Thermo SCIENTIFIC

Chromeleon 7
Reference Card

Software Version: 7.2
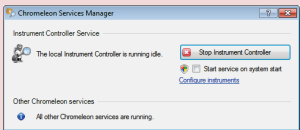July 2013 © Thermo Fisher Scientific

Chromeleon Software Components

Some Chromeleon components are visible applications with which you interact directly. Other components run invisibly as Windows Services; these take care of tasks like robust instrument control and secure data transfer.

LEGEND: **Blue** = *Basic feature/component*   **Red** = *Advanced feature/component*

Console

Start: ● Double-click the icon on your Desktop ● Start > All Programs > Chromeleon 7 > Chromeleon 7

The Console is your entry point to Chromeleon.

Click a Category Bar to:

- Instruments
- Data
- eWorkflows

● Control and monitor your **Instruments**

● Organize your **Data**

● Work with **eWorkflows**

*TIP: The **Quick Start Guide** describes all the basic workflows step-by-step and provides explanations.*

*The **Glossary** provides quick reference information.*

Studio

Start: ● Double-click an Injection in the Console ● use the Studio Button in the Sequence Toolbar

The Studio is the place for working with your data.

Click a Category Bar to:

- Injection List
- Instrument Method
- Data Processing
- Report Designer
- Electronic Report
- Spectral Library

● View/edit the **Injection List**

● View/edit the **Instrument Method**

● Dynamically **review and process your data**, for example, integrate chromatograms, enter calibration data, check calibration curves

● **Report** the results

● Create/view **Electronic Reports**

● Work with **Spectral Libraries**

Services Manager

Start: ● Double-click the icon in the Notification area of the Windows Taskbar ● Start > All Programs > Chromeleon 7 > Services Manager

The Services Manager lets you monitor Chromeleon's service components. From here you can:

● Start/stop the **Instrument Controller Service**

● Start the **Instrument Configuration Manager**

Chromeleon Objects

📁	**Folder**: A container for objects. Folders help you organize data in a Data Vault
	Query: Data Vault Search function for finding data that match criteria you specify
	Sequence: Collection of **injections** that belong together
	Instrument Method: Set of timed commands for an instrument to perform during a chromatographic analysis
	Processing Method: Collection of parameters that are used for evaluating a chromatogram. Includes parameters for peak detection and calibration
	Report Template: Spreadsheet-like file that defines how data is printed or exported. When the template is applied on a Sequence (to view, print, or export the results) the output is referred to as the Report
	View Settings: Definition of how data is presented on the screen. Includes settings for the interactive result tables, chromatogram, the calibration curve, etc.
	Electronic Report: Electronic snapshot of the results of a sequence
	Spectral Library: collection of spectra used for peak identification

*NOTE: The basic unit of data in Chromeleon is a **Sequence**.*

The Sequence contains all the data and meta-data that are necessary to recreate the results.

Generate and Start Sequence using eWorkflows

Starting an Analysis using any eWorkflow

 eWorkflows

1. In the **Console**, click the **eWorkflows** category
2. In the **Navigation Pane**, click the **eWorkflow** of your choice
3. In the **Work Area**, click the **Instrument** of your choice
4. In the eWorkflow Toolbar (above the list of instruments), click **Launch**

Starting an Analysis using an eWorkflow for a specific instrument

 Instruments

1. In the **Console**, click the **Instruments** category
2. In the **Navigation Pane,** select your **Instrument**
3. In the ePanel Toolbar (above the ePanel), click the **Launch eWorkflow** button
4. Select the **eWorkflow** of your choice

## Editing an eWorkflow

 eWorkflows

1. In the **Console**, click the **eWorkflows** category
2. In the **Navigation Pane**, click the **eWorkflow** of your choice
3. In the eWorkflow Toolbar (above the list of instruments), click **Edit**
4. Modify the eWorkflow as needed

5. Follow the Wizard, provide the necessary input
6. Review / edit the Sequence that the Wizard generated
7. In the Sequence Toolbar (above the Injection List), click **Start**

You can now → Monitor the Running Sequence from the Instrument category.

Generate Methods and Sequence Directly
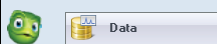
 Data

1. In the **Console**, click the **Data** category
2. In the **Menu**, click **Create**
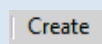
Create

Create Methods

3. Create an **Instrument Method**, a **Processing Method**, **View Settings** and a **Report Template** following the steps in the respective wizards

Create and Start Sequence

3. Select **Sequence**
4. Follow the Wizard, provide the necessary input
5. Review / edit the generated Sequence
6. In the Sequence Toolbar (above the Injection List), click **Start**

Control Instruments

 Instruments

1. In the **Console**, click the **Instrument** category
2. In the **Navigation Pane**, select the **Instrument** of your choice

Direct Control / Monitor via ePanels

UltiMate 3000 Home | xPG-3x00 | WPS-3

3. In the **Work Area**, click the **tabs** to see the corresponding ePanels
4. Use the **controls** on the ePanels to monitor and control the instrument

Control the Queue

Audit | Queue

3. In the **Work Area**, click the **Queue tab** to see the list of Sequences currently waiting for analysis
4. You can now add / remove / sort Sequences and start / stop the Queue.

