

23.0331



Clarity™

ADVANCED CHROMATOGRAPHY SOFTWARE

# CLARITY 10.1

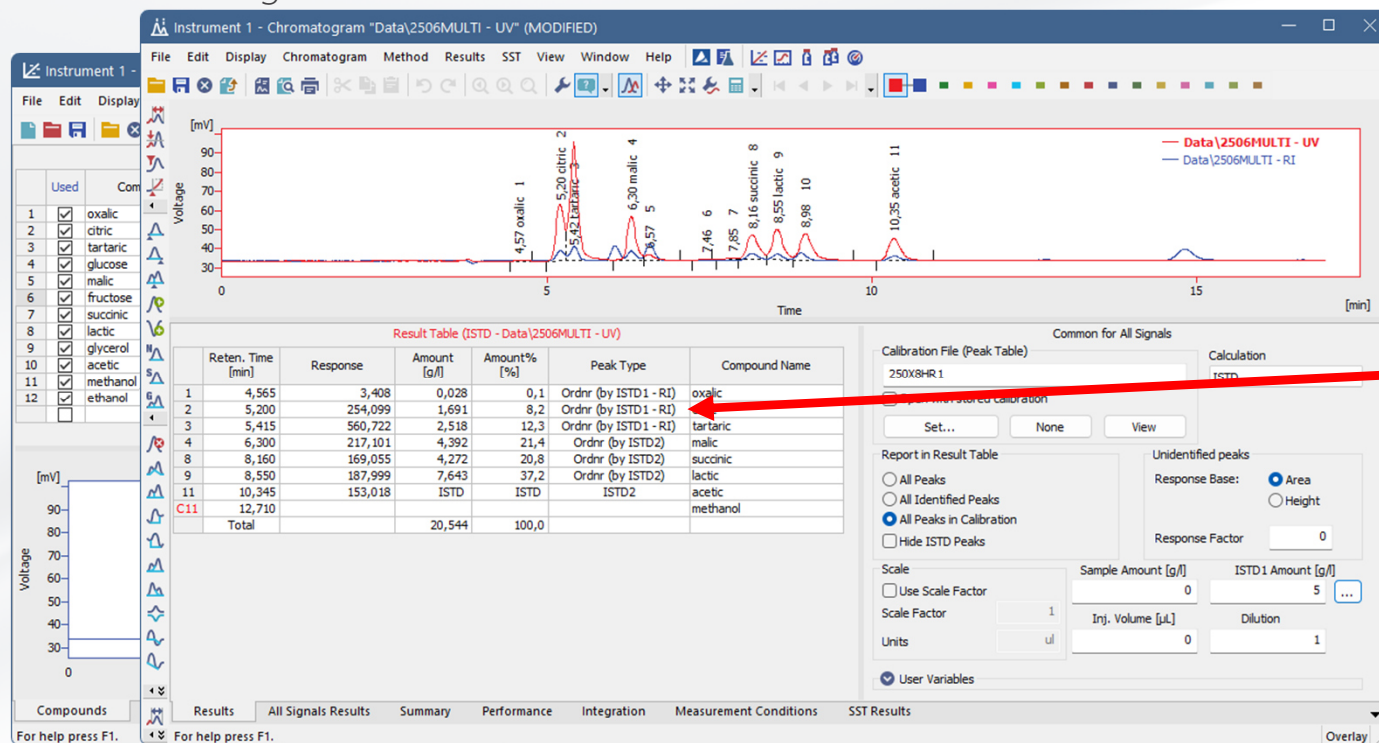
WHAT'S NEW

# WHAT IS NEW IN CLARITY 10.1

- Use of ISTD from a different signal
- Determination Coefficient ( $R^2$ ) for calibration
- Signature handling improvements
- Run IQ directly from the main window
- New and updated control modules

# ISTD FROM A DIFFERENT SIGNAL

- New Calibration Option allow using ISTD peaks from other signals.
- This enables flexibility in applications like ICP-MS.
- Result Table and Calibration Summary Table show signal-specific ISTD usage.



