

SciChrom View

The SciChrom viewer can be used to view Chromatography data online on any computer, without requiring any particular software such as Empower. Chrome and Firefox are fully supported, while Edge can be used but some features will not be supported.

Note – this user guide includes functionality that is not present in the online “Simple ChromView” where you likely got this guide. For a demo of the full version, contact SciCord at <https://scicord.com/scicord-elN/demo-elN/>

Launching the SciChrom Viewer

The viewer can be accessed from the client by using a SciChrom enabled template (such as A&RC) to load data from empower and clicking the "Launch SciChrom" button. The button's position and label may vary with the template.

- The report can also be accessed directly from the portal in the attachments sections of the document.
- The data must have been imported from Empower and can only have one sequence.
 - SciChrom only allows one channel to be selected per report as well.

Data from Empower is packaged by SciChrom before being made available to the Viewer. Data from other sources could be accepted as long as it is repackaged to follow the same format.

Only a subset of Empower baselines are accepted:

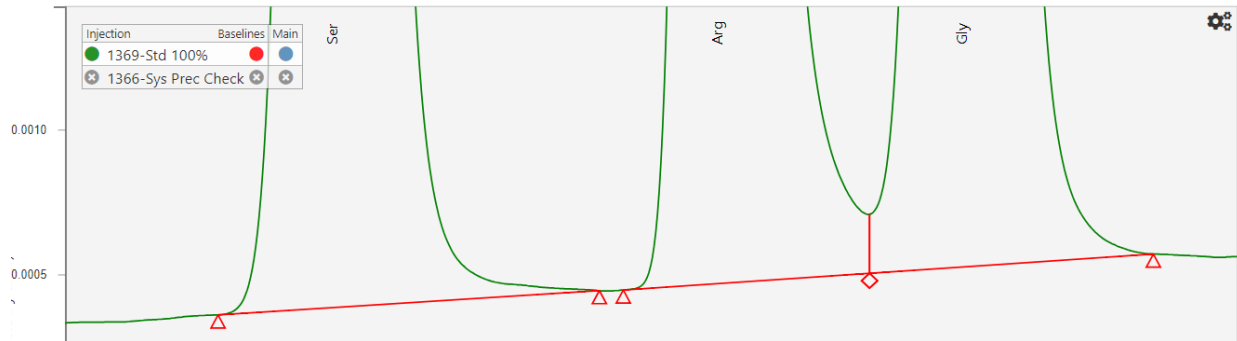
Peak Type	Description	Expected Letter Code
Baseline to Baseline	simple straight line denoting the bottom of the peak	BB
Baseline to Valley	simple baseline to valley baseline, which includes a vertical offset to lower the bottom of the peak	BV
Valley to Valley	valley on both sides, with a vertical offset on either side	VV
Valley to Baseline	valley baseline to simple baseline	VB
Tangent/Skim	Separates two peaks that are stacked vertically, such as if the tailing of one peak runs into another peak	TT

If any other baseline types (such as Gaussian) are given, they will be drawn as BB peaks and a warning alert will be given.

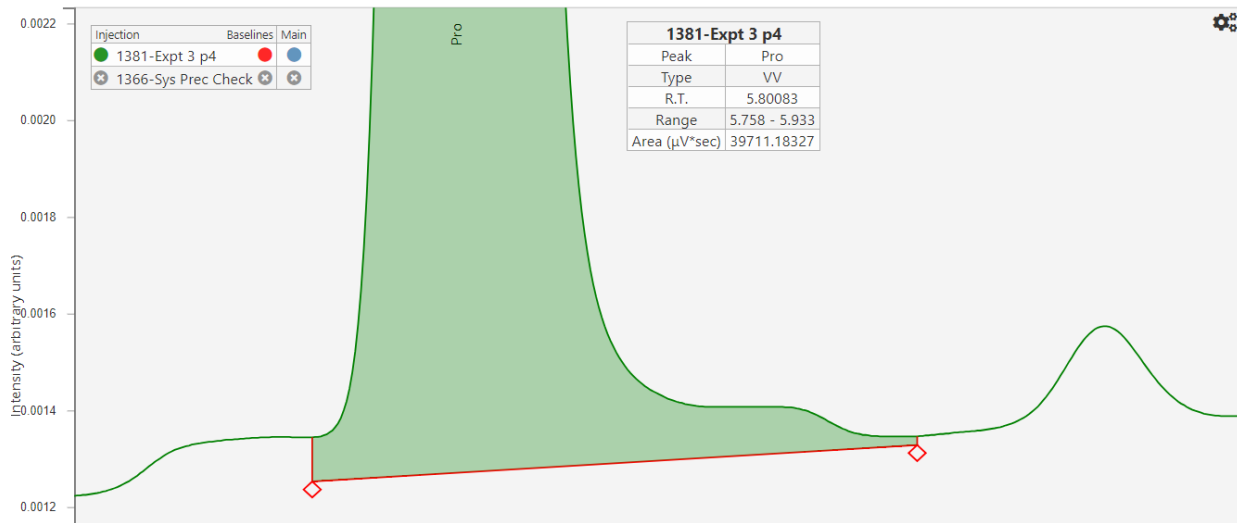
There is no known limit to the number of injections and datapoints the Viewer can handle. However, injections with a large number of datapoints may be slow to load, and having many injections active at once will slow down zoom and pan behavior.

