

# TraceFinder Analysis Quick Reference Guide

This quick reference guide describes tasks using the Analysis mode in the Thermo TraceFinder™ analytical application.

For detailed descriptions of all procedures described in this quick reference guide, refer to the appropriate Analysis mode chapter in the *TraceFinder User Guide*.

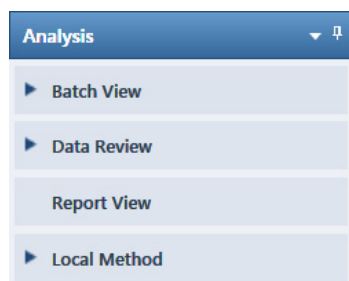
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- [Batch View](#)
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### ❖ To open the Analysis mode

Click **Analysis** in the navigation pane.

The Analysis navigation pane opens.



## Batch View

Use the Batch View to manually create and edit a new batch or open and edit a previously saved batch. When you submit a batch, you can acquire data, process data, or create reports for the submitted samples.

### ❖ To open the Batch View

Click **Batch View** in the navigation pane.

The Batch View navigation pane opens.



The Batch View includes the following pages:

- [Samples Page](#) (all batch types)
- [Auto Samples Page](#) (quantitation batches with intelligent sequencing only)
- [Reference Sample Page](#) (quantitation batches only)
- [Threshold Samples Page](#) (quantitation batches only)

## Samples Page

Use the Samples page to create a new batch. Follow these procedures:

- [To open the Samples page](#)
- [To create a batch](#)
- [To add samples to the list](#)
- [To insert samples into the list](#)
- [To import samples into the list](#)
- [To remove samples from the list](#)
- [To copy a sample](#)
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- [To edit sample values](#)
- [To create a group](#)
- [To submit samples](#)

### ❖ To open the Samples page

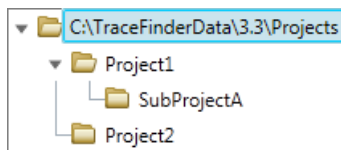
Click Samples in the Batch View navigation pane.

### ❖ To create a batch

1. Choose **File > New > Batch**.

The Create New Batch dialog box opens.

2. Select a drive from the list.



**Tip** The application displays all configured and enabled repositories.

The project list displays all projects, subprojects, and batches in the selected repository.

3. Select the folder where you want to store your batch.

**Tip** To activate the Create button, you must enter a unique batch name. If the Create button is not activated, either you have entered a name that is already used or you have not selected a folder.


4. Select either **Quan**, **Screening**, or **Unknown Only** from the Type list.
5. Select a master method from the Master Method list.

The Master Method list displays all available methods for the selected method type.

6. Click **Create**.

A new batch opens with one Specimen sample. The batch name in the title bar indicates that you are creating either a quantitation, a target screening, or an unknown screening batch.


### ❖ To add samples to the list

Select the number of sample rows to add and click the **Add Sample** icon, .





**Tip** To add a single sample row, right-click the sample list and choose **Add Sample** from the shortcut menu.

The application adds the specified number of new samples to the end of the sample list.

❖ **To insert samples into the list**

1. Select the sample above which you will insert new samples.
2. Select the number of samples to insert and click the **Insert Sample** icon, .

The application inserts the Specimen samples above the selected sample.

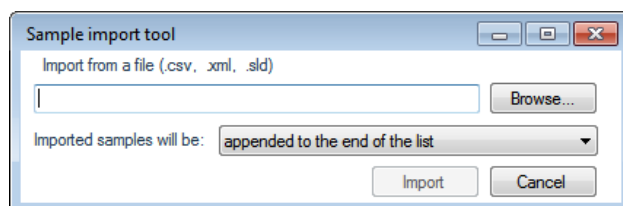
	Status	Filename	Sample type	Groups
1		cal_std_5	Calibrator	
2		Unknown2	Specimen	
3		Unknown1	Specimen	
4		cal_std_10	Calibrator	

Inserted samples

❖ **To import samples into the list**

1. Click the **Import Samples** icon, .

The Sample Import Tool dialog box opens.



2. Click **Browse** and select a CSV, an XML, or an SLD file that contains the sample definitions to import.
3. From the Imported Samples Will Be list, select either **Appended to the End of the List** or **Inserted at the Selected Row**.
4. Click **Import**.

The Sample Import Tool dialog box closes, and the application adds the specified samples to the sample list.

When you import samples from an Xcalibur™ sequence file, the TraceFinder application makes the following column name and sample type substitutions.

Xcalibur column	TraceFinder column	Xcalibur sample type	TraceFinder sample type
Position	Vial Position	Blank	Negative
Inj Vol	Injection Volume	Std Bracket	Calibrator
Dil Factor	Conversion Factor		

❖ **To remove samples from the list**

1. Select the samples that you want to remove.

**Tip** Use the CTRL or SHIFT keys to select multiple samples.

2. Right-click and choose **Remove Selected Samples** from the shortcut menu.

❖ **To copy a sample**

1. Select the sample that you want to copy.
2. Right-click and choose **Insert Copy Sample** from the shortcut menu.

The TraceFinder application inserts the copy above the selected sample.

❖ **To reinject a sample**

1. In the Sample list, select the sample that you want to reinject.
2. Right-click and choose **Reinject This Sample** from the shortcut menu.

The TraceFinder application creates a copy of the selected sample and appends INJ001 to the file name. Additional reinjections of the same sample are numbered INJ002, INJ003, and so forth. The TraceFinder application copies all parameter values from the original sample.

### ❖ To edit sample values

1. For each sample, do one of the following:  
Type a new file name over the current file name.  
–or–  
Double-click the Filename column and locate a raw data file to use for the sample.  
–or–  
Right-click and choose **Browse in Raw File** from the shortcut menu, and then locate a raw data file to use for the sample.
2. For each sample, click the Sample Type column and select a sample type from the list.

#### Available sample types

Specimen	Hydrolysis	Solvent	QC
Unextracted	Calibrator	Negative	

3. For each Calibrator or QC sample, select a level from the Level list.  
The sample levels are defined in the master method. If there are no levels to select from the Level list, do the following:
  - a. Return to the Method Development mode.
  - b. Open the method.
  - c. Click the **Compounds** tab.
  - d. Click the **Calibration Levels** tab.
  - e. Add the levels.
  - f. Save the method.
  - g. Return to the Analysis mode, and then click **Update**.

Local Method:

The application updates the local method with the new sample levels.

4. (Optional) Enter or edit the values for the remaining columns.



**Note** When you use the scroll bar at the bottom of the sample list, the following columns remain fixed: Status, Filename, Sample Type, Groups, Qual Processing (quantitation) or Blank Subtraction (target screening) Level, Sample ID, and Sample Name, while the other columns scroll right and left.

### ❖ To create a group

1. For each sample, click the Groups column and type the name of a group.
2. Repeat step 1 for each sample that you want to include in a group.
3. Create as many groups as you want.

**Note** To assign a sample to multiple groups, separate the groups with a comma.

### ❖ To submit samples

1. Do one of the following:
  - To submit all samples in the batch, click the **Submit Batch** icon, .
  - To submit specific samples, select the samples and click the **Submit Selected Samples** icon, .

The Submit Options dialog box opens.

2. To acquire (or reacquire) the submitted samples, select the **Acquire Data** check box.
3. To process the submitted samples, select the **Process Data** check box.

The application displays options for the type of method that the batch uses: Quantitation, Target Screening, or Unknown Screening. If a quantitation method or target screening method includes unknown screening features, the application also displays unknown screening options.

## Auto Samples Page

4. Select the check box for the options that you want to use.
  - Peak Detect:** Performs peak detection for all method types. You can process the data with or without performing peak detection. For example, you might want to turn off peak detection when reprocessing samples.
  - Quantitate:** Performs quantitation.
  - Identify:** Performs identification for unknown screening.
  - Identify and Confirm:** Performs both identification and confirmation for target screening.
  - With RT Alignment:** Performs retention time alignment for unknown screening. This produces the heat map and group averages data in the Unknown Screening View.
5. (Optional) Select the **Create Reports** check box.
6. To start the selected processes, click **OK**.

The Auto Samples page identifies the Solvent or Negative samples to use for any Auto Sample or Auto Sample and Reinject failure actions as specified on the Intelligent Sequencing page of the method.


### ❖ To open the Auto Samples page

Click **Auto Samples** in the Batch View navigation pane.

The Auto Samples page opens.

	Sample Type	Injection Volume	Injections Used	Number of Injections	Vial Position
	Solvent	1.0	0	1	10
	Matrix Blank	1.0	0	10	11

### ❖ To add an auto sample type

1. Right-click and choose **Add Auto Sample** from the menu, or click the **Add New Auto Sample** icon, . The application adds a Solvent sample to the sample list. You can add, insert, or remove samples from this list as you would any sample list. See “[Samples Page](#)” on [page 2](#).
2. To change the sample type to a Negative, click the Sample Type column and select **Negative** from the list.
3. In the Injection Volume column for the sample, type a volume. The minimum injection volume value allowed is 0.1 µL; the maximum injection volume value allowed is 5000 µL.
4. In the Number of Injections column, type the number of injections available in the designated Solvent or Negative vial. After auto sample injections have occurred, you can return to this page to view the number of injections used in each vial.
5. In the Vial Position column, type the vial position for the Solvent or Negative sample.

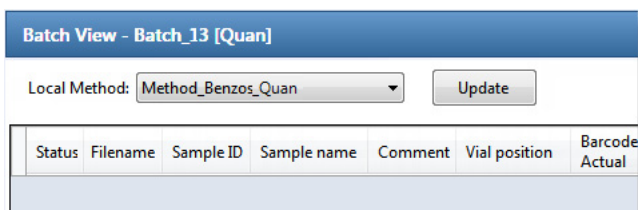
## Reference Sample Page

The Reference Samples page displays the reference samples selected for this batch.

