223-60676
Jan. 2014

Shimadzu High Performance Liquid Chromatography

LabSolutions GPC

Notice before using

Read this manual thoroughly before you use the product.
Keep this manual for future reference.

This page is intentionally left blank.

Introduction

Read this document and Instruction Manual thoroughly before using this software.

Thank you for purchasing this product.

This document describes how to update LabSolutions for using LabSolutions GPC, how to convert data, considerations for GPC specifications, etc. Read this document thoroughly before using the product and operate the product in accordance with the instructions in this manual.

LabSolutions GPC operates on Window 7. Other PC hardware requirements conform to those for LabSolutions.

This document assumes that the user is familiar with the basic operations of Windows. For information on how to operate Windows, refer to the documentation provided with the relevant product.

Keep this document for future reference.

IMPORTANT

- If the user or usage location changes, ensure that this document is always kept together with the product.
- If this document and the instruction manual are lost or damaged, immediately contact your Shimadzu representative to request a replacement.
- To ensure safe operation, contact your Shimadzu representative if product installation, adjustment, re-installation (after the product is moved), or repair is required.

Notice

- Information in this document is subject to change without notice and does not represent a commitment on the part of the vendor.
- Any errors or omissions which may have occurred in this document despite the utmost care taken in its production will be corrected as soon as possible, although not necessarily immediately after detection.
- The copyright of this document is owned by Shimadzu Corporation. Reprinting or reproduction of any or all of the contents without the permission of Shimadzu Corporation is prohibited.
- The contents of the personal computer's hard disk may be lost as a result of an unforeseen accident. Always create a backup to protect critical data from unexpected accidents.
- Microsoft, Windows, and Windows 7 are registered trademarks of Microsoft Corporation in the United States and/or other countries.
Adobe, the Adobe logo, and Adobe Reader are trademarks or registered trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Other company names and product names mentioned in this document are trademarks or registered trademarks of their respective companies. The TM and ® symbols are omitted in this manual.

- LabSolutions is a registered trademark of Shimadzu Corporation in the United States and Europe (Office for Harmonization in the Internal Market).

© 2014 Shimadzu Corporation. All rights reserved.
Original version is approved in English.

Indication

The following symbols are used in this manual.

Indication	Meaning
NOTE	Emphasizes additional information that is provided to ensure the proper use of this product.
Reference	Indicates the location of related reference information.

Contents

6 Procedure for Analyzing Data from Third-Party Workstations

1 Updating LabSolutions

Update LabSolutions to version 5.63 or later to use LabSolutions GPC software (or version 6.22 or later to use LabSolutions DB/LabSolutions CS).

1.1 Uninstalling LabSolutions

Before installing the updated version of LabSolutions, uninstall the previous version of LabSolutions by performing the following steps.

> NOTE
> - If you perform the uninstallation using a different method than these steps, depending on the version of your software, previous settings or the like may be initialized or deleted.
> - It is recommended that you back up data files and method files before uninstalling LabSolutions.

1 **Open [Programs and Features] from the Control Panel.**

2 **Double-click [SkyPDF Pro].**

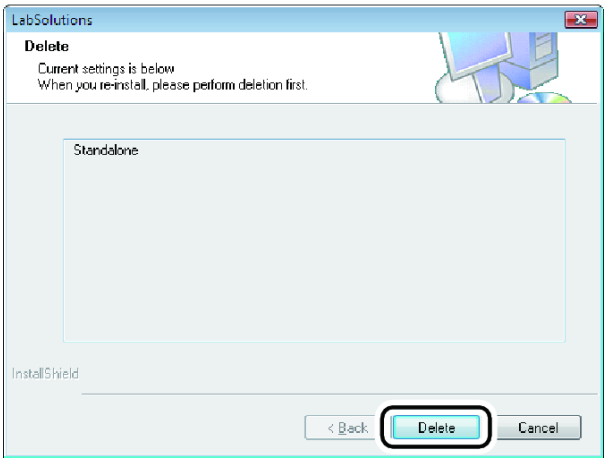
Click [Delete] to start uninstalling SkyPDF Pro.

> NOTE Before uninstalling LabSolutions, SkyPDF Pro should be uninstalled.

3 **Double-click [LabSolutions].**

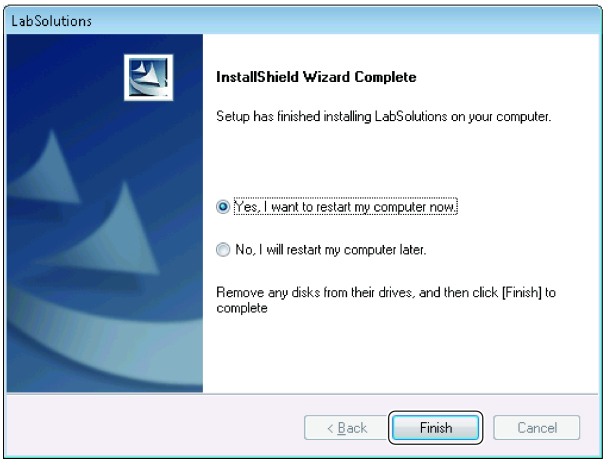
Click [Delete].

4 **Confirm what you are deleting and click [Delete].**



Uninstallation will start.
After the uninstallation has been completed, the [InstallShield Wizard Complete] screen will open.

5 Click [Finish].



Windows will restart.

> **NOTE** Some versions of LabSolutions may not prompt for a restart.

Uninstallation is now completed.

1.2 Installing LabSolutions

Install LabSolutions by performing the following steps.

NOTE

- If you perform the installation using a different method than these steps, depending on the version of the software, previous settings or the like may not be carried over.
- This software operates on Windows 7. Check that your PC has the proper OS.
- Remove the USB dongle license key from your PC.

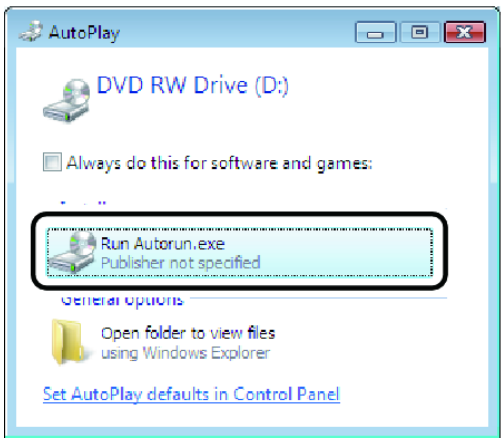
1 Power on your PC. When Windows boots, insert the installation disk for this software in the disk drive.

NOTE If the [LabSolutions Installer] screen does not automatically start, start it through the following steps. This is a settings sample with the disk drive as the E drive. In the place of "E", enter the drive letter of the disk drive for your PC.

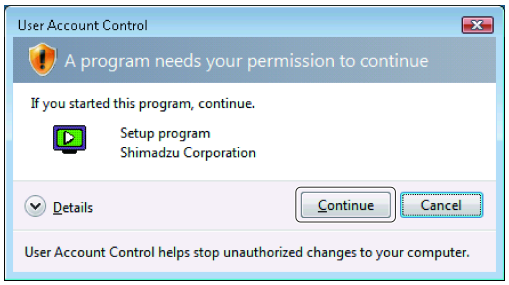
1 Click the  (Start) menu.

2 Enter "E:\autorun.exe", and press the "Enter" key.

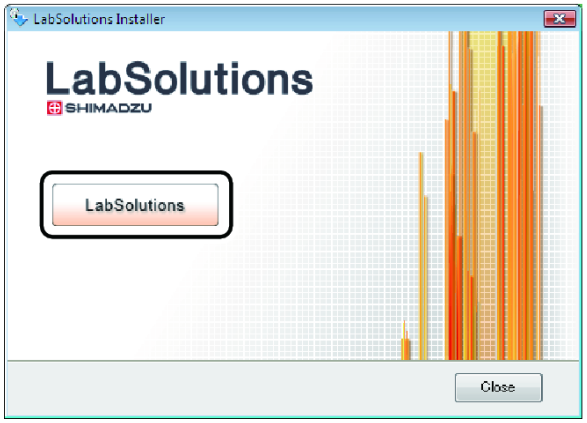
3 If the [AutoPlay] screen is displayed, click [Run Autorun.exe].



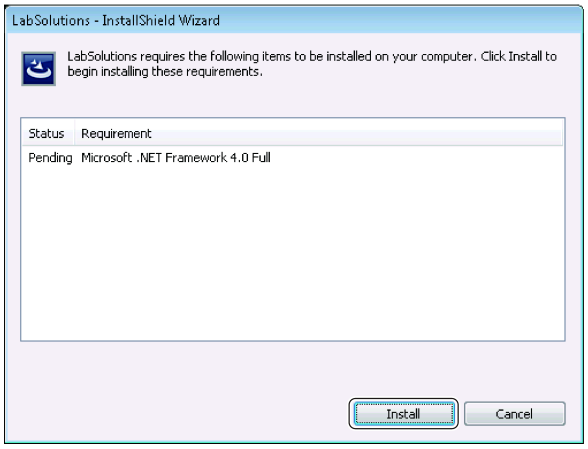
4 If the [User Account Control] screen is displayed, click [Continue].