Examples of how various baselines are represented:

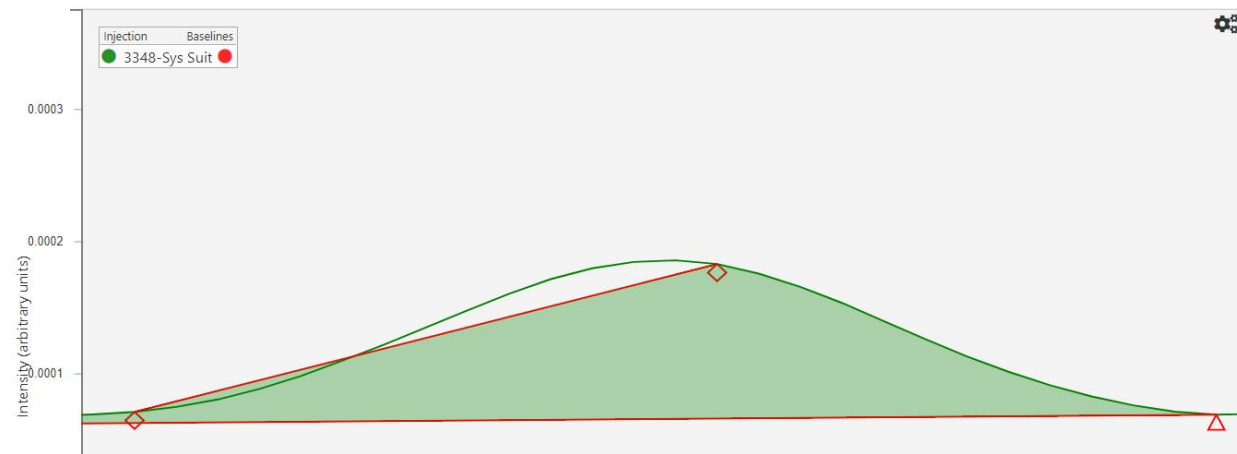
Peak 1(Ser) is BB, Peak 2 (Arg) is BV, Peak 3 (Gly) is VB



Peak 1(Pro) is VV



The original peak has the top skimmed off with a second TT baseline

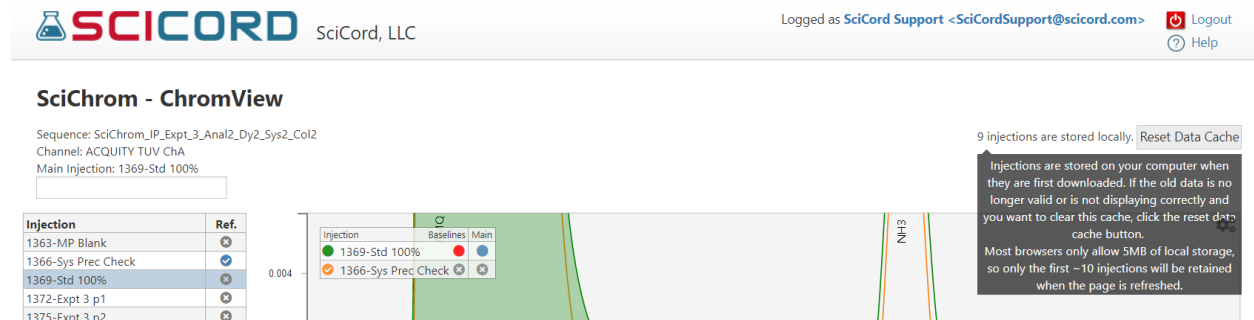


Loading Injections in SciChrom (not accessible in Simple Demo version)

The injections table is on the left side of the webpage. It has 2 columns, "Injection" and "Ref."

- Clicking on a row will load the injection as the main injection (replacing the previous one shown in the chart)
- Ctrl-Clicking on a row will load the injection as a secondary injection, adding it to the chart without replacing existing injections.
 - If a new main injection is selected, secondary injections added by the Ctrl-Click will be removed
- Clicking on the button in the "Ref." column will cause it to change from a grey X to a blue check. The injection will be added as a secondary injection, if it is not already present in the chart.
 - If a new main injection is selected, secondary injections with a blue check in the "Ref." column will be kept.

Each time a new injection is selected (either as a main injection or secondary), the data is downloaded from the SciChrom database. The data is stored locally so that it can be quickly retrieved if the injection needs to be reloaded.



