23.0331

Clarity™

ADVANCED CHROMATOGRAPHY SOFTWARE

CLARITY TRAINING

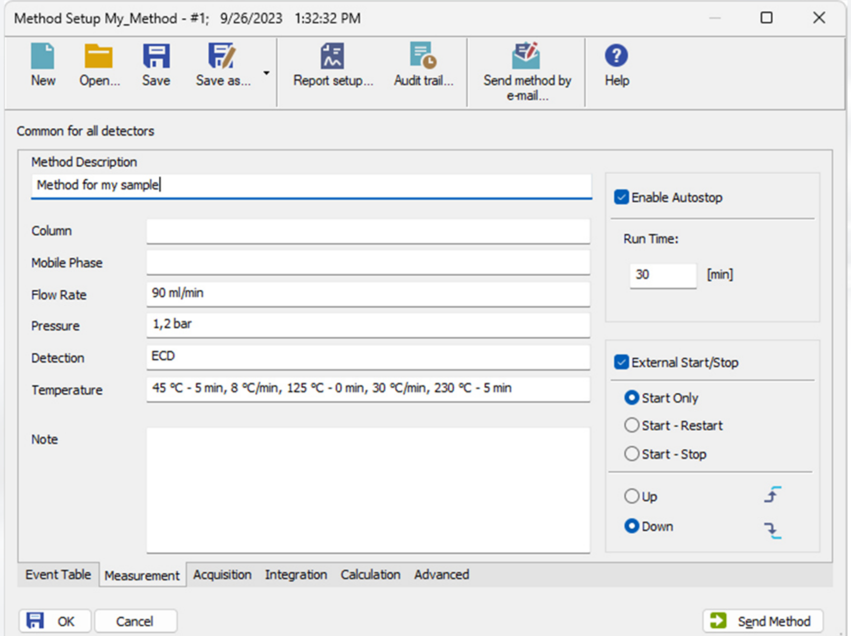
BASIC OPERATIONS

DataApex

CONTENT

METHOD IN CLARITY

- Instrumental and processing parameters within one document
- Can be sent to HW directly from Method Setup
- Stored as *.met file in current project folder



Method Description: Method for my sample

Column:

Mobile Phase:

Flow Rate: 90 ml/min

Pressure: 1,2 bar

Detection: ECD

Temperature: 45 °C - 5 min, 8 °C/min, 125 °C - 0 min, 30 °C/min, 230 °C - 5 min

Note:

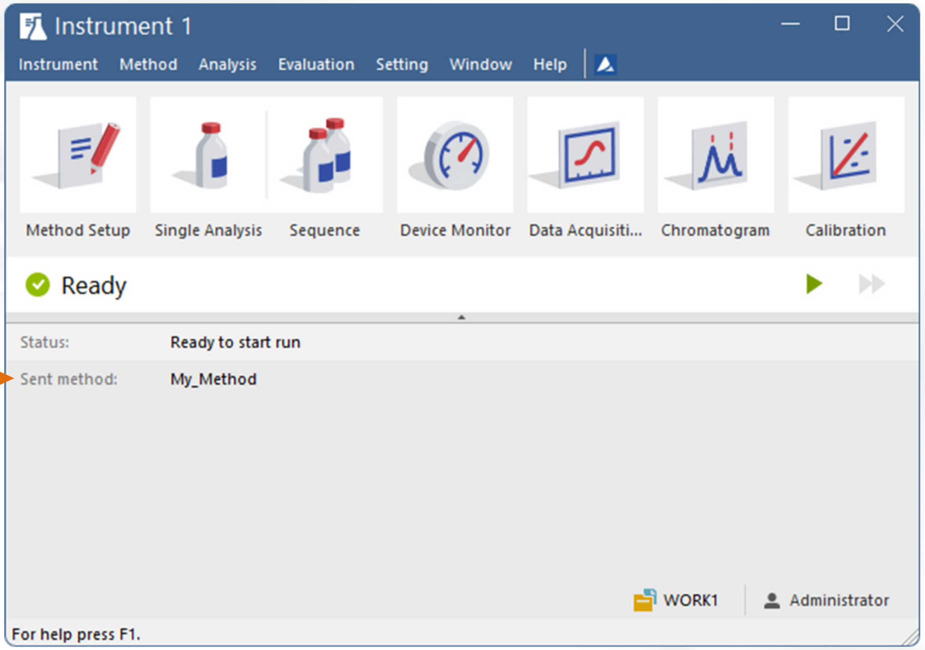
☑ Enable Autostop

Run Time: 30 [min]

☑ External Start/Stop

● Start Only
○ Start - Restart
○ Start - Stop

○ Up
● Down



Ready

Status: Ready to start run

Sent method: My_Method

For help press F1.

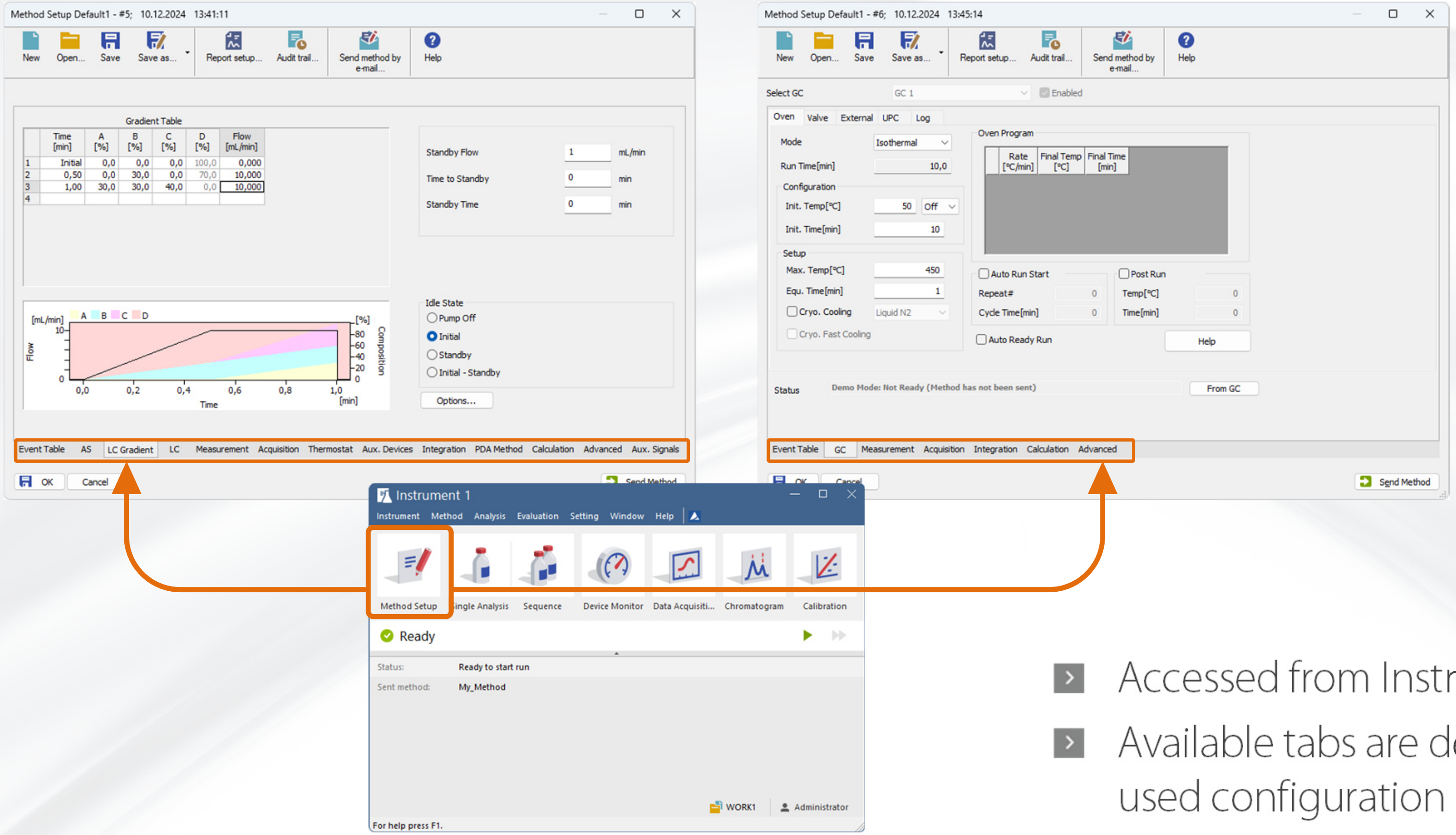
METHOD DEVELOPMENT

PROPOSED WORKFLOW

- Set acquisition parameters
- Enter sample information (optional)
- Acquire the first chromatogram
- Optimize integration parameters
- Store the method for further analyses

METHOD DEVELOPMENT

METHOD SETUP



Method Setup Default1 - #5; 10.12.2024 13:41:11

Gradient Table

	Time [min]	A [%]	B [%]	C [%]	D [%]	Flow [mL/min]
1	Initial	0,0	0,0	0,0	100,0	0,000
2	0,50	0,0	30,0	0,0	70,0	10,000
3	1,00	30,0	30,0	40,0	0,0	10,000
4						

Standby Flow 1 mL/min

Time to Standby 0 min

Standby Time 0 min

Idle State

○ Pump Off

● Initial

○ Standby

○ Initial - Standby

Method Setup Default1 - #6; 10.12.2024 13:45:14

Select GC: GC 1 ☑ Enabled

Mode: Isothermal

Run Time[min]: 10,0

Configuration

Init. Temp[°C]: 50 Off

Init. Time[min]: 10

Setup

Max. Temp[°C]: 450

Equ. Time[min]: 1

☐ Cryo. Cooling Liquid N2

☐ Cryo. Fast Cooling

Oven Program

	Rate [°C/min]	Final Temp [°C]	Final Time [min]

☐ Auto Run Start

Repeat#: 0

Cycle Time[min]: 0

☐ Post Run

Temp[°C]: 0

Time[min]: 0

☐ Auto Ready Run

Status: Demo Mode: Not Ready (Method has not been sent)

Instrument 1

Ready

Status: Ready to start run

Sent method: My_Method

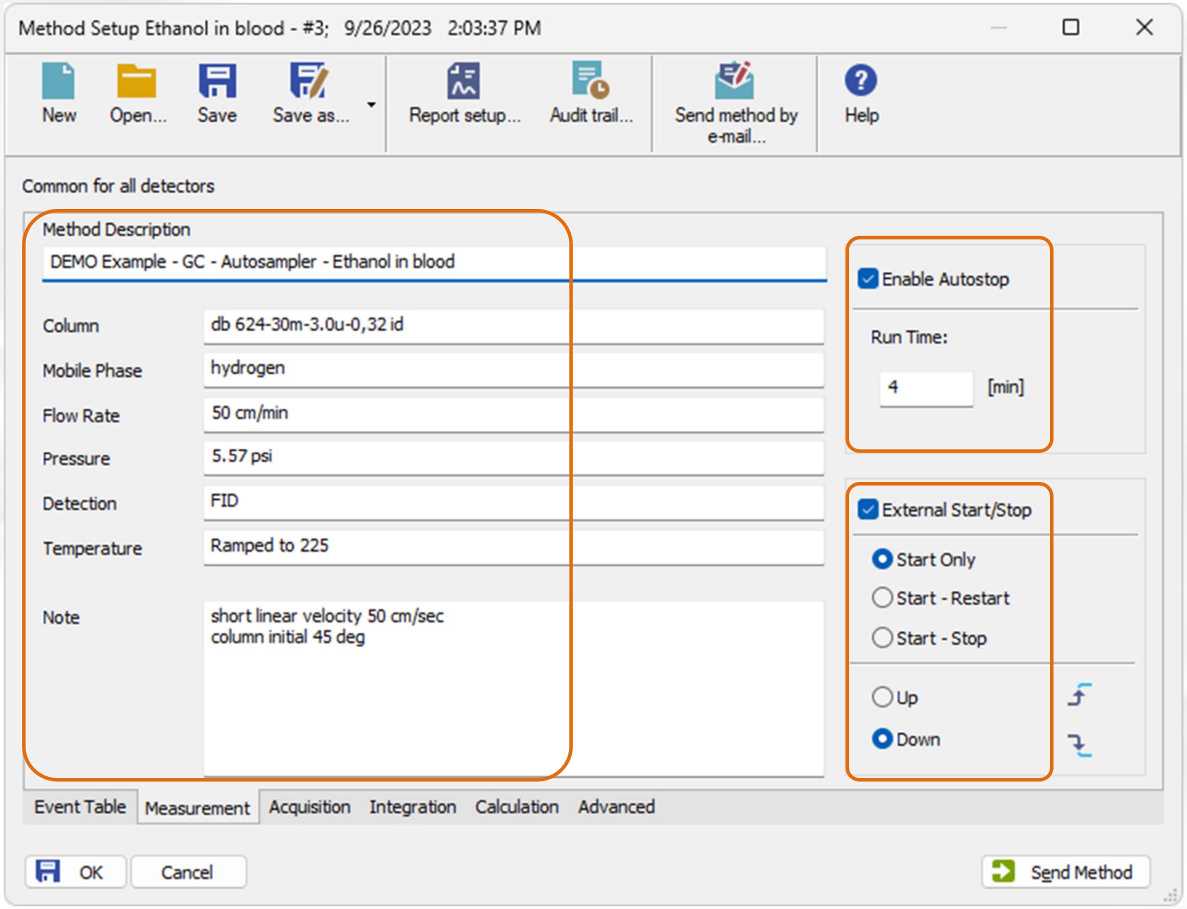
For help press F1.