### ❖ To specify a chromatogram reference sample

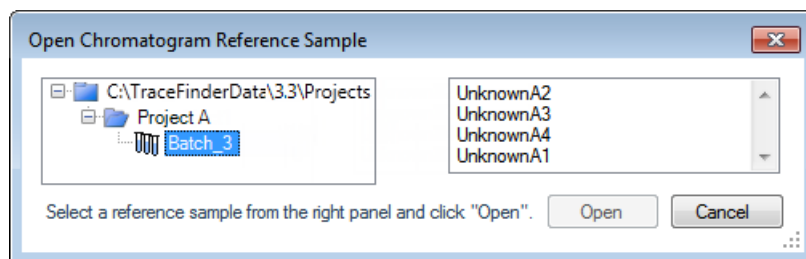
1. Click **Reference Sample** in the Batch View navigation pane.

An empty reference sample table opens.



2. Right-click the table and choose **Add Reference Sample** from the shortcut menu, or click the **Add Reference Sample** icon, .

The Open Chromatogram Reference Sample dialog box opens.



**Note** If you are using a new method, no reference samples appear here. You must first process a batch using the current method to see the reference samples in this list.

3. Select a project from the list of projects.
4. Select a subproject from the list of subprojects.
5. Select a batch from the list of batches.

The application displays only batches that were created using the current master method.

6. From the right panel, select a sample from the list of processed samples.

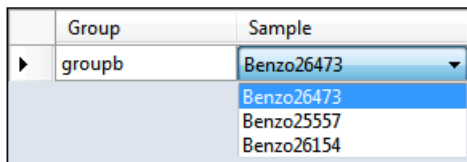
The application displays all the processed samples in the selected batch. Before using a sample as a reference sample, you must have processed the sample with the current master method.

7. Click **Open**.

For each group in a batch, you can specify a sample in the group as the threshold sample to use in the Comparative View.

### ❖ To specify a threshold sample

1. Click **Threshold Samples** in the Batch View navigation pane.
2. Open the Sample list for each group and select a sample in the group to be the threshold sample.



The Comparative View uses the threshold method and amount you specified in the method, the group you created on the Samples page, and the threshold sample that you selected on this page to define the threshold guide that it displays on the sample peak plots.

See also “To create a group” on page 4 and “Comparative View” on page 11.

## Threshold Samples Page

## Data Review

Use Data Review to verify the data generated by a quantitation, a target screening, or an unknown screening master method before you generate reports.

- [Data Review for Quantitation Batches](#)
- [Data Review for Target Screening Batches](#)
- [Data Review for Unknown Screening Batches](#)

### ❖ To open the Data Review view

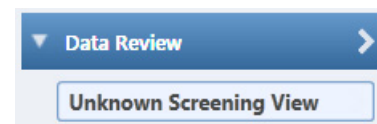
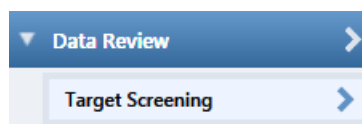
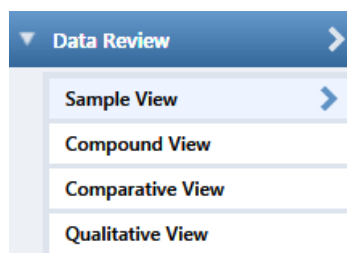
Click **Data Review** in the navigation pane.

The Data Review navigation pane opens.

Data Review for quantitation batches

Data Review for target screening batches

Data Review for unknown screening batches



## Data Review for Quantitation Batches

The Data Review for quantitation batches includes these views:

- [Sample View](#)
- [Compound View](#)
- [Comparative View](#)
- [Qualitative View](#)

**Note** If the quantitation method for the batch includes unknown screening features, the Data Review also includes an Unknown Screening View. See [“Data Review for Unknown Screening Batches”](#) on [page 16](#).

### Sample View

The Sample View displays a list of all samples in the current batch (Samples pane), the compound results for all compounds in the method (Compound Results pane), and peak plots for all compounds found in the currently selected sample (Sample Peaks pane).

#### • Samples pane

Use the Samples pane to select a specific sample. The associated [Compound Results pane](#) displays all compounds in the method and flags any compound with errors in the selected sample.

Samples					Compound Results		
	Flags	Status	Filename	Sample Type	Flags	Flag Details	Compound type
1		●	B_25557	Specimen			FENTHION-Cl und
2	⚠	●	B_26154	Specimen	⚠		Sulfisomidine und
3		●	B_26473	Specimen			
4		●	B_26984	Specimen			
5		●	B_27126	Specimen			

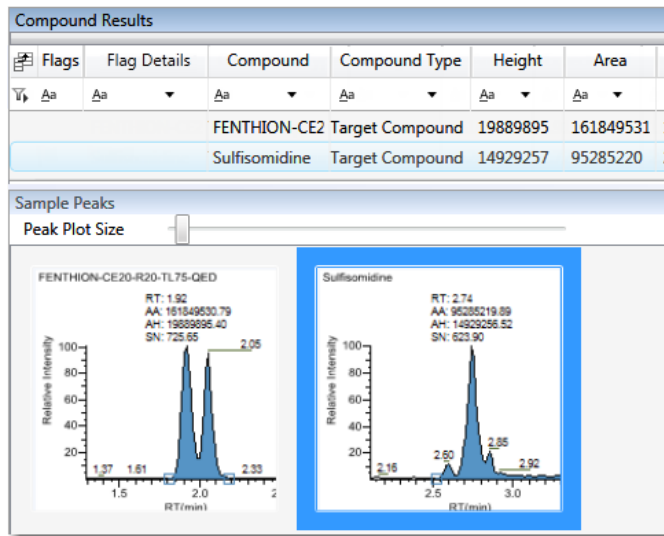
Selected sample

Compound error in the selected sample

No compound error in the selected sample

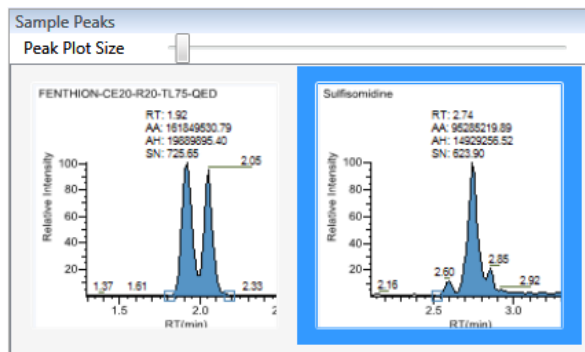
- **Compound Results pane**

Use the Compound Results pane to select a specific compound in the selected sample. The associated **Sample Peaks pane** highlights the selected compound.



- **Sample Peaks pane**

The Sample Peaks pane displays the chromatogram, retention time, area, height, and signal-to-noise ratio for all compounds in the Compound Results pane. The application highlights the chromatogram for the compound that is currently selected in the **Compound Results pane**.



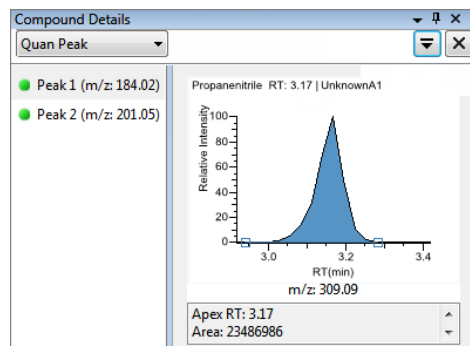
- ❖ **To display details for a compound**

Double-click the chromatogram in the Sample Peaks pane.

The Compound Details pane displays information about the **Quan Peak**, **Confirming Ions**, **Reference Peak**, **ISTD**, **Ion Overlay**, **Calibration Curve**, and **Spectra** for the compound.

**Quan Peak**

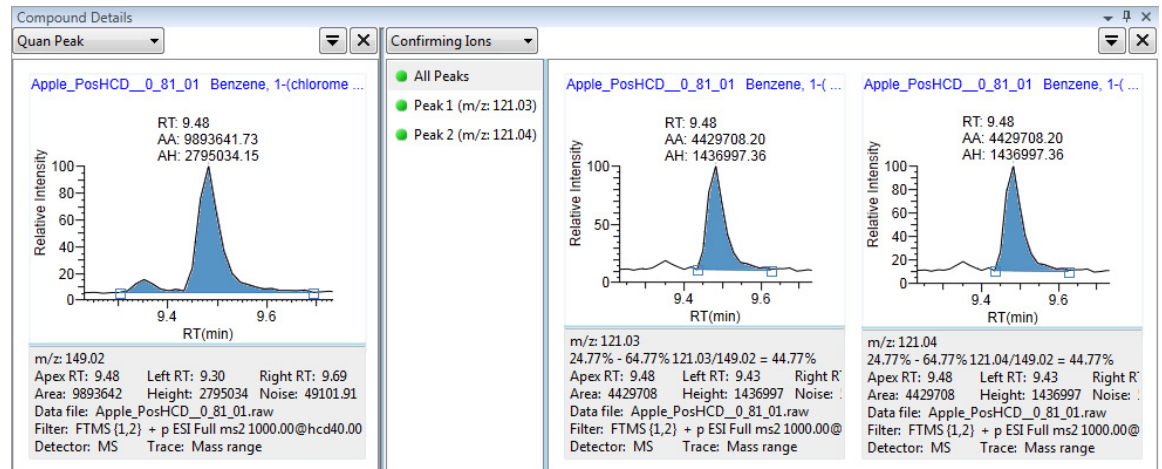
You can switch between quantitative peaks, but you cannot view multiple quantitative peaks at the same time. The indicator in the upper right corner of the Quan Peak pane displays which of the multiple quantitative peaks you are viewing.