- The top left corner includes a message that says "X injections are stored locally." to indicate how many injections have been downloaded.
 - The local storage can be reset by clicking the "Reset Data Cache" button
 - Hovering the mouse over this message or the "Reset Data Cache" button will show a tooltip explaining how it works (see picture)
- The local storage will be retained if the browser is refreshed or closed, so injection data will not need to be downloaded repeatedly. However, some browsers have a local storage data-cap, so only a finite number of injections may be retained on a refresh
 - This limit will not impact the number of injections that can be stored in one session

Zoom/Pan controls in SciChrom

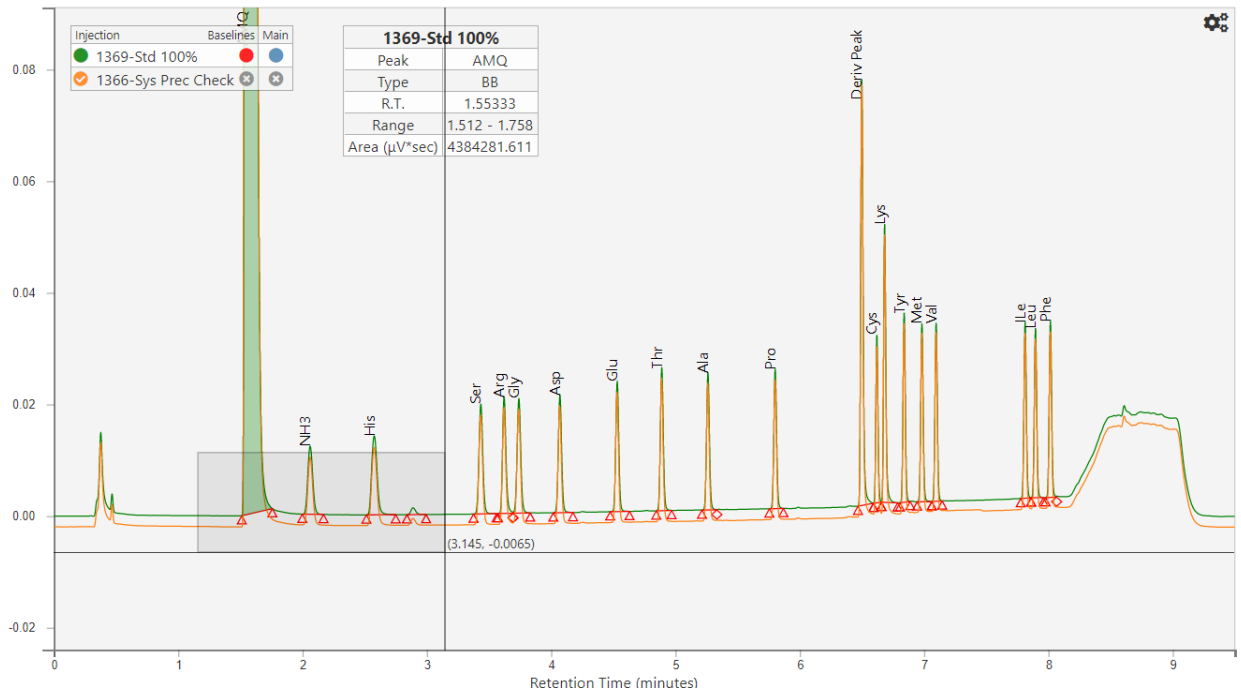
The chart can be panned by left-clicking and holding anywhere in the chart and moving the mouse.

The chart can be zoomed by scrolling up or down on the scrollwheel, or by using a pinch to zoom gesture on touchscreens.

