

Clarity Extensions

CE Extension

Extensions

ENG

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To facilitate the orientation in the **CE Extension** manual and **Clarity** chromatography station, different fonts are used throughout the manual. Meanings of these fonts are:

Instrument (blue text) marks the name of the window, to which the text refers.

Open File (italics) describes the commands and names of fields in **Clarity**, parameters that can be entered into them or a window or dialog name (when you already are in the topic describing the window).

WORK1 (capitals) indicates the name of the file and/or directory.

ACTIVE (capital italics) marks the state of the station or its part.

The bold text is sometimes also used for important parts of the text and the name of the **Clarity** station. Moreover, there are text sections written in format other than normal text. These sections are formatted as follows:

Note: Notifies the reader of possibly interesting information.

Caution: Warns the user of possibly dangerous or very important information.

█ Marks the problem statement or trouble question.

Description: Presents any closer information on the problem, describes its causes etc.

Solution: Marks the response to the question, presents a procedure how to remove it.

1 CE - Capillary Electrophoresis

The **Clarity CE** is an optional **Extension** for the **Clarity Chromatography Station** (from version 2.4.4). The **Clarity Chromatography Station** can acquire data from any **CE** system with standard analog output. Any **Clarity Instrument** can use *CE mode*.

CE Extension provides specific terminology, evaluation by time corrected area and peak identification by peak start or end (additionally to the peak apex).

CE Extension is also compatible with **Clarity Offline** software.

2 Specification

The **CE Extension** is an optional, fully integrated part of **Clarity** software. It can be ordered as a part of new datastation or as an extension to existing datastation (p/n A31).

3 Installation

The **CE Extension** is enabled by appropriate user code entered during installation or later by using the *Help - User Code* command from the **Clarity** main window.

To switch an Instrument to *CE mode*, choose the **CE** from the *Instrument Type* field in the **System Configuration** dialog.

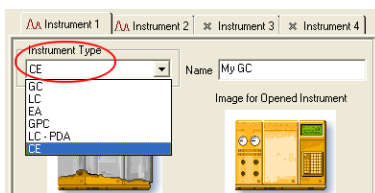


Fig 1: Switching to the CE mode

4 Key Features

The **CE Extension** adds the following features to the **Clarity** station:

- CE-specific terminology
- evaluation by time corrected area
- peak identification by peak start or end (as an addition to the peak apex)

4.1 CE-specific terminology

Several terms used in chromatography were substituted by the equivalent terms used in the capillary electrophoresis. Moreover, some of the information fields on the [Method Setup - Measurement](#) and [Chromatogram - Measurement Conditions - Instrument](#) tabs were renamed to better match the **CE** terminology.

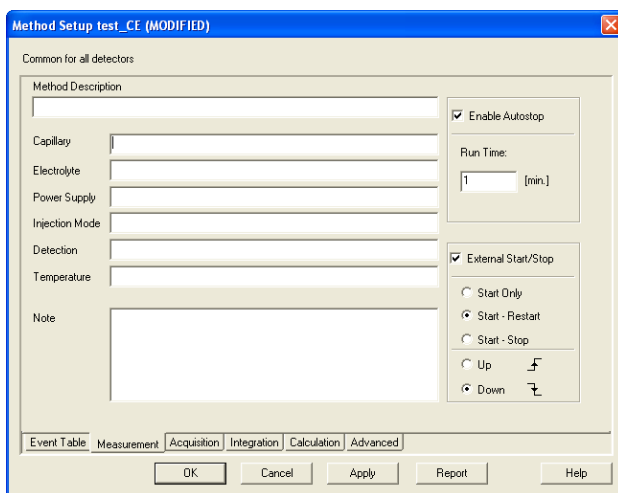


Fig 2: Method Setup - Measurement

Tab 1: Substituted CE terms

Default mode	CE mode
Chromatogram	Electropherogram
Retention time (RT)	Migration Time (MT)

Tab 2: Renamed existing informational fields:

Default mode	CE mode
Column	Capillary
Mobile Phase	Electrolyte
Flow Rate	Power supply
Pressure	Injection Mode

4.2 Peak Identification

As peaks in **CE** are often asymmetrical, in some cases the position of peak start is less influenced by analyte concentration and thus better suited for compound identification.