2 Click [LabSolutions].

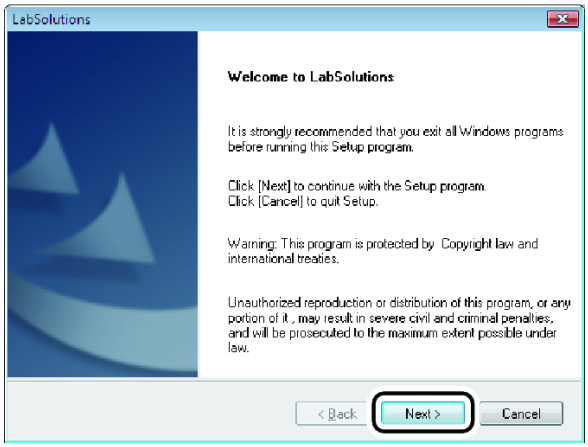


3 Click [Install].

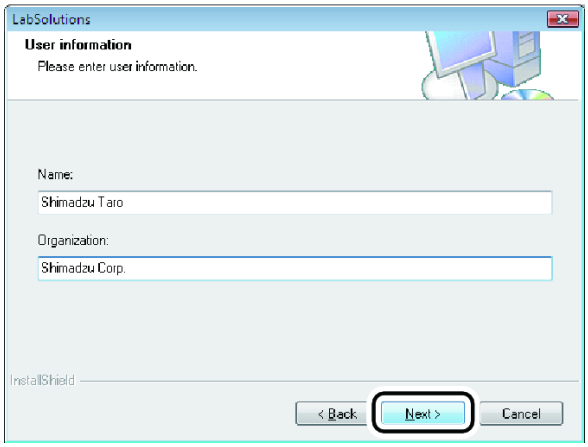


NOTE This is not displayed when Microsoft .NET Framework 4.0 is installed.

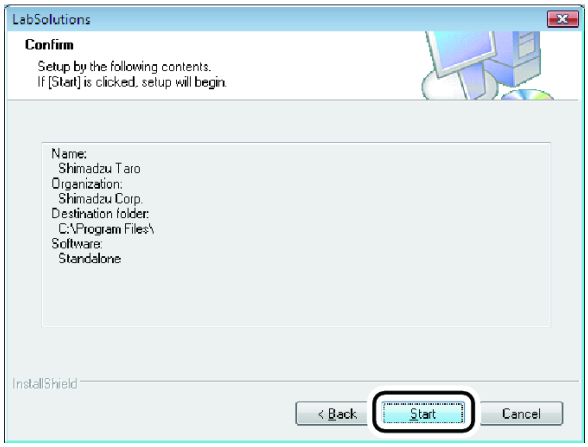
4 Confirm the precautions and click [Next].



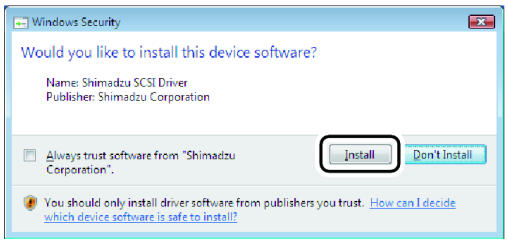
5 Enter [Name] and [Organization], and click [Next].



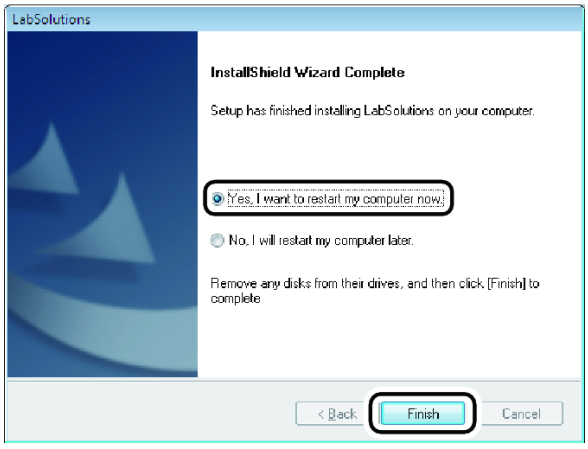
6 Confirm the settings and click [Start].



NOTE For Windows 7 (32 bit), the [Windows Security] screen opens. Click [Install].



7 Select [Yes, I want to restart my computer now.] and click [Finish].



The update is now completed.

After restarting, insert the USB dongle license key into the PC, and start LabSolutions.

NOTE
- If using LCsolution GPC, upgrade LCsolution to LabSolutions, and use LabSolutions GPC.
- LabSolutions GPC can read LCsolution GPC method files, data files, and report format files as they are.

2 Transitioning from CLASS-LC10/CLASS-VP

This section describes the procedure for converting the files used for CLASS-LC10/CLASS-VP GPC into the LabSolutions format.

The flow of conversion is as follows.

Convert CLASS-LC10 method files, CLASS-VP method files, CLASS-LC10 data files, and CLASS-VP data files into the LabSolutions format.

⬇

Import CLASS-LC10/CLASS-VP GPC method files (hereafter referred to as "CLASS GPC method files") to the converted method files.

⬇

Use the converted method files and data files to perform recalculation in LabSolutions GPC.

NOTE You cannot convert data files (*.P??) for CLASS-LC10/CLASS-VP GPC software directly into the LabSolutions format. You can obtain the GPC calculation results by converting the method files and data files into the LabSolutions format and then using the LabSolutions GPC software to recalculate.

- If transitioning from CLASS-LC10 GPC software

Reference "2.1 Transitioning from CLASS-LC10 GPC Software" P.8

- If transitioning from CLASS-VP GPC software

NOTE
- To convert CLASS-VP data, you should have not only LabSolutions installed but also CLASS-VP Ver. 5.04 or later, or Ver. 6.12 or later.
- To convert PDA data, you should have not only LabSolutions installed but also CLASS-VP Ver. 5.05 or later, or Ver. 6.13 or later.

(Installation is not necessary if you are using data that has already been converted.)

Reference "2.2 Transitioning from CLASS-VP GPC Software" P.14

- File list

File Type	Extension
CLASS-LC10 Method Files	*.M??
CLASS-LC10 Data Files	*.C??, *.D??
CLASS-VP Method Files	*.met
CLASS-VP Data Files	*.dat and others
CLASS-GPC Method Files	*.GMT
CLASS-LC10/CLASS-VP GPC Data Files	*.P??

2.1 Transitioning from CLASS-LC10 GPC Software

2.1.1 Converting into the LabSolutions Format

Convert the CLASS-LC10 method files (*.M??) and data files (*.C??, *.D??) into the LabSolutions format.

NOTE You can convert CLASS-LC10 method and data files via the file menu, too.

Reference "2.1.4 Other Operations" P.12

1 **Start LabSolutions.**

The [LabSolutions Main] window opens.

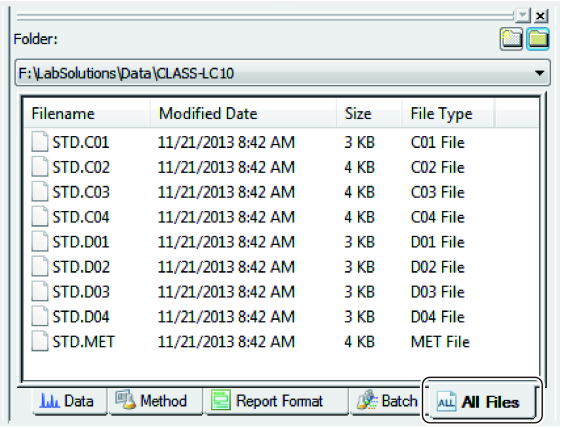
2 **Click** 

(Postrun).

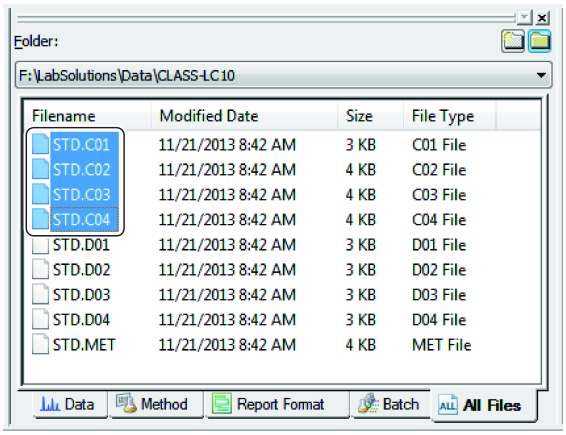
3 **Double-click**  **(GPC Postrun).**

The [GPC Postrun Analisys] program starts.

