Agilent 6460 Triple Quadrupole LC/MS System

ACHIEVE ROBUST AND ULTRA-SENSITIVE QUANTITATION

The Measure of Confidence

Agilent Technologies

SUPERIOR SENSITIVITY AND PRODUCTIVITY FOR YOUR CHALLENGES IN QUANTITATIVE ANALYSIS

The Agilent 6460 Triple Quadrupole LC/MS System is equipped with Agilent Jet Stream Technology to provide ultra-sensitive performance for analytes in the most complex matrices. This makes the 6460 the instrument of choice for a wide range of applications including environmental and food safety analysis, clinical research, and peptide quantitation. The 6460 provides a fast and robust solution for simultaneously quantifying, screening, and confirming analytes using triggered MRM (tMRM).

The Agilent 6460 Triple Quadrupole LC/MS is engineered to deliver robust, accurate quantitation of analytes present at extremely low levels. Updated electronics enable high speed data acquisition while fast polarity switching makes the instrument an ideal choice for rapid separations and high-throughput analyses of diverse compound types.

The 6460 Triple Quad LC/MS is a feature-packed new addition to the Agilent Triple Quadrupole product family:

- **Excellent sensitivity** for many applications
- **1 ms dwell time** with no collision cell cross talk
- **Very fast polarity switching** for multi-analyte studies
- **Dynamic Multiple Reaction Monitoring (dMRM)** to maximize MRM efficiency
- **Triggered Multiple Reaction Monitoring (tMRM)** for simultaneous quantitation and confirmation

The 6460 Triple Quad offers full control of Agilent LC systems to provide an optimal solution for UHPLC, standard LC, or nanoLC chromatography. Seamless support and a single point of service contact minimize delays and maximize your up time.

Robust, Ultra-Trace Quantitation at UHPLC Flow Rates

Meet the challenges of multiplexed quantitative analysis for a wide variety of compound classes. The 6460 Triple Quadrupole with Agilent Jet Stream technology is built to deliver the highest level of robustness, accuracy, and reproducibility in complex sample matrices, such as those commonly encountered in food safety and environmental analysis.

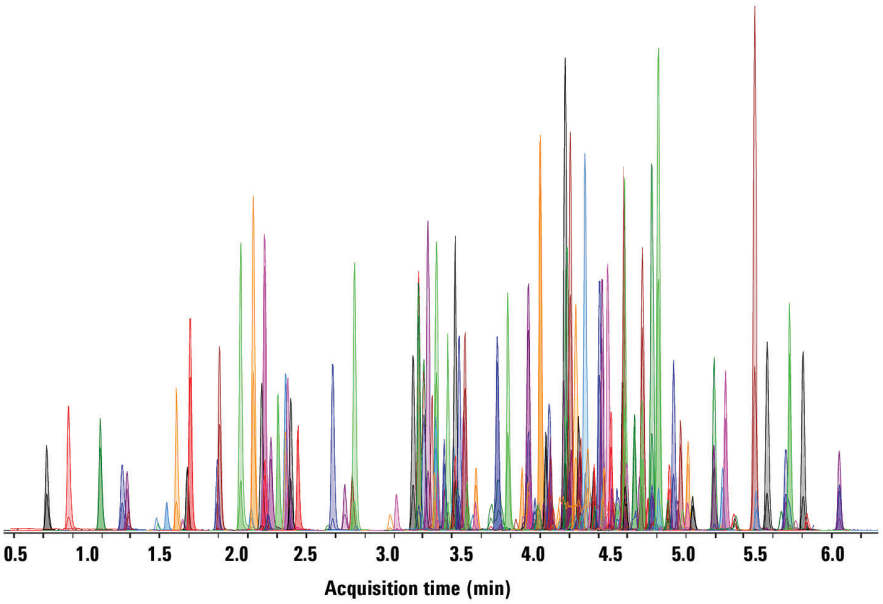

Figure 1. dMRM analysis of 224 pesticides at the 500 parts per trillion level in less than 7 minutes.

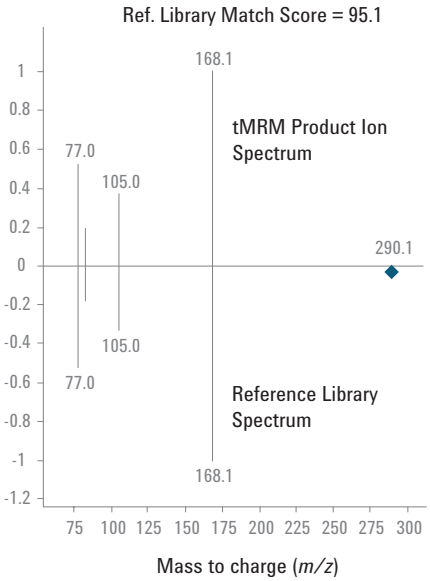

Figure 2. A library match score of 95.1 is based on a close correlation between the tMRM product ion spectrum and the reference library spectrum.

Triggered MRM – Data Dependent Scanning for Compound Confirmation

Triggered MRM (tMRM) acquisition is available on all Agilent Triple Quadrupole LC/MS systems. tMRM acquisition effectively combines MRM quantitative analysis with data dependent acquisition of a product ion spectrum which can also be used for library searching, identification, and confirmation. tMRM analysis is faster and more sensitive than conventional product ion scanning and enables quantitative and qualitative analysis in a single LC/MS run.

In tMRM analysis mode, when the primary transitions exceed a user-defined threshold, an additional set of secondary transitions are triggered. The primary transitions are used for quantitation and can be combined with the secondary triggered transitions to generate a tMRM product ion spectrum. This product ion spectra can be searched against an application-specific library, such as the Agilent Personal Compound Database and Library, or against publicly available spectral libraries.

Advantages of tMRM:

- **Confirmation of compound ID** to avoid false positives
- **Faster and more sensitive** than data dependent full scans
- **Optimal collision energy** for each ion transition acquired

Maximize Your Quantitative Performance with Dynamic MRM

Dynamic MRM (dMRM) creates more powerful quantitative methods by grouping MRMs in retention time windows instead of time segments. Compound specific MRMs and their retention times are easily imported into the dMRM method that can quantify up to 4,000 compounds in a single run. Fast MRM speeds support the analysis of over 100 overlapping compounds in a given retention time window.

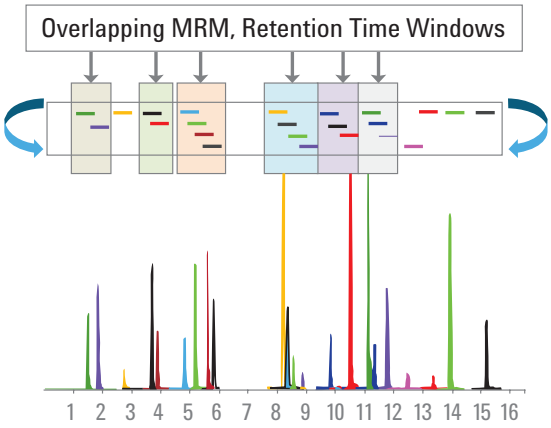

Figure 3. Using dMRM, a retention time window is profiled for each analyte and the list of analytes is adjusted dynamically based on chromatographic run time. Analytes are only monitored when they are expected to elute, improving the overall duty cycle.

The Agilent Value Promise: 10 years of guaranteed performance

In addition to our continually evolving products, Agilent offers the industry's only 10-year value guarantee. Agilent gurantees you at least 10 years of instrument use from your date of purchase or we will credit you with the residual value of that system toward an upgraded model. It's our way of assuring you a safe purchase now and protecting your investment.

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