

Agilent 6420 Triple Quadrupole LC/MS System

ACCESS ROUTINE AND RELIABLE QUANTITATION

The Measure of Confidence



Agilent Technologies

EXCELLENT SENSITIVITY AND UNRIVALED PRODUCTIVITY FOR YOUR ROUTINE QUANTITATIVE ANALYSIS

The 6420 Triple Quadrupole LC/MS System offers great productivity for routine quantitative assays with rugged performance, unmatched reliability and the lowest overall cost of ownership in the Agilent Triple Quadrupole product portfolio. The 6420 provides a fast and robust solution for simultaneously quantifying, screening, and confirming analytes using triggered MRM (tMRM).

The Agilent 6420 Triple Quadrupole LC/MS is engineered to be a workhorse system for labs that perform large numbers of quantitative assays. Updated electronics allow high speed data acquisition and fast polarity switching making the instrument an ideal choice for fast separations and high throughput analyses of diverse compound types.

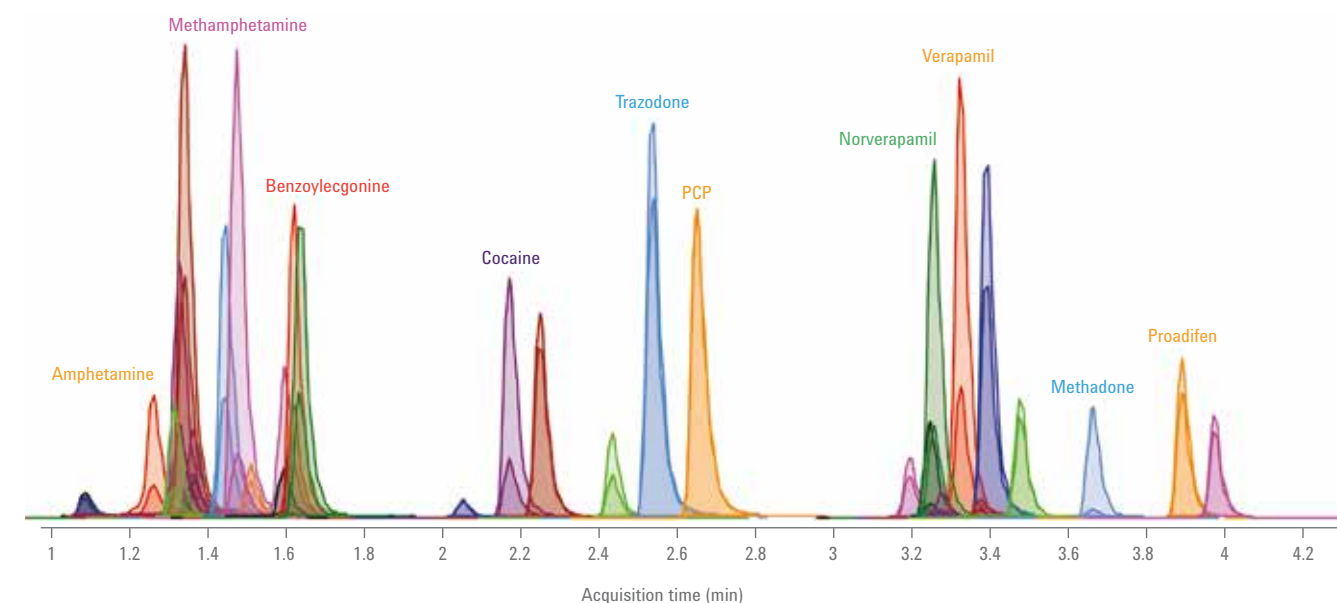
The 6420 Triple Quad LC/MS is a feature-packed instrument in the Agilent Triple Quadrupole product family, with:

- **Excellent sensitivity** for many applications
- **1ms dwell time** (with no collision cell cross talk)
- **Very fast polarity switching** for positive and negative ion analyses
- **Dynamic Multiple Reaction Monitoring (dMRM)** for multi-analyte methods
- **Triggered Multiple Reaction Monitoring (tMRM)** for compound quantitation and simultaneous confirmation to avoid false positives



The 6420 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.

Excellent Sensitivity and Robust Performance with Economical Cost of Ownership



Forensics test mixture results acquired using 25 pg of each compound injected on-column to the 6420 Triple Quadrupole LC/MS System.

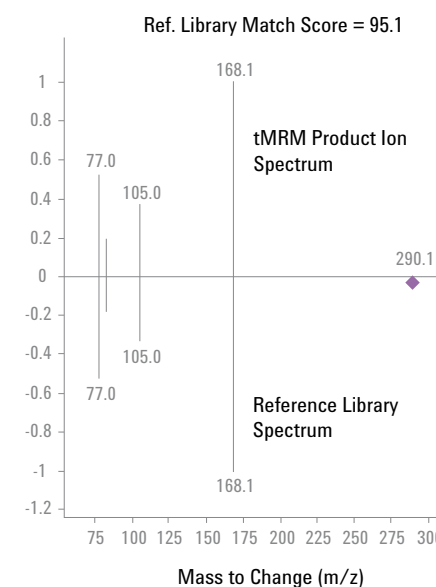


Figure 1. A library match score of 95.1 is based on a close correlation between the tMRM product ion spectrum and the reference library spectrum.

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 be used for library searching, identification, and confirmation. tMRM analysis is faster and more sensitive than conventional production scanning and enables quantitative and qualitative analysis in a single 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 an Agilent Personal Compound Database and Library, or against large public spectral libraries.

Advantages of tMRM:

- **Confirmation of compound identification** to avoid false positives
- **Faster and more sensitive** than data dependent full scans
- **Each ion transition is acquired** with an optimal collision energy for highest sensitivity

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.

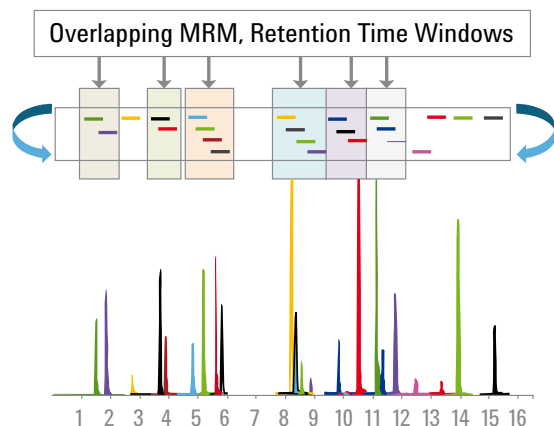


Figure 2. Using dMRM, a retention time window is profiled for each analyte and the list of analytes is adjusted dynamically based on chromatographic run time. Analytes are only monitored when they are expected to elute, improving the overall duty cycle.

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 guarantees 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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