4 **Click the [All Files] tab in the [Data Explorer] screen.**



5 Select a CLASS-LC10 data file or files (*.C??, *.D??).



- For data files (*.D??)
  Conversions including methods and calculation results can be performed. A calculation data file, a chromatogram data file, and the method files linked to these data files can be converted into the LabSolutions format. For example, you may wish to convert the calculation data file "LC10DATA.D01", the chromatogram data file "LC10DATA.C01", and the method file ("LC10DATA.M01" in the Auto Save mode) linked to those data files into the LabSolutions format.

> **NOTE** File conversions including methods and calculation results can be performed only when a D-file, C-file, and M-file are present as a set.

- For method files that use the UV detector in the dual mode
  When converting method files that use the UV detector (e.g. SPD-10A) in the dual mode, the data processing parameters of Ch1/Ch2 are converted to the parameters of detector A/detector B in LabSolutions. To use the converted method file in the dual mode in LabSolutions, set the method file by following the procedure below.

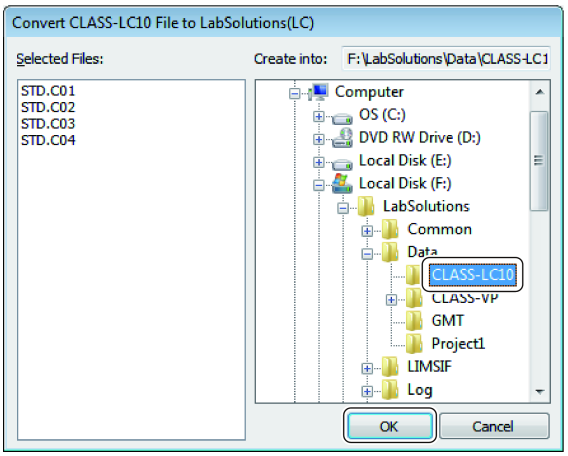
1. From the [Reatime Analysis] program, open the converted method file.
   If a message saying, "The system configuration for this method is different from the current instrument configuration. Are you sure you want to adapt the configuration in the method to the current instrument configuration?" appears, click [Cancel].
2. From the [Instrument] menu, click [System Configuration].
3. From the properties for detector A, select [Dual Mode On] and click [OK].
4. In the [System Configuration] screen, click [OK].
5. From the [Method] menu, click [Data Processing Parameters (Detector B)].
   Copy the contents of the [Integration] tab and the contents of the compound table in the [Compound] tab to [Data Processing Parameters (Detector A)] (Ch2).
   For the compound table, select "Detector A-Ch2" as the channel.
6. Save the method file.

- For the autosampler pretreatment program
  The pretreatment program of the autosampler is set to the [Standard] mode after conversion. If you have created a specific pretreatment program, it is necessary to recreate it. Create the pretreatment program again by clicking [Pretreatment] in the [Autosampler] tab of [Instrument Parameter View] and selecting [Pretreatment Program] from [Mode].

6 **From the menu displayed by right-clicking in the Data Explorer window, choose [File Conversion] - [Convert CLASS-LC10 File to LabSolutions(LC) file].**

The [Convert CLASS-LC10 File to LabSolutions(LC)] screen opens.

7 **Specify the destination folder and then click [OK].**



Chromatogram files (*.C??) and data files (*.D??) will be converted into the LabSolutions format with the file name as "xxxx_C??.lcd" or "xxxx_D??.lcd", respectively.

8 **For method files (*.MET), repeat steps 4 to 7.**

Convert the file into the LabSolutions format with the file name as "xxxx_met.lcm".

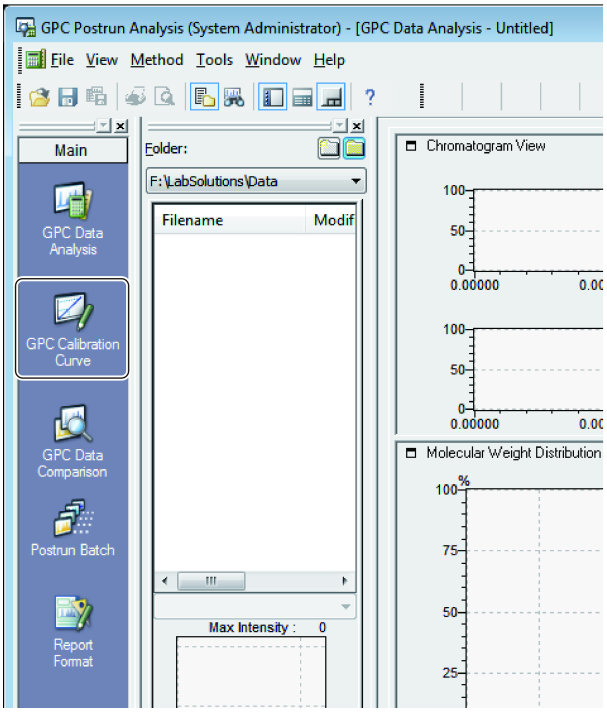
2.1.2 Importing

Import a CLASS GPC method file into the method file converted into the LabSolutions format in 2.1.1 .

> **NOTE** You can also merge CLASS GPC method files with method files in the LabSolutions format.

Reference "2.1.4 Other Operations" P.12

1 **From the [Main] assistant bar of the [GPC Postrun Analysis] program, click [GPC Calibration Curve].**

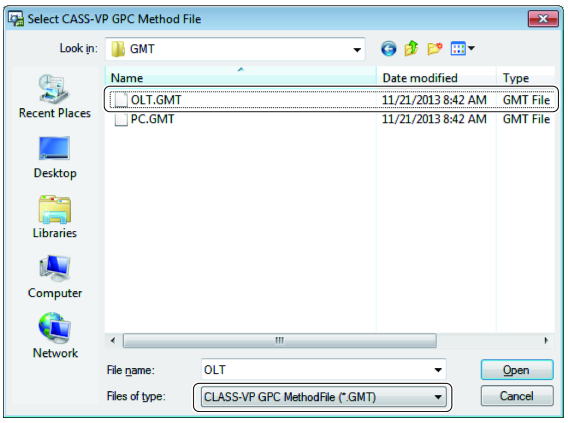


The [GPC Calibration Curve] window opens.

2 **Open the method file converted into the LabSolutions format.**

3 **From the [File] menu, click [Import CLASS GPC Method File].**
The [Select CLASS-VP GPC Method File] screen opens.

4 **From [Files of type], click [CLASS-VP GPC MethodFile (*.GMT)].**



5 **Select a method file (*.GMT) from the list of files, and then click [Open].**
The CLASS GPC method file is loaded into the method file opened in step 2.

2.1.3 Recalculating

1 **Use the converted method file and data file to recalculate in the LabSolutions GPC software.**

You can obtain the GPC calculation results.

2.1.4 Other Operations

■ Loading a method file via the file menu

1 **From the [Main] assistant bar of the [GPC Postrun Analysis] program, click [GPC Calibration Curve].**

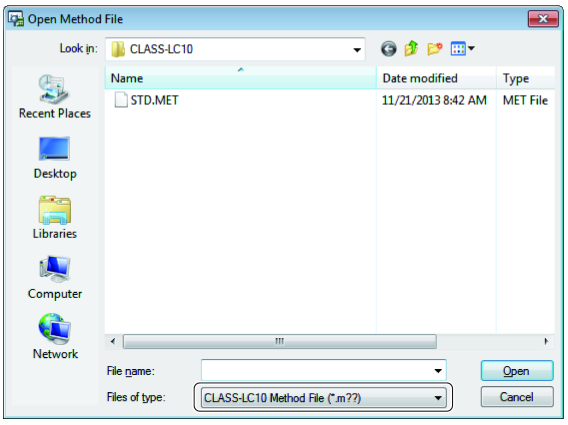
The [GPC Calibration Curve] window opens.

> NOTE You can also load CLASS-LC10 method files via the file menu from the [Data Acquisition] window of the [Realtime Analysis] program or from the [Calibration Curve] window of the [Postrun Analysis] program.

2 **From the [File] menu, click [Open Method File].**

The [Open Method File] screen opens.

3 **From [Files of type], click [CLASS-LC10 Method File (*.m??)].**



4 **Select a method file (*.m??) from the list of files, and then click [Open].**

The CLASS-LC10 method file will be loaded.

■ Loading a data file via the file menu

1 **From the assistant bar of the [GPC Postrun Analysis] program, click [GPC Data Analysis].**

The [GPC Data Analysis] window opens.

> NOTE You can also load CLASS-LC10 data files via the file menu from the [Data Analysis] window of the [Postrun Analysis] program.

2 **From the [File] menu, click [Open Data File].**

The [Open Data File] screen opens.