## Confirming Ions

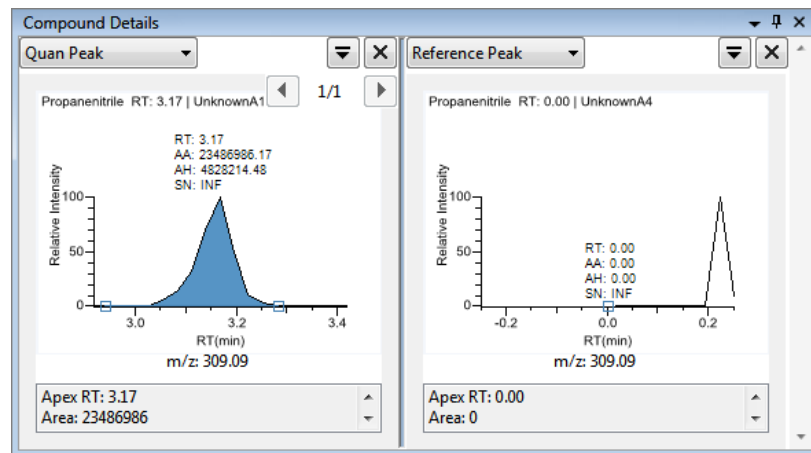
Quantitative peak with multiple confirming ions.



**Note** For compounds with an analog detection type, the application displays “No Confirming Ions Are Enabled” in the Confirming Ions pane.

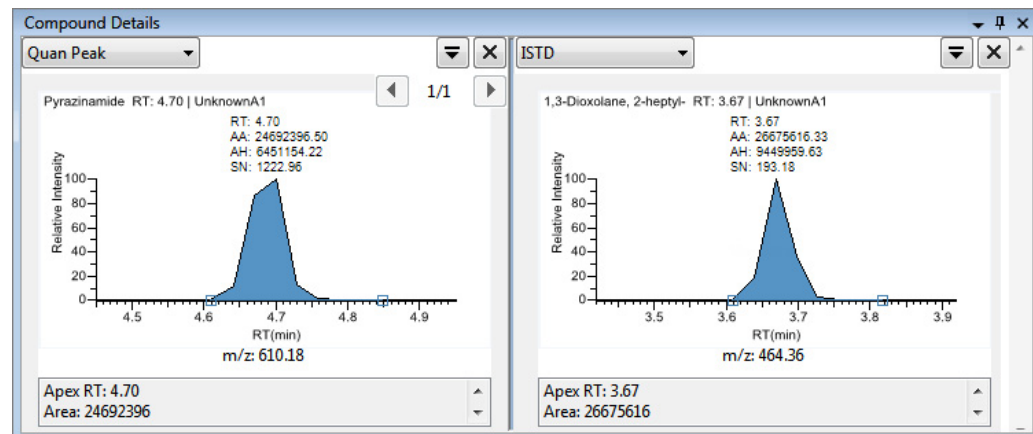
## Reference Peak

Quantitative peak with a reference peak.



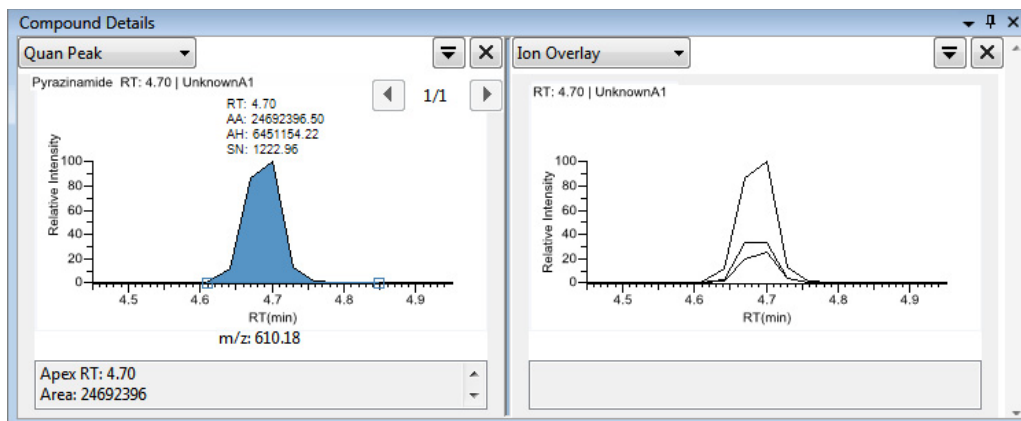
## ISTD

Quantitative peak with an internal standard.



## Ion Overlay

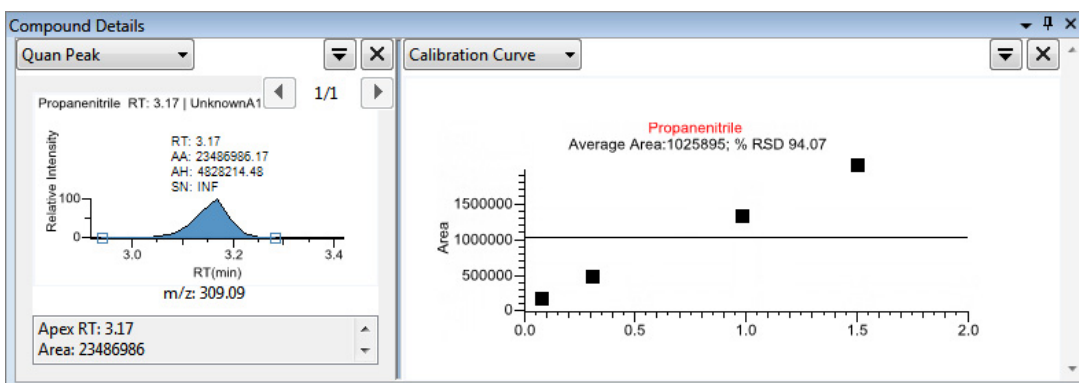
Quantitative peak with a confirming ion overlay.



**Note** For compounds with an analog detection type, the application displays “No Data” in the Ion Overlay pane.

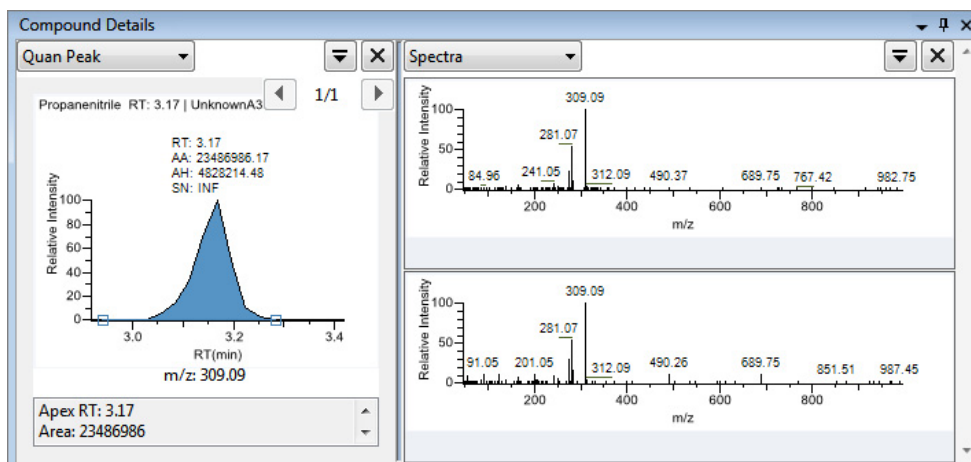
## Calibration Curve

Quantitative peak with a calibration curve plot.



## Spectra

Quantitative peak with data and reference spectra.



**Note** For compounds with an analog detection type, the application displays “Not Available” in the Spectra pane.

## Compound View

The Compound View displays a list of all compounds available in the method (Compounds pane), all samples in the current batch (Sample Results pane), and the peak plots for all compounds found in each sample (Sample Peaks pane).

- **Compounds pane**

Use the Compounds pane to select a specific compound. The **Sample Results pane** displays all samples in the batch and flags any sample that contains errors associated with the selected compound.

The screenshot shows two panes. The 'Compounds' pane has a table with columns: Flags, Compound, Compound Type, and Expected RT. It lists two compounds: Benzoic acid (RT 1.91) and Dibutyl phth (RT 2.72). The 'Sample Results' pane has a table with columns: Flags, Flag Details, Status, and Filename. It lists three samples: 1 (B\_25557), 2 (B\_26154), and 3 (B\_26473). Annotations indicate that Benzoic acid is the selected compound, an error was found in sample 3, and no error was found in samples 1 and 2.

Flags	Compound	Compound Type	Expected RT
⚠	Benzoic acid	Target Compound	1.91
⚠	Dibutyl phth	Target Compound	2.72

Flags	Flag Details	Status	Filename
⚠		🟢	B_25557
⚠		🟢	B_26154
⚠		🟢	B_26473

- **Sample Results pane**

Use the Sample Results pane to select a compound in a specific sample. The **Sample Peaks pane** highlights the selected compound and displays the name of the sample in which the compound was found and the following information about the compound: the chromatogram, retention time, area, height, and signal-to-noise ratio.

The screenshot shows the 'Sample Results' pane with a table listing samples 1 and 3. Sample 1 is selected. Below it is the 'Sample Peaks' pane showing two chromatograms. The left one is for Benzo26473 and the right one is for Benzo25557. Each chromatogram shows relative intensity versus retention time (RT) in minutes, with specific peak data provided.

Flags	Flag Details	Status	Filename	Sample Type	Level	Sample ID
🟢		🟢	Benzo26473	Specimen		SampleID013
⚠	I	🟢	Benzo25557	Specimen		SampleID026

**Sample Peaks**

Peak Plot Size

Benzo26473: RT: 2.05, AA: 36216604.18, AH: 11596056.48, SN: 547.71

Benzo25557: RT: 1.92, AA: 151849530.79, AH: 19899995.40, SN: 725.65

## Comparative View

The Comparative View uses three panes to display a list of all compounds available in the method (Compounds pane), all samples in the current batch (Sample Results pane), and the sample peak plots for all compounds found in the samples (Sample Peaks pane) with the horizontal threshold guide.