Calibration Options (Calib\250X8HR1)

Calibration Options Defaults

Calibration Description: EX 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 ☐ Correlation

Apply on: ☒ On All Signals ☐ On Active Signal

Recalibration: ☒ Replace ☐ Average

Compound Units: g/l

No. of Points: 10

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

☒ Allow ISTD from different signal

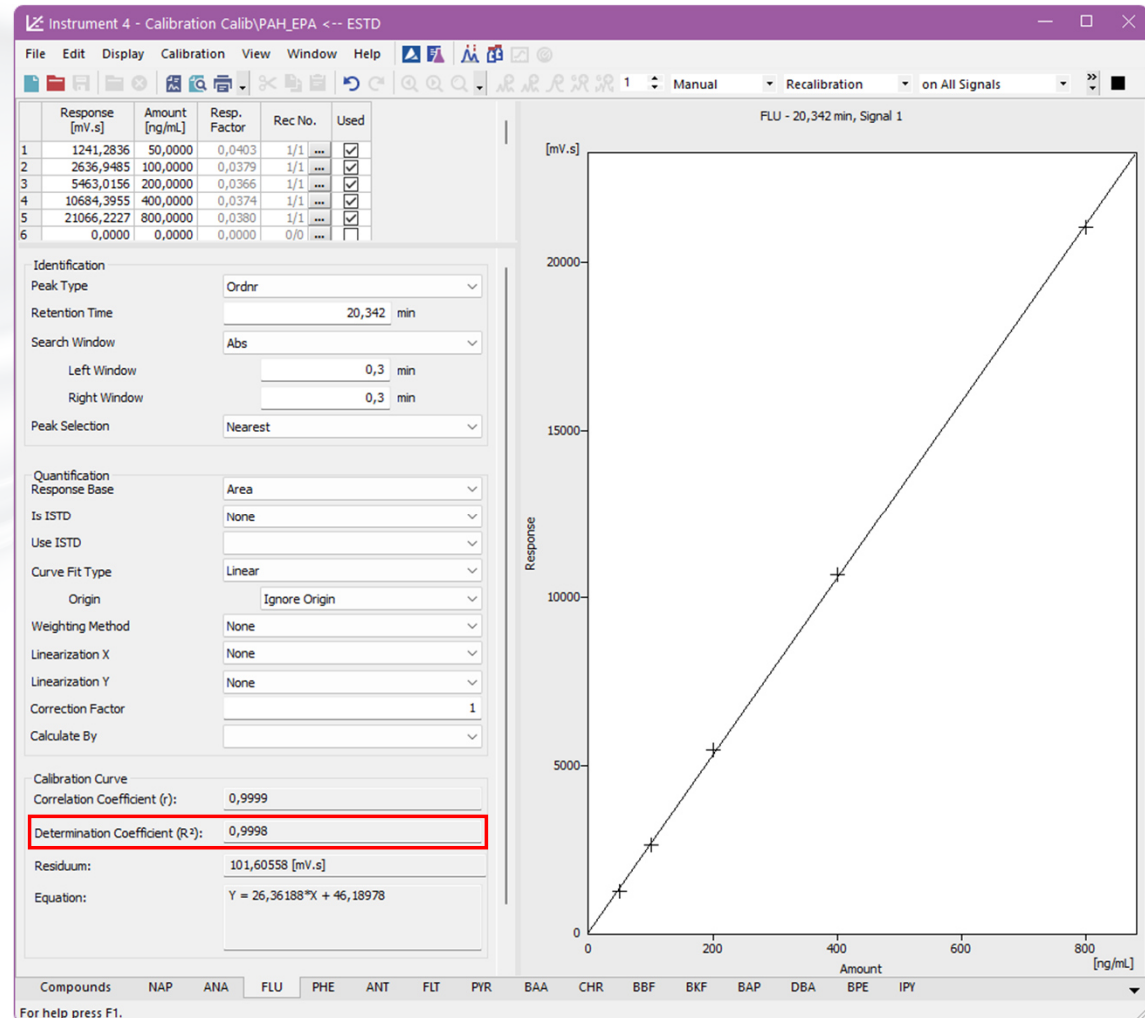
OK Cancel Help

# DETERMINATION COEFFICIENT (R<sup>2</sup>)

- New coefficient describes how well the calibration curve fits.
- Complements correlation coefficient for clearer data interpretation.
- Helpful for validation and method development.

$$R^2 = 1 - \frac{\sum (x_i - y_i)^2}{\sum (x_i - X)^2}$$

- $x_i$  - The actual (measured) response at level  $i$ .
- $y_i$  - The calculated (predicted) response at level  $i$ .
- $X$  - The mean of all actual responses (including the zero point if Compute with Origin or Curve passes through Origin is selected).