3 **From [Files of type], click [CLASS-LC10 Data File (*.c??;*.d??)].**

4 **Select a data file (*.C??, *.D??) from the list of files, and then click [Open].**

The CLASS-LC10 data file will be loaded.

■ Merging a CLASS GPC method file with a method file in the LabSolutions format

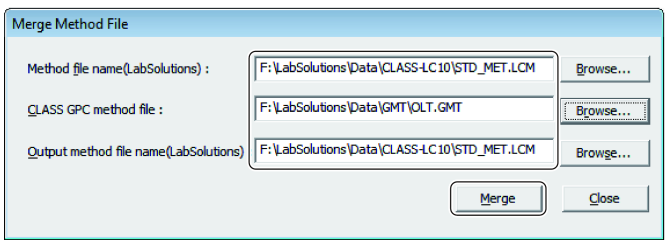
1 **From the [Main] assistant bar of the [GPC Postrun Analysis] program, click the [GPC Calibration Curve].**

The [GPC Calibration Curve] window opens.

2 **From the [File] menu, click [Merge of CLASS GPC Method File].**

The [Merge Method File] screen opens.

3 **Set the names of the files to be merged, and then click [Merge].**



> NOTE When you select or input the name of an existing file in [Output method file name(LabSolutions)], the file is overwritten. If there are multiple files you wish to merge, repeat the above step.

4 **Click [Close].**

The [Merge Method File] screen closes.

> **NOTE** If the audit trail setting is enabled for a method file, it cannot be merged with a CLASS GPC method file.

2.2 Transitioning from CLASS-VP GPC Software

2.2.1 Converting into the LabSolutions Format

Convert CLASS-VP method files (*.met) and data files (*.dat and others) into the LabSolutions format.

> **NOTE** You can also convert CLASS-VP method and data files via the file menu.

Reference "2.2.4 Other Operations" P.17

1 **Start LabSolutions.**

The [LabSolutions Main] window opens.

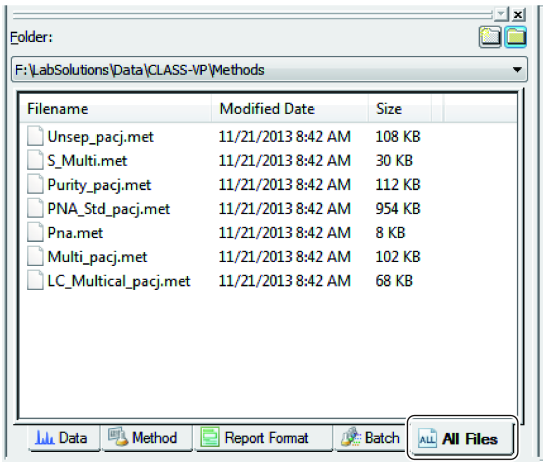
2 **Click** 

(Postrun).

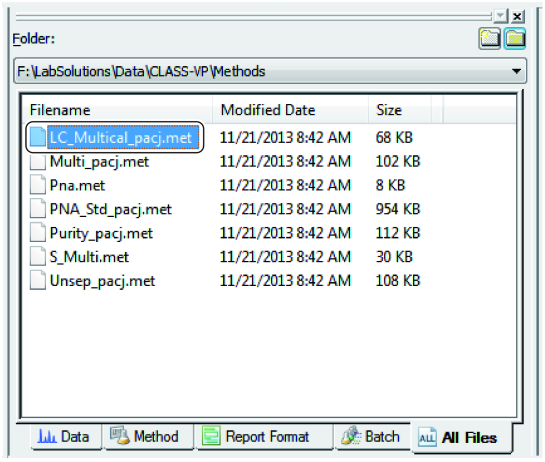
3 **Double-click**  **(GPC Postrun).**

The [GPC Postrun Analysis] program starts.

4 **Click the [All Files] tab in the [Data Explorer] screen.**



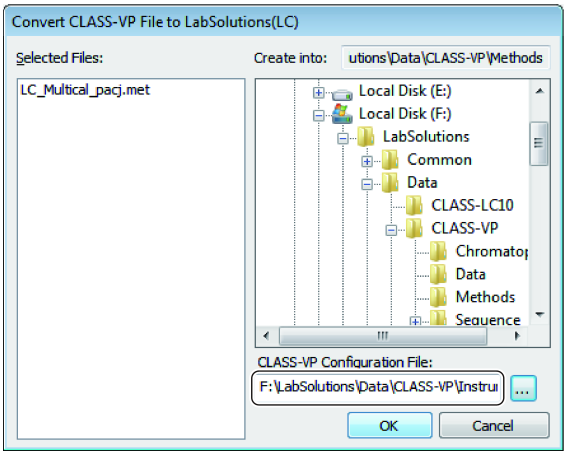
5 Select a CLASS-VP method file or files (*.met).



6 From the menu displayed by right-clicking in the Data Explorer window, choose [File Conversion] - [Convert CLASS-VP File to LabSolutions(LC) file].

The [Convert CLASS-VP File to LabSolutions(LC)] screen opens.

7 Specify a CLASS-VP configuration settings file (Instrument1.cfg to Instrument4.cfg).



This file must correspond to the instrument number of the CLASS-VP that was used for the method being converted.

NOTE

- If no configuration settings file exists, you can recreate one.
  With the [Open With Configurati] option selected in CLASS-VP, open a data file acquired using the method for the system configuration settings that you want to recreate.
  In this case, the configuration settings file will be given the number of the analysis instrument on which that data file had been opened.
- To correctly convert the instrument parameters, be sure to select the same configuration settings file as the one used for data acquisition (or one that has been similarly set up).

8 **Specify the destination folder and then click [OK].**

Convert the file into the LabSolutions format with the file name as "xxxx_met.lcm".

9 **For data files (*.dat and others), repeat steps 4, 5, 6, and 8.**

Convert the file into the LabSolutions format with the file name as "xxxx_dat.lcd".

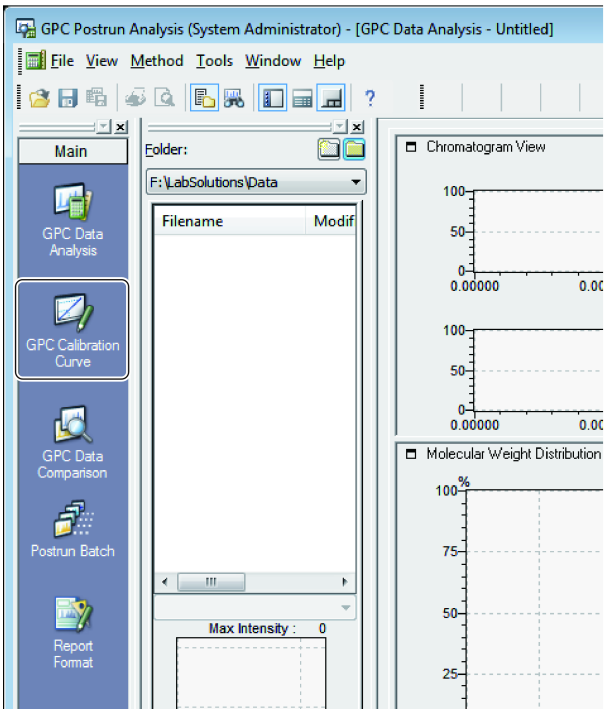
2.2.2 Importing

Import a CLASS GPC method file into the method file converted into the LabSolutions format in 2.2.1 .

> **NOTE** You can also merge CLASS GPC method files with method files in the LabSolutions format.

Reference "2.2.4 Other Operations" P.17

1 **From the [Main] assistant bar of the [GPC Postrun Analysis] program, click [GPC Calibration Curve].**



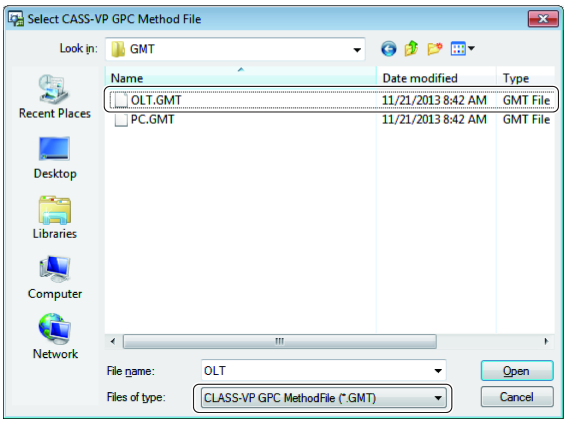
The [GPC Calibration Curve] window opens.

2 **Open the method file converted into the LabSolutions format.**

3 **From the [File] menu, click [Import CLASS GPC Method File].**

The [Select CLASS-VP GPC Method File] screen opens.

4 **From [Files of type], select [CLASS GPC Method File (*.GMT)], and then click [Open].**



The CLASS GPC method file is loaded into the method file opened in step 2.