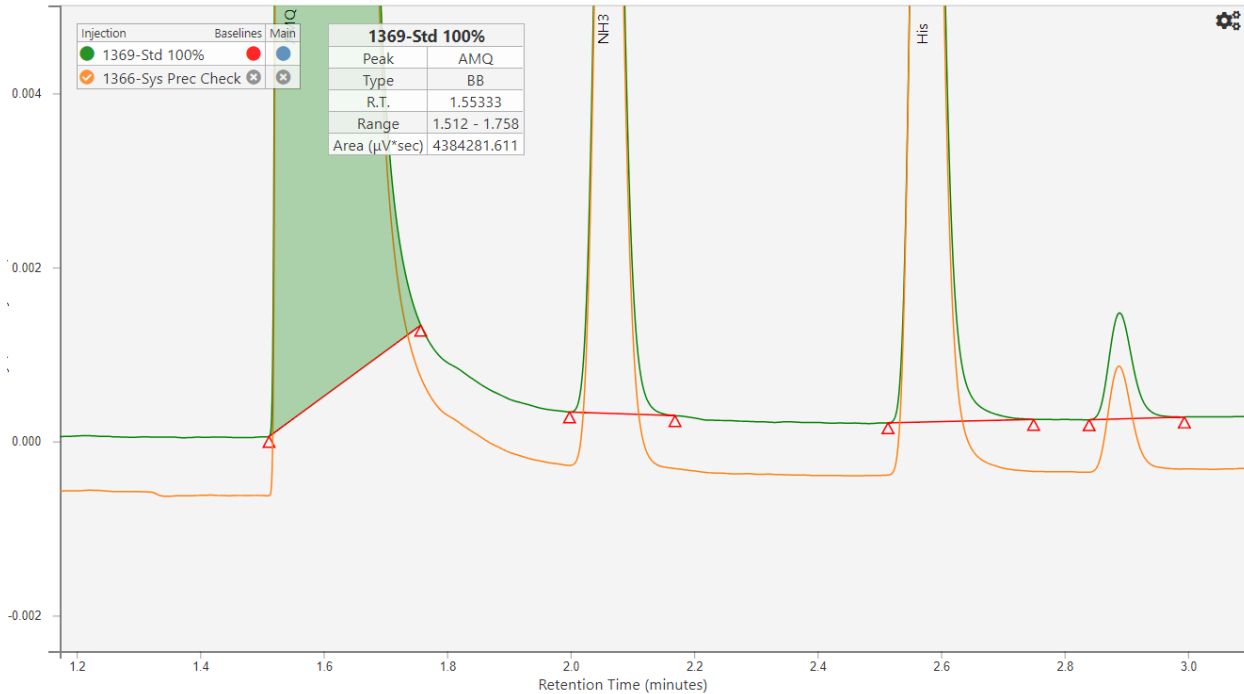
Ctrl-Clicking and dragging the mouse (or clicking down on the scrollwheel/middle mouse button and dragging) will create a zoom-box that will define the new pan and zoom of the chart.

- If the zoom-box does not match the aspect-ratio of the original chart, the injection lines will be vertically stretched to fill the space. This can be used to enlarge small peaks.

Drawing the rectangle:



Chart's zoom after using zoom-rectangle:



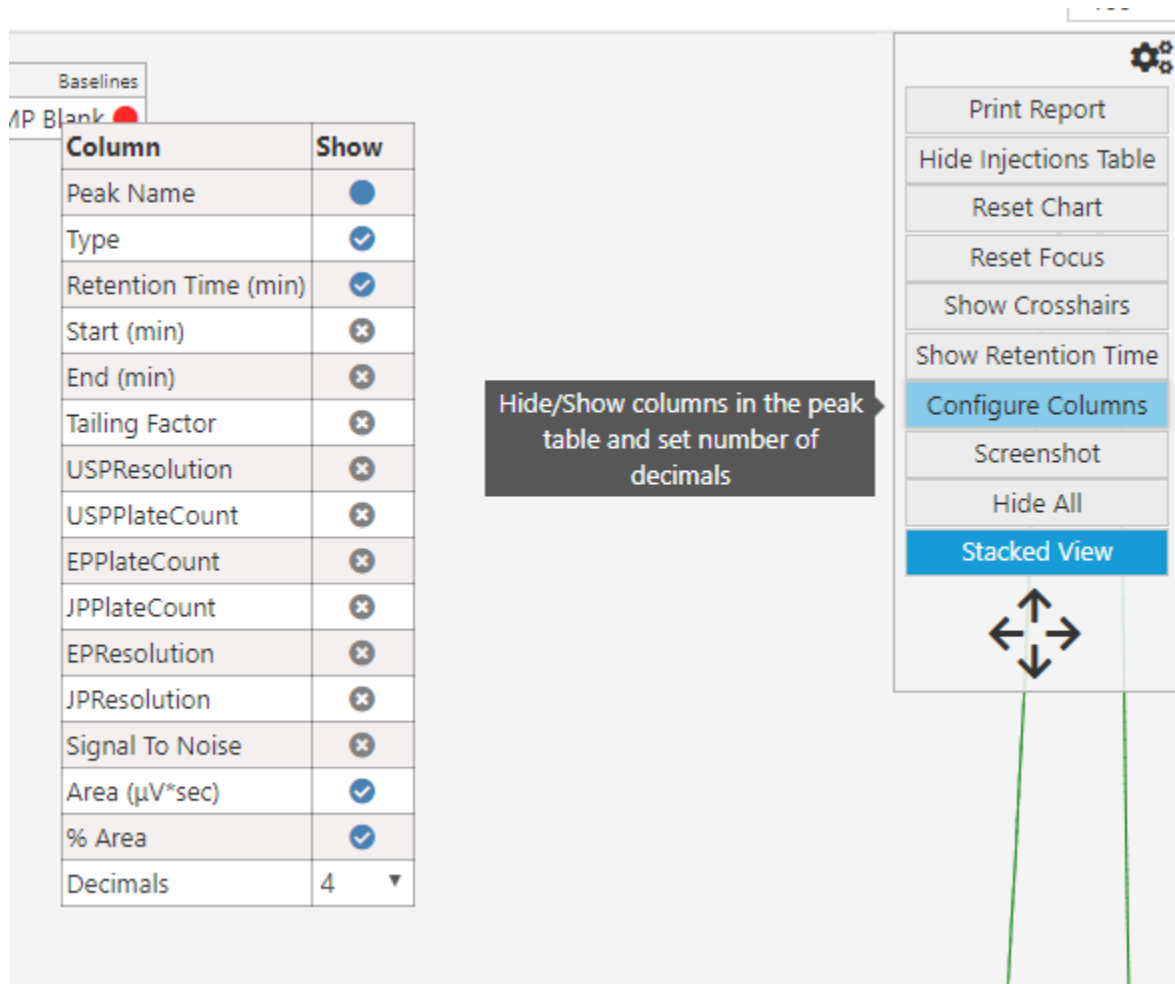
The peaks are all vertically stretched now - most noticeable in the fourth (unlabelled) peak.

