

Agilent 6530 Accurate-Mass Q-TOF LC/MS

Exceptional MS and MS/MS performance without compromises

The Agilent 6530 Accurate-Mass Quadrupole Time-of-Flight (Q-TOF) LC/MS system features Agilent Jet Stream Thermal Focusing technology for significantly improved sensitivity, as well as enhanced MassHunter Workstation software for superior data mining and analysis capabilities. These new features, coupled with Agilent's True High-Definition TOF (True Hi-Def TOF) technology, enable the 6530 Accurate-Mass Q-TOF to deliver exceptional sensitivity, excellent mass accuracy, fast data acquisition, and streamlined qualitative and quantitative analyses to meet your most challenging research needs.



Agilent 6530 Accurate-Mass Q-TOF LC/MS integrates True Hi-Def TOF technology, Agilent Jet Stream Thermal Focusing technology, and MassHunter Workstation software for sensitive, accurate-mass MS and MS/MS analyses.

Sensitive, Accurate-Mass MS and MS/MS Analyses

The Agilent 6530 Accurate-Mass Q-TOF LC/MS system is designed to provide superior data quality and advanced analytical capabilities for profiling, identifying, characterizing, and quantifying low molecular-weight compounds and biomolecules with confidence. Integrating three core Agilent technical innovations—True Hi-Def TOF technology, Agilent Jet Stream Thermal Focusing technology and MassHunter Workstation software—the 6530 Q-TOF platform is ideally suited for accurate-mass analyses of the complex samples encountered in today's most demanding applications.

Exceptional Mass Accuracy, Sensitivity, and Speed

Agilent True Hi-Def TOF technology, a key feature of Agilent's 6500 Series Q-TOF LC/MS instruments, delivers

outstanding Q-TOF performance characteristics without any performance compromises.

- Sub 1-ppm mass accuracy improves confidence and reduces false positives
- > 20,000 mass resolution distinguishes target analytes from interferences
- Up to 5 orders of in-spectrum dynamic range improves detection of trace-level targets in the presence of high-abundance compounds
- High femtogram sensitivity enables identification of very low-abundance compounds
- Fast data acquisition rates of up to 40 spectra/second ensure maximum compatibility with fast LC and high-throughput methods
- Wide mass range to 20,000 m/z

Our measure is your success.