- Accessed from Instrument window
- Available tabs are dependent on used configuration

METHOD SETUP

MEASUREMENT TAB

- Description
  - Informative
- Autostop & Run time
- External Start/Stop



Common for all detectors

Method Description: DEMO Example - GC - Autosampler - Ethanol in blood

Column: db 624-30m-3.0u-0,32 id
Mobile Phase: hydrogen
Flow Rate: 50 cm/min
Pressure: 5.57 psi
Detection: FID
Temperature: Ramped to 225
Note: short linear velocity 50 cm/sec
column initial 45 deg

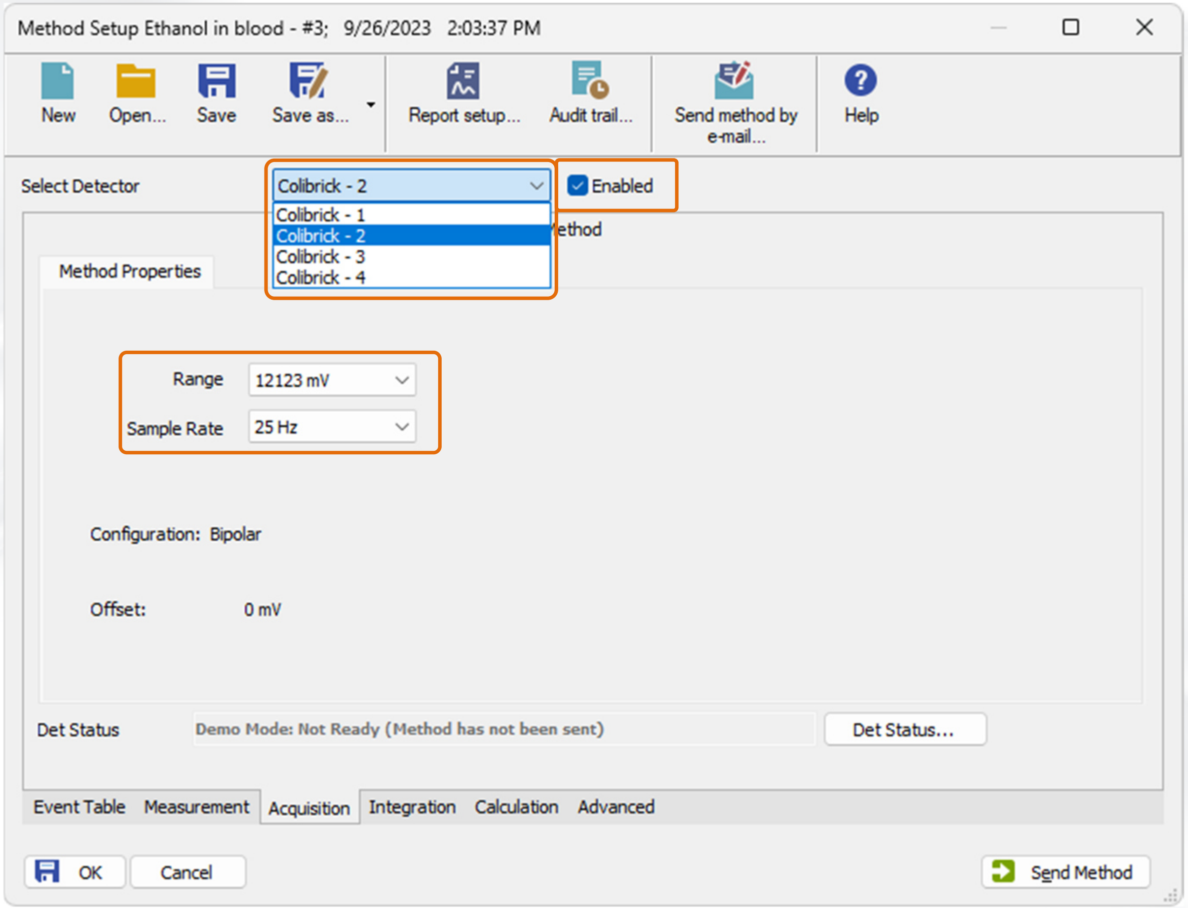
☑ Enable Autostop
Run Time: 4 [min]

☑ External Start/Stop
● Start Only
○ Start - Restart
○ Start - Stop
○ Up
● Down

METHOD SETUP

ACQUISITION TAB

- Device-specific
- **Cannot** be modified during acquisition
- “Enabled” checkbox



Method Setup Ethanol in blood - #3; 9/26/2023 2:03:37 PM

Select Detector: Colibrick - 2

☑ Enabled

Range: 12123 mV

Sample Rate: 25 Hz

Configuration: Bipolar

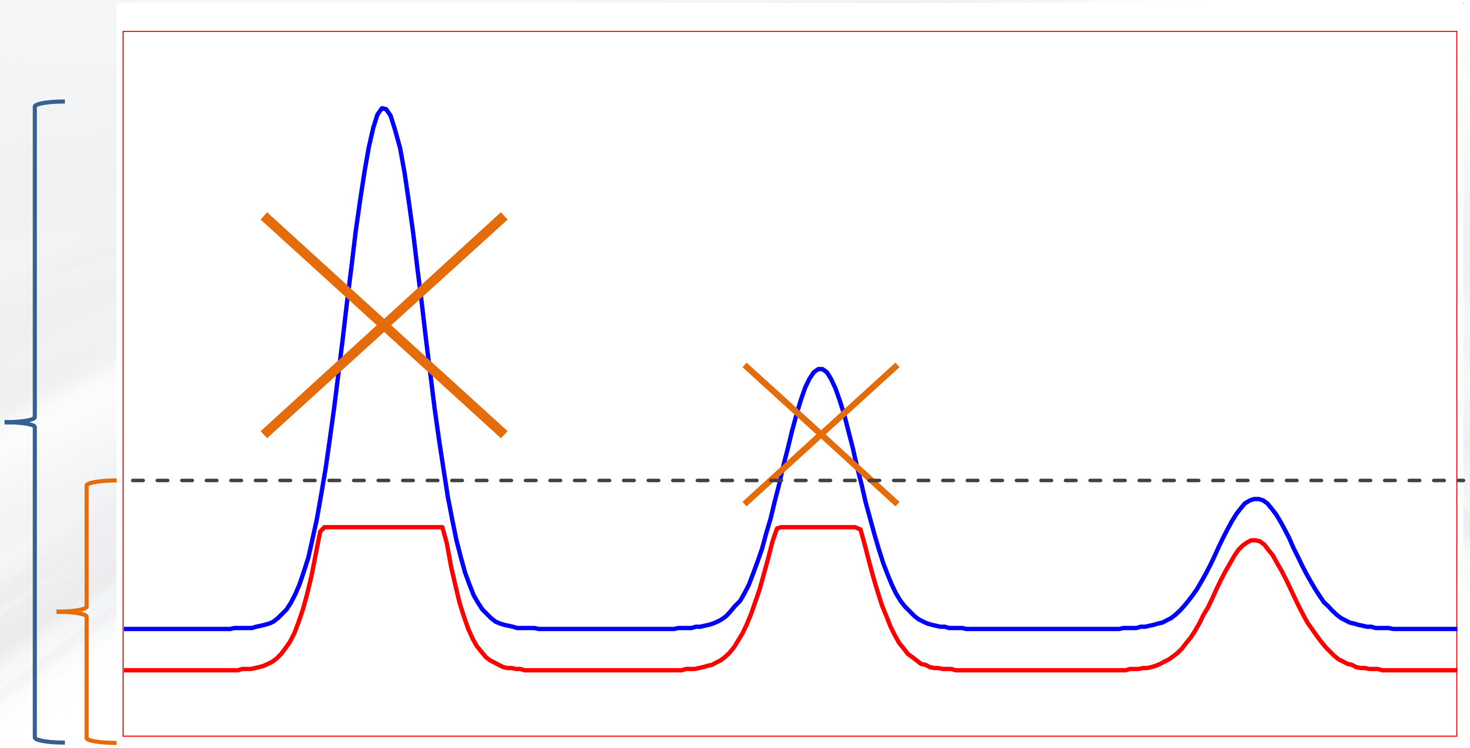
Offset: 0 mV

Det Status: Demo Mode: Not Ready (Method has not been sent)

METHOD SETUP

SIGNAL RANGE

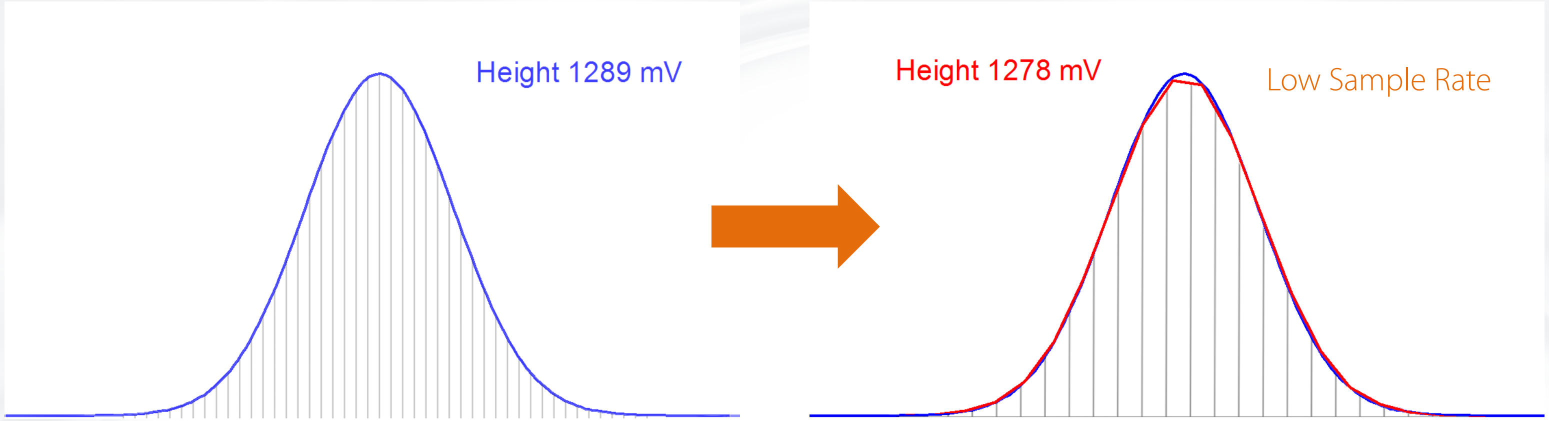
- Signal out of range = loss of information



METHOD SETUP

SAMPLE RATE

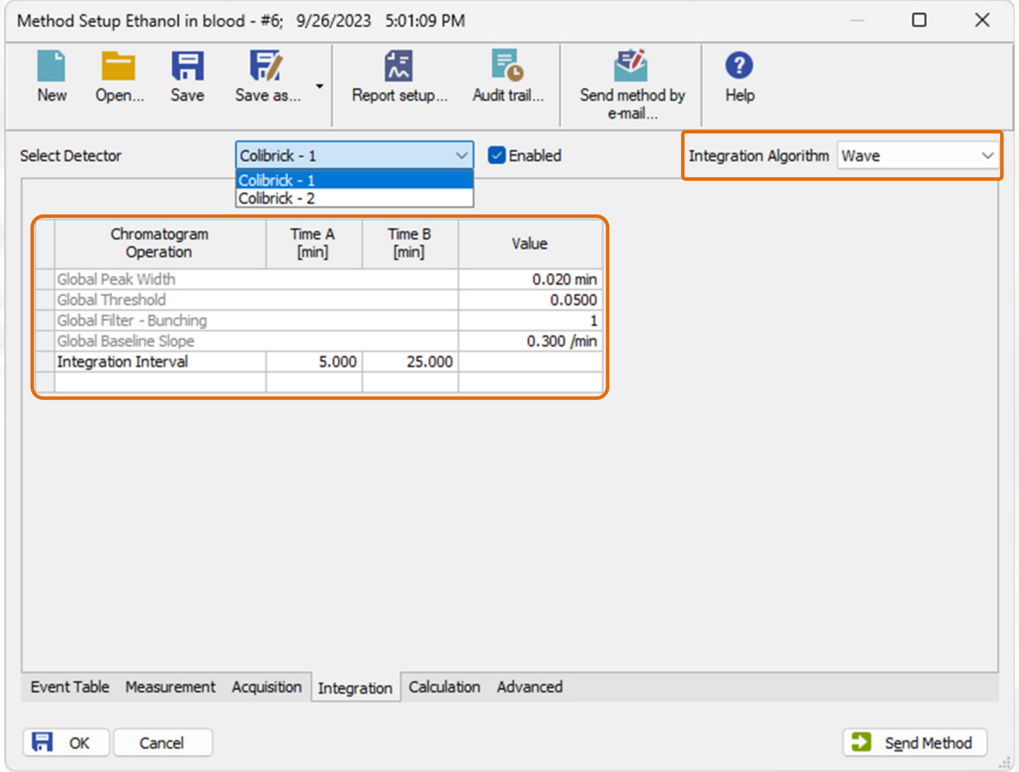
- Too low = not enough datapoints per peak = incorrect results
- “Correct” rate is dependent on HW and analytical application
  - GC detectors – usually 25-50 Hz
  - LC and Spectral detectors – according to application and HW parameters



METHOD SETUP

INTEGRATION TAB

- Parameters are applied to measured chromatograms
- Integration table is separate for each signal
- Selection of integration algorithm



Method Setup Ethanol in blood - #6; 9/26/2023 5:01:09 PM

Select Detector: Colibrick - 1

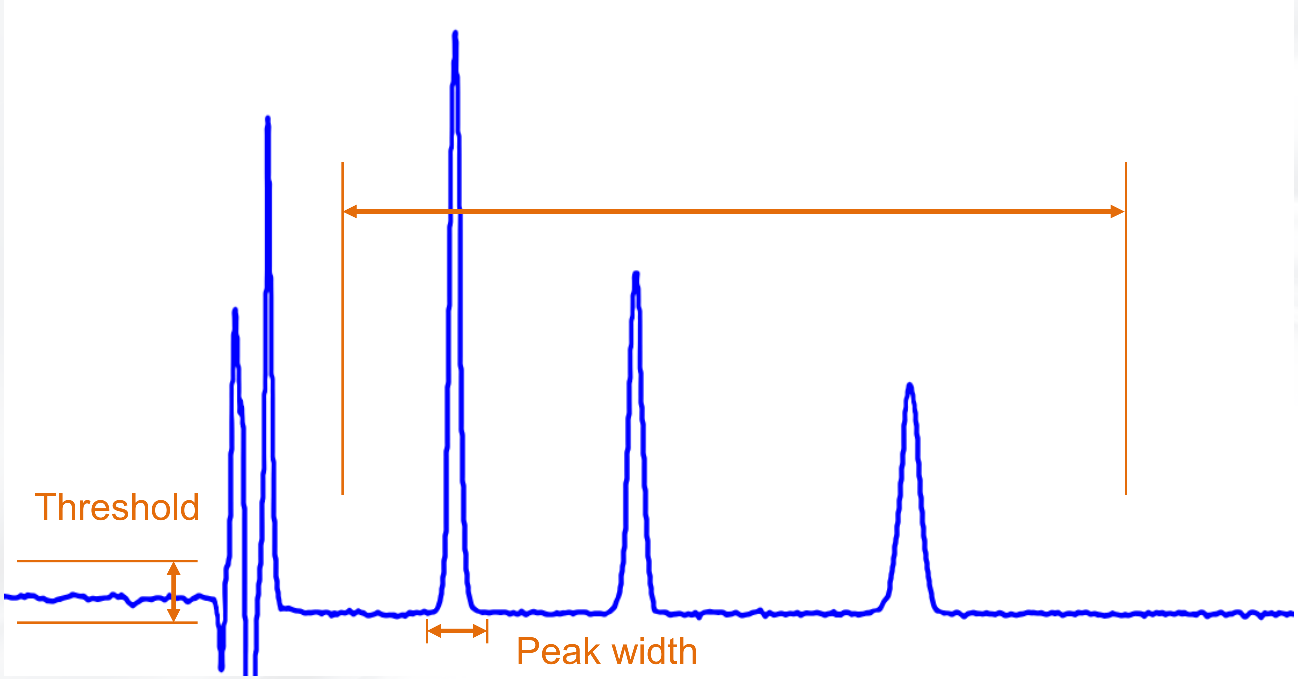
☑ Enabled

Integration Algorithm: Wave

Chromatogram Operation	Time A [min]	Time B [min]	Value
Global Peak Width			0.020 min
Global Threshold			0.0500
Global Filter - Bunching			1
Global Baseline Slope			0.300 /min
Integration Interval	5.000	25.000	