2.2.3 Recalculating

1 **Use the converted method file and data file to recalculate in the LabSolutions GPC software.**

You can obtain the GPC calculation results.

2.2.4 Other Operations

■ Loading a CLASS-VP method file (*.met) via the file menu

1 **From the [Main] assistant bar of the [GPC Postrun Analysis] program, click [GPC Calibration Curve].**

The [GPC Calibration Curve] window opens.

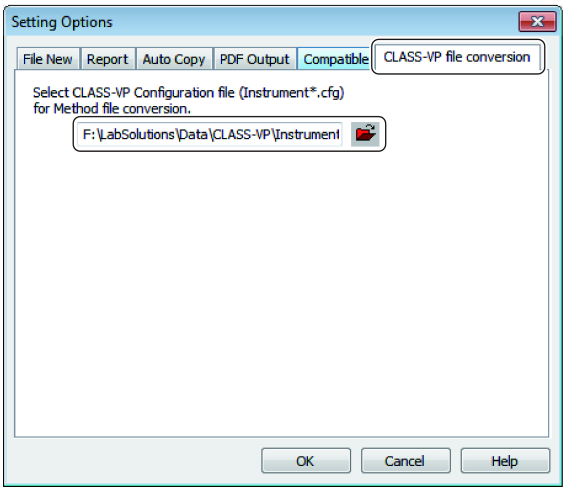
> NOTE You can also load CLASS-VP method files via the file menu from the [Data Acquisition] window of the [Reatime Analysis] program or from the [Calibration Curve] window of the [Postrun Analysis] program.

2 **From the [Tools] menu, click [Options].**

The [Setting Options] screen opens.

3 **Click the [CLASS-VP file conversion] tab and specify the CLASS-VP configuration settings file (Instrument1.cfg to Instrument4.cfg) to be used for the file conversion.**

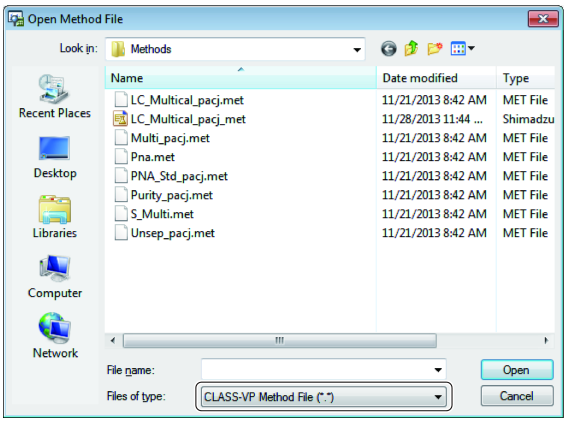
This file must correspond to the instrument number of the CLASS-VP that was used for the method being converted.



4 **From the [File] menu, click [Open Method File].**

The [Open Method File] screen opens.

5 **From [Files of type], click [CLASS VP Method File (*.*)].**



6 **Select a method file (*.m??) from the list of files, and then click [Open].**

The CLASS-VP method file will be loaded.

■ Loading a CLASS-VP data file (*.dat and others) via the file menu

1 **From the [Main] assistant bar of the [GPC Postrun Analysis] program, click [GPC Data Analysis].**

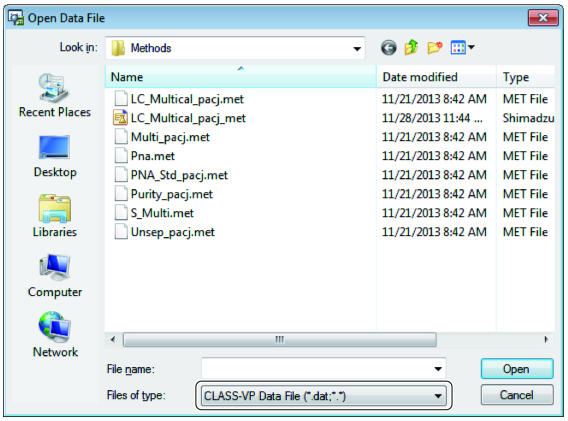
The [GPC Data Analysis] window opens.

> **NOTE** You can also load CLASS-VP data files via the file menu from the [PDA Data Analysis] or [Data Analysis] windows of the [Postrun Analysis] program.

2 **From the [File] menu, click [Open Data File].**

The [Open Data File] screen opens.

3 **From [Files of type], click [CLASS-VP Data File (*.dat;*.*)].**



4 **Select a data file (*.dat and others) from the list of files, and then click [Open].**

The CLASS-VP data files will be loaded.

3 Document Files

3.1 Document Files

All information necessary for using LabSolutions is provided as document files in the PDF format in the folder C:\LabSolutions\Manual.

Document	File Name
LabSolutions GPC Instruction Manual	GPC_OperationGuide.pdf
LabSolutions GPC Quick Manual	GPC_QuickGuide.pdf
LabSolutions Software Release Notes	ReleaseNotes.pdf
LabSolutions Certificate of Compliance*1	CertificateOfCompliance.pdf
Notice Before Using LabSolutions LCGC	GCLC_Notice.pdf
Notice Before Using LabSolutions GPC (This Document)	GPC_Notice.pdf

*1 Check "Print as Image" in the [Printer] dialog box before printing.

NOTE Manuals for LabSolutions are included together with the above documents.

3.2 Online Manual Viewer

Viewing an online manual requires Adobe Acrobat Reader to be installed. If you try to use the manual without first installing Adobe Acrobat Reader, a dialog box will appear prompting you to install it. Adobe Acrobat Reader is stored on the LabSolutions installation disk.

Procedure to install Adobe Acrobat Reader

1 Set the LabSolutions installation DVD in the disk drive.

2 Double-click "\AdobeReader\en\AdbeRdrXXXXX_en_US.EXE" (XXXXX is a number) in the DVD drive.

3 Follow the instructions displayed on the screen to perform the setup.

The installation is now completed.

NOTE For more information about Adobe Acrobat Reader, please refer to the Adobe Acrobat Reader Online User's Guide and the Adobe Corporation's internet homepage.

4 GPC Report Template Files

When installing the LabSolutions software, GPC report template files are copied into the following folder.

C:\LabSolutions\Sample\LC\GPC

Please refer to the following table to edit GPC report format files by using these report template files in which the detector configuration matches.

#	File name	Description
1	GPC Calculation Result Reports	
1-1	GPC Calculation Results1(2D).lsr GPC Calculation Results1(PDA).lsr	Chromatogram and calibration curve, molecular weight distribution curve, peak report, and GPC calculation results are output.
1-2	GPC Calculation Results2(2D).lsr GPC Calculation Results2(PDA).lsr	Chromatogram, molecular weight distribution curve, peak report, and GPC calculation results are output.
1-3	GPC Calculation Results3(2D).lsr GPC Calculation Results3(PDA).lsr	Chromatogram, calibration curve, molecular weight distribution curve, peak report, average molecular weight (total), and slice data information are output.
1-4	GPC Calculation Results4(2D).lsr GPC Calculation Results4(PDA).lsr	Chromatogram, molecular weight distribution curve, peak report, average molecular weight (total), and slice data information are output.
2	GPC Calculation Report (2 detector channel results are output)	
2-1	GPC Calculation Results1(2D&2D).lsr GPC Calculation Results1(2D&PDA).lsr	Chromatogram and calibration curve, peak report, and GPC calculation results are output.
2-2	GPC Calculation Results2(2D&2D).lsr GPC Calculation Results2(2D&PDA).lsr	Chromatogram (portrait), peak report, and GPC calculation results are output.
2-3	GPC Calculation Results3(2D&2D).lsr GPC Calculation Results3(2D&PDA).lsr	Chromatogram (landscape with overlapping), peak report, and GPC calculation results are output.
2-4	GPC Calculation Results4(2D&2D).lsr GPC Calculation Results4(2D&PDA).lsr	Chromatogram(stack), peak report, and GPC calculation results are output.
3	GPC Calibration Curve Report	
3-1	GPC Calibration Curve(2D).lsr GPC Calibration Curve(PDA).lsr	GPC calibration curve, calibration table, and calibration settings are output.
4	GPC Data Comparison Report	
4-1	GPC Data Comparison(Area Constant).lsr	Chromatogram and molecular weight distribution curve with area constant and cumulative percent curve are output.
4-2	GPC Data Comparison(Height Constant).lsr	Chromatogram and molecular weight distribution curve with height constant and cumulative percent curve are output.

#	File name	Description
4-3	GPC Data Comparison(Real Data).lsr	Chromatogram and molecular weight distribution curve with real data and cumulative percent curve are output.
5	GPC Summary Report	
5-1	GPC Summary Report(Chromatogram).lsr	Chromatogram(stack), molecular weight distribution curve, and GPC calculation summary results are output.
5-2	GPC Summary Report(Overlay).lsr	The summary of chromatogram(real data), molecular weight distribution curve, and GPC calculation results is output.