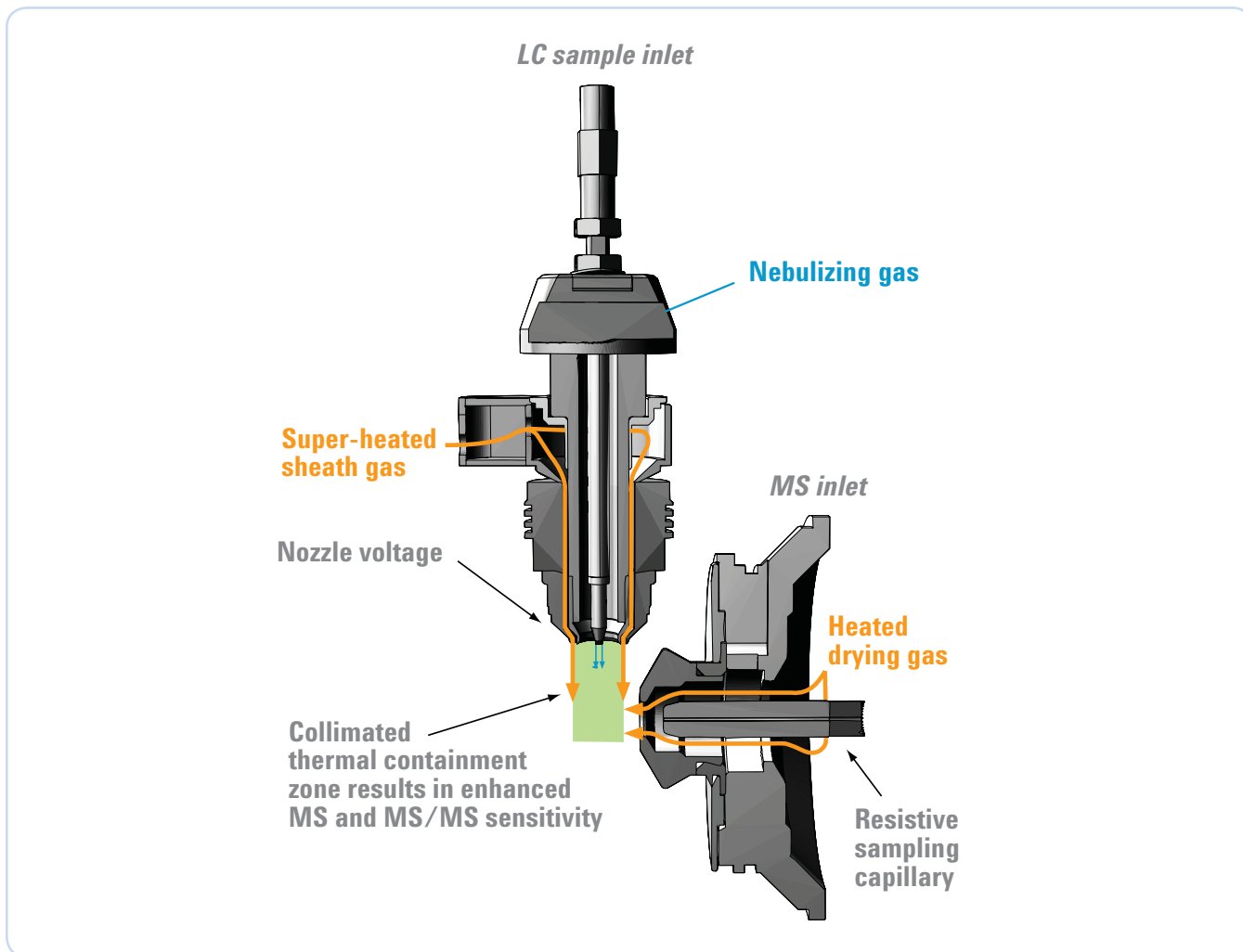
Enhances LC/MS Sensitivity 5- to 10-fold

Agilent Jet Stream Thermal Focusing technology significantly increases LC/MS sensitivity by improving the spatial focusing of electrospray droplets. The subsequent enhancements in ion density and desolvation result in higher MS signal intensities and improved signal-to-noise ratios. On average, a 5- to 10-fold improvement in MS and

MS/MS sensitivity is realized by using Agilent Jet Stream technology at optimal LC flow rates. Easy to use and tune, Agilent Jet Stream technology is available on the 6530 Accurate-Mass Q-TOF LC/MS to provide maximum sensitivity for multiple applications, including the analysis of drug candidates and trace levels of food contaminants, metabolites or biomarkers.

Powerful Data Mining and Analysis Capabilities

Agilent's MassHunter Workstation software facilitates faster and easier processing of information-rich data generated by the 6530 Accurate-Mass Q-TOF LC/MS. Compound-centric data mining and navigation capabilities enable efficient analyses of complex MS data. A sophisticated molecular feature extraction algorithm automatically



Agilent Jet Stream Thermal Focusing technology utilizes super-heated nitrogen sheath gas to confine the electrospray. Ion density and desolvation are improved, resulting in higher MS signal intensities and reduced noise.