The Comparative View uses the threshold method and amount that you specified in the method, the group that you created on the Samples page, and the threshold sample that you selected on the Threshold Samples page to define the threshold guide that it displays on the sample peak plots.

The screenshot shows a peak plot for 'UnknownA4 1,3-Dioxolane, 2-heptyl-'. The x-axis is RT (min) from 3.2 to 4.0, and the y-axis is Relative Intensity from 0 to 100. A single prominent peak is visible at RT 3.67. A horizontal red line is drawn across the plot at a relative intensity of 50, indicating the threshold value.

UnknownA4 1,3-Dioxolane, 2-heptyl-  
RT: 3.67  
AA: 26675616.33  
AH: 99.75

Horizontal guide indicates the threshold value as specified in the method.

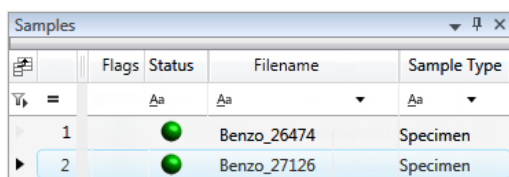
## Qualitative View

The Qualitative View displays qualitative information for the selected sample. To see processed data for a sample, you must select the Qual Processing parameter for that sample in the Batch View before you process the batch.

The Qualitative View displays a list of all samples in the batch (Samples pane), a list of all peaks in the selected sample (Peaks pane), the chromatogram for the selected sample (Sample Chromatogram pane), the chromatogram for the selected peak (Peak Chromatogram pane), the reference spectrum and spectrum data for the selected sample (Spectrum pane), and the best library matches for the selected peak (Library Hits pane).

- **Samples pane**

Use the Samples pane to select a specific sample.

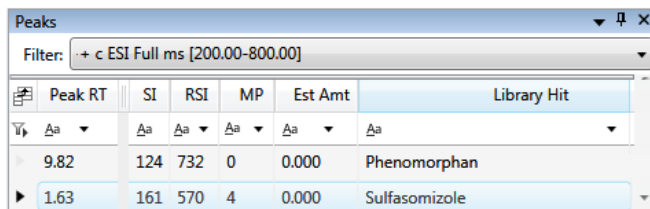


Flags	Status	Filename	Sample Type
	●	Benzo_26474	Specimen
	●	Benzo_27126	Specimen

When you select a sample in the Samples pane, the associated **Peaks pane** displays all peaks found in the sample.

- **Peaks pane**

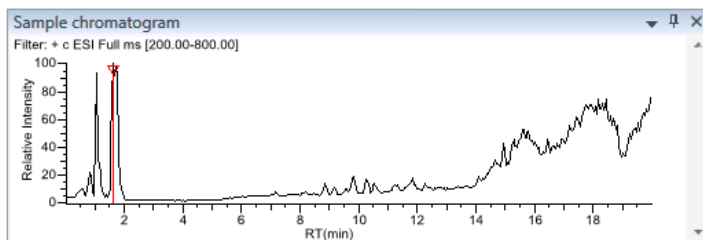
The Peaks pane works with the Samples pane to display graphical values for a unique sample and peak combination.



Peak RT	SI	RSI	MP	Est Amt	Library Hit
9.82	124	732	0	0.000	Phenomorphane
1.63	161	570	4	0.000	Sulfasomizole

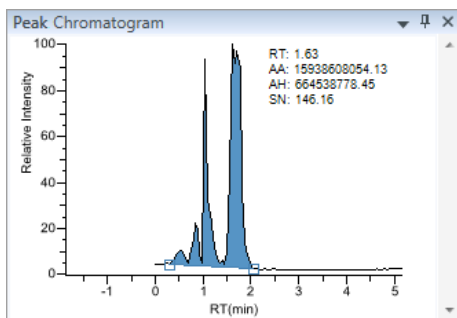
- **Sample Chromatogram pane**

The Sample Chromatogram pane displays all peaks in the selected sample. The peak selected in the Peaks pane displays a red marker.



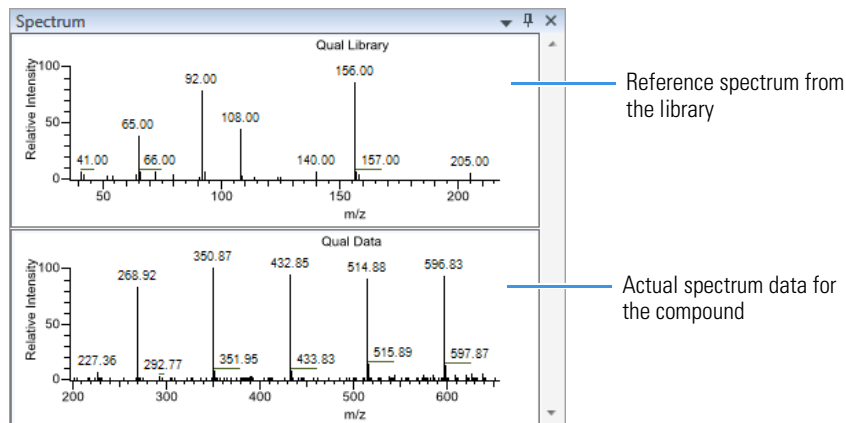
- **Peak Chromatogram pane**

The Peak Chromatogram pane displays the selected peak.



- **Spectrum pane**

The Spectrum pane displays the reference spectrum from the library and the spectrum data for the selected sample. The top pane displays the spectrum for the identified compound found in the reference library; the bottom pane displays the actual spectrum data for the selected peak.



- **Library Hits pane**

The Library Hits pane displays the best library matches for the selected peak. Use this pane to select a different library entry for the peak.

Rank	SI	RSI	MP	Library entry	
<input type="radio"/>	=	=	=	Δa	
<input checked="" type="radio"/>	1	332	978	0	2-Hexanone
<input type="radio"/>	2	320	966	0	Succinic anhydride
<input type="radio"/>	3	314	959	0	Propane, 1-(ethenyloxy)-

In the target screening display, the application displays a list of all samples in the current batch, the compound results for all compounds in the method, and chromatogram and spectrum plots for all compounds found in the currently selected sample.

The Target Screening View displays a list of all samples in the batch (Samples pane), a list of all compounds in the selected sample (Compounds pane), the chromatogram for the selected peak (Chromatogram pane), and the reference spectrum and spectrum data for the selected sample (Spectrum pane).

### Samples Pane

Use the Samples pane to select a specific sample in the batch. The associated [Compounds Pane](#) displays all compounds in the method and flags any compound with errors in the selected sample.

Samples	
▲	Apple_HCD1
▲	● Apple_PosHCD_0_81_01 Sample ID: 1 Sample Type:Unknown Vial Pos: CStk1-01:14 Inj Vol: 1.25
▶	● Apple_PosHCD_0_81_02
▶	● Apple_PosHCD_4_05_01
▶	■ Apple_PosHCD_4_05_02
▶	▲ Apple_PosHCD_8_1_01

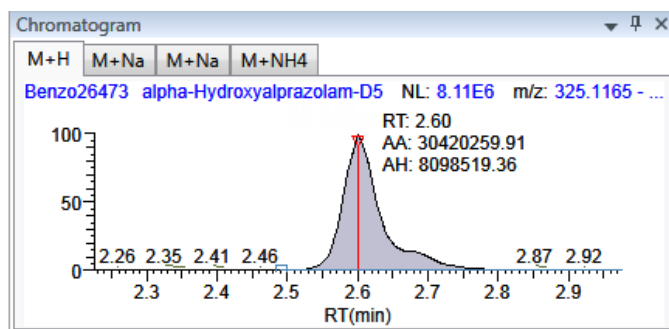
Flags in the Samples pane indicate the following:

- A green circle means that the sample/compound/peak combination is identified and fully confirmed.
- ▲ A yellow triangle means that the sample/compound/peak combination is identified but not fully confirmed.
- A red square means that the sample/compound/peak combination is not identified.

## Chromatogram Pane

Use the Chromatogram pane to display all extracted chromatograms of all adducts of the selected compound.

The first tab displays the most intense target adduct for the peak result. Additional (optional) tabs display extracted ion chromatograms for other adducts for the target compound at the same retention time in order of intensity. If no signal exists for an adduct, the first tab displays the XIC of the expected  $m/z$  within the specified retention and chromatogram windows. When you do not specify a retention time or window, the application displays the full time range.



## Compounds Pane

The Compounds pane displays all found peaks in the selected sample and flags any compound with errors. The Target Screening Results grid reflects the identified compounds found in the compound database and the results of the method processing criteria.

Compounds

1 Benzodiazepines Example Database

Selected	MZ	RT	IP	FI	LS	Flag	Compound Name	Match Result Name	Formula
<input type="checkbox"/>							2-Hydroxyethylflurazepam	2-Hydroxyethylflurazepam@RT 0.19	C17H14ClFN2O2
<input type="checkbox"/>							2-Hydroxyethylflurazepam	2-Hydroxyethylflurazepam@RT 1.42	C17H14ClFN2O2
<input type="checkbox"/>							2-Hydroxyethylflurazepam	2-Hydroxyethylflurazepam@RT 1.71	C17H14ClFN2O2
<input type="checkbox"/>							2-Hydroxyethylflurazepam	2-Hydroxyethylflurazepam@RT 1.96	C17H14ClFN2O2

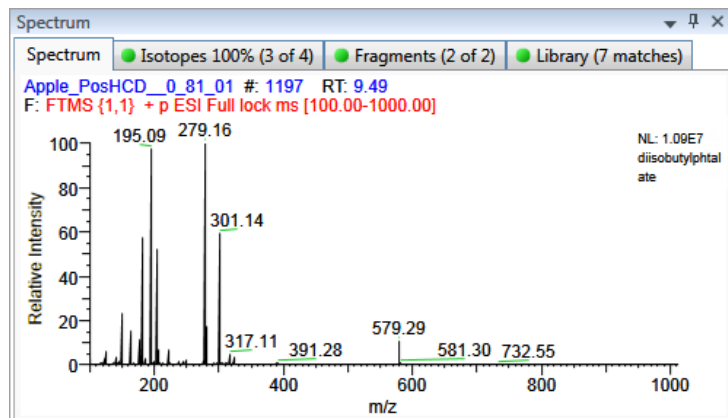
## Spectrum Pane

Use the Spectrum pane to display the spectrum, isotopes, fragments, and library search information for the selected adduct in the Chromatogram pane. The Spectrum pane displays only the identification and confirmation criteria specified in the method. The confirmations are based only on the most intense adduct.

