



Only Agilent Covers All Your Mass Spec Needs

**ANY ANALYTE, ANY METHOD,
ONE PARTNER**



WHERE SOLUTIONS COME TOGETHER

The best solutions don't come together by accident. Decades of experience designing mass spec systems gives us a clear advantage, but we refuse to rest on reputation. We continually engage in groundbreaking collaborations with thought leaders in chemistry and the life sciences, and we never stop learning from longstanding partnerships with laboratories in every field.

Whatever you need to analyze, we have the know-how – and the connections – to direct you to the best approach and help you implement it.

In fact, Agilent is the only company that offers instruments that can analyze any kind of molecule or element – and you can complete your analysis using a single software interface across all of our mass spec systems.

Our MassHunter software suite incorporates advanced data mining and processing tools to help you quickly and accurately extract all available information about the analytes in your samples, not just peaks and data points, *but answers*.

What's more, Agilent CrossLab services provide full laboratory support – training, consumables, software, preventive maintenance, multi-vendor expertise – to keep your lab running at full capacity.



Whether your focus is on environmental or food testing, pharma or biopharma, chemical analysis or disease research, we can help. Our technical excellence, applications expertise, and comprehensive analytics provide rock-solid solutions to labs like yours every day.

TOGETHER WE CAN ACHIEVE MORE.

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MEASURING THE HEALTH OF THE PLANET

Your challenges have never been greater, whether analyzing contaminants in waste water, monitoring the purity of drinking water, measuring air quality, responding to natural disasters, or identifying and understanding the risks associated with emerging contaminants. Environmental analysis must be done more reliably, more efficiently, and with even higher quality results than ever before.

Which is why labs around the world choose Agilent mass spec systems. Our GC/MS instruments are the mainstay of environmental testing for organic pollutants. Use them to detect volatile and semivolatile organic compounds such as pesticides and poly aromatic hydrocarbons.

Use our LC/MS systems to analyze polar organic chemicals and more fragile chemicals that may thermally degrade during GC/MS analysis.

Agilent's quadrupole ICP-MS systems are used throughout the industry to monitor inorganic environmental contaminants, while our unique triple quadrupole ICP-MS provides a powerful and simple approach to eliminating spectral interferences. Coupled to a chromatography system, ICP-MS also provides trace level speciation of metals and organometallic compounds as well as accurate analysis of inorganic byproducts in environmental samples.

"From ICP-MS for inorganic species to the Q-TOF for unknowns, the Agilent platforms have given us a wide range of abilities."

SHANE SNYDER, PH.D. UNIVERSITY OF ARIZONA

CONSISTENT QUALITY, UNCOMPROMISING SAFETY

Global trade, stringent regulations, and increased public awareness of food-safety issues are all driving the need for more and better food testing. At the same time, the industry is facing threats from food adulteration and fraudulent labeling. You're committed to consistent quality and uncompromising safety — protecting both consumers and your brand — and Agilent is here to help.

Our instruments are used throughout the food production chain, including incoming inspection, new product development, quality control and assurance, fraud detection, and monitoring food-contact packaging. We offer a full range of GC/MS, LC/MS, and ICP-MS systems to help you detect and analyze additives (including nanoparticles), residues, contaminants, biological toxins, essential nutrient elements, and toxic trace elements in agricultural products, foods, and beverages.

"A high-resolution MS, combined with Mass Profiler software, has enabled us to study the matrix components that coelute with pesticides of interest."

CARMEN FERRER, PH.D. UNIVERSITY OF ALMERIA



A HIGHLY REFINED APPROACH

Whether you produce petroleum, petrochemicals, plastics, specialty chemicals, natural gas, industrial gas, or fuel cells, you can depend on mass spec instruments from Agilent.

Our mass spectrometers, particularly our GC/MS systems, are ideal for analyzing product quality and process performance. Use our ICP-MS systems to monitor the levels of metals and other environmental contaminants such as sulfur in fuels, confirm the levels of fuel additives, and measure elements that may act as catalyst poisons.

From routine QC to research and development, Agilent's single quadrupole LC/MS systems deliver unmatched analytical performance and proven reliability.

Agilent MS systems are also a great choice for analyzing feedstocks, intermediate products, and finished biofuels.

Advanced industries rely on advanced chemicals, and controlling the composition and purity of such chemicals is essential to product quality and performance. Whether you need to monitor contaminants in high-purity chemicals and semiconductor wafer baths or measure trace elements in liquid crystal, Agilent ICP-MS systems provide accurate elemental analyses.

"Using Agilent as our principle supplier of our GC/MSD has enabled us to achieve detection that was not achievable before. Each model has improved with enhancements that let us achieve testing which was before thought impossible."