# CALIBRATION WARNINGS AND BLANK HANDLING

More detailed warning messages in Calibration Summary and Result Table.

- If all warning messages don't fit above the table, they can be viewed in a tooltip.

Instrument 1 - Calibration Calib\250X8HR1 <-- ISTD (MODIFIED)

File Edit Display Calibration View Window Help

Automatic

Recalibration

on All Sig

Calibration Summary Table (ISTD - Calib\250X8HR1 - Signal 1)  
Mismatched Amounts of used ISTD Peaks in Calibration, fill all or none.  
Compound lactic is enabled on signal 1 and uses ISTD 3 which is disabled there.

Used	Compound Name	Reten. Time	Left Window	Right Window	Peak Type	Named Groups	Is ISTD	Use ISTD	Peak Color	LOD	LOQ	Response	Manual Resp.	Response	Amount	Resp. Fact	Rec No.
<input checked="" type="checkbox"/>	oxalic	4,561	0,100 min	0,100 min	Ordnr		None	glucose - Signal 2		0,000	0,000	A	0,0000	3,6130	0,101	0,0280	1/1 ...
<input checked="" type="checkbox"/>	citric	5,203	0,100 min	0,100 min	Ordnr		None	glucose - Signal 2		0,000	0,000	A	0,0000	36,2510	0,210	0,0058	1/1 ...
<input checked="" type="checkbox"/>	tartaric	5,423	0,100 min	0,100 min	Ordnr		None	glucose - Signal 2		0,000	0,000	A	0,0000	98,5410	0,441	0,0045	1/1 ...
<input type="checkbox"/>	glucose	6,053	0,100 min	0,100 min	Ordnr		ISTD 1	—		0,000	0,000	A	0,0000	0,0000	5,000	0,0000	1/1 ...
<input checked="" type="checkbox"/>	malic	6,303	0,100 min	0,100 min	Ordnr		None	acetic		0,000	0,000	A	0,0000	217,4548	1,003	0,0046	1/1 ...
<input type="checkbox"/>	fructose	6,577	0,100 min	0,100 min	Ordnr		None	glucose - Signal 2		0,000	0,000	A	0,0000	0,0000	0,600	0,0000	1/1 ...
<input checked="" type="checkbox"/>	succinic	8,177	0,100 min	0,100 min	Ordnr		None	acetic		0,000	0,000	A	0,0000	31,5600	0,239	0,0076	1/1 ...
<input checked="" type="checkbox"/>	lactic	8,550	0,100 min	0,100 min	Ordnr		None	glycerol		0,000	0,000	A	0,0000	51,3650	0,600	0,0117	1/1 ...
<input type="checkbox"/>	glycerol	8,900	0,100 min	0,060 min	Ordnr		ISTD 3	—		0,000	0,000	A	0,0000	0,0000	0,000	0,0000	1/1 ...
<input checked="" type="checkbox"/>	acetic	10,337	0,100 min	0,100 min	Ordnr		ISTD 2	—		0,000	0,000	A	0,0000	24,9850	0,202	0,0081	1/1 ...
<input checked="" type="checkbox"/>	methanol	12,710	0,100 min	0,100 min	Ordnr		None	acetic		0,000	0,000	A	0,0000	0,0000	0,104	0,0000	1/1 ...
<input type="checkbox"/>	ethanol	14,833	0,100 min	0,100 min	Ordnr		None	acetic		0,000	0,000	A	0,0000	0,0000	10,847	0,0000	1/1 ...

Result Table (Uncal - Data\2506MULTI - UV)

!!! No valid level in ISTD3 compound !!!