METHOD SETUP

INTEGRATION PARAMETERS

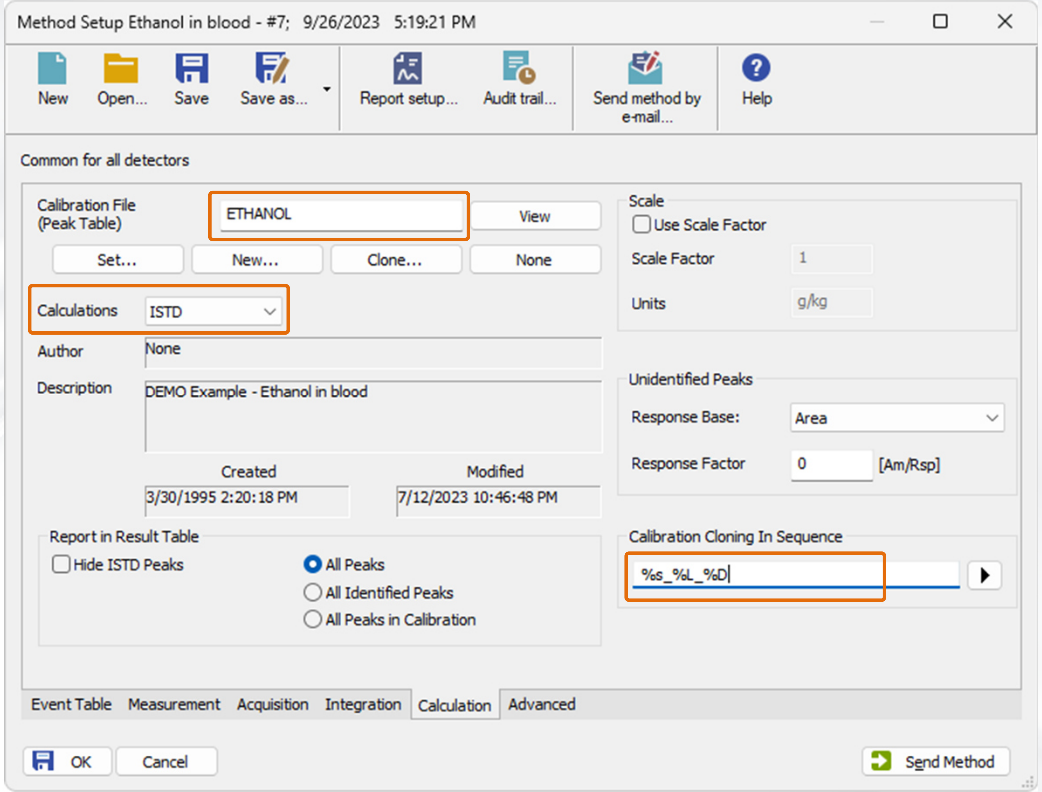


- Global parameters
    - Peak width, Threshold, Bunching, Slope
- Integration Interval
- Other interval and peak functions

METHOD SETUP

CALCULATION TAB

- Calibration that is linked to measured chromatograms
- Calculation type
- Calibration cloning



Method Setup Ethanol in blood - #7; 9/26/2023 5:19:21 PM

Common for all detectors

Calibration File (Peak Table): ETHANOL

Calculations: ISTD

Author: None

Description: DEMO Example - Ethanol in blood

Created: 3/30/1995 2:20:18 PM

Modified: 7/12/2023 10:46:48 PM

Report in Result Table

☐ Hide ISTD Peaks

● All Peaks

○ All Identified Peaks

○ All Peaks in Calibration

Scale

☐ Use Scale Factor

Scale Factor: 1

Units: g/kg

Unidentified Peaks

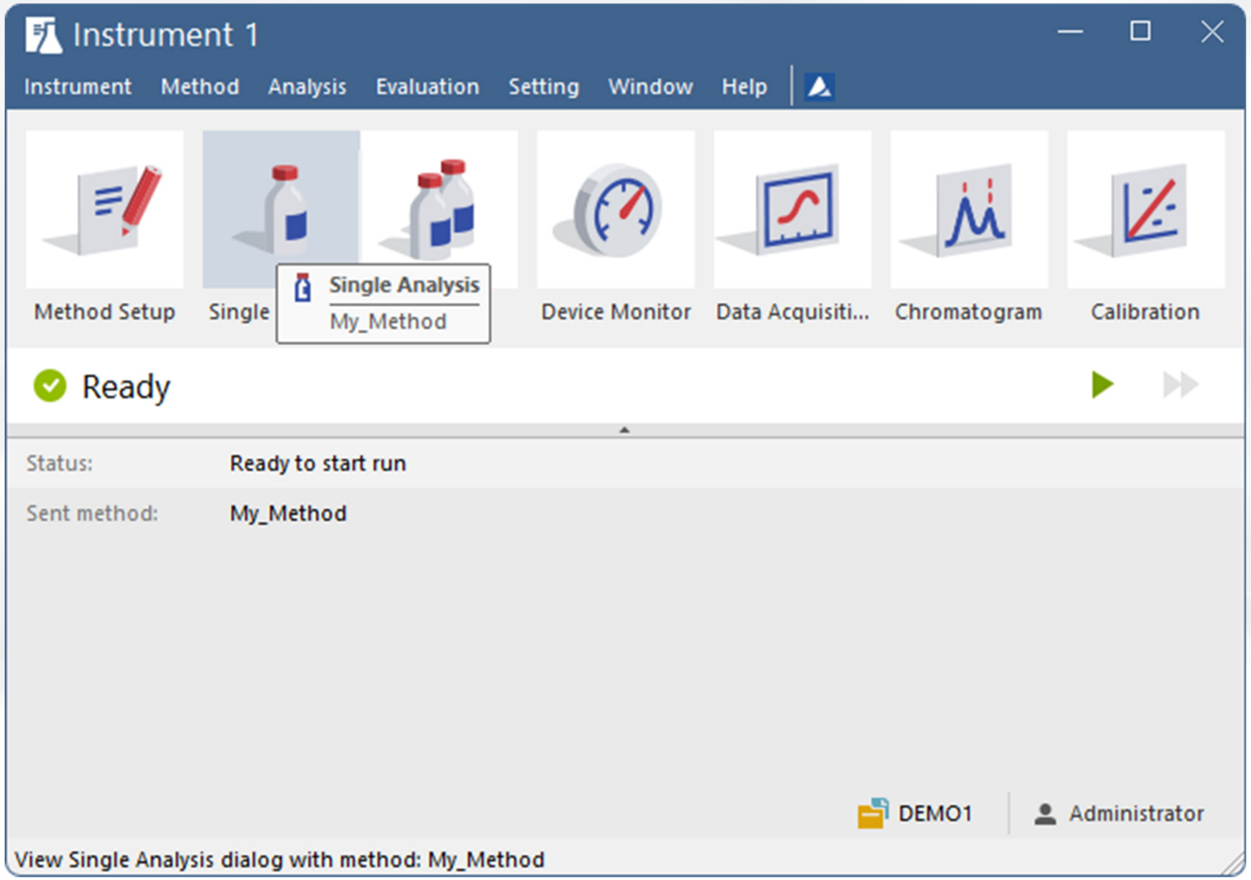
Response Base: Area

Response Factor: 0 [Am/Rsp]

Calibration Cloning In Sequence: %s_%L_%D

METHOD DEVELOPMENT

SINGLE ANALYSIS – FIRST RUN



Ready

Status: Ready to start run

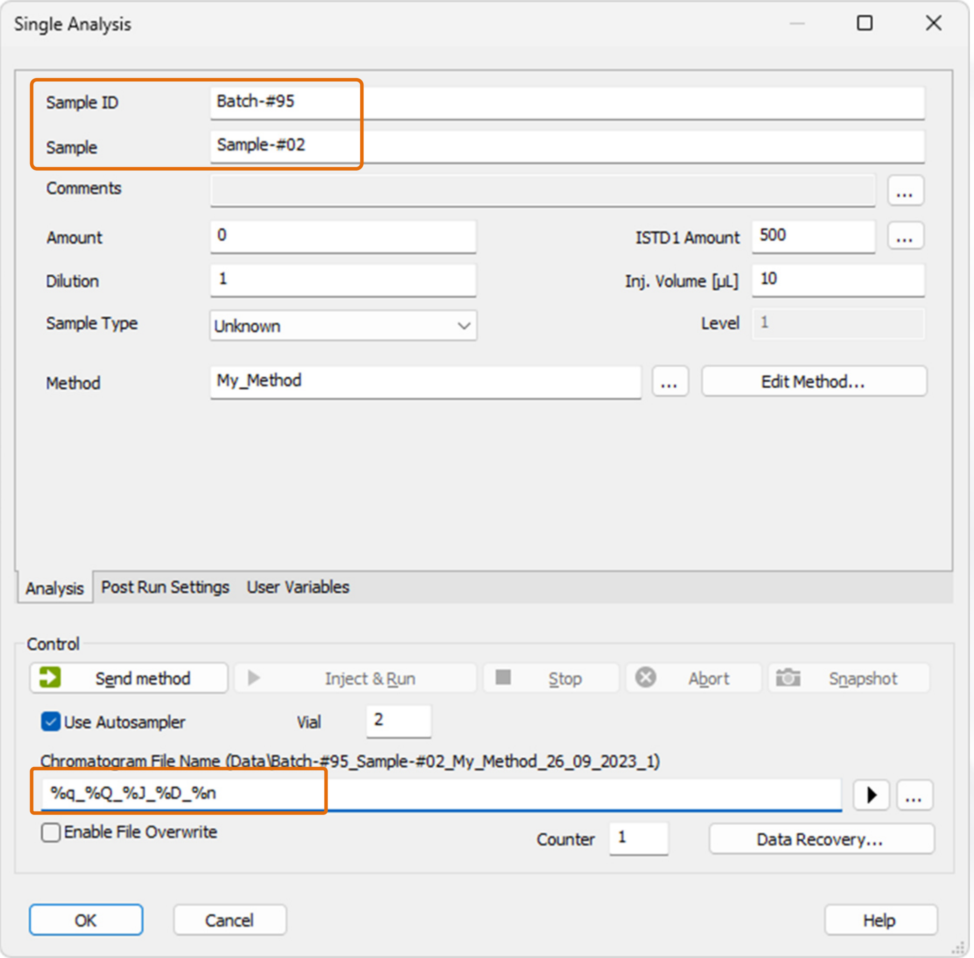
Sent method: My_Method

View Single Analysis dialog with method: My_Method

SINGLE ANALYSIS

ANALYSIS TAB

- Enter sample information
- Enter file name
  - Use variables by clicking ▶



Single Analysis

Sample ID: Batch-#95

Sample: Sample-#02

Comments:

Amount: 0

ISTD1 Amount: 500

Dilution: 1

Inj. Volume [µL]: 10

Sample Type: Unknown

Level: 1

Method: My_Method

☑ Use Autosampler

Vial: 2

Chromatogram File Name (Data\Batch-#95_Sample-#02_My_Method_26_09_2023_1)

%q_%Q_%J_%D_%n

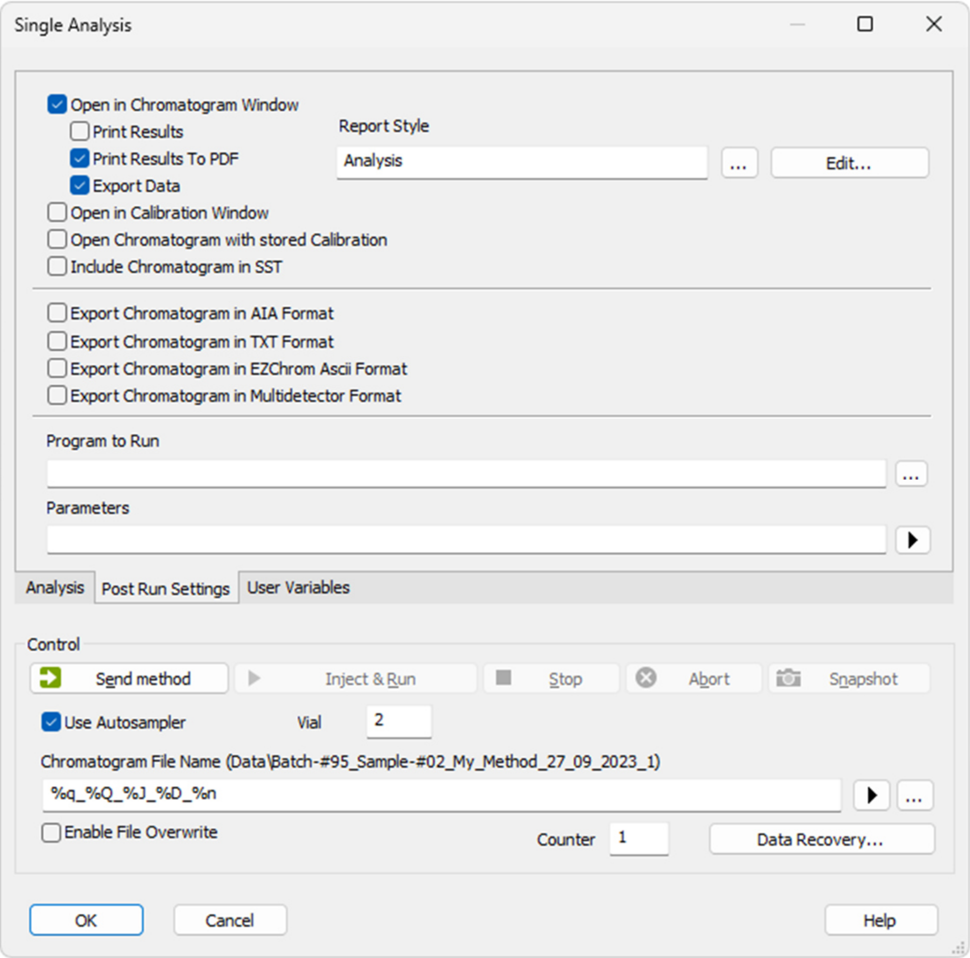
☐ Enable File Overwrite

Counter: 1

SINGLE ANALYSIS

POST RUN SETTINGS TAB

- Automatic operations after the end of analysis



☑ Open in Chromatogram Window
☐ Print Results
☑ Print Results To PDF
☑ Export Data
☐ Open in Calibration Window
☐ Open Chromatogram with stored Calibration
☐ Include Chromatogram in SST

Report Style: Analysis

☐ Export Chromatogram in AIA Format
☐ Export Chromatogram in TXT Format
☐ Export Chromatogram in EZChrom Ascii Format
☐ Export Chromatogram in Multidetector Format

Program to Run:

Parameters:

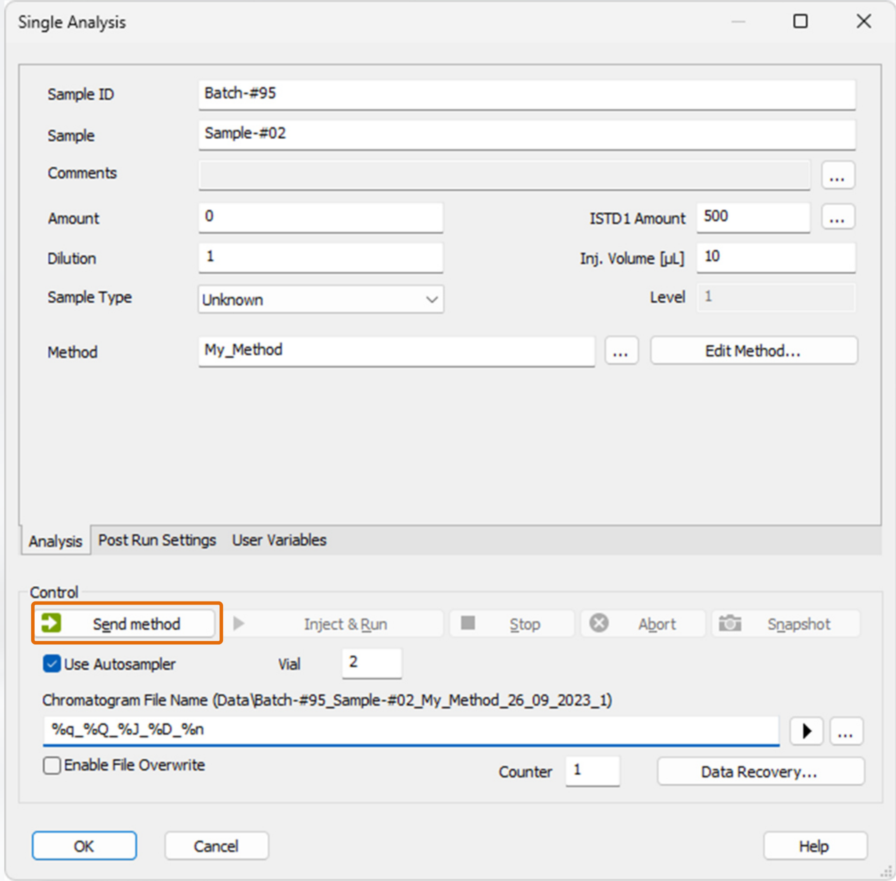
☑ Use Autosampler
Vial: 2

Chromatogram File Name (Data\Batch-#95_Sample-#02_My_Method_27_09_2023_1)
%q_%Q_%J_%D_%n

☐ Enable File Overwrite
Counter: 1

SINGLE ANALYSIS

SENDING METHOD



Single Analysis

Sample ID: Batch-#95

Sample: Sample-#02

Comments:

Amount: 0

ISTD1 Amount: 500

Dilution: 1

Inj. Volume [µL]: 10

Sample Type: Unknown

Level: 1

Method: My_Method

☑ Use Autosampler

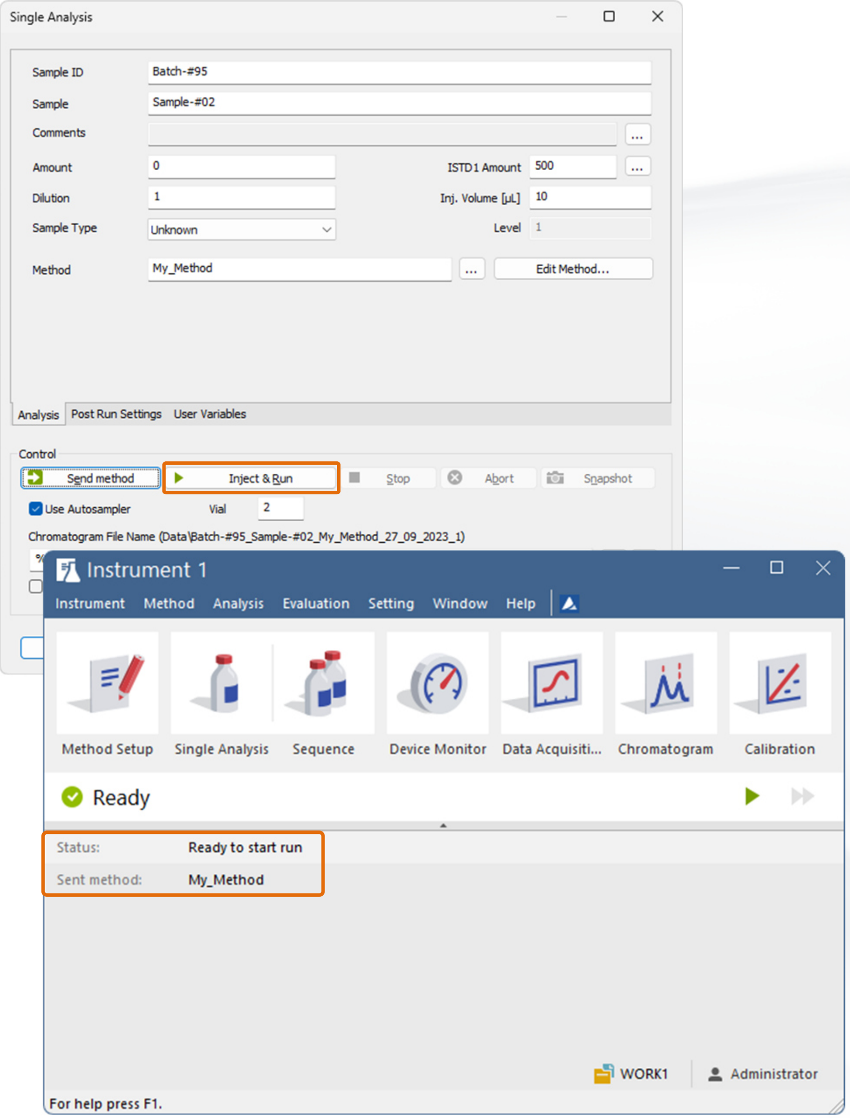
Vial: 2

Chromatogram File Name (Data\Batch-#95_Sample-#02_My_Method_26_09_2023_1)

%q_%Q_%J_%D_%n

☐ Enable File Overwrite

Counter: 1



Single Analysis

Sample ID: Batch-#95

Sample: Sample-#02

Comments:

Amount: 0

ISTD1 Amount: 500

Dilution: 1

Inj. Volume [µL]: 10

Sample Type: Unknown

Level: 1

Method: My_Method

☑ Use Autosampler

Vial: 2

Chromatogram File Name (Data\Batch-#95_Sample-#02_My_Method_27_09_2023_1)

Instrument 1

Ready

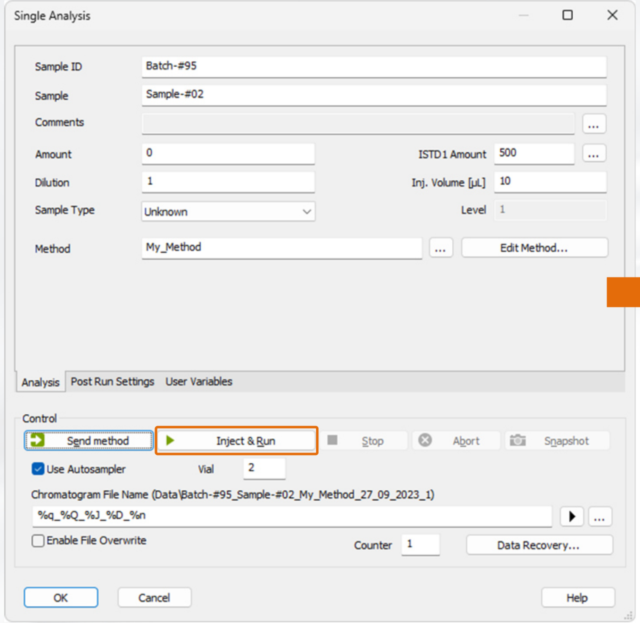
Status: Ready to start run

Sent method: My_Method

For help press F1.

METHOD DEVELOPMENT

DATA ACQUISITION



Sample ID: Batch-#95

Sample: Sample-#02

Comments:

Amount: 0

ISTD1 Amount: 500

Dilution: 1

Inj. Volume [μL]: 10

Sample Type: Unknown

Level: 1

Method: My_Method

☑ Use Autosampler

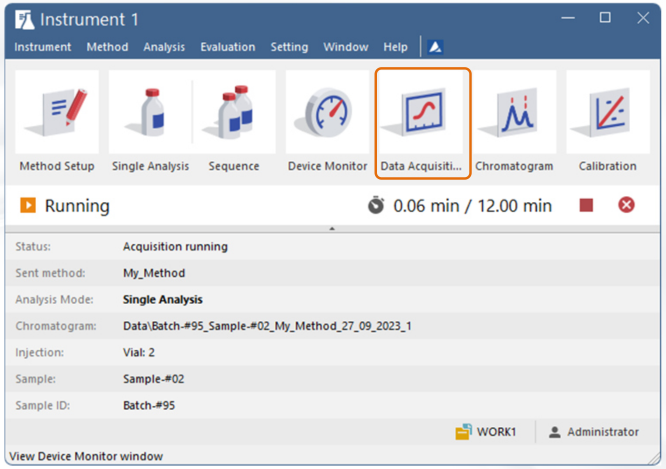
Vial: 2

Chromatogram File Name (Data\Batch-#95_Sample-#02_My_Method_27_09_2023_1)

%q_%Q_%J_%D_%n

☐ Enable File Overwrite

Counter: 1



Running 0.06 min / 12.00 min

Status: Acquisition running

Sent method: My_Method

Analysis Mode: **Single Analysis**

Chromatogram: Data\Batch-#95_Sample-#02_My_Method_27_09_2023_1

Injection: Vial: 2

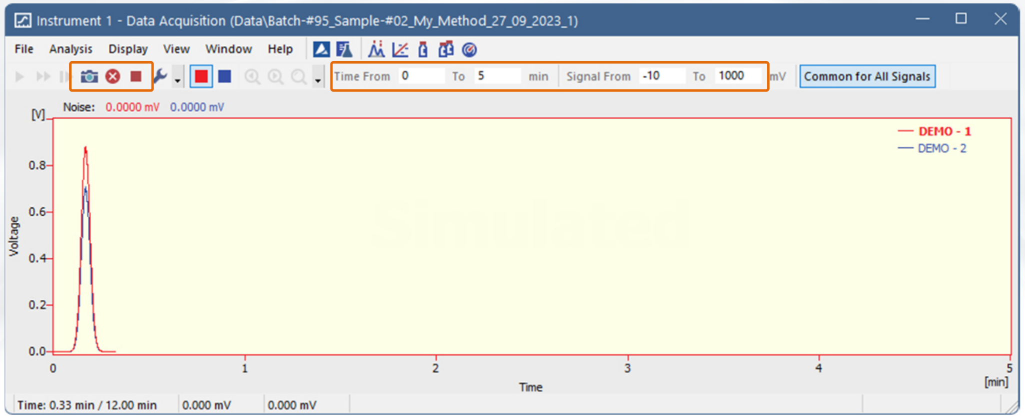
Sample: Sample-#02

Sample ID: Batch-#95

DATA ACQUISITION

MONITORING ANALYSIS

- Functions
  - Snapshot – Temporary chromatogram
  - Abort – End analysis, no chromatogram saved
  - Stop – End analysis, save chromatogram
- Parameters – Only influence view, not data itself



Instrument 1 - Data Acquisition (Data\Batch-#95_Sample-#02_My_Method_27_09_2023_1)

Time From 0 To 5 min Signal From -10 To 1000 mV

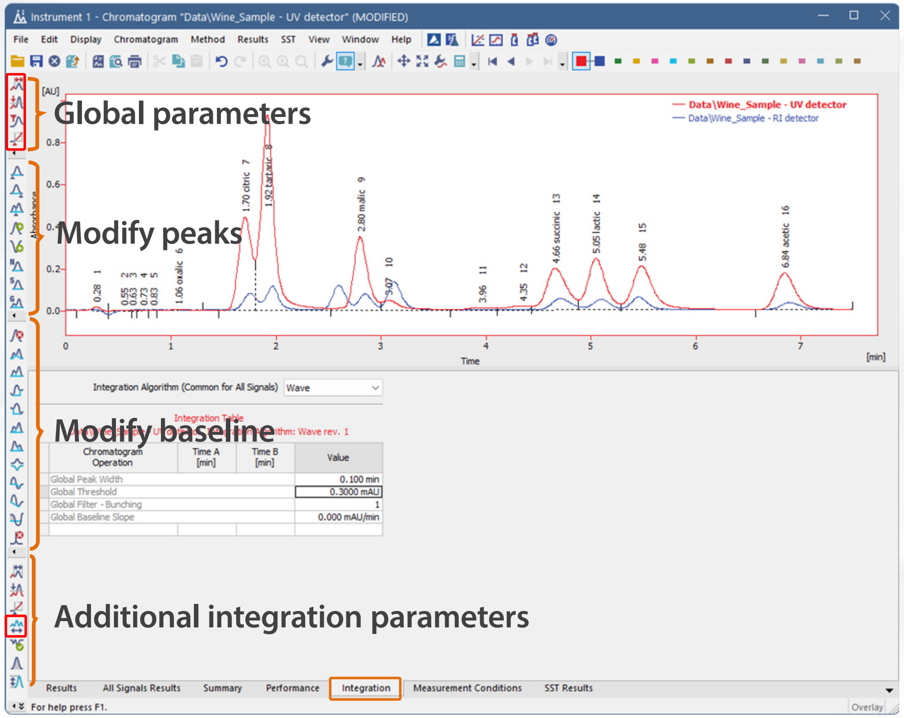
Noise: 0.0000 mV 0.0000 mV

Time: 0.33 min / 12.00 min 0.000 mV 0.000 mV

METHOD DEVELOPMENT

FIRST CHROMATOGRAM

- Optimize integration
  - Global parameters
  - Integration interval
  - Other functions
- Change integration algorithm



Integration Algorithm (Common for All Signals) Wave

Integration Table

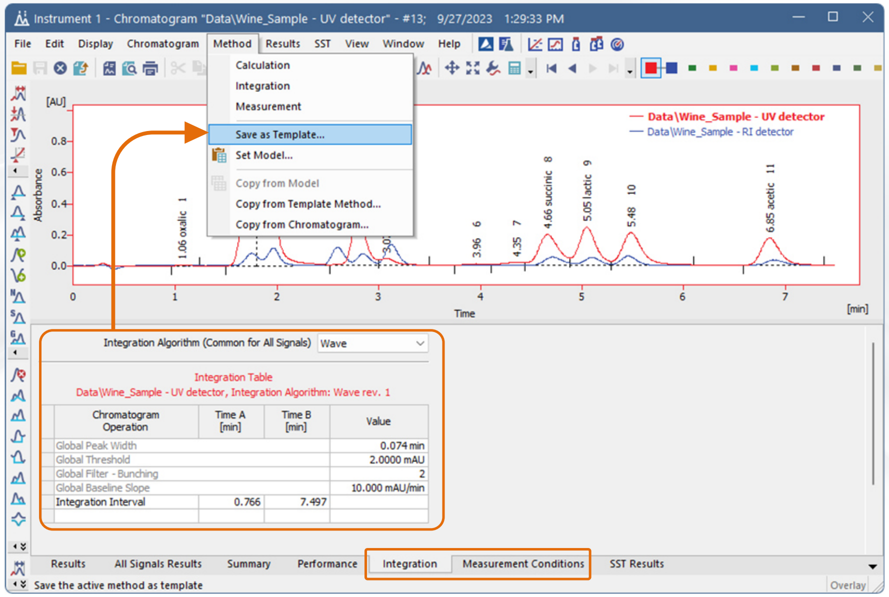
Data\Wine_Sample - UV detector, Integration Algorithm: Wave rev. 1

Chromatogram Operation	Time A [min]	Time B [min]	Value
Global Peak Width			0.100 min
Global Threshold			0.3000 mAU
Global Filter - Bunching			1
Global Baseline Slope			0.000 mAU/min

CHROMATOGRAM

SAVING OPTIMIZED METHOD

- Save as template – saves entire method from chromatogram
    - Instrumental part
    - Integration
    - Linked calibration
    - Etc.