WAYNE SCHMIDT,
TECHNICAL MANAGER, TECHNICAL SERVICES
INSPECTORATE AMERICA CORPORATION



THE IMPORTANCE OF ACCURACY

You may be testing for poisons in a forensics investigation, screening athletes for performance-enhancing drugs, analyzing samples for recreational drugs, or checking a crime scene for explosive residue. In every case, lives and professions depend on the accuracy of your equipment. Rest assured that Agilent instruments give you the ability to produce legally defensible results, confirming and quantifying thousands of substances.

Agilent is the leading provider of GC/MS and LC/MS systems for drug screening and forensic toxicology worldwide.

Use Agilent ICP-MS systems to detect the presence of toxic elements in poisoning cases, identify gunshot residue, and provide an elemental fingerprint of scene-of-the-crime debris such as ballistic material, soil, paint chips, and glass fragments.

Where sample dissolution is not appropriate, you can perform direct analysis of solid samples by coupling our ICP-MS systems with laser-ablation technology.

"We've detected a number of overdoses that we would not have determined without an LC/TOF system."

**GRAHAM JONES, PH.D. CHIEF TOXICOLOGIST,
ALBERTA MEDICAL EXAMINER'S OFFICE**



REVEALING THE PATH TO SUCCESS

In pharma, the key to success lies in finding effective ways to efficiently identify potential drug candidates early in the discovery process. At Agilent, we have developed a comprehensive portfolio of systems to help you make smarter decisions, systems that both identify and quantify drugs, metabolites and impurities.

Mass spectrometry plays an important role in the discovery and development process of pharmaceutical drugs.

In drug discovery, choose our LC/MS systems to identify and characterize drug candidates produced by synthetic chemistry or extracted from natural products. Our LC/MS systems are also ideal for monitoring the quality of drug compounds and revealing the presence of organic contaminants which may result from manufacturing.

In drug development and manufacturing, use our ICP-MS systems to measure the levels of elemental impurities and ensure they are within regulatory limits.

Our GC/MS, LC/MS, ICP-MS systems enable confident identification and quantification of potential E&Ls from extracts derived from a variety of contact closure system components and packaging materials. We also provide software tools for E&L analysis, library spectral comparison, de novo structure identification and differential sample analysis.



COMPLEXITY SIMPLIFIED

The large, complex molecules that make up today's biopharmaceuticals (monoclonal antibodies, for example) require rigorous testing to monitor and control the integrity and safety of these treatments. At every stage in the process, Agilent can help you make the right choices for moving therapeutics successfully to market.

We start with reliable sample preparation and robust, UHPLC and the high-resolution, accurate LC/Q-TOF mass instruments that provide reproducible results. We add a full portfolio of AdvanceBio columns for analyzing both intact and fragmented recombinant proteins. And, we finish with seamless software workflows for confirming proteins, calculating drug-to-antibody ratios in antibody-drug conjugates, mapping peptides, analyzing glycans, characterizing post-translational modifications, and assigning disulfide bonds.

"MassHunter Walkup for open access LC/MS changes intact protein analysis from a service to a tool...you become an enabler for their work instead of a gatekeeper, people really appreciate that...it changes the relationship to them routinely."

ERIC FANG, NOVARTIS INSTITUTE FOR BIOMEDICAL RESEARCH, EMERYVILLE, CA



DISCOVERY STARTS HERE

With our mass spec solutions delivering peak performance, you will be able to quickly identify and quantify biologically important compounds.

METABOLOMICS

To complement our array of LC/MS and GC/MS instruments, we deliver a wide range of innovative metabolomics solutions, including vital data analysis tools: software and databases for identifying compounds, comparing samples, analyzing qualitative flux, and projecting the results onto biological pathways. In fact, our integrated software platform allows you to combine the results from multi-omics studies, helping you answer challenging biological questions faster.

CLINICAL RESEARCH

Accurate, reproducible, and robust quantitation of analytes is key to the success of methods that may ultimately support clinical diagnostic analyses. Agilent offers industry-leading product quality and performance to help you develop robust analytical methods that can withstand the rigors of running scores of biological samples day in, day out. Our solutions for clinical research support conventional high-throughput LC/MS analysis, as well as overlapping LC/MS injections with our StreamSelect LC/MS platform.

PROTEOMICS

To meet the distinct challenges of proteomics analysis, we offer comprehensive, optimized, and practical workflows that deliver accurate and reproducible results. In fact, we provide all the tools you need for both targeted and discovery proteomics research. Our portfolio of LC/MS systems supports nanoflow and standard-flow HPLC, and our mass spectrometers identify and quantify proteins with outstanding accuracy.

LIPIDOMICS

Mass spectrometry has emerged as a powerful tool for lipidomics research. However, because lipids are structurally diverse, no single method of separation is suitable for profiling all classes. That's why Agilent supports a range of lipidomics solutions with a unified data analytics platform across GC/MS, LC/MS, and SFC/MS.