The **CE** module allows the peaks to be also identified by peak start or peak end time in addition to the standard peak apex.

The **Reten. Time** column is changed to the *Apex MT* column and new *Start MT*, *End MT* and *Identify By* columns are available in the **Calibration Summary Table** in **Calibration - Compounds** window and in the **Result Table** and **Summary Table** in the **Electropherogram** window.

Used	Compound Name	Apex MT	Start MT	End MT	Identify By	Left Window
<input checked="" type="checkbox"/>	DCF	8,425	8,292	8,500	Apex	0,

Fig 3: Calibration

4.3 Quantification

The migration times in **CE** are significantly influenced by experimental conditions. As the peak area is dependent on the speed by which the peak migrates through detector cell, the time corrected area is in some cases more suitable for quantification than the area alone.

New option is available for the *Response Base (RB)* columns in the **Calibration** or **Electropherogram** windows - besides the *Area (A)* or *Height (H)* the *Time Corrected Area (C)* can be selected individually for any compound in the calibration table.

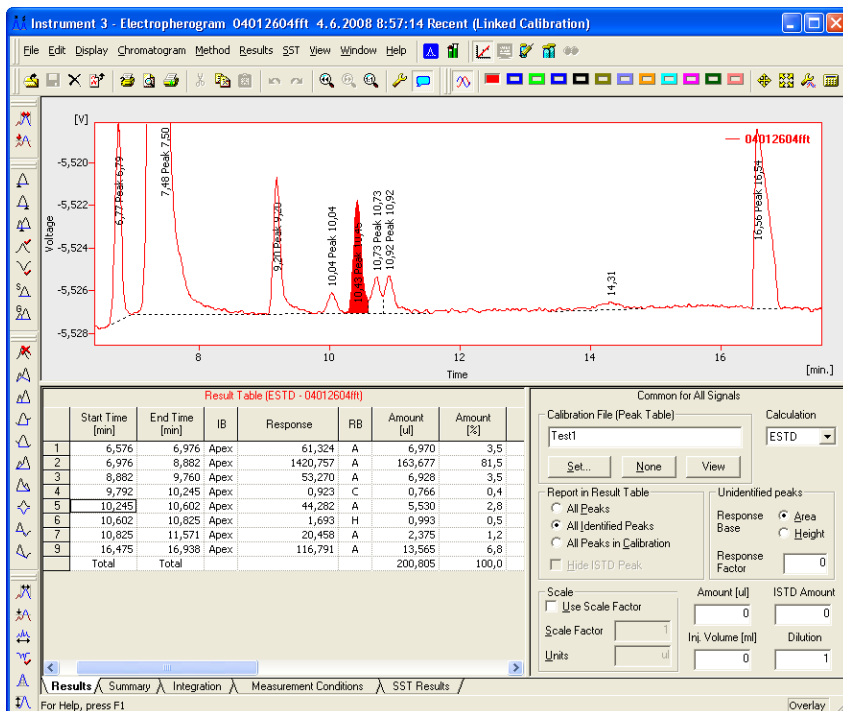


Fig 4: Electropherogram

4.4 Instrument Control

Clarity is prepared for development of control modules for **CE** instruments. **CE Instrument Type** was added to the [System Configuration](#) dialog and new *Inlet Vial (InV)* and *Outlet Vial (OutV)* columns are available in the **Sequence Table**.

Software development kit (**SDK**) is available for instrument manufacturers to develop control modules for their **CE** instruments. The control module will add a tab to the [Method Setup](#) dialog and can also add a pane in the [Device Monitor](#) window.