The Spectrum pane includes the following pages of information (when available) for each selected sample/compound/peak combination:

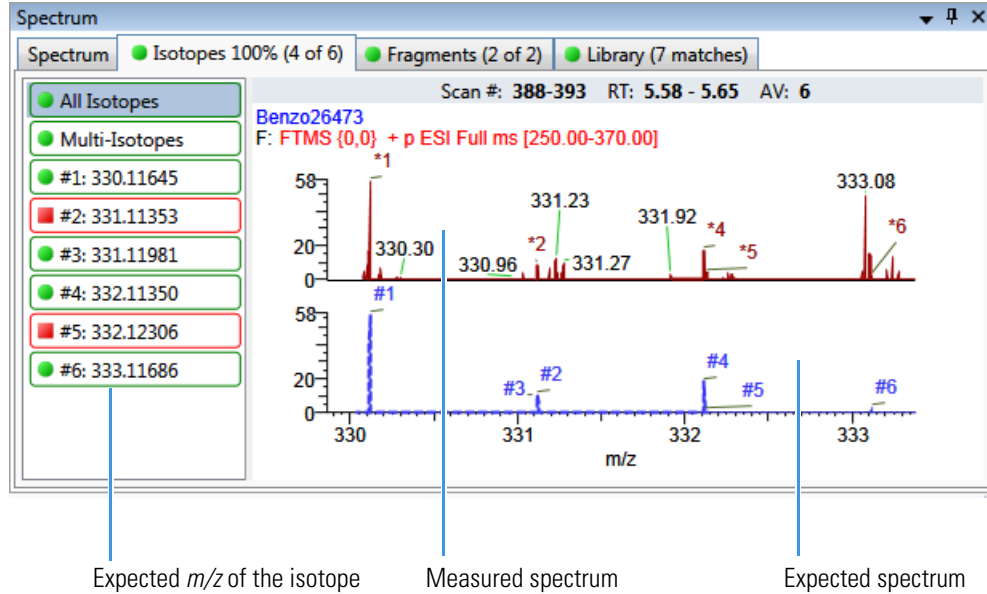
- **Spectrum**

The application displays the neutral loss (NL) and compound/peak name information on the right side of the Spectrum page. When data is available, the plot width is the full mass range in the raw data file. Otherwise, the application scales the width to the scan range.



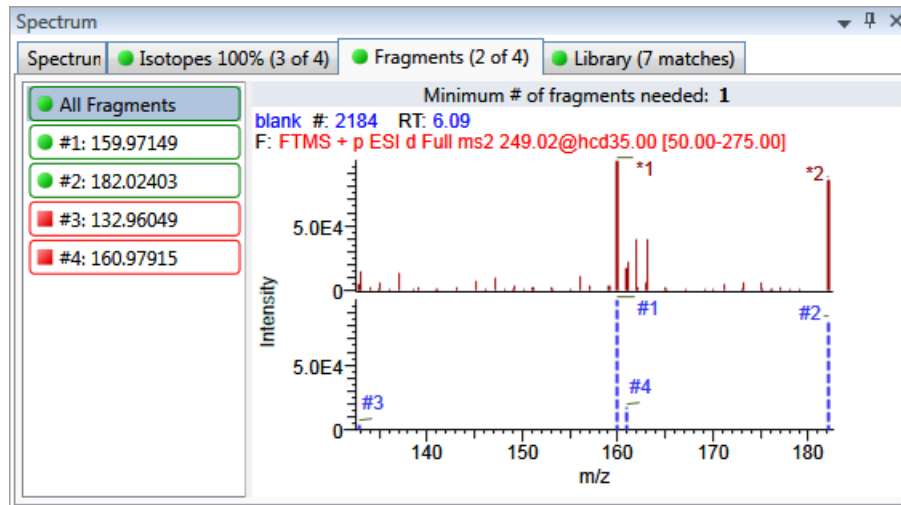
- **Isotopes**

The isotopes page displays isotopic pattern results according to the threshold and deviation parameters defined in the screening method. To identify or confirm the presence of a compound, the resulting score percentage from isotopic pattern matching must be higher than the specified fit threshold percentage. An isotope peak is not found if its intensity, relative to the monoisotopic ion's intensity, is more than the specified intensity deviation percentage away from the theoretical relative intensity of the isotope ion. An isotope peak is found if its measured  $m/z$  is less than the specified mass deviation amount away from its expected  $m/z$ .



- **Fragments**

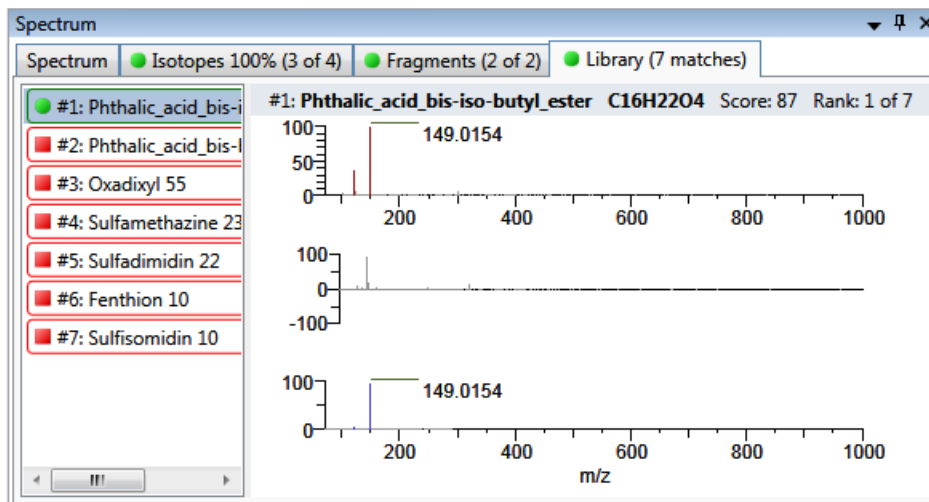
The Fragments page displays the maximum number of fragments as specified in the screening method. You must define fragments in the screening library.



- **Library**

The Library page displays the matching library spectrum (in blue) and the experimental spectrum (in black). The resulting score percentage from a library search match must be higher than your specified threshold value to identify or confirm the presence of a compound.

The application scales both the matched library spectrum and the highest peak in the measured spectra at 100 percent intensity and displays the resulting neutral loss (NL) value for the matched library entry name to the right of the plot.



## Data Review for Unknown Screening Batches

In the unknown screening view, the application displays the following panes:

- [Cross Sample Peak List Pane](#)
- [Heat Map Pane](#)
- [Sample List Pane](#)
- [Spectrum Pane](#)
- [Peak List Pane](#)
- [Peak Identifications Pane](#)
- [TIC Chromatogram Pane](#)
- [XIC](#)
- [XIC Overlay Pane](#)
- [Group Averages Pane](#)
- [Peak Chromatogram Pane](#)
- [Cross Sample Peak Overlay Pane](#)
- [Library Search Pane](#)
- [Chemical Structure Pane](#)
- [Fragments Pane](#)
- [Isotopes Pane](#)



## Cross Sample Peak List Pane

Use the Cross Sample Peak List pane to compare peak values across all samples in a batch.

Cross Sample Peak List						
Selected	Retention Time	M/Z	Mass	Mono Isotopic Mass	Maximum Fold	
<input type="checkbox"/>	=	=	=	=	=	=
2	<input type="checkbox"/>	0.80	203.05	202.05	202.05	0.00
3	<input type="checkbox"/>	5.92	169.12	168.11	168.12	0.00
4	<input type="checkbox"/>	6.72	245.08	244.07	244.07	0.00

Apple_I MS Area	Apple_I Avg Area	Apple_I CV	Apple_I Fold
=	=	=	=
0.00	1.00	0.00	0.00
0.00	1.00	0.00	0.00
157,846.41	157,846.41	0.00	0.00

## Heat Map Pane

Use the Heat Map pane to display the response of each peak occurrence in the batch. The Heat Map pane displays all MS Area values for all peaks in all samples in the batch that are above the peak threshold value specified in the method. When you select a peak in the Heat Map pane, the application displays the associated results for the selected peak in all panes of the Unknown Screening view.

Heat Map						
Retention Time	M/Z	Mass	Apple_PosHCD_0_81_01 MS Area	Apple_PosHCD_0_8 MS Area	Apple_PosHCD_4_0 MS Area	
1	5.92	169.12	192,674.62	101,299.44	112,746.64	
2	6.72	245.08	2,000,844.50	107,455.73	170,410.11	
3	6.72	163.04	1,156,472.00	205,919.31	107,573.62	

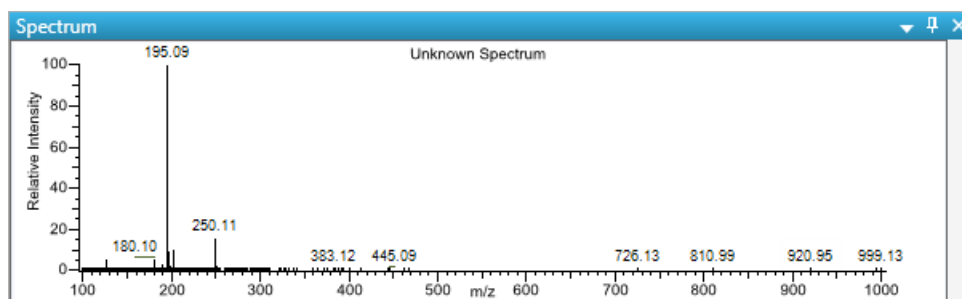
## Sample List Pane

Use the Sample List pane to select a sample of interest. The application displays the associated results for the selected sample in all panes of the Unknown Screening view.