Integration Algorithm (Common for All Signals) Wave

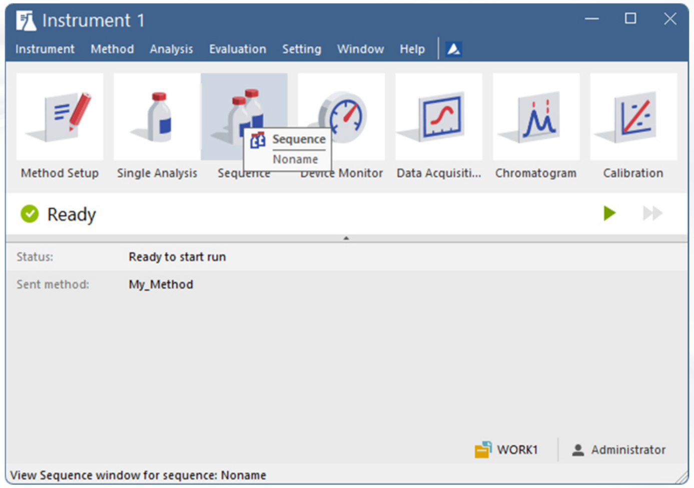
Integration Table
Data\Wine_Sample - UV detector, Integration Algorithm: Wave rev. 1

Chromatogram Operation	Time A [min]	Time B [min]	Value
Global Peak Width			0.074 min
Global Threshold			2.0000 mAU
Global Filter - Bunching			2
Global Baseline Slope			10.000 mAU/min
Integration Interval	0.766	7.497	

Save the active method as template

SEQUENCE

- Analyze many samples using autosampler
  - Can be used with manual injection
- Utilize optimized method from previous steps



Status: Ready to start run

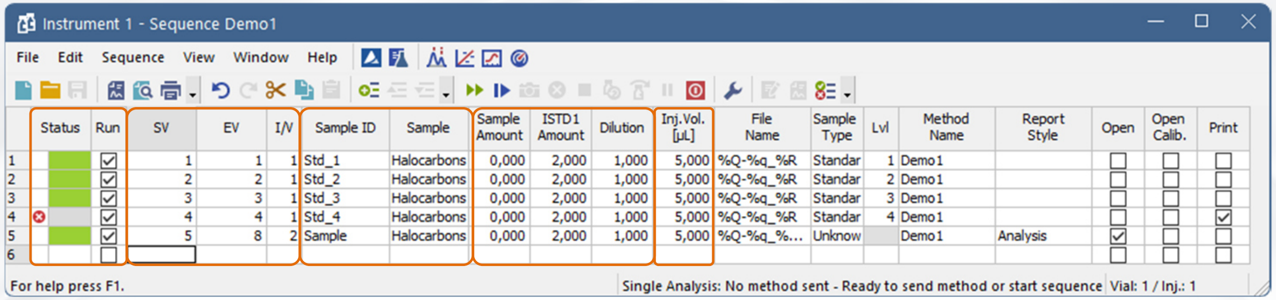
Sent method: My_Method

View Sequence window for sequence: Noname

SEQUENCE

SEQUENCE TABLE 1/3

- Status
- Vial information
- Sample information
- Values for additional calculations
- Injection volume – important for autosampler



	Status	Run	SV	EV	I/V	Sample ID	Sample	Sample Amount	ISTD1 Amount	Dilution	Inj.Vol. [µL]	File Name	Sample Type	Lvl	Method Name	Report Style	Open	Open Calib.	Print
1	🟩	☑	1	1	1	Std_1	Halocarbons	0,000	2,000	1,000	5,000	%Q-%q_%R	Standar	1	Demo1		☐	☐	☐
2	🟩	☑	2	2	1	Std_2	Halocarbons	0,000	2,000	1,000	5,000	%Q-%q_%R	Standar	2	Demo1		☐	☐	☐
3	🟩	☑	3	3	1	Std_3	Halocarbons	0,000	2,000	1,000	5,000	%Q-%q_%R	Standar	3	Demo1		☐	☐	☐
4	⊗	☑	4	4	1	Std_4	Halocarbons	0,000	2,000	1,000	5,000	%Q-%q_%R	Standar	4	Demo1		☐	☐	☑
5	🟩	☑	5	8	2	Sample	Halocarbons	0,000	2,000	1,000	5,000	%Q-%q_%...	Unknow		Demo1	Analysis	☑	☐	☐
6		☐															☐	☐	☐

For help press F1.

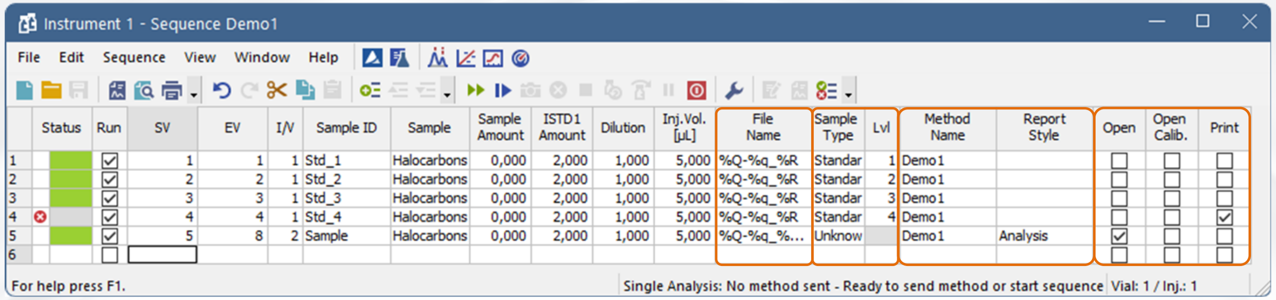
Single Analysis: No method sent - Ready to send method or start sequence

Vial: 1 / Inj.: 1

SEQUENCE

SEQUENCE TABLE 2/3

- File name – usable variables
- Sample type (+ Levels for standards)
- Acquisition and printing methods
- Automated post run actions



	Status	Run	SV	EV	I/V	Sample ID	Sample	Sample Amount	ISTD1 Amount	Dilution	Inj.Vol. [µL]	File Name	Sample Type	Lvl	Method Name	Report Style	Open	Open Calib.	Print
1	🟩	☑	1	1	1	Std_1	Halocarbons	0,000	2,000	1,000	5,000	%Q-%q_%R	Standar	1	Demo1		☐	☐	☐
2	🟩	☑	2	2	1	Std_2	Halocarbons	0,000	2,000	1,000	5,000	%Q-%q_%R	Standar	2	Demo1		☐	☐	☐
3	🟩	☑	3	3	1	Std_3	Halocarbons	0,000	2,000	1,000	5,000	%Q-%q_%R	Standar	3	Demo1		☐	☐	☐
4	⊗	☑	4	4	1	Std_4	Halocarbons	0,000	2,000	1,000	5,000	%Q-%q_%R	Standar	4	Demo1		☐	☐	☑
5	🟩	☑	5	8	2	Sample	Halocarbons	0,000	2,000	1,000	5,000	%Q-%q_%...	Unknow		Demo1	Analysis	☑	☐	☐
6		☐															☐	☐	☐

For help press F1.

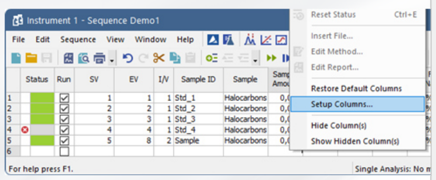
Single Analysis: No method sent - Ready to send method or start sequence

Vial: 1 / Inj.: 1

SEQUENCE

SEQUENCE TABLE 3/3

- Hidden columns – setup columns dialog
  - Accessible from local menu
  - Applicable to most tables in Clarity


Instrument 1 - Sequence Demo1

	Status	Run	SV	EV	I/V	Sample ID	Sample	Samp Amou
1	🟩	☑	1	1	1	Std_1	Halocarbons	0,(
2	🟩	☑	2	2	1	Std_2	Halocarbons	0,(
3	🟩	☑	3	3	1	Std_3	Halocarbons	0,(
4	☒	☑	4	4	1	Std_4	Halocarbons	0,(
5	🟩	☑	5	8	2	Sample	Halocarbons	0,(
6		☐						

For help press F1.

Single Analysis: No m

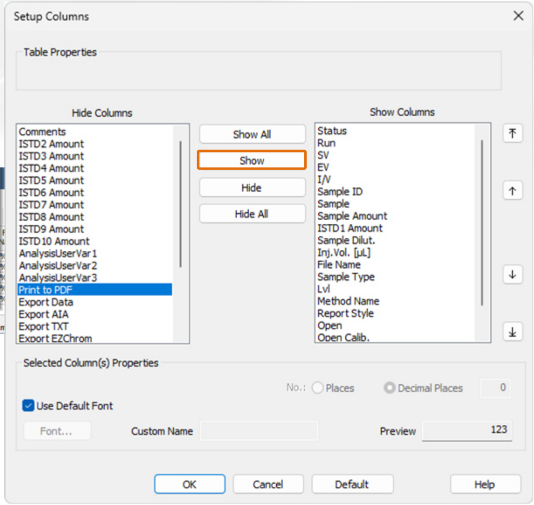

Setup Columns

Table Properties

Hide Columns:
Comments
ISTD2 Amount
ISTD3 Amount
ISTD4 Amount
ISTD5 Amount
ISTD6 Amount
ISTD7 Amount
ISTD8 Amount
ISTD9 Amount
ISTD10 Amount
AnalysisUserVar1
AnalysisUserVar2
AnalysisUserVar3
Print to PDF
Export Data
Export AIA
Export TXT
Export EZChrom

Show Columns:
Status
Run
SV
EV
I/V
Sample ID
Sample
Sample Amount
ISTD1 Amount
Sample Dilut.
Inj.Vol. [μL]
File Name
Sample Type
Lvl
Method Name
Report Style
Open
Open Calib.

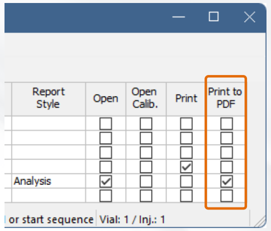
Selected Column(s) Properties

No.: ○ Places ● Decimal Places 0

☑ Use Default Font

Custom Name

Preview 123

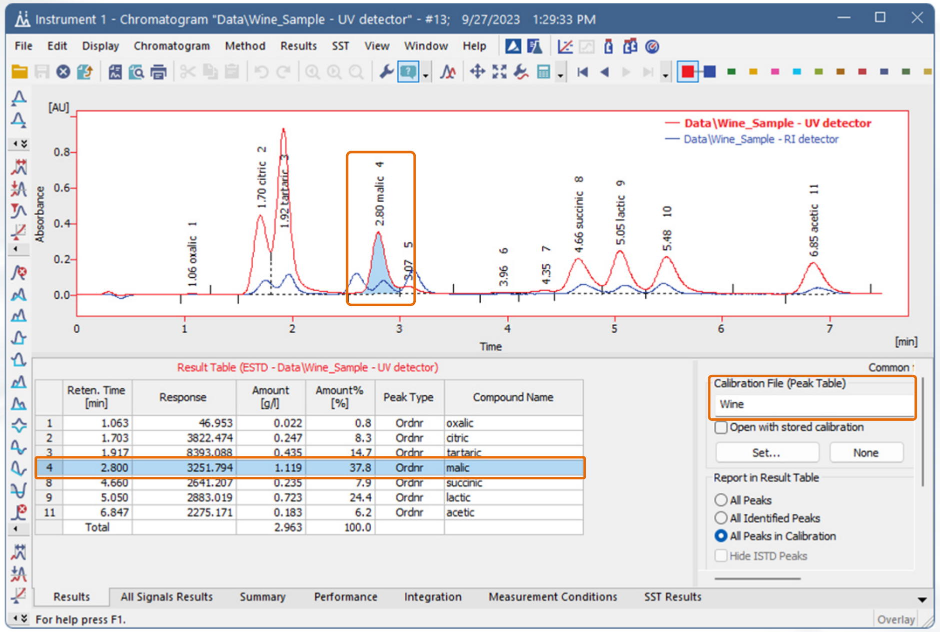


Report Style	Open	Open Calib.	Print	Print to PDF
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☑	☐
Analysis	☑	☐	☐	☑
	☐	☐	☐	☐

or start sequence Vial: 1 / Inj.: 1

CALIBRATION

- Stored as *.cal files
- Identification of compounds based on retention time



Result Table (ESTD - Data\Wine_Sample - UV detector)

	Reten. Time [min]	Response	Amount [g/l]	Amount% [%]	Peak Type	Compound Name
1	1.063	46.953	0.022	0.8	Ordnr	oxalic
2	1.703	3822.474	0.247	8.3	Ordnr	citric
3	1.917	8393.088	0.435	14.7	Ordnr	tartaric
4	2.800	3251.794	1.119	37.8	Ordnr	malic
8	4.660	2641.207	0.235	7.9	Ordnr	succinic
9	5.050	2883.019	0.723	24.4	Ordnr	lactic
11	6.847	2275.171	0.183	6.2	Ordnr	acetic
	Total		2.963	100.0		

Common

Calibration File (Peak Table)
Wine

☐ Open with stored calibration

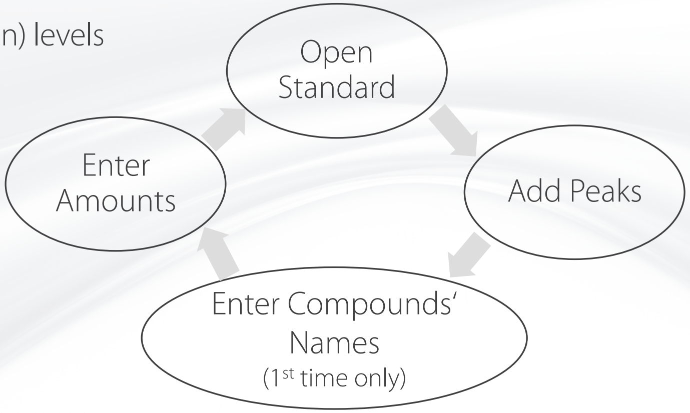
Set... None

Report in Result Table
○ All Peaks
○ All Identified Peaks
● All Peaks in Calibration
☐ Hide ISTD Peaks

CALIBRATION

MANUAL CREATION

- Acquire and integrate standard samples
- Set calibration options
- Add (concentration) levels



Open Standard

Add Peaks

Enter Compounds' Names
(1st time only)