!!! Calibration curve could not be constructed for multiple compounds !!!...

Reten. Time [min]					Compound Name
1	4,565				
2	5,200	254,099		Error	citric
3	5,415	560,722		Error	tartaric
4	6,300	217,101		Ordnr (by ISTD2)	malic
8	8,160	169,055		Ordnr (by ISTD2)	succinic
9	8,550	187,999		Error	lactic
11	10,345	153,018		ISTD2	acetic
C11	12,710				methanol
Total					



# CALIBRATION WARNINGS AND BLANK HANDLING

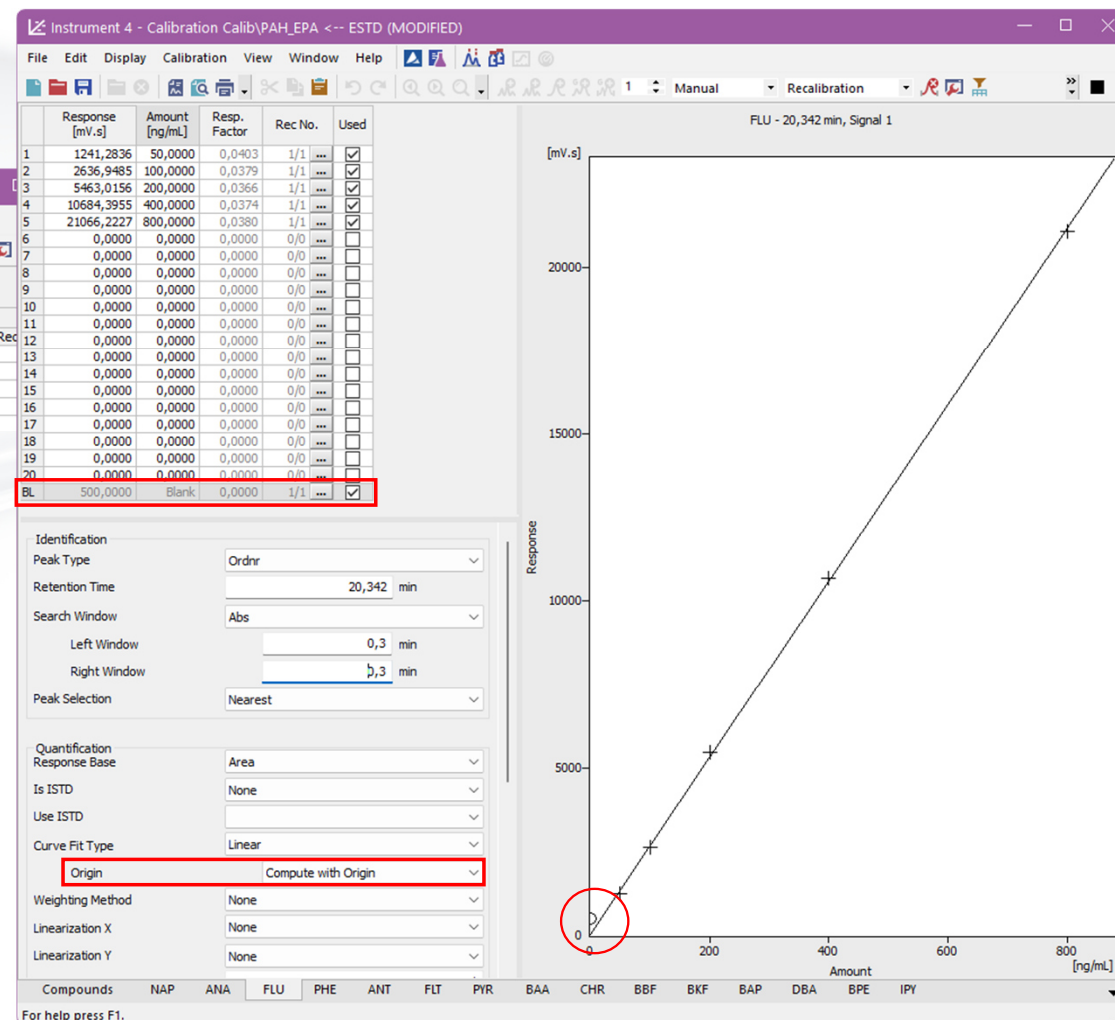
- Blank is ignored with "Compute with Origin" or "Curve passes through Origin" options.