Sample List				
Batch Order	Status	Sample Name	Sample Type	
1	<input checked="" type="radio"/>	Unknown1	Unknown	
2	<input type="radio"/>	Unknown2	Unknown	
3	<input type="radio"/>	Unknown3	Unknown	

## Spectrum Pane

When data is available, the plot width is the full mass range in the raw data file. Otherwise, the application scales the width to the scan range.



## Peak List Pane

Use the Peak List pane to select a specific peak found in the selected sample. The Peak List displays each peak that the application identified in the sample.

Selected	Peak ID	M/Z	Retention Time	Area	Height	Potential ID	Mass
<input checked="" type="checkbox"/>	peak @ 0.80 203.05	203.05	0.80	203,246.00	3,412,897.50	7	202.04
<input type="checkbox"/>	peak @ 11.48 312.3	312.36	11.48	455,449.00	7,354,474.69	7	311.54
<input type="checkbox"/>	peak @ 13.04 338.3	338.34	13.04	262,451.75	3,939,006.44	7	337.53
<input type="checkbox"/>	peak @ 14.20 278.9	278.97	14.20	166,002.72	513,232.62	9	277.96

Mono Isotopic Mass	Charge State	Filter String	NIST	Library Manager
284.27	1	FTMS + p ESI Full ms [100.00-1000.00]	N/A	N/A
100.00	1	FTMS + p ESI Full ms [100.00-1000.00]	N/A	N/A
293.15	1	FTMS + p ESI Full ms [100.00-1000.00]	N/A	N/A
260.07	1	FTMS + p ESI Full ms [100.00-1000.00]	N/A	N/A

Elemental Composition	Database	Chemspider
C18H37O2	N/A	N/A
N/A	N/A	N/A
C13H23O4N2Na	N/A	N/A
C7H21O2N2S3	N/A	N/A

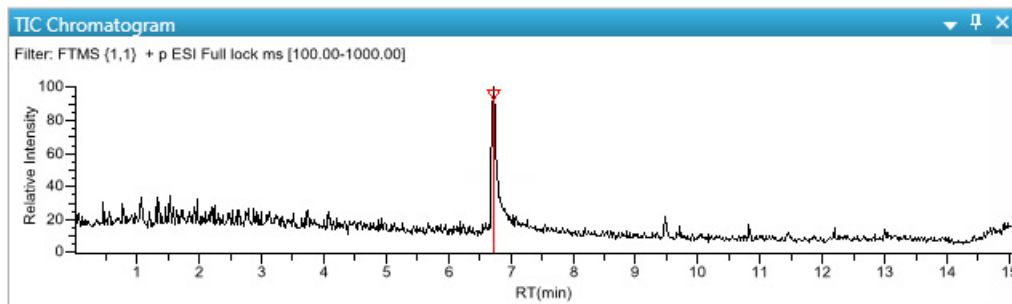
## Peak Identifications Pane

Use the Peak Identifications pane to display the name and formula for identified peaks and the source of the identification.

Selected	ID Source	ID Source Detail	Match Result Name	Formula
<input checked="" type="checkbox"/>	NIST	nist_msms	5-Hydroxy-3'-methoxyflavone	C16H12O4
<input type="checkbox"/>	NIST	nist_msms	4'-Hydroxy-5-methoxyflavone	C16H12O4
<input type="checkbox"/>	NIST	nist_msms	1,3,9-Trimethylxanthine	C8H10N4O2
<input type="checkbox"/>	LibraryManager		Metamitron	C10H10N4O

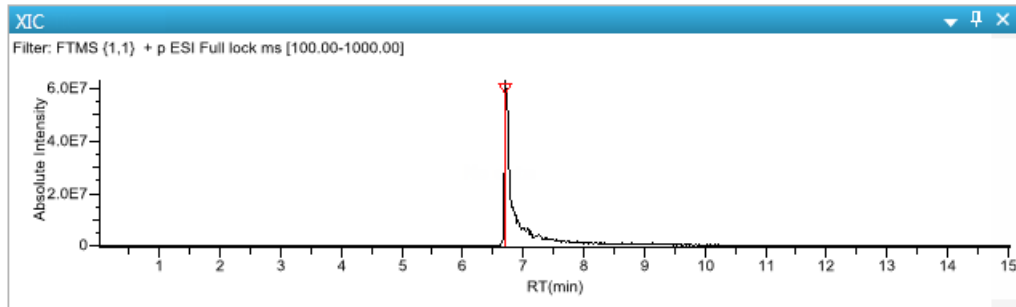
## TIC Chromatogram Pane

Use the TIC Chromatogram pane to display the relative intensity of a trace along the length of the sample data retention window.



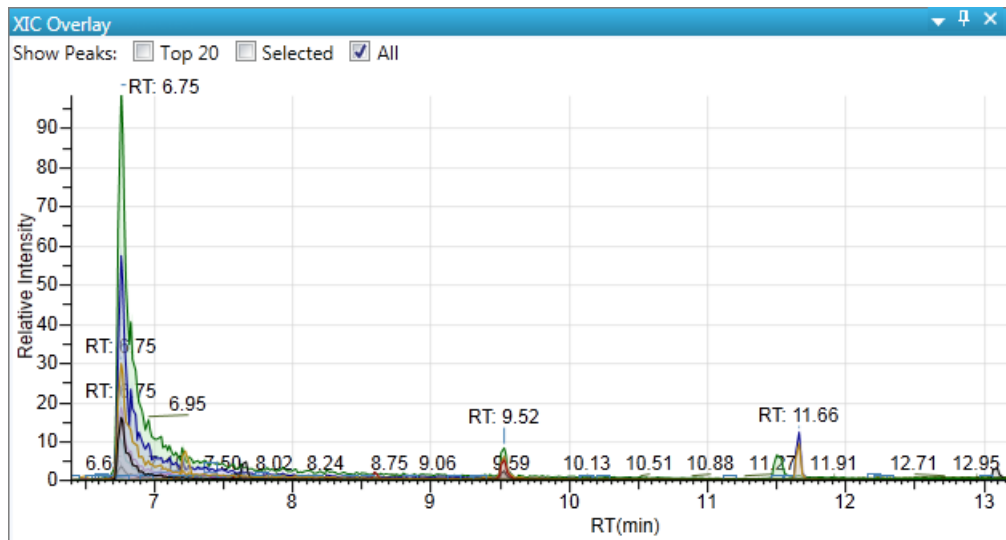
## XIC

Use the XIC pane to display the absolute intensity of an extracted trace along the length of the sample data retention window.



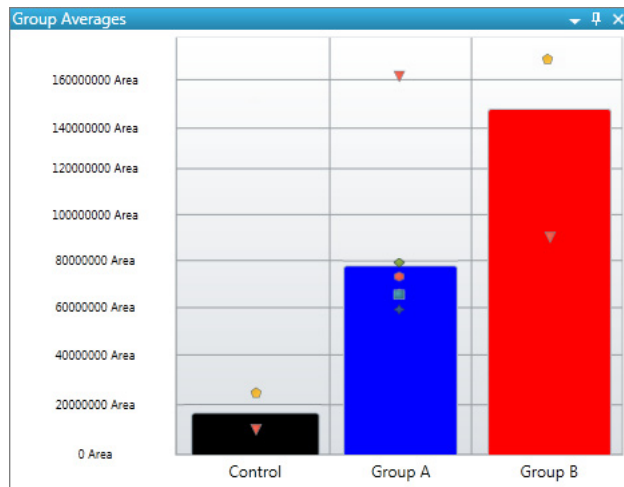
## XIC Overlay Pane

Use the XIC Overlay pane to view specific groups of peaks. You can choose to view all peaks, selected peaks only, or the top twenty most intense peaks (by area). The XIC Overlay plot is a collection of overlaid, extracted  $m/z$  ion plots that use a different color for each peak.



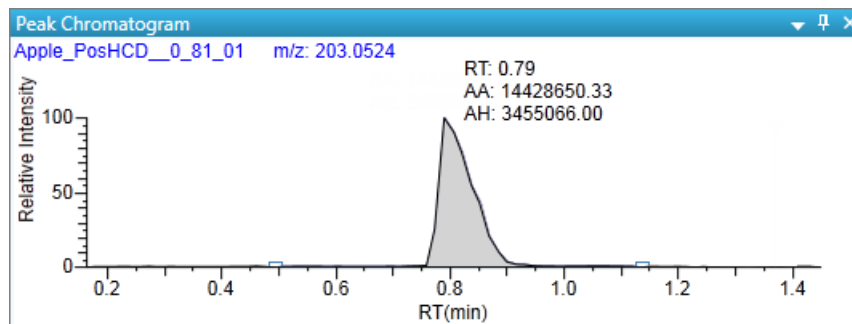
## Group Averages Pane

Use the Group Averages pane to compare the peak areas of different samples to a control group of samples.



