C191-E059A

SHIMADZU
Excellence in Science

Peak Integration Software for LabSolutions

# Peakintelligence for LC

# Peakintelligence™ for LC

ANALYTICAL INTELLIGENCE

## Parameter-Free Peak Integration

Peakintelligence for LC frees users from having to configure parameters and eliminates dependence on specific personnel from peak integration processes.

## About 90 % Reproduction of Peak Integration Results Achieved by Experienced Users

Achieves high-quality peak integration results, the same as experienced users.

## Shortens the Time Spent on Corrections via Manual Peak Integration

Reduces the time spent confirming and correcting peak integration results, thereby reducing the total data processing time.

Liquid chromatography is now an indispensable analytical technique used in pharmaceutical, food, and a wide variety of other industries. In these industries, there is a need for efficient data analysis methods that are not user-dependent. Peakintelligence for LC software includes AI algorithm* that was developed by learning expert peak integration skills. That enables peak integration on par with that of an experienced user without configuring / adjusting parameter settings, which reduces data analysis times by approximately 75 %. Consequently, it makes data analysis results less dependent on specific personnel, inhibits arbitrary changes to data during manual peak integration, and provides more efficient data processing workflows.

*Developed by Shimadzu Corporation with the cooperation of Ajinomoto Co., Inc.

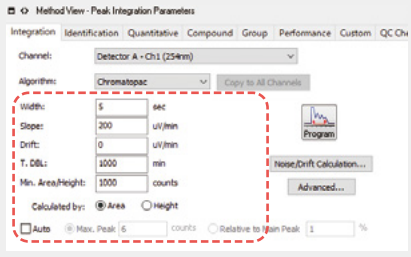
ANALYTICAL INTELLIGENCE

- Automated support functions utilizing digital technology, such as M2M, IoT, and Artificial Intelligence (AI), that enable higher productivity and maximum reliability.
- Allows a system to monitor and diagnose itself, handle any issues during data acquisition without user input, and automatically behave as if it were operated by an expert.
- Supports the acquisition of high-quality, reproducible data regardless of an operator's skill level for both routine and demanding applications.

## Peak Integration Examples

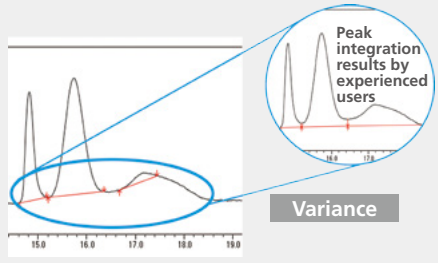
Analyzing complex samples with multiple target components involves analyzing a mixture of various large and small peaks from the principal components and impurities contained in samples. Due to the difficulty of adjusting peak integration parameter settings, peak integration results for peaks that were not detected correctly must be corrected manually, which is extremely time-consuming. Consequently, quantitative results depend on the skill levels of specific personnel. However, by using Peakintelligence for LC software, incorrect peak detection results can be minimized and even small peaks can be detected correctly without configuring parameter settings. That means anyone can obtain peak integration on par with experienced users, which ensures that reliable quantitative processing can be achieved without depending on specific personnel.

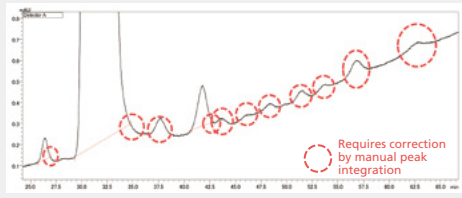
### Conventional Shimadzu Algorithm



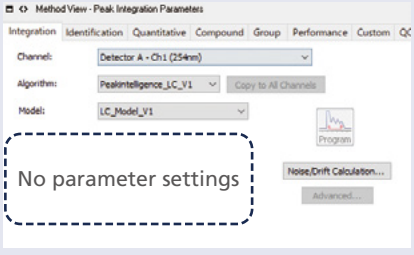

Parameter settings are required.

- Configuring and adjusting peak integration parameters is a time-consuming process.
- If settings are not appropriate, results must be corrected by manual peak integration.
- Manual peak integration results can vary depending on the specific personnel.

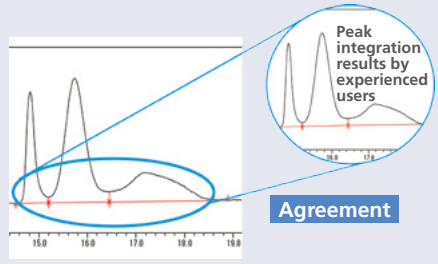


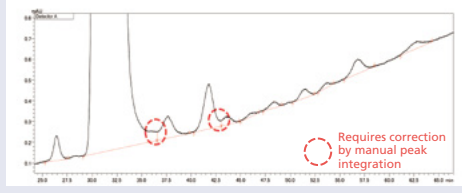




### Peakintelligence for LC




- Achieves peak integration results on par with those obtained by experienced users without configuring parameters or depending on specific personnel.
- Reducing manual peak integration work reduces the risk of data falsification.
- Supports peak detection focused on target peaks by filtering based on retention time and area/height.

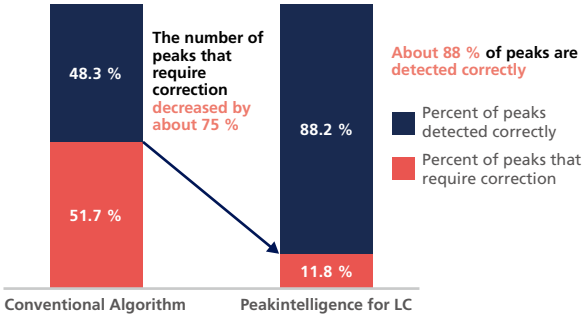


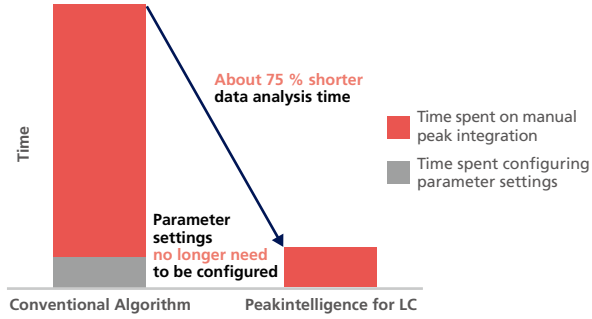

## Shortens Manual Peak Integration Time

In the quantitative processing workflow, automatic peak integration results are visually checked and any incorrect results are corrected by manual peak integration.
Compared to the conventional algorithm, using Peakintelligence for LC can reduce the number of compound peaks that need to be corrected in peak integration results, which can shorten the time required for manual peak integration by about 75% (assuming test data from about 45 samples that contain about 500 peaks).

### Percent of Peaks that Require Correction




### Time Spent on Data Analysis




*The percentage of peaks requiring correction is calculated by using the conventional algorithm with the peak integration parameters set to default.

## License Types

- Starter pack
- 1-year license



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