Instrument 4 - Calibration Calib\PAH\_EPA <-- ESTD (MODIFIED)

File Edit Display Calibration View Window Help

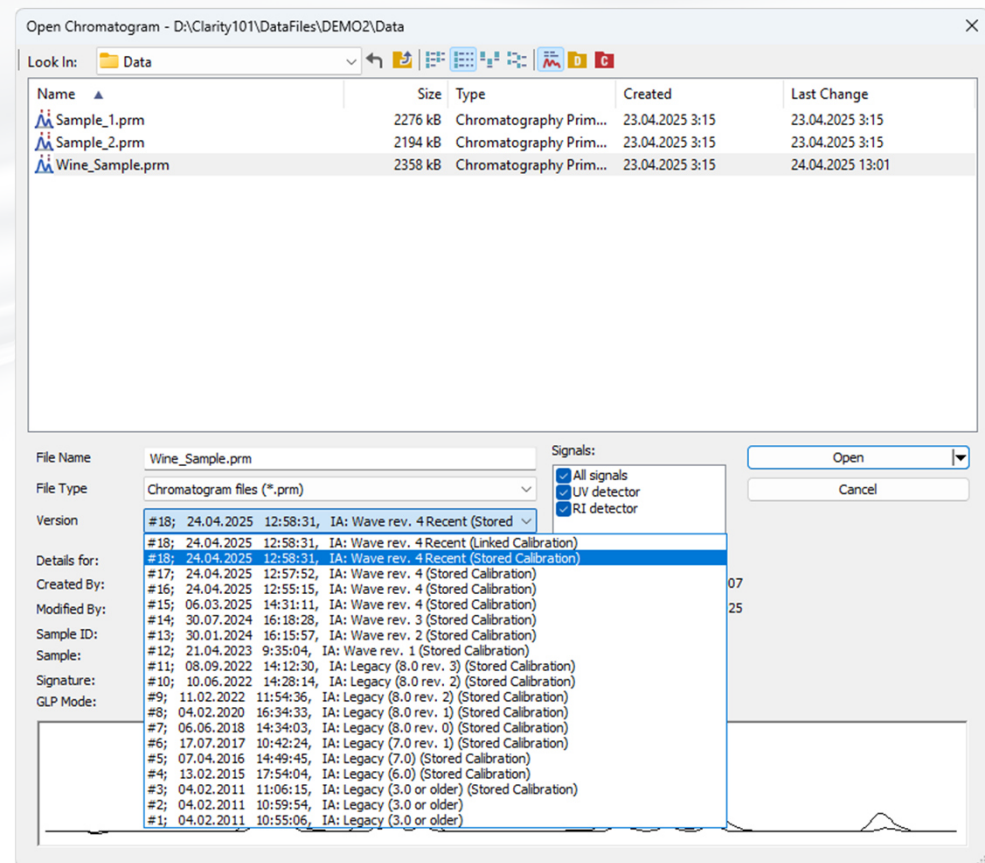
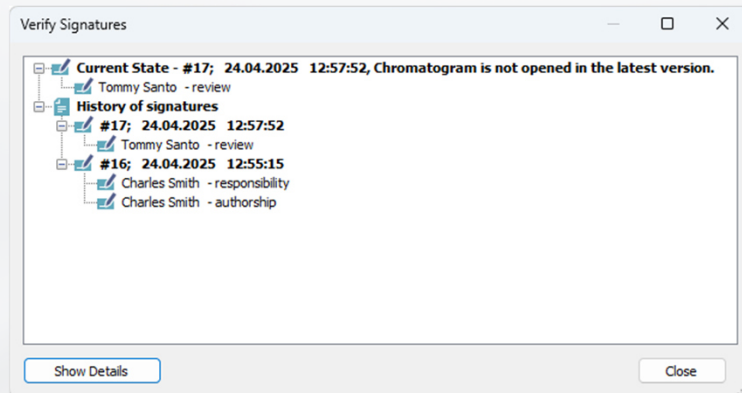
Calibration Summary Table (ESTD - Calib\PAH\_EPA - Signal 1)  
Blank for compound FLU will not be applied since "Ignore Origin" is not selected.