Options Panel in SciChrom

Hovering the mouse over the gear icon in the top left corner of the chart will show a panel with several buttons

1. Print Report (not accessible in Simple Demo version): Create a printer-friendly version of the chromatogram. It can be used to create a local PDF printout, or to finalize the printed report that will be attached to the SciCord report and made available in the original document.
2. Hide Injections Table (not accessible in Simple Demo version): Hides the injections table on the left to increase the space available for the chart. This will reset the chart, so position and zoom data will be lost.
3. Reset Chart: redraws the chart from scratch, restores zoom and panning to default positions
4. Reset Focus: Resets the vertical scaling if the chart has been vertically stretched
5. Hide/Show Crosshairs: Hides or shows the crosshairs, button label changes contextually
 - Current choice is stored in a cookie and retained on refresh
6. Show/Hide Retention Time: Shows or hides the retention times on peak labels. The button label changes contextually
 - Current choice is stored in a cookie and retained on refresh
7. Configure Columns: Hide/Show columns in the peak table and set number of decimals
 - Current choices are stored in a cookie and retained on refresh

- The screenshot below shows the column dialog that appears when the button is pressed. The visible values are the defaults.



Column	Show
Peak Name	<input checked="" type="radio"/>
Type	<input checked="" type="checkbox"/>
Retention Time (min)	<input checked="" type="checkbox"/>
Start (min)	<input type="checkbox"/>
End (min)	<input type="checkbox"/>
Tailing Factor	<input type="checkbox"/>
USPResolution	<input type="checkbox"/>
USPPlateCount	<input type="checkbox"/>
EPPlateCount	<input type="checkbox"/>
JPPlateCount	<input type="checkbox"/>
EPResolution	<input type="checkbox"/>
JPResolution	<input type="checkbox"/>
Signal To Noise	<input type="checkbox"/>
Area ($\mu\text{V}\cdot\text{sec}$)	<input checked="" type="checkbox"/>
% Area	<input checked="" type="checkbox"/>
Decimals	4 <input type="text"/>

- Screenshot: launches the screenshot dialog
- Hide/Show All: Hides/Shows all secondary injections. Button label changes contextually.
 - Current choice is stored in a cookie and retained on refresh, i.e. if the button says "Hide All", then the secondary injections will be shown by default when they are added and clicking the button will hide them all. If the button says "Show All", secondary injections will be hidden when they are added and can all be shown at once by clicking the button.
- Stacked/Normal View: Toggles the Stacked view on and off. Button label changes contextually.
 - If the button is grey and says "Normal View", secondary injections will be drawn on top of the main injection
 - If the button is blue and says "Stacked View", the secondary injections are given an offset to separate them out from the main injection and each other
 - Four arrows are available below the button to change this offset by moving the secondary injections up, down, left, or right.

- The current choice (Stacked or Normal view) is retained in a cookie



Peak Summary Table in SciChrom

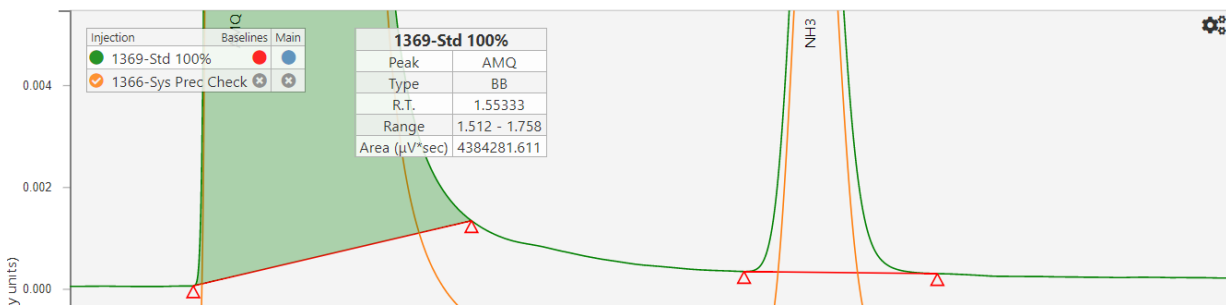
A table summarizing the peak data is shown below the chart