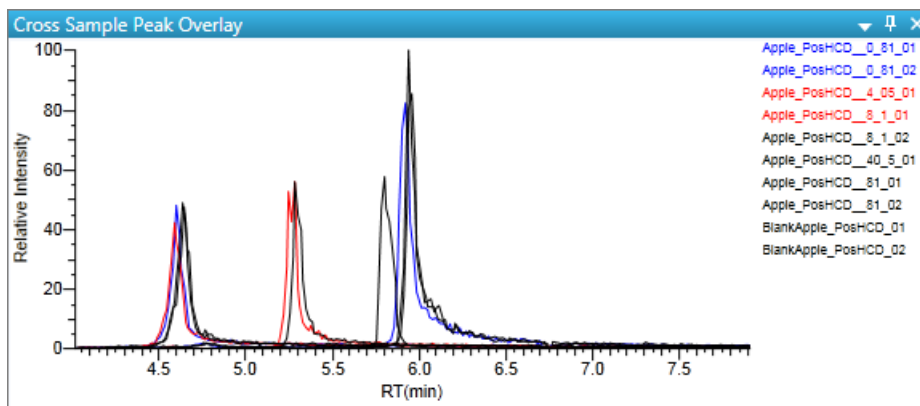
## Peak Chromatogram Pane

Use the Peak Chromatogram pane to display the selected chromatogram peak. The Peak Chromatogram pane initially displays the apex scan for the detected peak. You can manually integrate the peak and use the updated peak to generate reports.



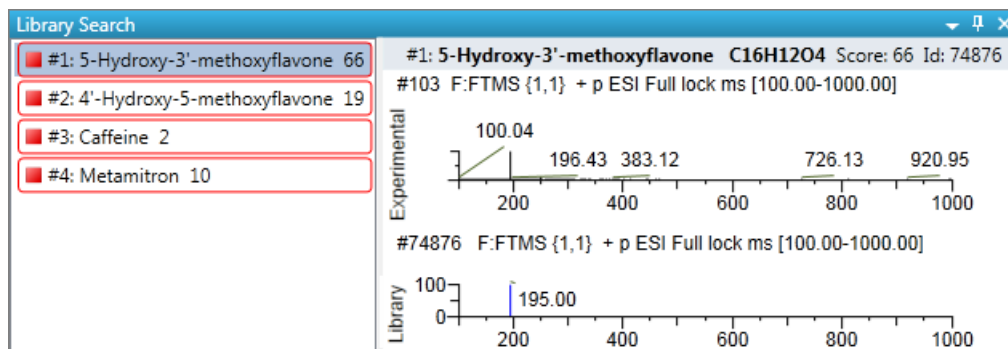
## Cross Sample Peak Overlay Pane

Use the Cross Sample Peak Overlay pane to compare instances of a selected peak across all samples in the batch. The application overlays all occurrences of the peak in the batch. The application displays the names of all samples in the batch where the selected peak is found. Samples that are assigned to groups are color coded, and the peaks found in those samples are color coded in the plot.



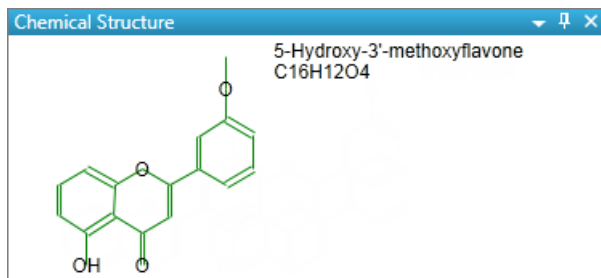
## Library Search Pane

The Library Search pane displays the best library matches for the selected peak, with the highest score listed first.



## Chemical Structure Pane

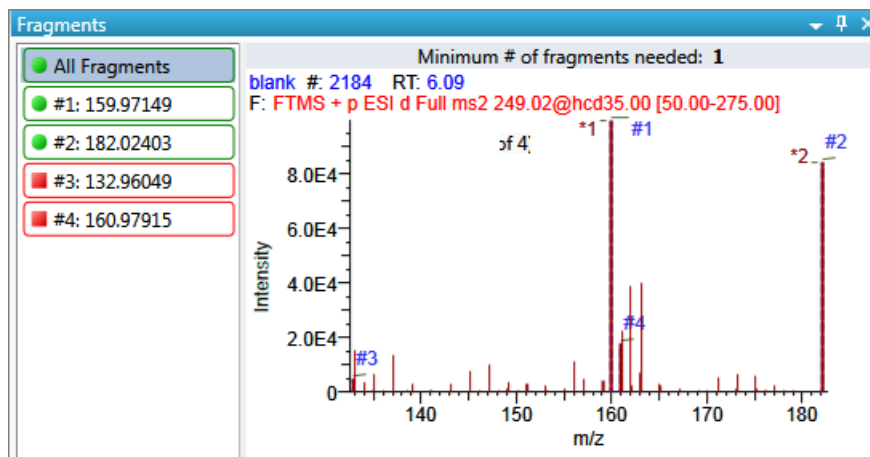
Use the Chemical Structure pane to view the chemical formula and structure for the peak that is currently selected in the Peak List pane. The application displays the chemical formula (and CAS number when available) that was found in the search database that you specified in the method.



## Fragments Pane

The Fragments pane displays the maximum number of fragments as specified in the unknown screening method. When a compound database search returns a match for a peak that has fragments, the Fragments pane displays the theoretical fragments. When the data has an MS/MS element that is identified as belonging to the chromatographic peak, the Fragments pane displays the fragments found in the MS/MS scan.

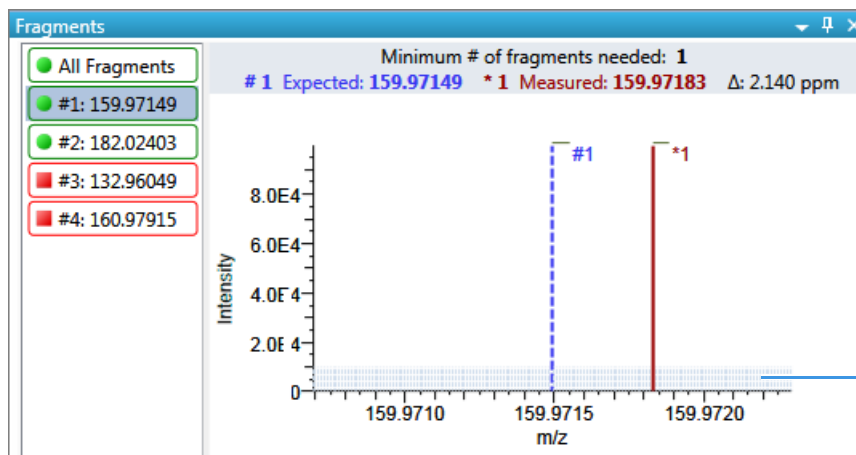
**Figure 1.** All fragments



Expected spectrum in blue

Measured spectrum in red

**Figure 2.** Individual fragment



Expected spectrum in blue

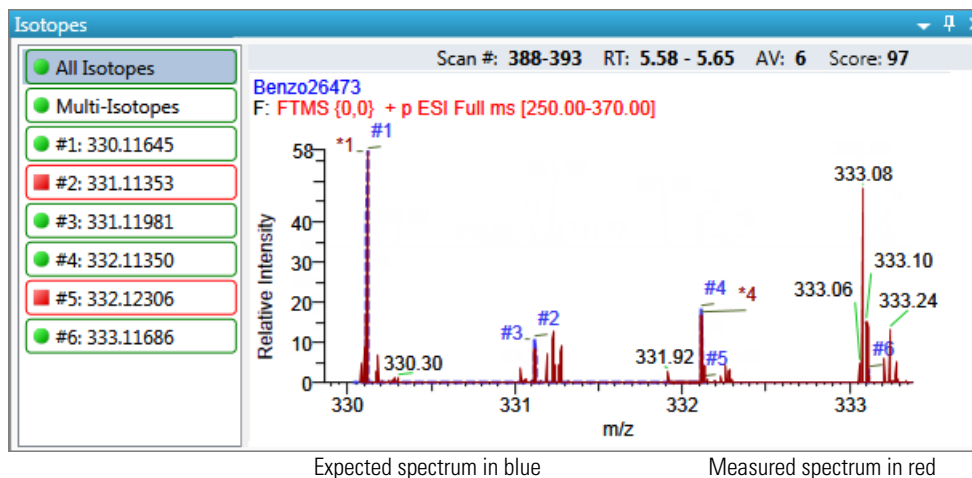
Measured spectrum in red

Intensity threshold specified in the method

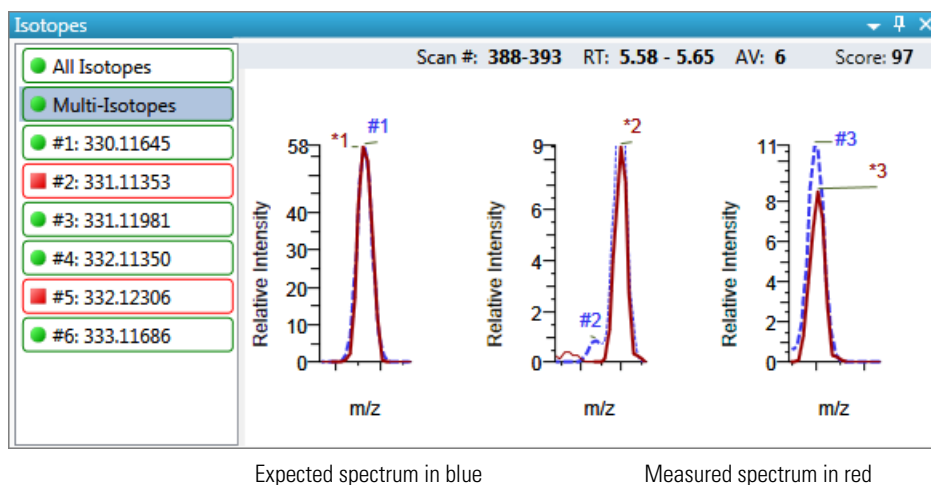
## Isotopes Pane

The isotopes pane displays isotopic pattern results for all adducts of a compound according to the threshold and deviation parameters defined in the unknown method. To identify or confirm the presence of a compound, the resulting score percentage from isotopic pattern matching must be higher than the specified fit threshold percentage.

