

Mass Detection for the Chromatography Laboratory

Easy-to-use software provides flexibility for LC and MS

Traditionally, mass spectrometry (MS) instruments have been marketed for use by MS experts and have not played a major role in most chromatography laboratories. Since the advent of smaller more accessible mass detectors, MS data is now within the reach of the chromatographer. Waters Chromatography Data System (CDS) first integrated MS technology over 22 years ago when we introduced an MS instrument built for chromatographers. For the first time mass data was available via a software platform familiar to chromatographers. Over the years we continued to develop MS instrumentation, with an emphasis on improving the ease of use. This has culminated in the release of a novel mass detector for separations systems, specifically designed for chromatographers.

TODAY'S INNOVATIVE AUTOMATED TECHNOLOGY AND RELIABLE DETECTION

Designed for the chromatographer, the ACQUITY® QDa® Mass Detector provides a simple, accessible way to harness the power of mass data. With a factory optimized source, automated set up, and full compatibility with Empower® 3 CDS Software, the QDa has the power to slot into your existing workflows with minimal implementation cost and minimal training.

The Waters® SQ Detector 2 provides access to a wider mass range and a wider range of ionization modes, including APCI and APPI. This means that now you can ionize a broader range of analytes and detect higher mass compounds while in the compliant ready Empower 3 environment.

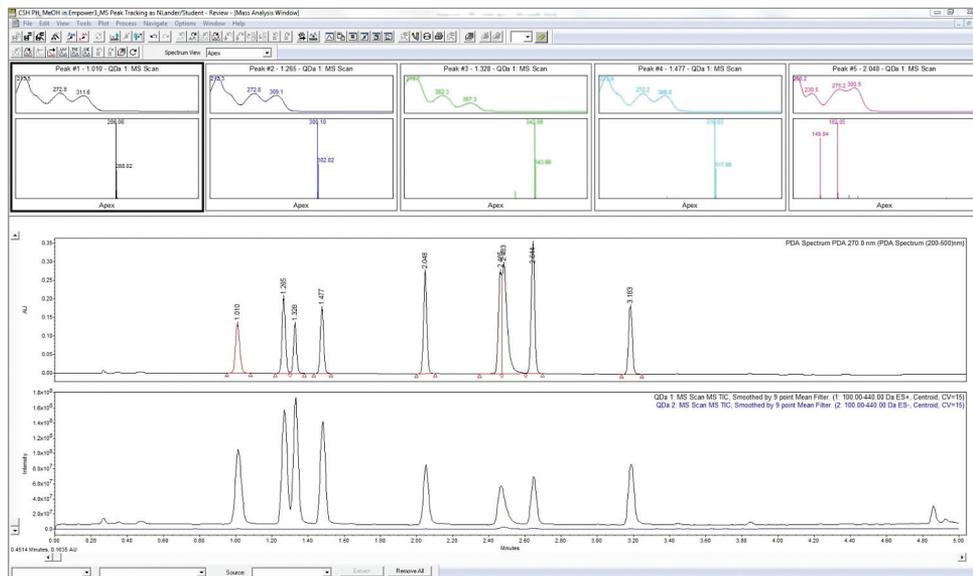
Empower 3 is the market-leading CDS software, enabling labs to focus on running samples and producing meaningful results without experiencing downtime for training on advanced analytical techniques. Empower provides integrated tailored calculations, tailored report formats, advanced data storage, and security management. Enhanced features include audit trails to manage compliance with 21 CFR Part 11 and other GxP requirements. Waters helps chemists move seamlessly from the beginning of a sample run, through method development, to building a final data report.