- There are 6 columns: "Peak Name", "Type", "Retention Time (min)", "Start (min)", "End (min)", "Area ($\mu\text{V}\cdot\text{sec}$)".
- The table has tabs that allow data from each of the active injections to be shown. Clicking on a tab will fill the table with the data from the corresponding injection.
 - Each tab has a border that matches the color of the corresponding injection
- Clicking on a row will highlight the matching peak in the chart. A miniature version of the summary table will appear in the chart showing the info for the peak. Clicking directly on a peak in the chart will also highlight the peak and show the mini-table.
 - The mini table can be moved to another location on the chart by clicking and dragging it

Example of the main table:

1369-Std 100%	1366-Sys P	Peak Name	Type	Retention Time (min)	Start (min)	End (min)	Area ($\mu\text{V}\cdot\text{sec}$)
		AMQ	BB	1.55333282	1.51166656	1.75750052	4384281.611

Example of the mini-table:



Clicking directly on a peak in the chart will also highlight the peak and show the mini-table

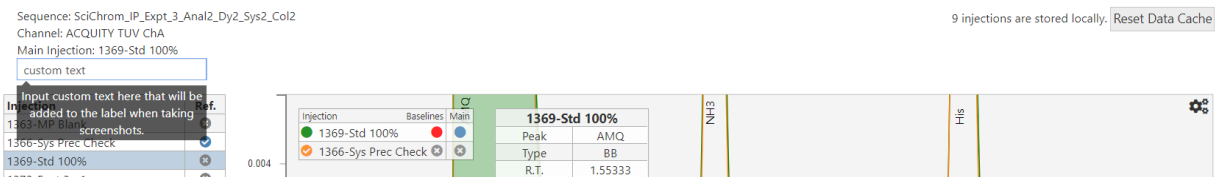
Screenshots in SciChrom

Pressing the "Screenshot" button in the options panel opens the screenshot dialog. The viewer fades to black and the screenshot is presented over it. A message appears reading "Right click on the screenshot and click copy to put the image in your clipboard, or hit the save button to save it to a file."

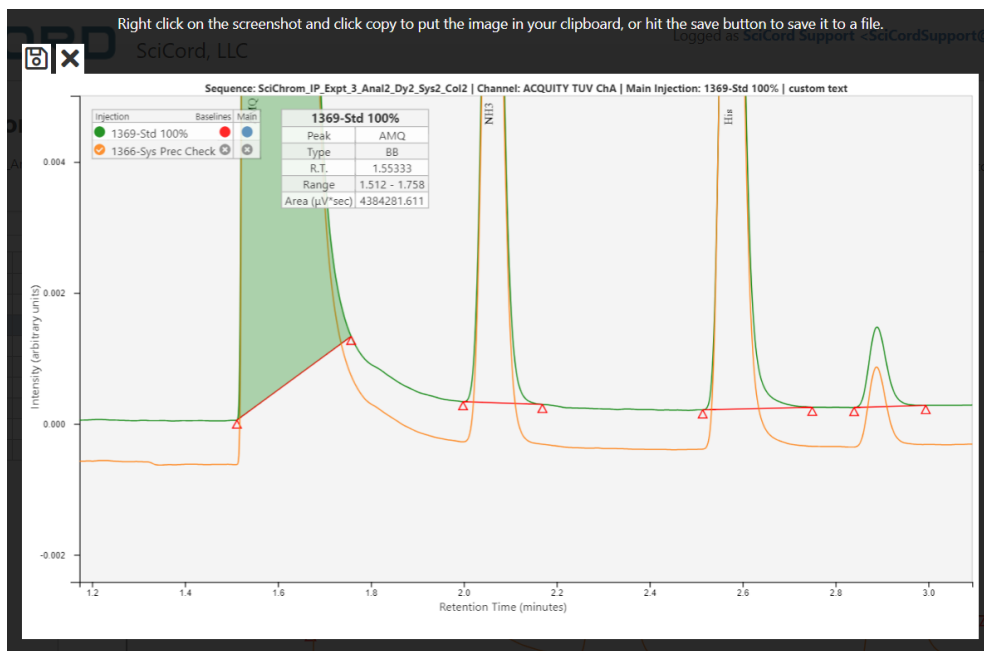
- There are two buttons in the upper left corner.
 - The save button (icon is a floppy disk) saves the screenshot to the user's computer. A popup will give the user the chance to give it a custom name.
 - The exit button (icon is an X) closes the screenshot dialog.
- If using the Edge browser, the save button is not visible and the message does not mention the save button.