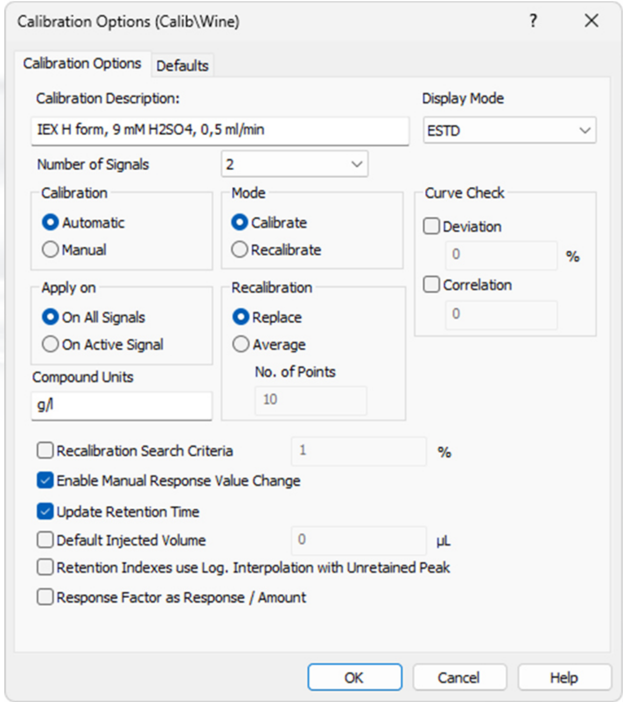
Enter Amounts

- Save calibration
- Link it to chromatograms

CALIBRATION

CALIBRATION OPTIONS

- Display mode – ESTD, ISTD etc.
- Calibration
  - Automatic – recommended
  - Manual – addition of each peak requires manual confirmation
- Mode
  - Calibrate – peaks added to first empty level
  - Recalibrate – peaks applied to selected level
- Recalibration
  - Replace – only uses last measured response
  - Average – uses averaged response from “x” measurements
- Compound units
  - Displayed in result table



Calibration Description: IEX H form, 9 mM H2SO4, 0,5 ml/min

Display Mode: ESTD

Number of Signals: 2

Calibration: ● Automatic ○ Manual

Mode: ● Calibrate ○ Recalibrate

Curve Check: ☐ Deviation 0 % ☐ Correlation 0

Apply on: ● On All Signals ○ On Active Signal

Recalibration: ● Replace ○ Average No. of Points 10

Compound Units: g/l

☐ Recalibration Search Criteria 1 %

☑ Enable Manual Response Value Change

☑ Update Retention Time

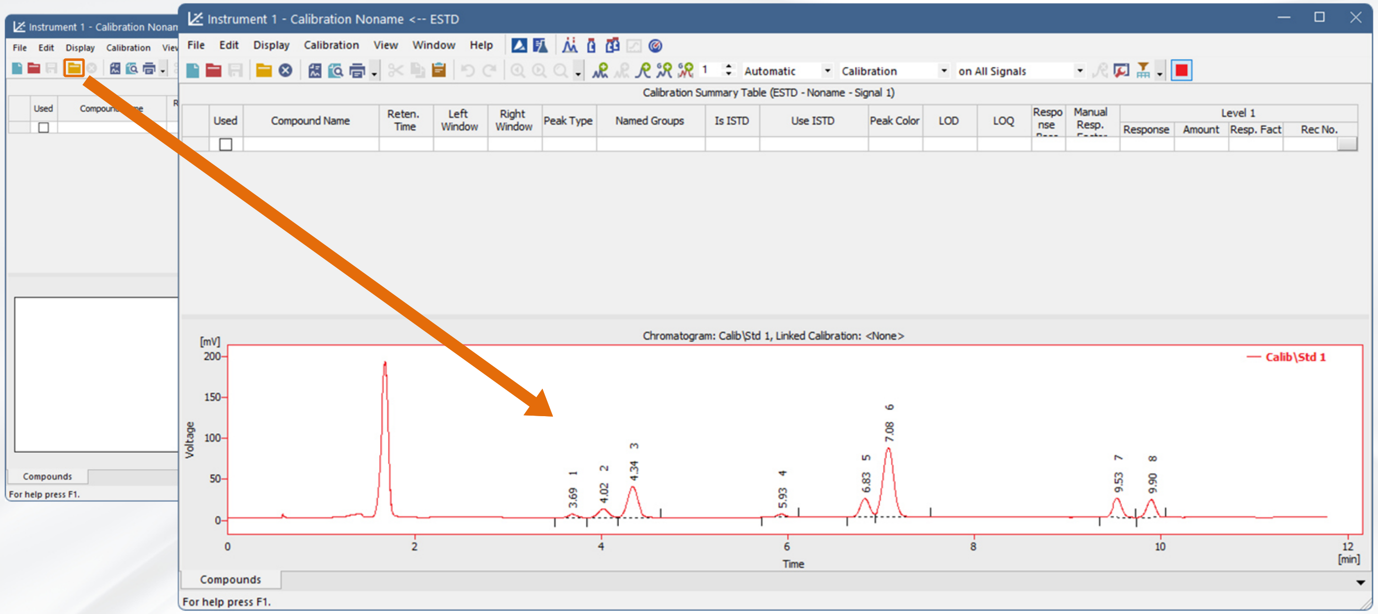
☐ Default Injected Volume 0 μL

☐ Retention Indexes use Log. Interpolation with Unretained Peak

☐ Response Factor as Response / Amount

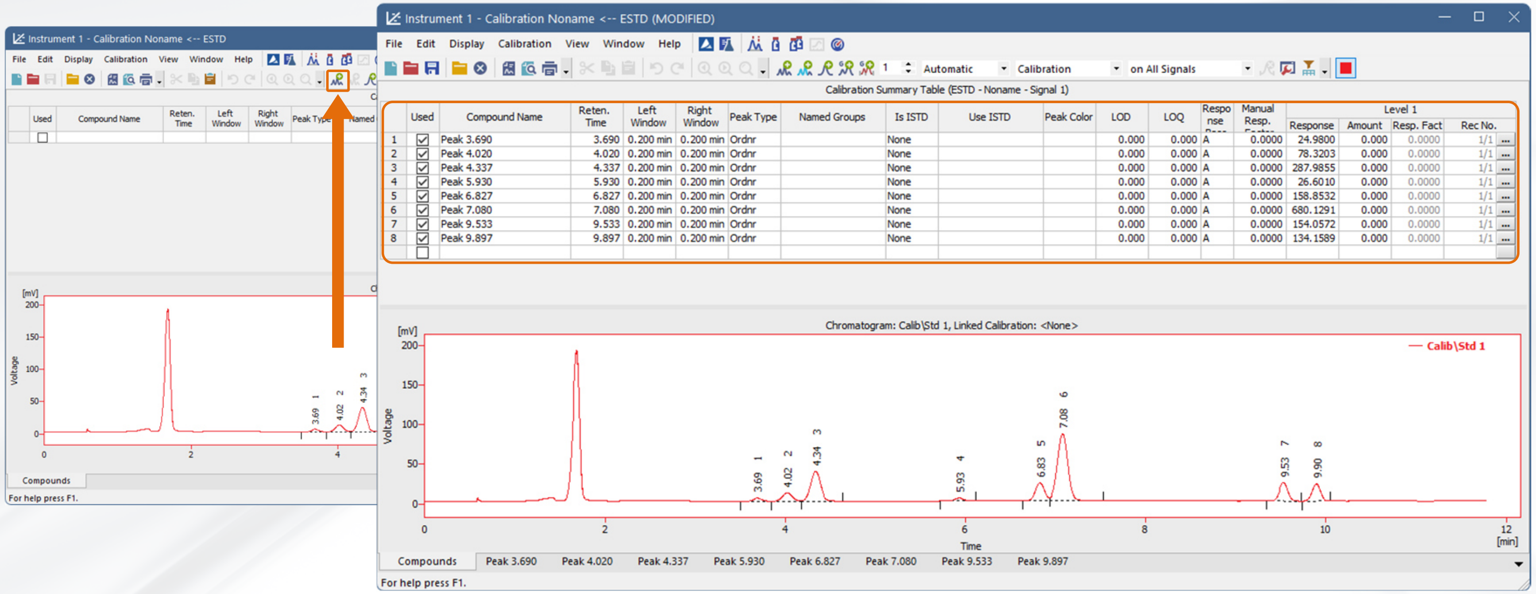
CALIBRATION

FILLING LEVEL 1/4 - OPENING STANDARD



CALIBRATION

FILLING LEVEL 2/4 - ADDING PEAKS

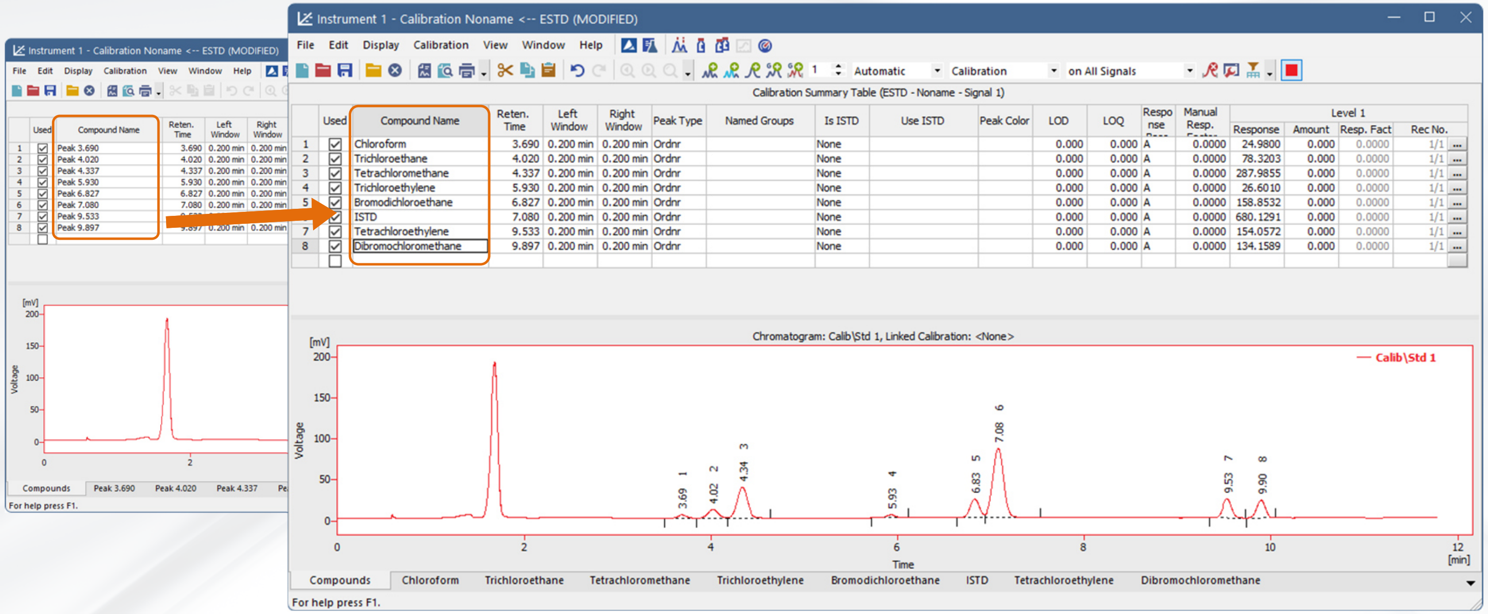


Calibration Summary Table (ESTD - Noname - Signal 1)

	Used	Compound Name	Reten. Time	Left Window	Right Window	Peak Type	Named Groups	Is ISTD	Use ISTD	Peak Color	LOD	LOQ	Response	Manual Resp.	Level 1				
															Response	Amount	Resp. Fact	Rec No.	
1	☑	Peak 3.690	3.690	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	24.9800	0.000	0.0000	1/1	...
2	☑	Peak 4.020	4.020	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	78.3203	0.000	0.0000	1/1	...
3	☑	Peak 4.337	4.337	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	287.9855	0.000	0.0000	1/1	...
4	☑	Peak 5.930	5.930	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	26.6010	0.000	0.0000	1/1	...
5	☑	Peak 6.827	6.827	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	158.8532	0.000	0.0000	1/1	...
6	☑	Peak 7.080	7.080	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	680.1291	0.000	0.0000	1/1	...
7	☑	Peak 9.533	9.533	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	154.0572	0.000	0.0000	1/1	...
8	☑	Peak 9.897	9.897	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	134.1589	0.000	0.0000	1/1	...
	☐																		

CALIBRATION

FILLING LEVEL 3/4 – NAMING COMPOUNDS (1ST LEVEL ONLY)



	Used	Compound Name	Reten. Time	Left Window	Right Window
1	☑	Peak 3.690	3.690	0.200 min	0.200 min
2	☑	Peak 4.020	4.020	0.200 min	0.200 min
3	☑	Peak 4.337	4.337	0.200 min	0.200 min
4	☑	Peak 5.930	5.930	0.200 min	0.200 min
5	☑	Peak 6.827	6.827	0.200 min	0.200 min
6	☑	Peak 7.080	7.080	0.200 min	0.200 min
7	☑	Peak 9.533	[illegible]	[illegible]	[illegible]
8	☑	Peak 9.897	9.897	0.200 min	0.200 min
	☐				

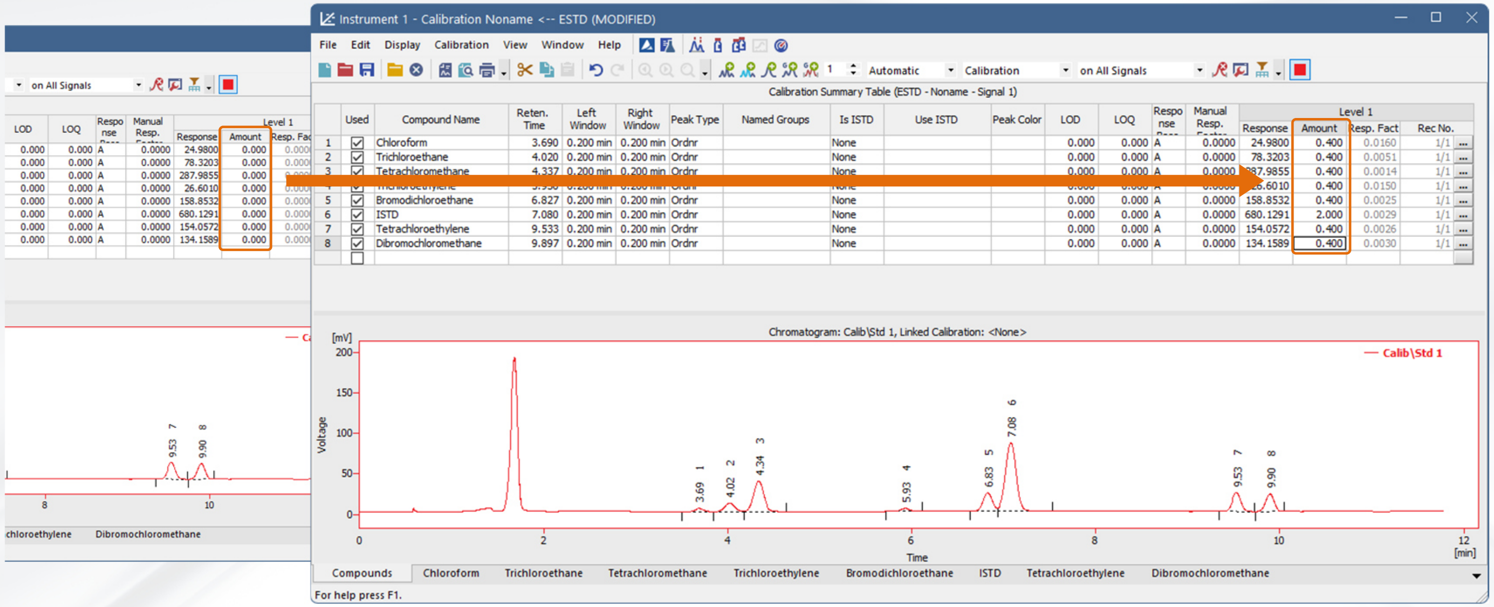
Calibration Summary Table (ESTD - Noname - Signal 1)