Check Instrument Audit Trails

Audit | Queue

3. In the **Work Area**, click the **Audit tab** to see all the commands that Chromeleon sent to and parameters received from the instrument
4. You can group, filter, and search for commands of your interest

View Data

	1. Open the Sequence in the **Studio**
Data Processing	2. Click the **Data Processing** category
	3. Click the **Data Processing Home** ribbon tab

Review Chromatograms and Results

4. ● Use the **Previous** and **Next** buttons in the **Navigation** group of the ribbon

   ● In the **Navigation Pane**, select the Injection and/or Channel you want to evaluate

Adjust the View

4. ● Show/hide different Panes using the buttons in the **Panes** group to show the information you need

   ● Select one of the preset groups of panes from the **Presets** gallery, which are designed for specific tasks

Data Processing – Peak Detection

	1. Open the Sequence in the **Studio**
Data Processing	2. Click the **Data Processing** category
	3. Click the **Chromatogram Tools/Processing** ribbon tab

Set Detection Parameters

Cobra Wizard

4. Select the **Cobra Wizard** in the **Detection Parameters** group
5. Follow the wizard steps to define the **integration range**, the **baseline noise range**, the **Cobra smoothing width** and the **minimum area**

Integrate Unresolved Peaks

SmartPeaks

4. Select **SmartPeaks** in the **Detection Parameters** group (note that the mouse cursor changes)
5. Select an area in the chromatogram containing unresolved peaks
6. Select the integration you need

Modify Detection Parameters

4. Activate the **Detection Parameters** option in the **Detection Parameters** group
5. To move a Detection Parameter, grab the parameters tag or the detection parameter line and move it to the required location
6. To edit the value of a parameter, double click the tag and make the change

Data Processing – Peak Identification
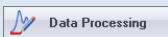
	1. Open the sequence in the **Studio**
Data Processing	2. Click the **Data Processing** category
	3. Click the **Chromatogram Tools/Processing** ribbon tab
	4. Activate the **Peak Windows** option in the **Component Table** group

Create Component Table

5. Select the **Component Table Wizard** in the **Component Table** group
6. Follow the wizard to define the **time range** and **peak filtering**
7. Enter the component names in the table at the **review** stage or add individually

Assign Individual Peaks

5. Activate the **Add Component** option in the **Component Table** group
6. Drag a rectangle around the peak to add it to the Component Table
7. Double click the **Peak Window** in the chromatogram and enter the component name

Update Retention Times

5. ● Grab a **Peak Window** in the chromatogram and shift it to the correct location using the left mouse button

   ● Grab one of the **delimiters** to extend or narrow the peak window

Data Processing – Calibration

1. Open the sequence in the **Studio**

Define Standards and Calibration Levels
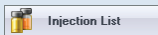
(Injection List)

2. Click the **Injection List** category
3. Assign Injection Type **Calibration Standard** to all calibration standards
4. For each calibration standard click the **Level** field and:
   - Assign the correct level, or
   - Click **Create new level...** to create a new calibration level

Enter Standard Amounts

(Data Processing)

2. Click the **Data Processing** category
3. Click the **Data Processing Home** ribbon tab
4. Activate the **Processing Method** in the **Panes** group
5. In the **Processing Method**, select the Component Table* Tab
6. In the **Calibration Level** columns, update the concentrations

* Processing Methods can have different layouts, consisting of different tabs and names. Therefore, some of the options might be at different locations than described here.

Reporting

1. Open the sequence in the **Studio**
2. Click the **Report Designer** category

Preview a Report

3.
   - In the **Work Area**, click the **report sheet** to preview and select the injection and/or channel you want to evaluate in the **Navigation Pane**, or
   - Select **Print Preview** from the **Studio Menu**, **Print** section

Print / Export a Report

3. Select **Print** or **Export** from the **Studio Menu**
4. Select **Current Injection** to print / export a report for one injection, or **Current Sequence** to print / export a report for the entire sequence

Edit a Report

3. In the **Work Area**, click the **object** you want to change and make the necessary edits

Dynamic Chromeleon objects are indicated with a red triangle (▼). Cells that contain text or a spreadsheet formula are not marked like this.

Helpful Keys

F1	Opens Context Sensitive Help
F2	Enables the Edit mode (e.g. for changing text in table cells)
Ctrl + I	Console: Selects Instruments category
Ctrl + D	Console: Selects Data category
Ctrl + W	Console: Selects eWorkflow category
F4	Studio: Takes you to the next Injection
Shift+F4	Studio: Takes you to the previous Injection
F9	Fill Down: Fills a column with the content of the current cell down to the last cell of the column or to the last cell in a selection
F10	Studio: Takes you to the next Channel
Shift+F10	Studio: Takes you to the previous Channel
Ctrl + C	Copy selection to clipboard
Ctrl + V	Paste clipboard content to selected location
ALT+TAB	Switch between open items on the taskbar and can be used to conveniently switch between Console and Studio(s)