TIMELINE FOR MS CONTROL WITHIN WATERS CDS



MS ANALYSIS - VIEW BOTH UV AND MS SPECTRA FROM A CHROMATOGRAPHIC RESULT

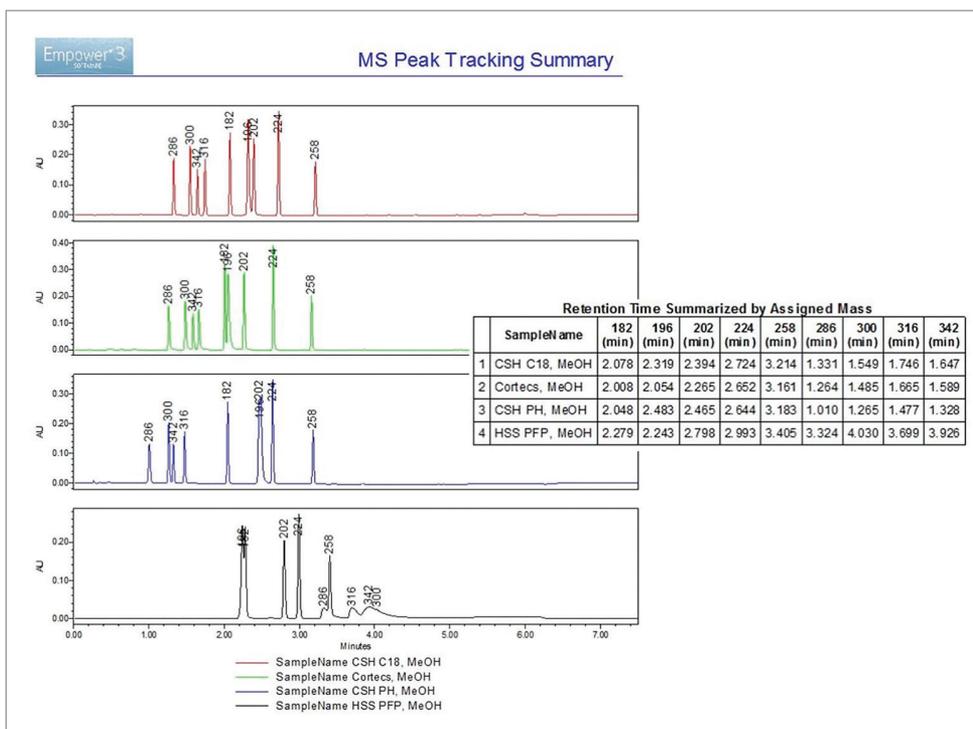
You no longer need to outsource your MS analysis – do it right in your lab along with other analyses. The Empower Mass Analysis Window provides an easy way to view both UV and MS spectra from a chromatographic result. The Window displays UV and MS spectra, as well as UV and MS chromatograms.



Mass Analysis Window – example of the apex UV and MS spectra for all integrated peaks.

MS PEAK TRACKING – DEVELOPED FOR THE CHROMATOGRAPHER NOT THE MS SPECIALIST

Built with the chromatographer in mind, Empower 3 MS Peak Tracking feature allows the user to correctly track retention times of each component in a sample mixture by mass detection. Empower can quickly display results generated from multiple experimental runs in a report to show retention time of each peak summarized by the mass-to-charge ratio. This streamlines method development by accurately tracking selectivity changes of each component over different experiments. Additionally, this allows the user to enhance peak labeling options in both Review and Preview.



This is a method development example for a sample containing 9 peaks that ran on 4 different columns. We used peak tracking to track the peaks and then summarized them by assigned mass.



ACQUITY QDa Mass Detector with Empower 3 Software

Specifically designed to have user interactions familiar to chromatographers, the QDa is the first true mass detector. Seamlessly integrating within existing Waters' systems, the QDa brings the certainty of mass data to chromatography laboratories.

- The QDa is pre-optimized and adjustment free, providing mass data with little need for user optimization
- Mass calibration and calibration checks are fully automated for data confidence
- Proven detector-like robustness resulting in exceptional instrument uptime
- Instrument maintenance is tool-free and greatly simplified



Waters SQ Detector 2 with Empower 3 Software

Designed for optimum compatibility with multiple chromatographic separation techniques, the SQ Detector 2 is perfectly placed to help you extract more knowledge from your analyses.

- Automate development of MS methods using IntelliStart™ Technology
- Compatible with a broad range of ionization techniques for flexibility of analysis
- Compatible with UPLC®, UPC²®, HPLC, preparative HPLC and preparative SFC, as well as direct analysis
- Large mass range for detection of high molecular weight species

Waters

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