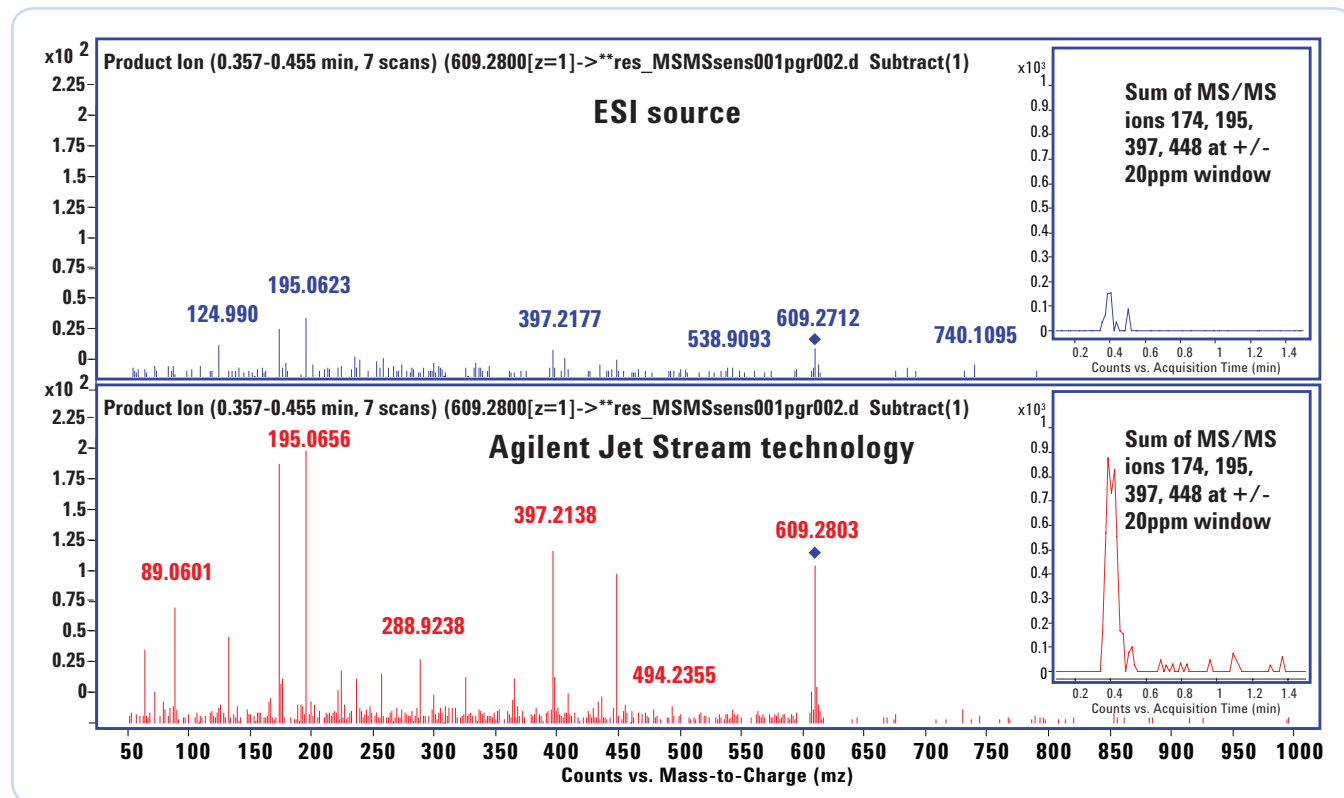
retrieves all spectral and chromatographic information for each component in a sample mixture, including those in overlapping and co-eluting peaks, thereby saving hours of analysis time. MassHunter's integrated mass profiling tools streamline differential and statistical analyses between sample sets. The software can be used to perform additional processing steps such as molecular formula generation, database or library search, deconvolution, isotope pattern

matching or charge-state determination for confident compound identification.

Designed for the Most Demanding Applications

The Agilent 6530 Accurate-Mass Q-TOF LC/MS system delivers exceptional MS and MS/MS analyses for applications that demand the highest accurate-mass measurements, without compromising sensitivity and speed. Integration of Agilent Jet Stream Thermal Focusing

technology ensures the highest level of sensitivity for your most challenging samples. Powerful new data mining tools facilitate profiling, characterization, identification and quantification of compounds in complex mixtures. These performance characteristics enable the 6530 Q-TOF system to support demanding applications such as proteomics, metabolomics, impurity testing, product degradation studies, forensics, food safety, and environmental analyses.



A 5-fold gain in signal intensity is observed with Agilent Jet Stream technology. Comparison of the LC-MS/MS spectra of a 1 pg sample of the drug reserpine obtained using a conventional Agilent ESI source with the Agilent 6520 Q-TOF instrument, and using Agilent Jet Stream technology integrated into the Agilent 6530 Q-TOF platform.