Used	Compound Name	Reten. Time	Left Window	Right Window	Peak Type	Is ISTD	LOD	LOQ	Response	Manual Resp.	Response	Amount	Resp. Fact	Rec
1	NAP	14,955	0,300 min	0,200 min	Ordnr	None	0,000	0,000	A	0,0000	1667,879	50,000	0,0300	
2	ANA	19,778	0,300 min	0,300 min	Ordnr	None	0,000	0,000	A	0,0000	433,4798	50,000	0,1153	
3	FLU	20,342	0,300 min	0,300 min	Ordnr	None	0,000	0,000	A	0,0000	1241,283	50,000	0,0403	
4	PHE	22,230	0,300 min	0,300 min	Ordnr	None	0,000	0,000	A	0,0000	589,1113	50,000	0,0849	
5	ANT	24,012	0,350 min	0,350 min	Ordnr	None	0,000	0,000	A	0,0000	2260,720	50,000	0,0221	



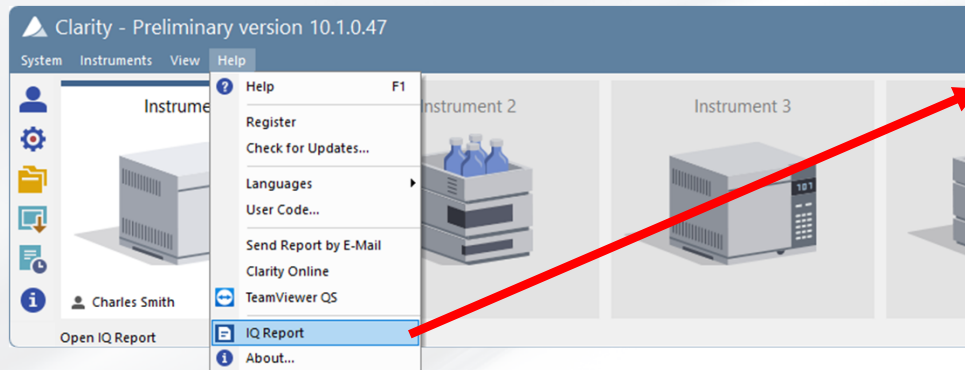
# SIGNATURE IMPROVEMENTS

- Chromatograms with linked calibration always open as "Not Signed".
- After signing, default open mode is "Stored Calibration".
- Historical versions reflect correct signature states.



# IQ FROM MAIN WINDOW

- IQ can now be launched directly from Help menu in Clarity main window.
- Simplifies qualification and ensures proper setup after first run.
- IQ link removed from installer to improve reliability.



The screenshot shows the 'Installation Qualification Report' window. The title bar is 'IQ'. The menu bar is 'File Help'. The report title is 'Installation Qualification Report'. The report content is as follows:

Field	Value
Date	24.04.2025, 13:25
Serial number of application	
User Code	
Version of application	Clarity version 10.1.0.47
Build date of application	23.04.2025, 02:03
Instruments	4
Extensions	SST; GPC; PDA; EA; CE; MS; NGA; DHA; GCxGC; MS-TOF; MS-MS
Controls	GC; LC; AS
Certification file	D:\Clarity101\bin\lqi.chk
Checksum of cert. file	2C8A03D4C2238A63
Date of cert. file	23.04.2025, 03:32
User	
System	Microsoft Windows 11 Professional version 10.0 (Build 26100)
Acquisition and hardware devices	Key Rocky 4ND Key Rocky 4ND Colbrick

Core Files, Embedded Components: **Passed**

Files

[Hide files list <](#)