	Used	Compound Name	Reten. Time	Left Window	Right Window	Peak Type	Named Groups	Is ISTD	Use ISTD	Peak Color	LOD	LOQ	Response Base	Manual Resp. Factor	Level 1 Response	Level 1 Amount	Level 1 Resp. Fact	Level 1 Rec No.
1	☑	Chloroform	3.690	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	24.9800	0.000	0.0000	1/1
2	☑	Trichloroethane	4.020	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	78.3203	0.000	0.0000	1/1
3	☑	Tetrachloromethane	4.337	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	287.9855	0.000	0.0000	1/1
4	☑	Trichloroethylene	5.930	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	26.6010	0.000	0.0000	1/1
5	☑	Bromodichloroethane	6.827	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	158.8532	0.000	0.0000	1/1
6	☑	ISTD	7.080	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	680.1291	0.000	0.0000	1/1
7	☑	Tetrachloroethylene	9.533	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	154.0572	0.000	0.0000	1/1
8	☑	Dibromochloromethane	9.897	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	134.1589	0.000	0.0000	1/1
	☐																	

Chromatogram: Calib\Std 1, Linked Calibration: <None>

CALIBRATION

FILLING LEVEL 4/4 – FILLING AMOUNTS



LOD	LOQ	Respo nse	Manual Resp.	Level 1 Response	Amount
0.000	0.000	A	0.0000	24.9800	0.000
0.000	0.000	A	0.0000	78.3203	0.000
0.000	0.000	A	0.0000	287.9855	0.000
0.000	0.000	A	0.0000	26.6010	0.000
0.000	0.000	A	0.0000	158.8532	0.000
0.000	0.000	A	0.0000	680.1291	0.000
0.000	0.000	A	0.0000	154.0572	0.000
0.000	0.000	A	0.0000	134.1589	0.000

Instrument 1 - Calibration Noname <-- ESTD (MODIFIED)

Automatic | Calibration | on All Signals

Calibration Summary Table (ESTD - Noname - Signal 1)

	Used	Compound Name	Reten. Time	Left Window	Right Window	Peak Type	Named Groups	Is ISTD	Use ISTD	Peak Color	LOD	LOQ	Respo nse	Manual Resp.	Level 1 Response	Amount	Resp. Fact	Rec No.
1	☑	Chloroform	3.690	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	24.9800	0.400	0.0160	1/1
2	☑	Trichloroethane	4.020	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	78.3203	0.400	0.0051	1/1
3	☑	Tetrachloromethane	4.337	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	287.9855	0.400	0.0014	1/1
4	☑	Trichloroethylene	5.930	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	26.6010	0.400	0.0150	1/1
5	☑	Bromodichloroethane	6.827	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	158.8532	0.400	0.0025	1/1
6	☑	ISTD	7.080	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	680.1291	2.000	0.0029	1/1
7	☑	Tetrachloroethylene	9.533	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	154.0572	0.400	0.0026	1/1
8	☑	Dibromochloromethane	9.897	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	134.1589	0.400	0.0030	1/1
	☐																	

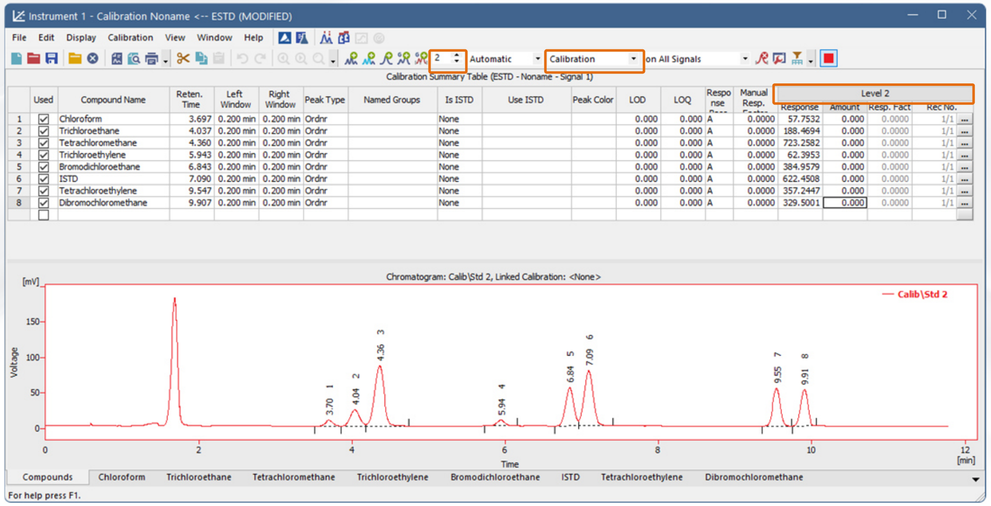
Chromatogram: Calib\Std 1, Linked Calibration: <None>

For help press F1.

CALIBRATION

NEXT LEVEL

- Repeat the previous steps for each level
- Use “Calibration” settings
  - New peaks added to empty level



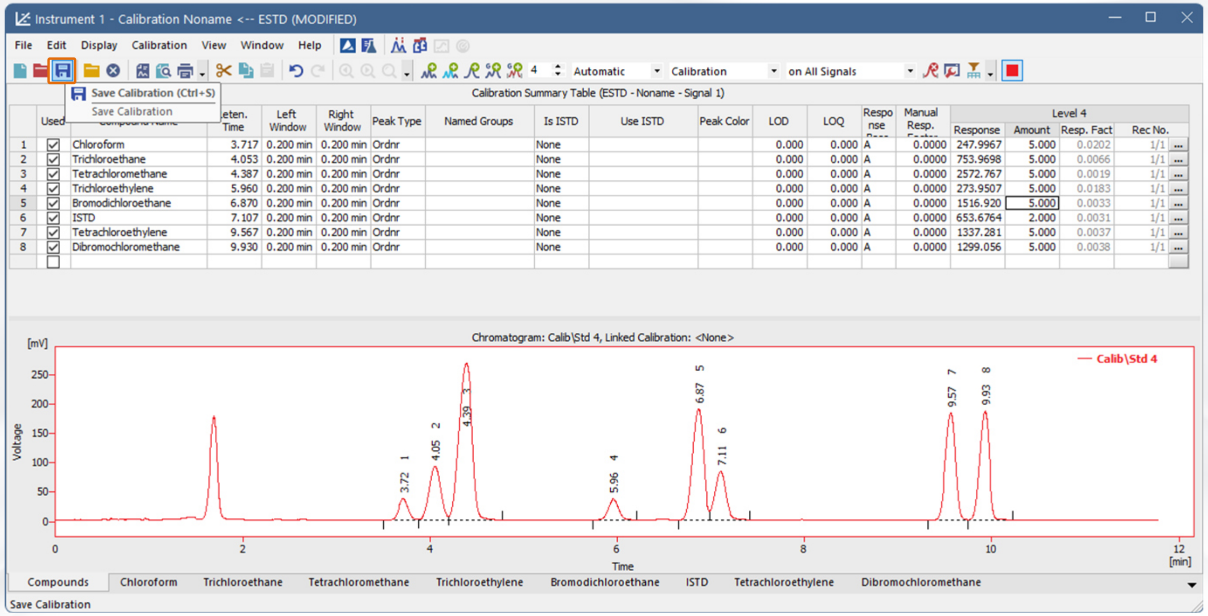
Calibration Summary Table (ESTD - Noname - Signal 1)

	Used	Compound Name	Reten. Time	Left Window	Right Window	Peak Type	Named Groups	Is ISTD	Use ISTD	Peak Color	LOD	LOQ	Respo nse	Manual Resp.	Level 2 Response	Amount	Resp. Fact	Rec No.
1	☑	Chloroform	3.697	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	57.7532	0.000	0.0000	1/1
2	☑	Trichloroethane	4.037	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	188.4694	0.000	0.0000	1/1
3	☑	Tetrachloromethane	4.360	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	723.2582	0.000	0.0000	1/1
4	☑	Trichloroethylene	5.943	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	62.3953	0.000	0.0000	1/1
5	☑	Bromodichloroethane	6.843	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	384.9579	0.000	0.0000	1/1
6	☑	ISTD	7.090	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	622.4508	0.000	0.0000	1/1
7	☑	Tetrachloroethylene	9.547	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	357.2447	0.000	0.0000	1/1
8	☑	Dibromochloromethane	9.907	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	329.5001	0.000	0.0000	1/1
	☐																	

Chromatogram: Calib\Std 2, Linked Calibration: <None>

CALIBRATION

SAVING



Calibration Summary Table (ESTD - Noname - Signal 1)

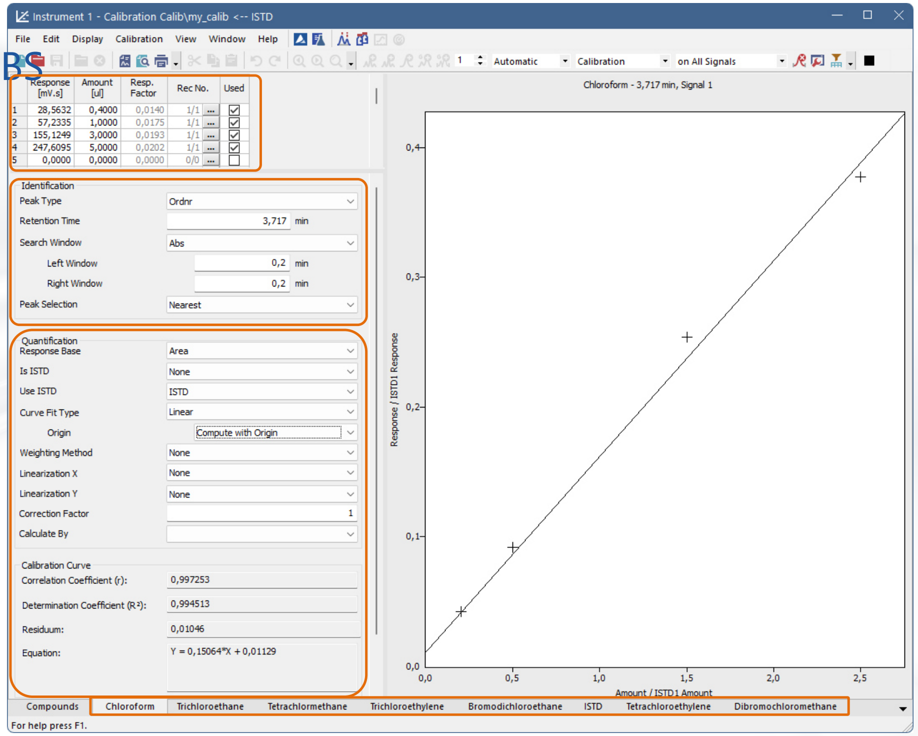
	Used		eten. Time	Left Window	Right Window	Peak Type	Named Groups	Is ISTD	Use ISTD	Peak Color	LOD	LOQ	Respo nse	Manual Resp.	Level 4			
															Response	Amount	Resp. Fact	Rec No.
1	☑	Chloroform	3.717	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	247.9967	5.000	0.0202	1/1
2	☑	Trichloroethane	4.053	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	753.9698	5.000	0.0066	1/1
3	☑	Tetrachloromethane	4.387	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	2572.767	5.000	0.0019	1/1
4	☑	Trichloroethylene	5.960	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	273.9507	5.000	0.0183	1/1
5	☑	Bromodichloroethane	6.870	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	1516.920	5.000	0.0033	1/1
6	☑	ISTD	7.107	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	653.6764	2.000	0.0031	1/1
7	☑	Tetrachloroethylene	9.567	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	1337.281	5.000	0.0037	1/1
8	☑	Dibromochloromethane	9.930	0.200 min	0.200 min	Ordnr		None			0.000	0.000	A	0.0000	1299.056	5.000	0.0038	1/1
	☐																	

Chromatogram: Calib\Std 4, Linked Calibration: <None>

CALIBRATION

INDIVIDUAL COMPOUND TABS

- Details for the given compound
- Overview of all levels
- How identified
- How quantified
- Calibration curve graph



	Response [mV.s]	Amount [ul]	Resp. Factor	Rec No.		Used
1	28,5632	0,4000	0,0140	1/1	...	☑
2	57,2335	1,0000	0,0175	1/1	...	☑
3	155,1249	3,0000	0,0193	1/1	...	☑
4	247,6095	5,0000	0,0202	1/1	...	☑
5	0,0000	0,0000	0,0000	0/0	...	☐

Identification

Peak Type: Ordnr
Retention Time: 3,717 min
Search Window: Abs
Left Window: 0,2 min
Right Window: 0,2 min
Peak Selection: Nearest

Quantification

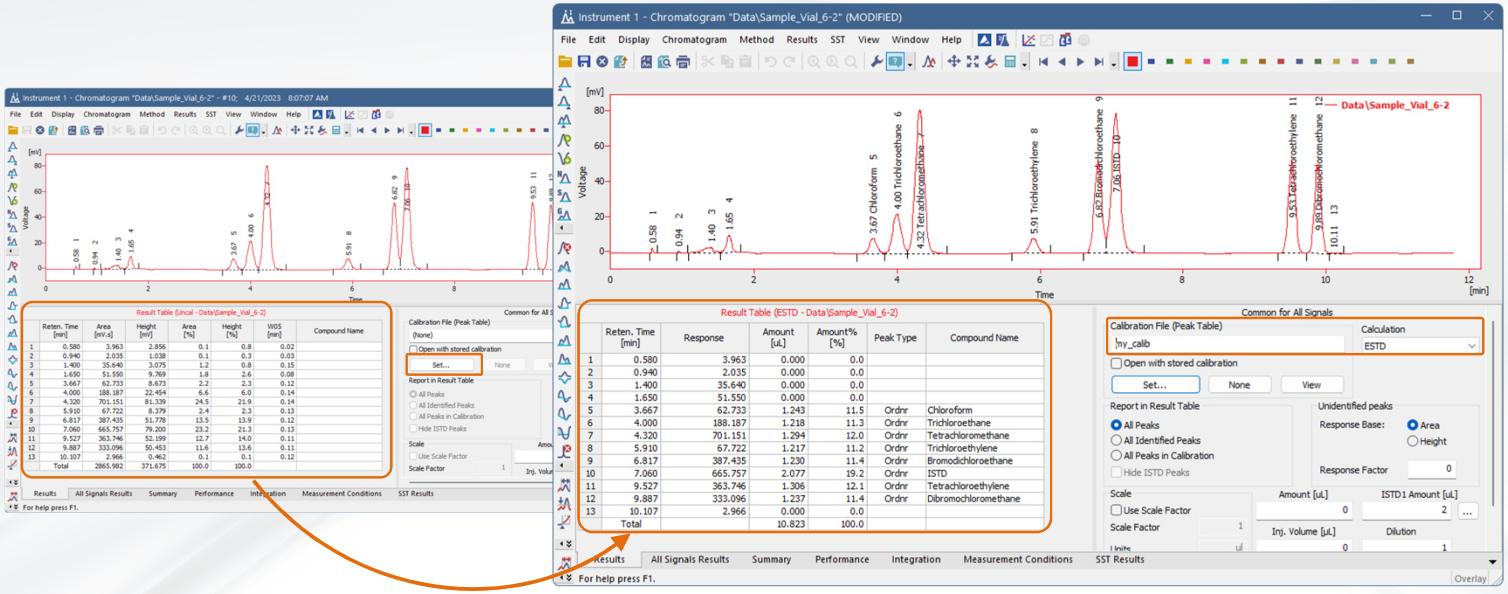
Response Base: Area
Is ISTD: None
Use ISTD: ISTD
Curve Fit Type: Linear
Origin: Compute with Origin
Weighting Method: None
Linearization X: None
Linearization Y: None
Correction Factor: 1
Calculate By:

Calibration Curve

Correlation Coefficient (r): 0,997253
Determination Coefficient (R²): 0,994513
Residuum: 0,01046
Equation: Y = 0,15064*X + 0,01129

CALIBRATION

LINKING TO CHROMATOGRAM



Result Table (Uncal - Data\Sample_Vial_6-2)

	Reten. Time [min]	Area [mV.s]	Height [mV]	Area [%]	Height [%]	W05 [min]	Compound Name
1	0.580	3.963	2.856	0.1	0.8	0.02	
2	0.940	2.035	1.038	0.1	0.3	0.03	
3	1.400	35.640	3.075	1.2	0.8	0.15	
4	1.650	51.550	9.769	1.8	2.6	0.08	
5	3.667	62.733	8.673	2.2	2.3	0.12	
6	4.000	188.187	22.454	6.6	6.0	0.14	
7	4.320	701.151	81.339	24.5	21.9	0.14	
8	5.910	67.722	8.379	2.4	2.3	0.13	
9	6.817	387.435	51.778	13.5	13.9	0.12	
10	7.060	665.757	79.200	23.2	21.3	0.13	
11	9.527	363.746	52.199	12.7	14.0	0.11	
12	9.887	333.096	50.453	11.6	13.6	0.11	
13	10.107	2.966	0.462	0.1	0.1	0.12	
	Total	2865.982	371.675	100.0	100.0		

Calibration File (Peak Table): (None)

☐ Open with stored calibration

Result Table (ESTD - Data\Sample_Vial_6-2)

	Reten. Time [min]	Response	Amount [uL]	Amount% [%]	Peak Type	Compound Name
1	0.580	3.963	0.000	0.0		
2	0.940	2.035	0.000	0.0		
3	1.400	35.640	0.000	0.0		
4	1.650	51.550	0.000	0.0		
5	3.667	62.733	1.243	11.5	Ordnr	Chloroform
6	4.000	188.187	1.218	11.3	Ordnr	Trichloroethane
7	4.320	701.151	1.294	12.0	Ordnr	Tetrachloromethane
8	5.910	67.722	1.217	11.2	Ordnr	Trichloroethylene
9	6.817	387.435	1.230	11.4	Ordnr	Bromodichloroethane
10	7.060	665.757	2.077	19.2	Ordnr	ISTD
11	9.527	363.746	1.306	12.1	Ordnr	Tetrachloroethylene
12	9.887	333.096	1.237	11.4	Ordnr	Dibromochloromethane
13	10.107	2.966	0.000	0.0		
	Total		10.823	100.0		

Common for All Signals

Calibration File (Peak Table): my_calib

Calculation: ESTD

☐ Open with stored calibration

Set... None View

Report in Result Table
● All Peaks
○ All Identified Peaks
○ All Peaks in Calibration
☐ Hide ISTD Peaks

Unidentified peaks
Response Base: ● Area ○ Height
Response Factor: 0

Scale
☐ Use Scale Factor
Scale Factor: 1
Units: ul

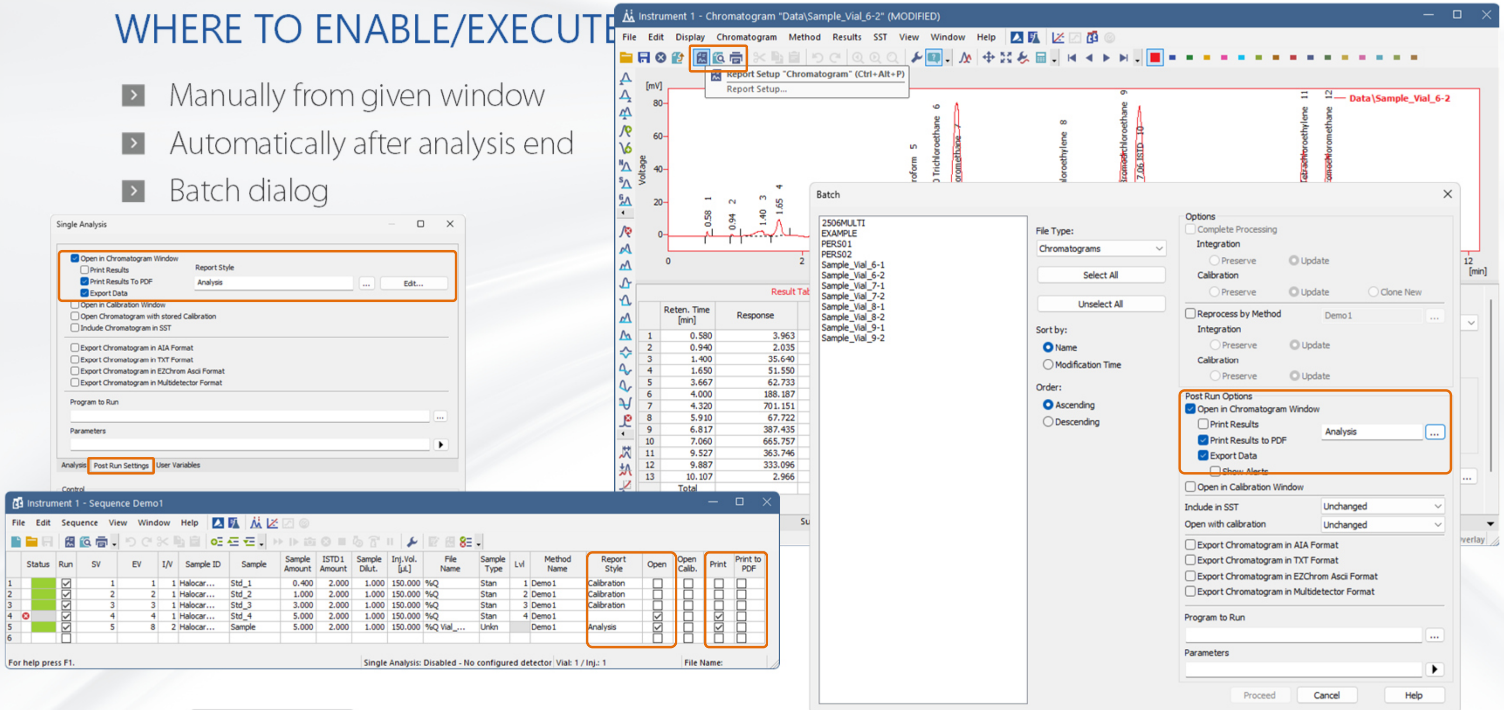
Amount [uL]: 0
ISTD1 Amount [uL]: 2
Inj. Volume [μL]: 0
Dilution: 1

Calibration from method is automatically linked to all measured chromatograms

REPORTS

WHERE TO ENABLE/EXECUTE

- Manually from given window
- Automatically after analysis end
- Batch dialog



Single Analysis – Post Run Settings

☑ Open in Chromatogram Window
☐ Print Results
☑ Print Results To PDF
☑ Export Data
Report Style: Analysis
☐ Open in Calibration Window
☐ Open Chromatogram with stored Calibration
☐ Include Chromatogram in SST
☐ Export Chromatogram in AIA Format
☐ Export Chromatogram in TXT Format
☐ Export Chromatogram in EZChrom Ascii Format
☐ Export Chromatogram in Multidetector Format
Program to Run
Parameters

Instrument 1 - Sequence Demo1

	Status	Run	SV	EV	I/V	Sample ID	Sample	Sample Amount	ISTD1 Amount	Sample Dilut.	Inj.Vol. [µL]	File Name	Sample Type	Lvl	Method Name	Report Style	Open	Open Calib.	Print	Print to PDF
1	🟩	☑	1	1	1	Halocar...	Std_1	0.400	2.000	1.000	150.000	%Q	Stan	1	Demo1	Calibration	☐	☐	☐	☐
2	🟩	☑	2	2	1	Halocar...	Std_2	1.000	2.000	1.000	150.000	%Q	Stan	2	Demo1	Calibration	☐	☐	☐	☐
3	🟩	☑	3	3	1	Halocar...	Std_3	3.000	2.000	1.000	150.000	%Q	Stan	3	Demo1	Calibration	☐	☐	☐	☐
4	⊗	☑	4	4	1	Halocar...	Std_4	5.000	2.000	1.000	150.000	%Q	Stan	4	Demo1		☑	☐	☑	☐
5	🟩	☑	5	8	2	Halocar...	Sample	5.000	2.000	1.000	150.000	%Q Vial_...	Unkn		Demo1	Analysis	☑	☐	☑	☐
6		☐															☐	☐	☐	☐

For help press F1. Single Analysis: Disabled - No configured detector Vial: 1 / Inj.: 1 File Name:

Result Table

	Reten. Time [min]	Response
1	0.580	3.963
2	0.940	2.035
3	1.400	35.640
4	1.650	51.550
5	3.667	62.733
6	4.000	188.187
7	4.320	701.151
8	5.910	67.722
9	6.817	387.435
10	7.060	665.757
11	9.527	363.746
12	9.887	333.096
13	10.107	2.966
	Total	

Batch

2506MULTI
EXAMPLE
PERS01
PERS02
Sample_Vial_6-1
Sample_Vial_6-2
Sample_Vial_7-1
Sample_Vial_7-2
Sample_Vial_8-1
Sample_Vial_8-2
Sample_Vial_9-1
Sample_Vial_9-2

File Type: Chromatograms
Sort by: ● Name ○ Modification Time
Order: ● Ascending ○ Descending

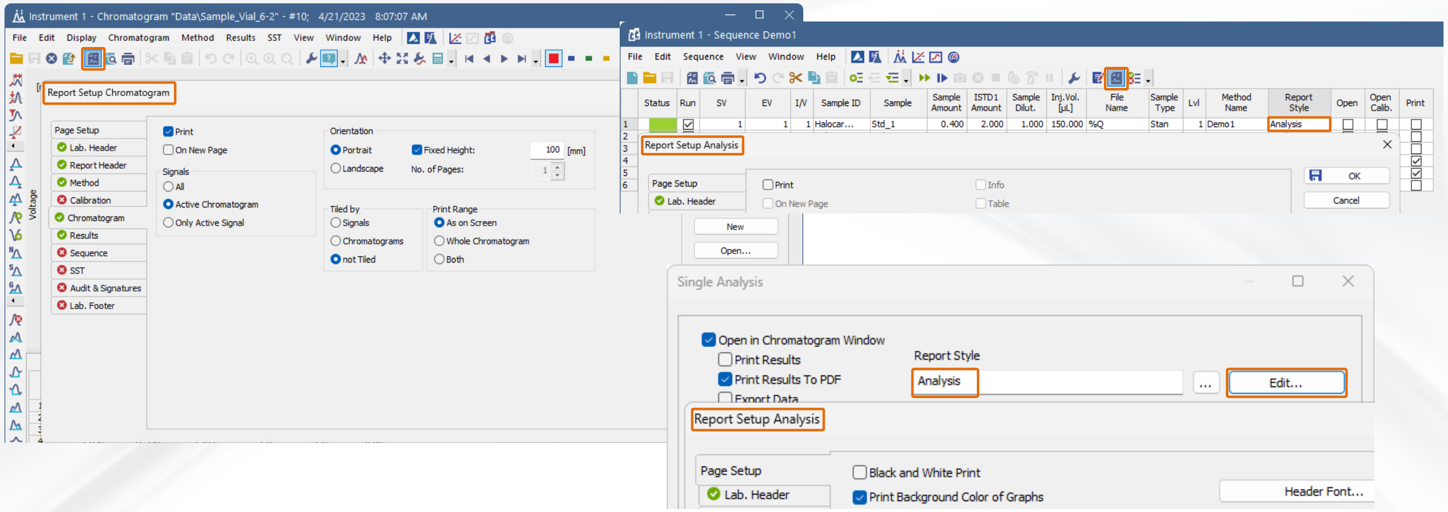
Options
☐ Complete Processing
Integration ○ Preserve ● Update
Calibration ○ Preserve ● Update ○ Clone New
☐ Reprocess by Method Demo1
Integration ○ Preserve ● Update
Calibration ○ Preserve ● Update

Post Run Options
☑ Open in Chromatogram Window
☐ Print Results
☑ Print Results to PDF
☑ Export Data
☐ Show Alerts
Analysis
☐ Open in Calibration Window
Include in SST: Unchanged
Open with calibration: Unchanged
☐ Export Chromatogram in AIA Format
☐ Export Chromatogram in TXT Format
☐ Export Chromatogram in EZChrom Ascii Format
☐ Export Chromatogram in Multidetector Format
Program to Run
Parameters

REPORTS

REPORT SETUP

- "Printing method" set separately for each window
- *.sty files in COMMON folder



Report Setup Chromatogram

Page Setup
- ✓ Lab. Header
- ✓ Report Header
- ✓ Method
- ☒ Calibration
- ✓ Chromatogram
- ✓ Results
- ☒ Sequence
- ☒ SST
- ☒ Audit & Signatures
- ☒ Lab. Footer

☑ Print
☐ On New Page

Signals
○ All
● Active Chromatogram
○ Only Active Signal

Orientation
● Portrait
○ Landscape
☑ Fixed Height: 100 [mm]
No. of Pages: 1

Tiled by
○ Signals
○ Chromatograms
● not Tiled

Print Range
● As on Screen
○ Whole Chromatogram
○ Both

	Status	Run	SV	EV	I/V	Sample ID	Sample	Sample Amount	ISTD1 Amount	Sample Dilut.	Inj.Vol. [μL]	File Name	Sample Type	Lvl	Method Name	Report Style	Open	Open Calib.	Print
1	🟩	☑	1	1	1	Halocar...	Std_1	0.400	2.000	1.000	150.000	%Q	Stan	1	Demo1	Analysis	☐	☐	☐

Report Setup Analysis

Page Setup
- ✓ Lab. Header

☐ Print
☐ On New Page
☐ Info
☐ Table

☑ Open in Chromatogram Window
☐ Print Results
☑ Print Results To PDF
☐ Export Data

Report Style: Analysis

Report Setup Analysis

Page Setup
- ✓ Lab. Header

☐ Black and White Print
☑ Print Background Color of Graphs

23.0331

Clarity™

ADVANCED CHROMATOGRAPHY SOFTWARE

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THANK YOU FOR YOUR ATTENTION