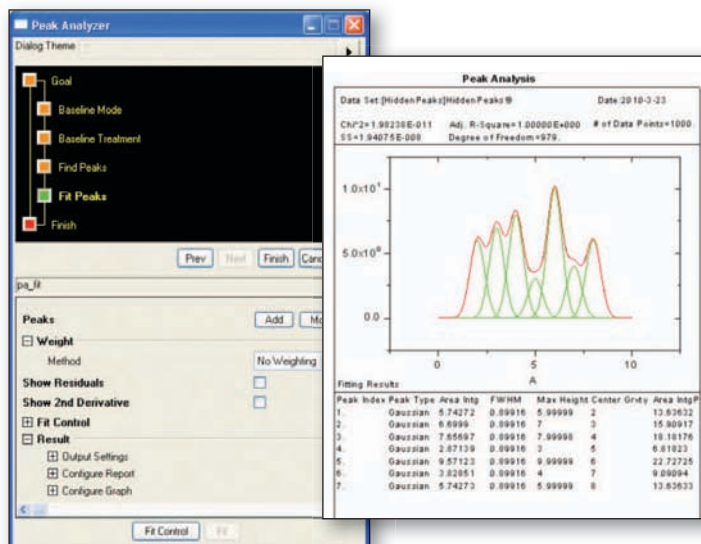


# Peak Analysis

Origin's Peak Analyzer is a powerful and versatile tool for peak and baseline detection and analysis.

- A wizard guides you through the fitting process
- Find and treat the baseline, find and select peaks, integrate peaks
- Generate a detailed report sheet with tables and relevant graphs
- Generate a worksheet with peak properties, including FWHM, centroid, area, peak index, and y-max

The additional features of peak fitting and baseline fitting described below are only available in OriginPro.

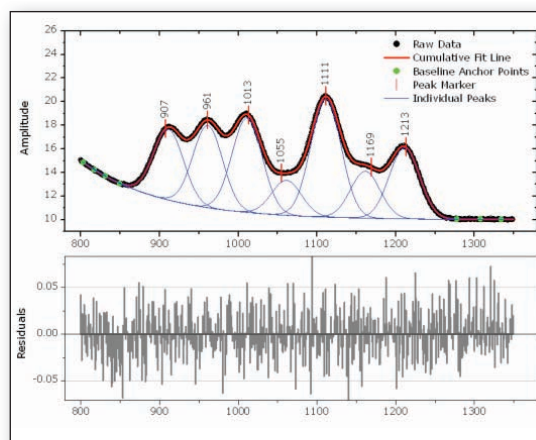


Multi-peak fitting with a detailed report

## Peak Fit Control **PRO**

When using the Peak Analyzer to fit peaks, many options are available to customize your analysis.

- Add, delete or adjust the position of peaks directly on the graph
- Assign the same fitting function to all peaks, or use different fitting functions for each peak, or group of peaks
- Fix peak parameters to a constant value
- Share parameters across peaks
- Apply bounds and linear constraints to fitting parameters
- Plot residuals and second derivative of the fit curve
- Use over 20 built-in peak functions—including Gauss, Voigt, and Lorentz—or create your own



Control the fitting process directly on the graph

ND.	Peak Type	Param	Meaning	Share	Fixed	Value	Error	Dependency	Significant Digits	Lower Bound
0	Constant	y0	unknown	0	<input checked="" type="checkbox"/>	0.7	0	0	System	--
1	Lorentz	xc_1	center	0	<input type="checkbox"/>	1.00016	0.0362	8.4325E-4	System	--
1	Lorentz	w_1	FWHM	1	<input type="checkbox"/>	0.42666	0.11958	0.63425	System	0
1	Lorentz	A_1	area	2	<input type="checkbox"/>	82.85819	19.63085	0.74389	System	--
2	Gaussian	xc_2	center	0	<input checked="" type="checkbox"/>	4	0	0	System	--
2	Gaussian	A_2	amplitude	0	<input type="checkbox"/>	119.84023	11.9359	0.41196	System	--
2	Gaussian	w_2	FWHM	0	<input type="checkbox"/>	0.75756	0.0836	0.36139	System	0
3	Gaussian	xc_3	center	0	<input type="checkbox"/>	5.98962	333535.65745	0.52358	System	--
3	Gaussian	A_3	amplitude	1	<input type="checkbox"/>	0.42666	0.11958	0.63425	System	0
3	Gaussian	w_3	FWHM	2	<input type="checkbox"/>	82.85819	19.63085	0.74389	System	--

With the Peak Fit Parameters dialog, you have full control of the fitting parameters.