File	Path	Version	Size	File date	Status
advantechcf122scfc.rb	d:\clarity101\bin\utils\luni_drivers\advantec	-	37892	23.04.2025, 01:53	Passed
advioncms.dll	d:\clarity101\bin	6.9.44.1	525624	23.04.2025, 03:15	Passed
advioncommon.dll	d:\clarity101\bin	6.9.44.1	28672	23.04.2025, 03:15	Passed
AdvionData.dll	D:\Clarity101\bin	6.9.44.1	315904	23.04.2025, 03:15	Passed
AdvionObjects.dll	D:\Clarity101\bin	6.9.44.1	1119744	23.04.2025, 03:15	Passed
apix_sdk.dll	d:\clarity101\bin\apixchrompic2	2.8.0.1538	3526656	23.04.2025, 03:15	Passed
as500pump.rb	d:\clarity101\bin\utils\luni_drivers\lasi	-	46535	23.04.2025, 01:53	Passed
beep.exe	d:\clarity101\bin\utils	-	37376	23.04.2025, 01:58	Passed
chromophor2010pump.rb	d:\clarity101\bin\utils\luni_drivers\chromophor	-	42382	23.04.2025, 01:53	Passed
clcroccloven.rb	d:\clarity101\bin\utils\luni_drivers\cluzeau	-	36431	23.04.2025, 01:53	Passed
clgecko2000oven.rb	d:\clarity101\bin\utils\luni_drivers\cluzeau	-	36678	23.04.2025, 01:53	Passed
cligoccloven.rb	d:\clarity101\bin\utils\luni_drivers\cluzeau	-	36408	23.04.2025, 01:53	Passed
clarity.exe	d:\clarity101\bin	10.1.0.47	30170112	23.04.2025, 02:03	Passed
cmail.exe	d:\clarity101\bin	1.0.0.1	40960	23.04.2025, 03:15	Passed
cmu4.dll	d:\clarity101\bin	-	12869	23.04.2025, 03:15	Passed
columnusagemonitor.rb	d:\clarity101\bin\utils\luni_drivers	-	49586	23.04.2025, 01:53	Passed
commandline.dll	d:\clarity101\bin\packagemanager	2.6.0.0	199680	31.07.2019, 20:24	Passed
copyfiles.exe	d:\clarity101\bin\utils	-	127488	23.04.2025, 03:15	Passed
csvhelper.dll	d:\clarity101\bin\packagemanager	12.2.2.0	147968	06.12.2019, 16:25	Passed
CswAdvionMS.dll	d:\clarity101\bin	10.1.0.47	1274368	23.04.2025, 02:17	Passed
CswAgilent1200.dll	D:\Clarity101\bin	10.1.0.47	1708032	23.04.2025, 01:58	Passed
CswAgilentGC7890.dll	D:\Clarity101\bin	10.1.0.47	2286672	23.04.2025, 01:58	Passed
cswalases.bin	d:\clarity101\bin	-	374881	23.04.2025, 02:25	Passed
CswAlltech3300.dll	D:\Clarity101\bin	10.1.0.47	969216	23.04.2025, 02:15	Passed
CswAlltestAnalyzer.dll	D:\Clarity101\bin	1.1.2.0	1953280	23.04.2025, 03:15	Passed
CswAnalytikJenaPlasmaQuantCIMS.dll	D:\Clarity101\bin	1.0.0.57	902656	23.04.2025, 03:15	Passed
CswAntecLeydenDecadet.dll	D:\Clarity101\bin	10.1.0.47	812032	23.04.2025, 01:58	Passed
CswAntecLeydenElite.dll	D:\Clarity101\bin	10.1.0.47	1371648	23.04.2025, 02:18	Passed



# NEW AND UPDATED CONTROL MODULES

- New Axcend FocusArray and updated Axcend Focus LC
  - New Ecom ECLM2000, FRC ECVA2000 and LED20
  - New Testa Analytical Flowmeter
  - Updated Agilent ICF
  - Updated Sykam S1130, S4120, S5300 and S6510
  - Updated Young In Chromass ChroZen Pump and GC
- ... and more

For a complete list of changes, see **What's New** in the Help - About... menu of the Clarity main window.

23.0331



Clarity™

ADVANCED CHROMATOGRAPHY SOFTWARE

**...THANK YOU FOR YOUR INTEREST IN CLARITY**