5 Specification Notes

5.1 Setting T.LIMIT

When a method in which "T.LIMIT" is set in the GPC Calibration Curve parameter is used and molecular weight distribution analysis is performed, peaks or a parts of a peak (slice data) that are detected before the T.LIMIT are regarded as having a molecular weight of "0". As these slice data are used in the calculation of the average molecular weight, the average molecular weight may not be calculated properly if peak detection is started before the T.LIMIT. Therefore, to exclude these average molecular weights from the calculation, inhibit the detection of peaks before the T.LIMIT by using a command like [Integration Off] in the Integration Time Program.

5.2 Displaying GPC Report Items in the Toolbar

When creating a report from the [GPC Postrun Analysis] program, reset the report items using the following steps. Otherwise, the GPC Report Items may not be displayed in the toolbar.

1. **From the [Main] assistant bar of the [GPC Postrun Analysis] program, click [Report Format].**
   The [Report] window opens.

2. **From the [Tools] menu, click [Customization] - [Toolbar Customization Settings].**

3. **In the [Toolbar] tab, select [Item] from the [Toolbars] parameters, and click [Reset].**

6 Procedure for Analyzing Data from Third-Party Workstations

6.1 Converting into the LabSolutions Format

There are two ways to convert data from third-party workstations into the LabSolutions format.

- Batch conversion
  Enables you to batch convert multiple data files from Data Explorer.

  Reference "6.1.1 Batch Conversion from Data Explorer" P.24

- Arbitrary conversion
  Enables you to perform conversion by loading a data file from the [File] menu.

  Reference "6.1.2 Loading from the File Menu" P.26

6.1.1 Batch Conversion from Data Explorer

1 **Convert a data file into the AIA format on a third-party workstation.**

2 **Start LabSolutions.**
The [LabSolutions Main] window opens.

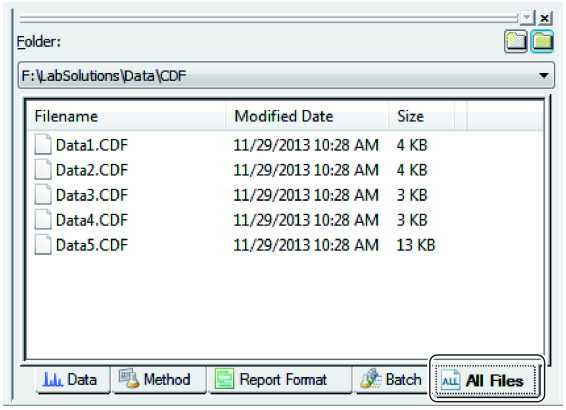
3 **Click** 

(Postrun).

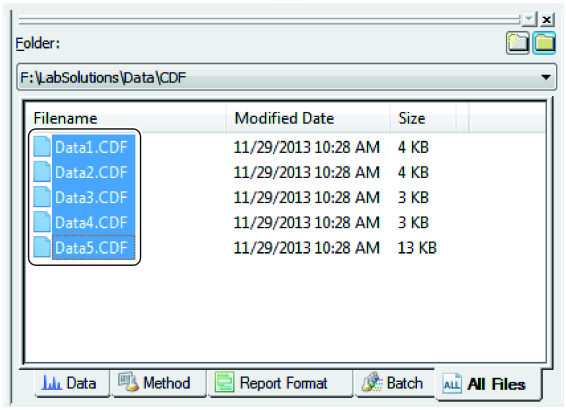
4 **Double-click**  **(GPC Postrun).**

The [GPC Postrun Analysis] program starts.

5 **Click the [All Files] tab in the [Data Explorer] screen.**



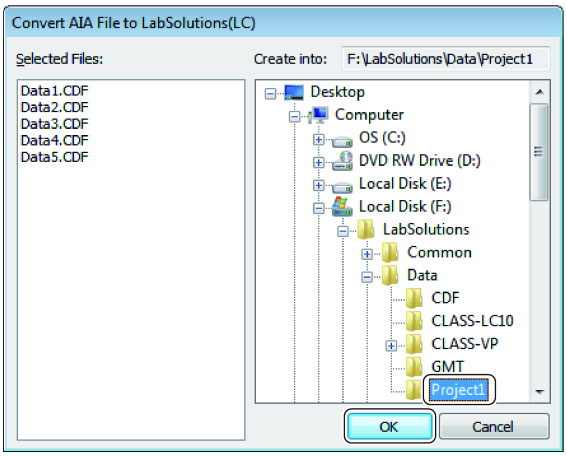
6 **Select a data file or files in the AIA format (xxxx.CDF).**



7 **From the menu displayed by right-clicking in the Data Explorer window, choose [File Conversion] - [Convert AIA(Andi) File to LabSolutions(LC) Data File].**

The [Convert AIA File to LabSolutions(LC)] screen opens.

8 **Specify the destination folder and then click [OK].**

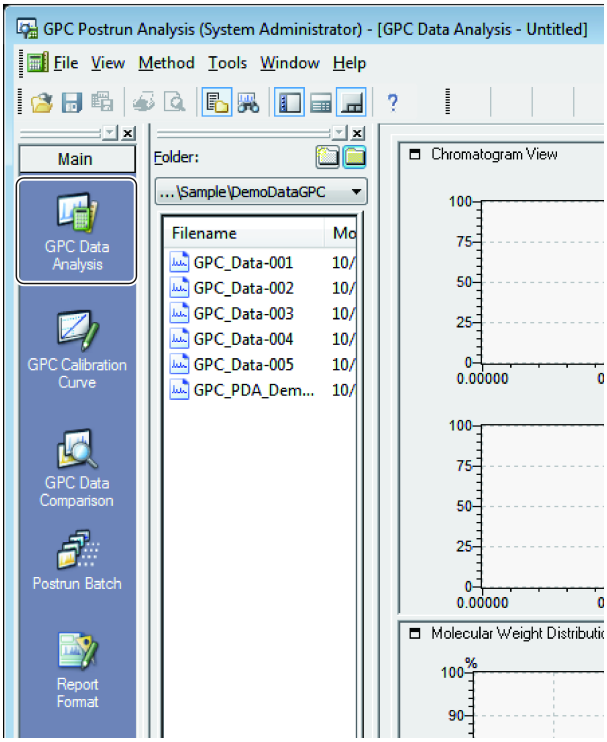


Convert the files into the LabSolutions format with the file name as "xxxx_CDF.lcd".

6.1.2 Loading from the File Menu

1 **Convert a data file into the AIA format on a third-party workstation.**

2 **From the [Main] assistant bar of the [GPC Postrun Analysis] program, click [GPC Data Analysis].**



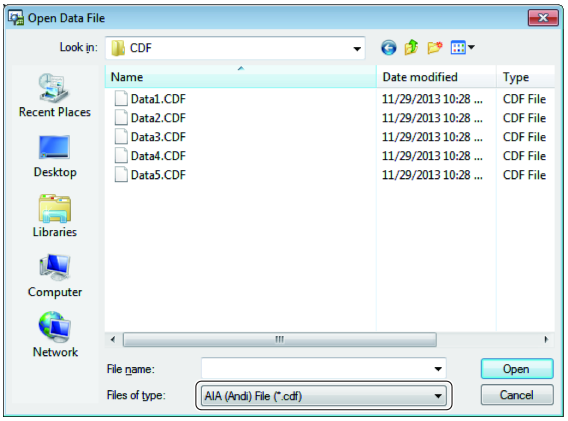
The [GPC Data Analysis] window opens.

> **NOTE** You can also load data files in the AIA format via the file menu from the [Data Analysis] window of the [Postrun Analysis] program.

3 **From the [File] menu, click [Open Data File].**

The [Open Data File] screen opens.

4 **From [Files of type], click [AIA (Andi) File (*.cdf)].**



5 **Select a data file (*.CDF) from the list of files, and then click [Open].**

Data files in the AIA format will be loaded in the LabSolutions format.

6 **From the [File] menu, click [Save Data File As].**

The [Save Data File As] screen opens.

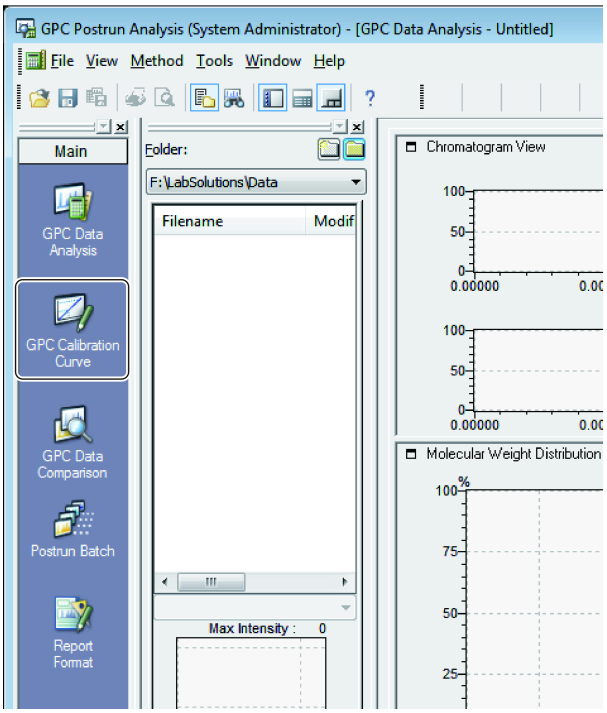
7 **Set the file name and then click [Save].**

Save the file in the LabSolutions format with the file name as "xxxx.lcd".