When a screenshot is taken using the screenshot button, a label is added. The label is generated using the Sequence, Channel, and name of the Main Injection. If custom text is entered in the field in the top left corner of the webpage before taking the screenshot, it will also be included in the label (see picture).

SciChrom - ChromView

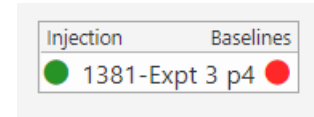


The screenshot dialog:



SciChrom Legend

When only one injection is active, the main injection name is shown in the legend underneath the Injections area. The circle to the left of the name corresponds to the color of the line in the chart, and the circle on the right, underneath the Baselines section, corresponds to the color of the baselines (see picture to right).

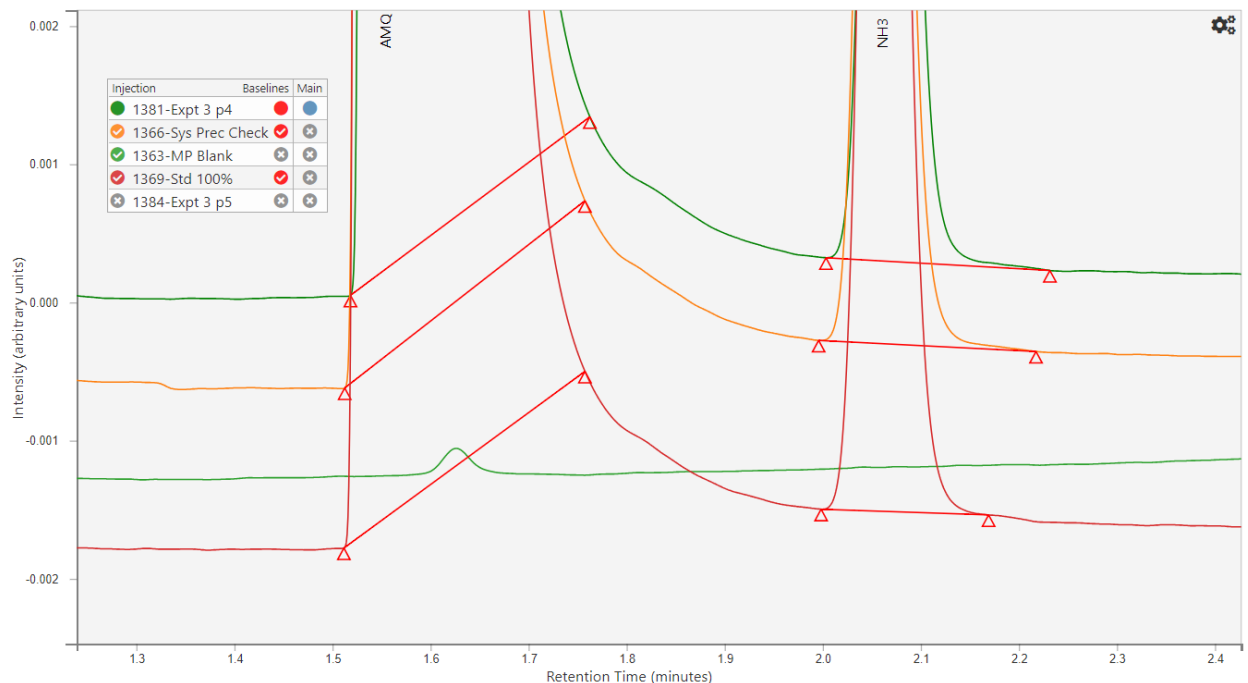


The legend can be moved around the chart by clicking and dragging it.

If there are one or more secondary injections, an additional column will be added to the legend called "Main".

- The main injection will have a blue circle in the "Main" column, while the secondary injections will have a grey X. Clicking one of the grey Xs will make the corresponding injection the main injection and re-order the chart accordingly.
- The circle icon to the left of the name of each secondary injection will be a colored check-mark. Clicking this icon will turn it into a grey X and hide the corresponding injection in the chart. All of the secondary injections can also be hidden/shown at once using the Hide/Show All button in the options panel.
- The circle icon to the right of the name of each secondary injection will be a grey X. Clicking this icon will turn it into a red check-mark and will display the baselines on the corresponding injection.

The legend when multiple injections are active:



Printing Injections (not accessible in Simple Demo version)

Using the option panel's "Print Report" button will re-organize the page into a simpler, print friendly layout. The chart and table will be centered in the page, with a fixed width meant to prevent it from overflowing on a printed page.