Share a common parameter between peaks, fix the value of any parameter, or apply bounds. Right-click on a parameter value to share it with other peaks in the fitting operation.

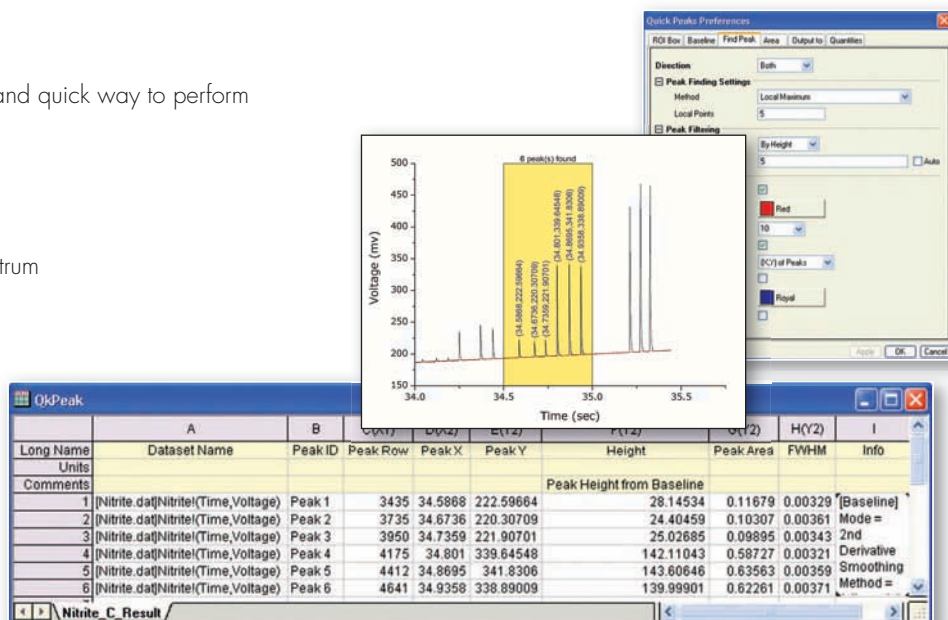
## Quick Peaks Gadget

The Quick Peaks Gadget provides a simple and quick way to perform peak analysis of plotted data within a ROI.

With this gadget, you can

- Locate positive and negative peaks
- Define baseline and subtract from the spectrum
- Integrate peaks within base markers
- Perform peak fitting with frequently used functions
- Create a report sheet with parameters from each peak

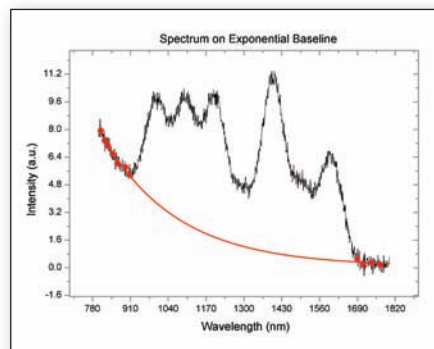
*Create baseline, find Peaks, integrate peaks and output results.*



## Fitting a Baseline PRO

OriginPro not only fits peaks, but can fit a function to your baseline data as well. The following options allow flexibility in fitting your baseline:

- Select baseline anchor points, or have Origin automatically find them.
- Fit baseline anchor points using a pre-defined fitting function, or create your own.
- Fix the baseline anchor points, or allow them to vary with the peak fit.
- Subtract the baseline prior to fitting peaks.



*Fit a baseline to an exponential function using anchor points*

## Batch Peak Fitting PRO

With batch peak fitting, OriginPro can handle many datasets, each containing multiple peaks.

- Perform batch peak fitting using a pre-defined theme, an analysis template, or script.
- Output a custom report of peak parameters for each peak in each dataset.

*Perform peak fitting on multiple datasets using a pre-defined theme; output the results to a customized worksheet.*

