Agilent AI Peak Integration for MassHunter Software

Overview

Agilent AI Peak Integration for MassHunter is a new cloud-based machine learning (ML) add-on to MassHunter Quantitative analysis software that automates peak integration during the data analysis process in analytical test labs, dramatically reducing processing time.

AI Peak Integration enables a machine learning model to be custom trained during a user’s normal data analysis workflow by observing manual integration events. It then replaces manual peak integration with adaptable AI-assisted peak detection and integration, while continuously learning.

The use of deep learning and continuous learning techniques improves model performance over time, particularly for rare compound detection, enabling analytical test labs to improve process automation, maximize sample throughput, produce consistent and high-quality data while facilitating ease of adoption for labs.

Key Features

- Reduced manual review and integration efforts via adaptive AI-assisted peak detection/integration.
- Improved peak detection accuracy with every sample submission as the AI algorithm/machine learning model constantly learns.
- Reproducible results using the same trained ML model, allowing sample data to be reanalyzed and re-evaluated anytime, simplifying audit verification needs.
- Custom-trained models, created and taught by the user, adapt to their unique lab peak detection protocols and patterns.
- Support for more than one trained ML model for phthalates per user or laboratory site.
- Cloud-based solution allows for scalable deployment of the peak finding software and easy, flexible update of features.

Key Uses

- Automation of phthalate peak integration in fast moving consumer goods labs.
- Universal consistency of analytical results.
- Ease-of-use for expert and new lab analysts.
- Improved lab efficiency.
Agilent MassHunter AI Peak Integration Key Features Explained

**Machine Learning Model**
AI Peak Integration software operates first in passive mode, building an ML model based on a chemist’s analysis workflow. Data analysis is continuously monitored and fed into a training pipeline to generate a model using a deep learning neural network. Once certain thresholds are met, the model can be used, drastically reducing the need for manual integration corrections.

**Customized Results**
Results provided by ML can be adjusted by a user. Modifications are logged and used for continuous learning to help improve the production model over time.

**Efficiencies**
Once an ML model has been created, AI Peak Integration for MassHunter cuts analysis time down to minutes, allowing chemists to spend time on other tasks. AI processing replaces manual processing in your normal data analysis workflow, reducing repetitive and tedious effort on the data analyst.

**Cloud-Based**
Cloud-based architecture removes the need for onsite hardware upgrades leveraging the cloud for model training and prediction at scale regardless of the operation size.

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**Key Benefits of the Agilent MassHunter AI Peak Integration to Lab Operators and Managers**

**Turnaround Time**
Faster turnaround time for sample processing.

**Ease-of-Use for Non-Skilled Technicians**
Reduced reliance on a highly skilled chemist (ability to redeploy skilled personnel to other tasks).

**Repeatability**
Repeatability of testing regardless of lab location and access to labor.

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For more information visit [www.agilent.com](http://www.agilent.com)

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