The header at the top is updated with the following

- Sequence: [Injection Sequence]
- Channel: [Injection Channel]
- Main Injection: [Current injection shown in chart]
- Date Acquired: [Date the data was initially acquired, if available]
- Instrument: [Instrument used, if available]
- Injection #: [Number of the injection currently shown]
- Run Time: [Time that the injection spans]
- Date Printed: [Today]
- View Online [Links to the page with the current injection pre-selected]

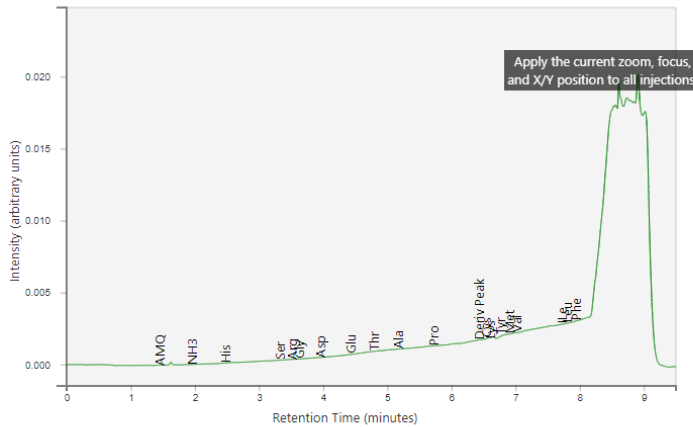
Whether using a local printout or a saved summary report, the "View online" link in the header should remain visible. Depending on your browser, this link will either remain clickable in the PDF, or be converted to a string that can be copied into your browser. The link will return the user to the ChromView site corresponding to the particular injection, allowing more in-depth review.

The injection table and several buttons are available on the right of the page. These fields are used to configure what the printout should look like, and will not be present in the final printout.

- Pressing an injection on the injection table will highlight it blue and load it for configuration.
 - Once the chart is loaded, the zoom/pan/focus of the chart can be manipulated like normal. The values associated with this movement are displayed below the injection table and will be saved to configure the printout.

Sequence: SciChrom_IP_Expt_3_Anal2_Dy2_Sys2_Col2
Channel: ACQUITY TUV Cha
Main Injection: 1363-MP Blank
Date Acquired: 08-May-2006 13:24:04
Instrument: ACQ05_TUVe
Injection #: 1
Run Time: 9.5 Minutes

Date Printed: September-18-2019
[View online](#)



Only BB, BV, VV, VB, and TT baselines will be rendered correctly. The following peaks may have issues: Peak 0 is Missing, peak 1 is Missing, peak 2 is Missing, peak 3 is Missing, peak 4 is Missing, peak 5 is Missing, peak 6 is Missing, peak 7 is Missing, peak 8 is Missing, peak 9 is Missing, peak 10 is Missing, peak 11 is Missing, peak 12 is Missing, peak 13 is Missing, peak 14 is Missing, peak 15 is Missing, peak 16 is Missing, peak 17 is Missing, peak 18 is Missing, peak 19 is Missing

Peak Name	Type	Retention Time (min)	Area (µV*sec)	% Area
AMQ	Missing	1.5233	0	
NH3	Missing	2.03	0	
His	Missing	2.5458	0	

Injection
MP Blank
Sys Prec Check
Std 100%
Expt 3 p1
Expt 3 p2
Expt 3 p3
Expt 3 p4
Expt 3 p5
Expt 3 p6

Finalize

Apply to All

Print Selection

Configure Columns

Focus %:

Zoom: 1

X Translation: 0

Y Translation: -17.8

- Clicking an injection that is already highlighted in blue will re-open the injection and re-apply its last used zoom/pan/focus values. Clicking the injection again will deselect it from the table.
- "Finalize" - Finalize the currently configured injections and attach save the printout in the original document as a Summary Report pdf document.
 - This option is meant for creating a printout that will be saved on SciCord's servers. The creation of the Summary Report pdf document is an asynchronous process. When this process finishes, the Summary Report can be retrieved in two ways:
 - from SciCord Portal: from the Document Viewer's Attachments tab, using the "Download Scichrom Summary" function associated to the related attachment
 - from SciCord Client: from the Document Editor's Attachments tab, using the "Download Scichrom Summary" function associated to the related attachment
- "Apply to All" - Apply the current zoom, focus, and X/Y position to all injections
- "Print Selection" - Creates a print view based on your currently configure injections. Use your browser's print functionality (CTRL-P on Windows, COMMAND-P on Mac) to print. If you want a PDF printout, select the "Save as PDF" option in the print menu. This printout will not be saved in the SciCord ELN.
 - This option is meant for creating a one off printout that will be available locally
- "Configure Columns" - Hide/Show columns in the peak table and set number of decimals
- "Focus %" - manual entry field for controlling the focus. Also updates automatically when the focus is changed by normal zoom/pan operations

If the current injection has any warnings, such as invalid peak data, it will be shown directly below the chart instead of displayed in an alert so that it will remain visible in the printout.