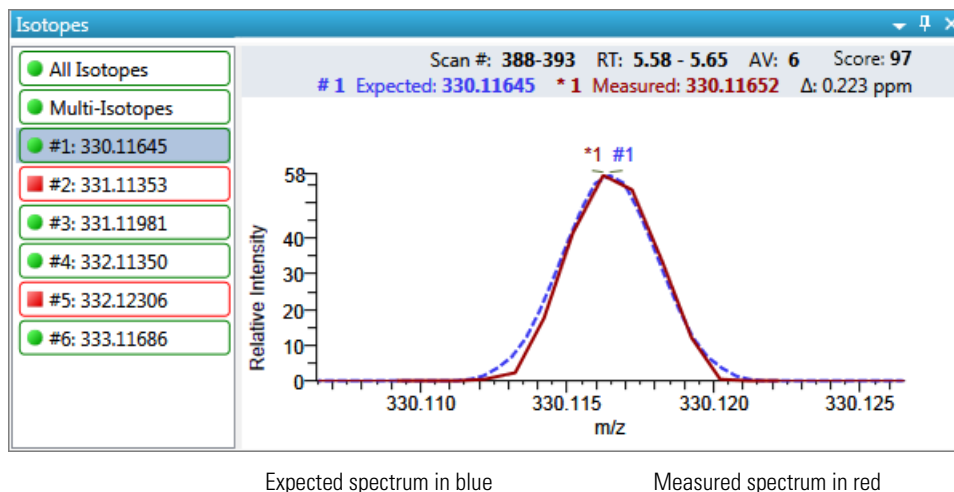
**Figure 3.** Isotopes pane with overlaid spectra for all isotopes



**Figure 4.** Isotopes pane with overlaid spectra for multi-isotopes



**Figure 5.** Isotopes pane with overlaid spectra for a single isotope



## Report View

The Report View displays example reports for the current batch. You must have an open batch to use the features in the Report View. Follow these procedures:

- To open the Report View
- To preview a report
- To generate a report as a PDF, an Excel™, or a CSV file
- To print a report
- To display a generated report
- To edit a report template
- To create a new report template

### ❖ To open the Report View

Click **Report View** in the navigation pane.



The application opens the Report View.

The screenshot shows the "Report View - Batch\_Apple[Quan]" window. It features a "Template" list on the left with "Method Validation Report" selected. A "Rules" table on the right lists "Sheet1", "Sheet2", and "Sheet3", all associated with the "Batch" rule. Below these are "New" and "Open" buttons, a "Preview" button, and checkboxes for "PDF", "Excel", "CSV", "Print", and "Generate". At the bottom, a "Generated Reports" table lists the output files for each template and rule.

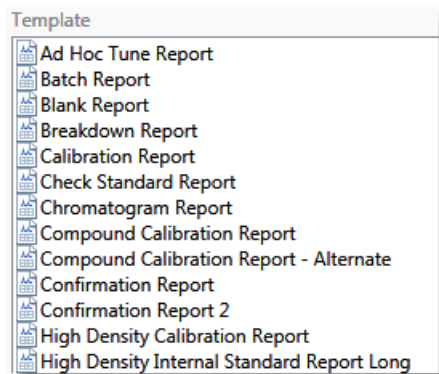
Template	Rule	Sample	Output	Generated Report File
Method Validation Report	Batch		pdf	<a href="#">View...</a> Method Validation Report_20140113092939.pdf (3 pages)
Method Validation Report	Batch		csv	<a href="#">View...</a> Method Validation Report_Sheet1_20140113094656.csv
Method Validation Report	Batch		csv	<a href="#">View...</a> Method Validation Report_Sheet2_20140113094656.csv
Method Validation Report	Batch		csv	<a href="#">View...</a> Method Validation Report_Sheet3_20140113094656.csv
Method Validation Report	Batch		pdf	<a href="#">View...</a> Method Validation Report_20140113094656.pdf (3 pages)
Method Validation Report	Batch		excel	<a href="#">View...</a> Method Validation Report_20140113094656.xlsx

The Open and New buttons open the Report Designer. For details about using the Report Designer, refer to “Working in the Report Designer” in Chapter 12 of the *TraceFinder User Guide*.

### ❖ To preview a report

1. In the Template pane, select a report template.

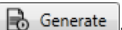
The template list shows all the report templates that you configured in the Configuration console.



2. Click **Preview**, .

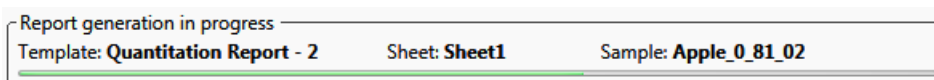
The application opens the Report Designer, showing the report information for the current batch in the selected report template format.

### ❖ To generate a report as a PDF, an Excel™, or a CSV file

1. In the Template pane, select a report template.
2. Select the check box for each of the file types that you want to create: **PDF**, **Excel**, or **CSV**.
3. Click **Generate**, .

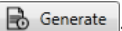
The application does the following:

- Displays a green progress bar as it generates the reports.



- Creates a report with the selected report template as a PDF, an Excel, or a CSV file.
- Adds information about the generated report to the Generated Reports pane.
- Saves the report files to the ...\\TraceFinderData\\3.3\\Projects\\batch\\ReportOutput folder.

### ❖ To print a report

1. In the Template pane, select a report template.
2. Select the check box for the **Print** file format.
3. Click **Generate**, .

The application does the following:

- Creates a report for the current batch using the selected report template format.
- Prints the report to your default printer.
- Adds information about the generated report to the Generated Reports pane.
- Saves the report files to the ...\\TraceFinderData\\3.3\\Projects\\batch\\ReportOutput folder.

### ❖ To display a generated report


In the Generated Reports pane, click **View** for the report that you want to see.

Generated Reports				
Template	Rule	Sample	Output	Generated Report File
Batch Report	Batch		pdf	<a href="#">View...</a> Batch Report_20140113092939.pdf (3 pages)

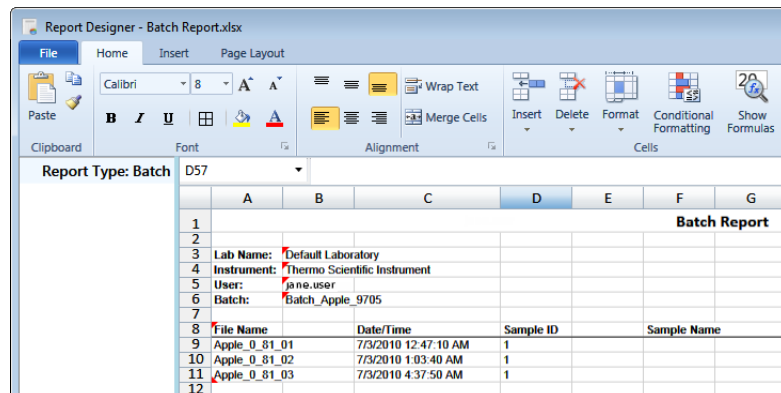
Opens the generated file.



### ❖ To edit a report template

1. In the Template pane, select a report template.
2. Click **Open**, .

The application opens the Report Designer showing the template in an Excel spreadsheet.



3. Use the features in the Report Designer to edit the template.

### ❖ To create a new report template

1. Click **New**, .

The application opens the Report Designer showing an empty template in an Excel spreadsheet.

2. Use the features in the Report Designer to create the template.

## Local Method View

In the Local Method view of the Analysis mode, you can edit only the local copy of the method, or you can edit the master method and overwrite the local copy with the edited master method. A local method is a copy of a master method associated with a batch. Editing the local method does not affect parameters in the master method.

### ❖ To open the Local Method view

Click **Local Method** in the Analysis navigation pane.

The Acquisition page of the Local Method View opens. The Acquisition pages are different for quantitation methods, target screening, and unknown screening methods. See [Local Method View for a quantitation method](#), [Local Method View for a target screening method](#), or [Local Method View for an unknown screening method](#).

From the Local Method view, access the method parameters just as you would for a master method.

Local methods are named *BatchName\_MasterMethodName*.

### ❖ To edit a local method

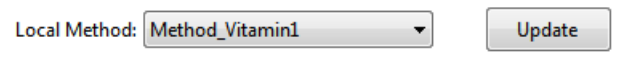
1. Enter any changes to the local method.

To edit a method, refer to the method development chapters in the *TraceFinder User Guide*.

2. Choose **File > Save**.
3. To process the batch or create new reports with the edited local method, return to the Batch View and submit the batch.

### ❖ To overwrite the local method with the master method in the Batch View

In the Batch View, click **Update**.



The application overwrites the local method with the master method of the same name. You can use this feature to overwrite an edited local method with the original master method or to overwrite the local method with an updated master method.

**Figure 6.** Local Method View for a quantitation method

Analysis ▾

Local Method View - Equan1\_408\_Method\_Equan\_1\*

Master method: [Method\\_Equan\\_1](#)

Lab Name:

Assay type:

Injection Volume:

Mass Precision:

Ion range calc method:

Use level:

Instrument Method:

Notes

**Figure 7.** Local Method View for a target screening method

Analysis ▾

Local Method View - Batch\_1\_Method\_Screening

Master method: [Method\\_Screening](#)

Lab Name:

Assay type:

Injection Volume:

Mass Precision:

Instrument Method:

Notes

**Figure 8.** Local Method View for an unknown screening method

Analysis ▾

Local Method View - Apple\_batch1

Master method: [Method\\_Unknown\\_Screening](#)

Lab Name:

Assay type:

Injection Volume:

Mass Precision:

Instrument Method:

Notes

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