6.2 Creating a Method File

Create a method file to perform GPC analysis.

1 **From the [Main] assistant bar of the [GPC Postrun Analysis] program, click [GPC Calibration Curve].**



The [GPC Calibration Curve] window opens.

2 **From the [File] menu, click [New Method File].**

A message showing you the system configuration information will be displayed.

3 **Click [OK].**

The [Select Reference File] screen opens.

4 **Select a data file converted from the AIA format, and then click [Open].**

A new method file will be created.

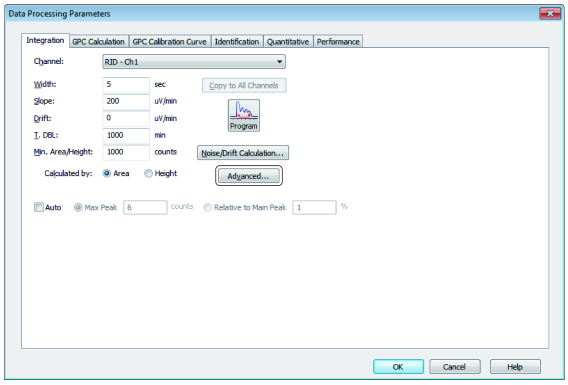
5 **From the [Method] menu, click [Data Processing Parameters].**

The [Data Processing Parameters] screen opens.

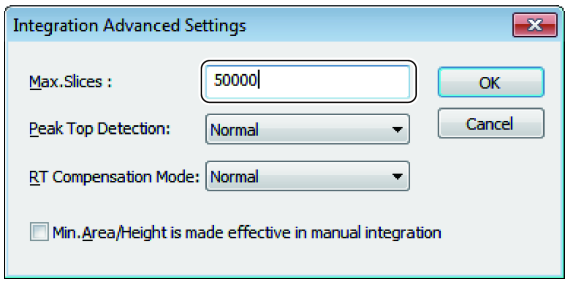
6 In the [Integration] tab, set the maximum number of slices.

NOTE Based on the slice data, LabSolutions GPC calculates molecular weight, etc. Slice data is the height value obtained by delimiting a chromatogram in regular time intervals. Therefore, it involves configuring the following settings in the [Data Processing Parameters] screen in addition to the integration parameter commonly used in LabSolutions.

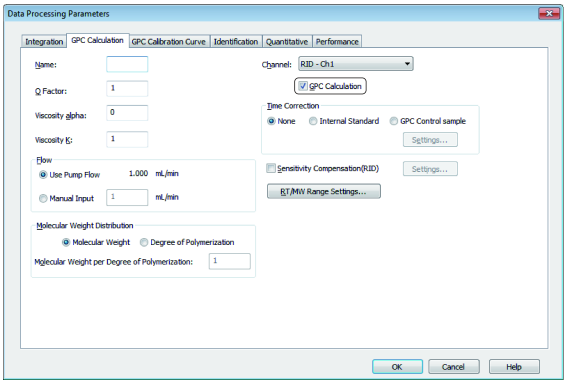
1 Click [Advanced] in the [Integration] tab.



2 In [Max. Slices], enter the number of slices.
In this case, set "50000", the max.



7 **Check [GPC Calculation] in the [GPC Calculation] tab, and set the parameters used for GPC calculation.**



Reference 2.8.2 Setting the Parameters for Molecular Weight Calculation in the LabSolutions GPC Instruction Manual

8 **Plot a calibration curve.**

Configure the [GPC Calibration Curve] tab settings in the [Data Processing Parameters] screen and the [Calibration Curve Table] settings in the [GPC Calibration Curve] window.

Reference 3 Generating Calibration Curves in the LabSolutions GPC Instruction Manual

9 **From the [File] menu, click [Save Method File As].**

The [Save Method File As] screen opens.

10 **Set the file name and then click [Save].**

6.3 Analyzing Data

Use the data file converted in 6.1 and the method file created in 6.2 to analyze data. "6.3 Analyzing Data" and "6.4 Creating a Report" may also be performed together.

Reference "6.5 Batch Processing Using Postrun Batch" P.33

1 **From the [Main] assistant bar of the [GPC Postrun Analysis] program, click [GPC Data Analysis].**

The [GPC Data Analysis] window opens.

2 **From the [File] menu, click [Open Data File].**

The [Open Data File] screen opens.

3 **Select a data file converted in 6.1 , and then click [Open].**

The data file will be loaded.

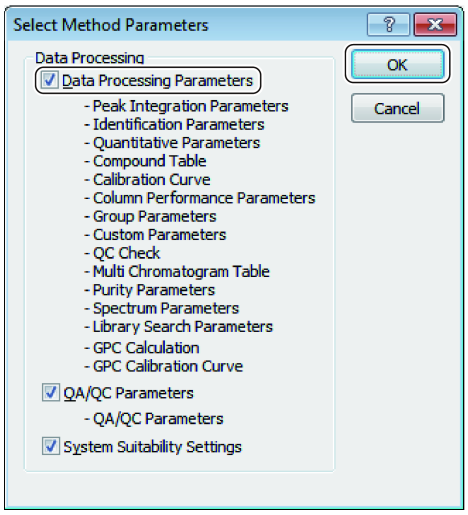
4 **From the [File] menu, click [Load Method Parameters].**

The [Load Method Parameters] screen opens.

5 **Select a method file created in 6.2 , and then click [Open].**

The [Select Method Parameters] screen opens.

6 **Check [Data Processing Parameters] and then click [OK].**



The analysis is performed according to the set method parameters.

7 **From the [Method] menu, click [Data Processing Parameters].**

The [Data Processing Parameters] screen opens.

8 **In the [Integration] tab, fine-tune the integration parameter and then click [OK].**

Repeatedly adjust until the data becomes optimal.

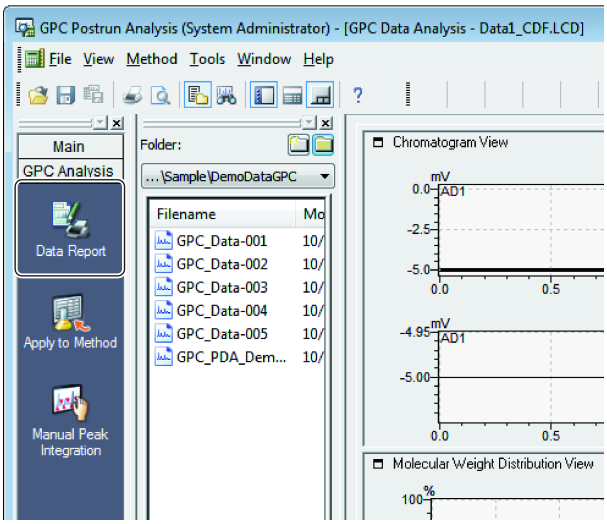
Reference 2.3.1 Setting Data Analysis Parameters in the LabSolutions GPC Instruction Manual

The analysis is performed.

6.4 Creating a Report

Create a report for the GPC analysis results.

1 **From the [GPC Analysis] assistant bar of the [GPC Data Analysis] window, click [Data Report].**



The [Data Report] window opens.

> **NOTE** If the [Data Report] window is not displayed, open the data file for which you want to create a report.

2 **From the [File] menu, click [Open Report Format File].**

The [Open Report Format File] screen opens.

3 **Select a report format file according to what you want to output in your report.**

> **NOTE** You can use a report template file as a basis for the report format file.

Reference "4 GPC Report Template Files" P.21

The output details of the report are displayed.

Edit the report format directly as needed.

4 **From the [File] menu, click [Apply to Data File].**

> **NOTE** The report format file edited in the [Data Report] window is saved in a data file (.lcd).