Agilent
Jet Stream
technology

Warnings	Name	RT	Mass	m/z	Qualified	Relevance	User Qual	Qualified	Qualified	Qualified	Qualified	Assigned	Assigned	MS/MS
1	Ritonavir	11.589	720.3117	721.3193	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2	Methylene to Ketone	11.866	734.2306	735.2379	100.0	71.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3	Methylene to Ketone	12.855	734.2942	735.3015	100.0	71.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
4	Hydroxylation and Ketone Formation	8.861	750.3051	376.1501	100.0	71.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
5	Hydroxylation and Dehydration	11.813	718.2971	719.3044	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
6	Hydroxylation and Dehydration	12.708	718.2961	719.3034	100.0	71.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
7	Hydroxylation	7.930	736.3070	368.1610	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
8	Hydroxylation	8.270	736.3081	737.3154	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
9	Demethylation and Methylene to Ketone	9.213	720.2762	721.2835	100.0	71.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
10	Demethylation and Hydroxylation	6.953	722.2919	362.1530	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
11	Demethylation and Hydroxylation	7.501	722.2961	362.1552	100.0	71.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
12	Demethylation	9.740	706.2967	354.1556	100.0	77.8	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
13	2x Hydroxylation	5.688	752.3009	753.3082	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
14	2x Hydroxylation	6.515	752.3022	377.1553	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

ESI source

Warnings	Name	RT	Mass	m/z	Qualified	Relevance	User Qual	Qualified	Qualified	Qualified	Qualified	Assigned	Assigned	MS/MS
1	Ritonavir	11.628	720.3140	721.3213	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2	Hydroxylation and Dehydration	11.644	718.2974	719.3046	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3	Hydroxylation	8.317	736.3084	737.3158	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
4	Demethylation	9.789	706.2956	707.3030	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Improved sensitivity with Agilent Jet Stream technology enabled the identification of four times more low-level metabolites compared with the standard ESI source. Summary of the ritonavir metabolites in liver microsomes identified by LC/MS using a conventional Agilent ESI source with the Agilent 6520 Q-TOF instrument, and using Agilent Jet Stream technology integrated into the Agilent 6530 Q-TOF platform.

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Agilent Technologies is a leading supplier of life science research systems that enable scientists to understand complex biological processes, determine disease mechanisms, and speed drug discovery. Engineered for sensitivity, reproducibility, and workflow productivity, Agilent's life science solutions include instrumentation, microfluidics, software, microarrays, consumables, and services for genomics, proteomics, and metabolomics applications.

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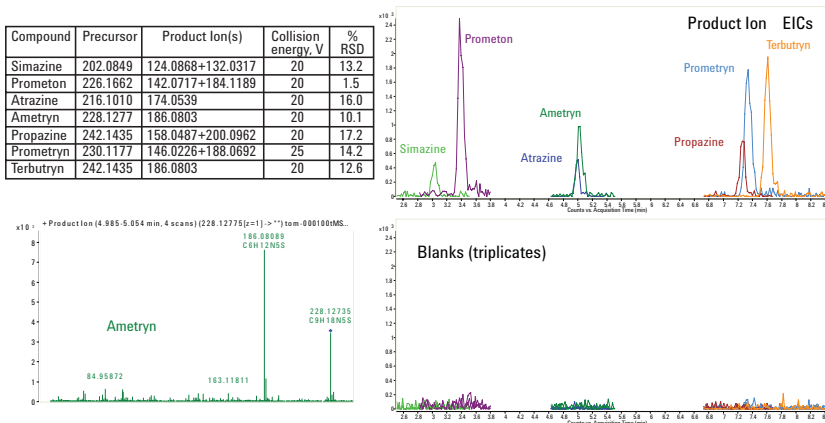
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On-column amount is 1 pg (10 µL x 100 ppt)



Targeted analytes are detectable at 1 pg, with RSD of <20% for all analytes. LC/MS analysis of a 100 ppt mixture of pesticide standards in a tomato matrix using Agilent Jet Stream technology on an Agilent 6530 Q-TOF platform.

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