5 **Open the [GPC Data Analysis] window.**

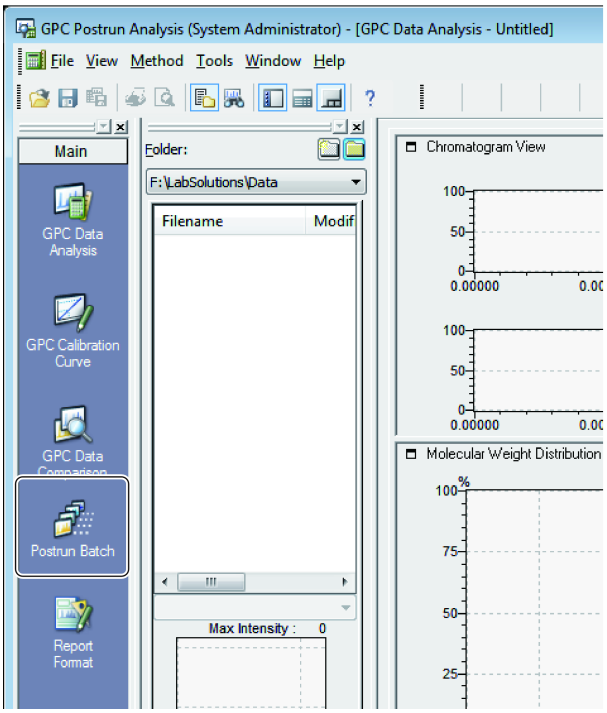
6 **From the [File] menu, click [Data Report] > [Print].**

The report will be printed.

6.5 Batch Processing Using Postrun Batch

The [Postrun Batch] window allows you to perform "6.3 Analyzing Data" and "6.4 Creating a Report" together.

1 **From the [Main] assistant bar of the [GPC Postrun Analysis] program, click [Postrun Batch].**

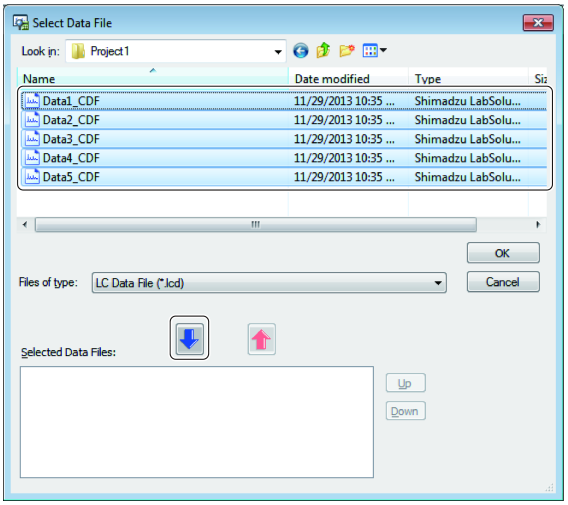


The [Postrun Batch] window opens.

2 **From the [Edit] menu, click [Add Rows with Selected Data File].**

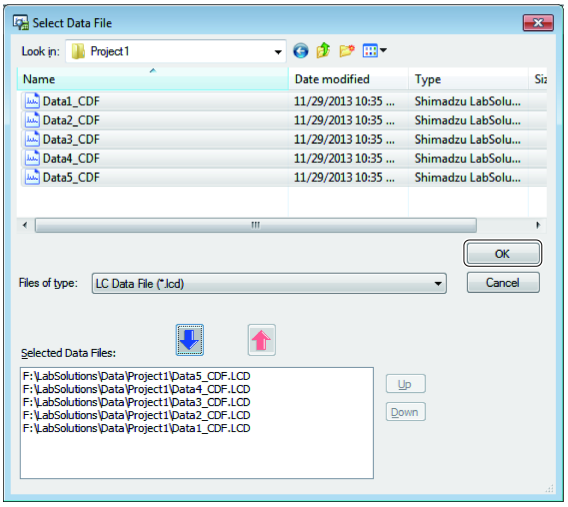
The [Select Data File] screen opens.

3 **Select data (multi-selectable) converted in 6.1 , and then click .**



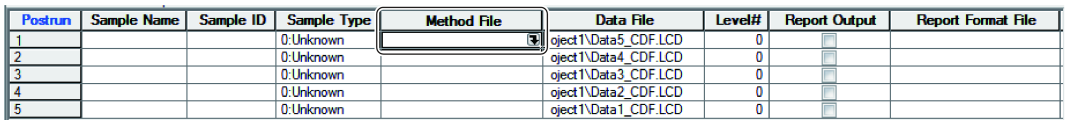
[Selected Data Files] displays the files.

4 **Click [OK].**



The batch table is created with the data files set.

5 Set a [Method File] cell.



Postrun	Sample Name	Sample ID	Sample Type	Method File	Data File	Level#	Report Output	Report Format File
1			0:Unknown		oject1\Data5_CDF.LCD	0		
2			0:Unknown		oject1\Data4_CDF.LCD	0		
3			0:Unknown		oject1\Data3_CDF.LCD	0		
4			0:Unknown		oject1\Data2_CDF.LCD	0		
5			0:Unknown		oject1\Data1_CDF.LCD	0		

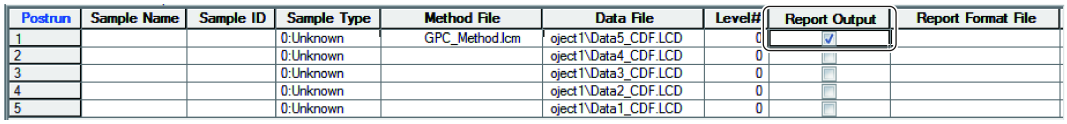
1 Click a [Method File] cell.

2 Click .

The [Select Method File] screen opens.

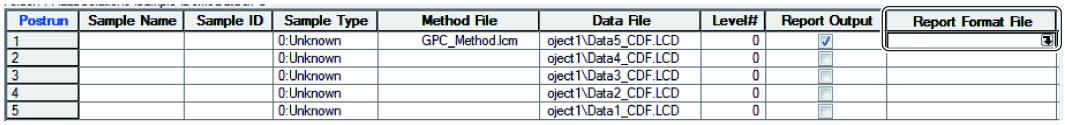
3 Select a method file created in 6.2 , and then click [Open].
A method file will be set in the cell.

6 Check a [Report Output] cell.



Postrun	Sample Name	Sample ID	Sample Type	Method File	Data File	Level#	Report Output	Report Format File
1			0:Unknown	GPC_Method.lcm	oject1\Data5_CDF.LCD	0	☑	
2			0:Unknown		oject1\Data4_CDF.LCD	0		
3			0:Unknown		oject1\Data3_CDF.LCD	0		
4			0:Unknown		oject1\Data2_CDF.LCD	0		
5			0:Unknown		oject1\Data1_CDF.LCD	0		

7 Set a [Report Format File] cell.



Postrun	Sample Name	Sample ID	Sample Type	Method File	Data File	Level#	Report Output	Report Format File
1			0:Unknown	GPC_Method.lcm	oject1\Data5_CDF.LCD	0	☑	
2			0:Unknown		oject1\Data4_CDF.LCD	0		
3			0:Unknown		oject1\Data3_CDF.LCD	0		
4			0:Unknown		oject1\Data2_CDF.LCD	0		
5			0:Unknown		oject1\Data1_CDF.LCD	0		

1 Click a [Report Format File] cell.

2 Click .

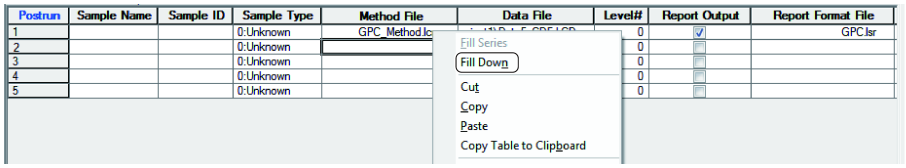
The [Select Report Format File] screen opens.

3 Select a report format file, and then click [Open].
The report format file will be set in the cell.

8 Repeat steps 5 to 7 for each row.

Postrun	Sample Name	Sample ID	Sample Type	Method File	Data File	Level#	Report Output	Report Format File
1			0:Unknown	GPC_Method.lcm	oject1\Data5_CDF.LCD	0	☑	GPC.lsr
2			0:Unknown	GPC_Method.lcm	oject1\Data4_CDF.LCD	0	☐	GPC.lsr
3			0:Unknown	GPC_Method.lcm	oject1\Data3_CDF.LCD	0	☐	GPC.lsr
4			0:Unknown	GPC_Method.lcm	oject1\Data2_CDF.LCD	0	☐	GPC.lsr
5			0:Unknown	GPC_Method.lcm	oject1\Data1_CDF.LCD	0	☐	GPC.lsr

NOTE If you select [Fill Down] from the right-click menu of an individual cell, you can copy the same setting to all the subsequent rows.



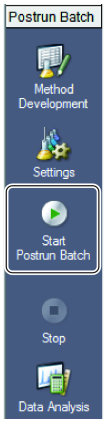
9 From the [File] menu, click [Save Batch File As].

The [Save Batch File As] screen opens.

10 Set the file name and then click [Save].

The batch file will be saved.

11 Click [Start Postrun Batch].



The analysis is performed, and then the report is generated.