FROM INSIGHT TO OUTCOME

Agilent CrossLab delivers vital, actionable laboratory insights that drive superior scientific, operational, and economic outcomes.

Our service plans care for your entire laboratory – with rapid on-site support, multi-vendor instrument service, remote instrument diagnostics, and more.

Our expert engineers deliver immediate solutions, whether it is instrument repairs, maintenance, compliance, or laboratory relocation – improving efficiency from one instrument to the entire lab.

Our broad array of education solutions, taught by subject matter experts, helps improve expertise and lab productivity.

As the global innovator of laboratory technologies, Agilent CrossLab has created the ultimate collaborative suite of world-class services, supplies, and software depended on by more than 260,000 labs around the globe – transforming the world into a better place.



Agilent CrossLab

From Insight to Outcome

SYSTEMS THAT SET THE STANDARD

Agilent mass spectrometry solutions benefit from more than 50 years of continual innovation. The result is systems that set the standard for reliability, flexibility, and sensitivity – especially when combined with our industry-leading gas and liquid chromatographs.

AGILENT GC SYSTEMS

Our gas chromatography systems build on more than 50 years of GC experience and set the standard for quality and reliability.

- The **Agilent Intuvo 9000 GC** system redefines how to work with gas chromatography. Smaller and faster, with intelligent troubleshooting routines and ferrule-free connections, the 9000 delivers better business outcomes.
- The **Agilent 7890B GC** system provides configuration flexibility to perform any GC analysis with precision. The quality design means this high-end Agilent GC will maintain a superior level of performance for decades to come.
- The **Agilent 7820A GC** system delivers standard performance and high quality for small to mid-sized labs. The 7820A GC was designed to maximize uptime with minimal maintenance at an affordable price, providing quick return on your investment.



AGILENT LC SYSTEMS

Our liquid chromatography systems enable you increase the efficiency of your business every day.

- The **Agilent 1290 Infinity II LC** system, the next generation in UHPLC, maximizes analytical efficiency with unmatched separation and detection, it maximizes instrument efficiency with the highest sample capacity and fastest injection cycles, and it maximizes laboratory efficiency with seamless integration into your current infrastructure, ensuring smooth method transfers.
- The **Agilent 1260 Infinity II LC** system delivers robust everyday separation and detection performance, provides easy column handling and superior sample logistics, and offers stepwise upgrades to future-proof your purchase.



AGILENT GC/MS SYSTEMS

Our GC/MS systems enable you to screen a large number of target and non-target compounds with outstanding productivity and reliability.

- The **Agilent 5977B High Efficiency Source GC/MSD** system incorporates an ultra-efficient electron ionization source to maximize the number of ions created and transferred into the analyzer, revolutionizing single quadrupole performance. The new Agilent JetClean self-cleaning ion source is now available as an option with the 5977B and drastically minimizes ion source cleaning.
- The **Agilent 7000D Triple Quadrupole GC/MS** system (now with dMRM software) was designed to deliver the most accurate quantitative results even in the most complex matrices. The new Agilent JetClean self-cleaning ion source is now available as an option with the 7000D and drastically minimizes ion source cleaning.
- The **Agilent 7010B Triple Quadrupole GC/MS** system provides the industry's first attogram detection limits in electron ionization mode. It is now even easier to use and more efficient than ever, due to its new Dynamic MRM (dMRM) mode of acquisition. The new Agilent JetClean self-cleaning ion source is now available as an option with the 7010B and drastically minimizes ion source cleaning.
- The **Agilent 7200B Q-TOF GC/MS** system delivers high sensitivity and selectivity with the added value of accurate mass and high resolution data for structural confirmation, unknown compound identification, and superior untargeted screening capabilities.



AGILENT LC/MS SYSTEMS

Noted for their unparalleled reliability, our LC/MS systems provide a selective, cost-effective, and efficient way to analyze your target and non-target compounds.

- The **Agilent 6100 Series LC/MS** systems provide superior reliability and sensitivity to deliver unmatched analytical performance, and proven day-after-day reliability.
- The **Agilent 6420 Triple Quadrupole LC/MS** system is economical and easy to use. The **6460** adds proven Agilent Jet Stream technology to dramatically increase sensitivity and reliability for trace level analysis. The **6470** incorporates enhanced ion optics and a detector designed to deliver attogram-level sensitivity and ultrafast analyses. The **6495** with iFunnel technology delivers the lowest attogram-zeptomole limits of detection and quantitation over the widest linear dynamic range.

- The **Agilent 6230 Time-of-Flight LC/MS** systems provide the ability to identify both small molecules and large biologic compounds with high resolution, accurate mass analyses data for maximum value in qualitative assays.
- The **Agilent 6530 Q-TOF LC/MS** brings the power of accurate mass MS/MS to provide strong confidence in broad-based screening and identification of unknowns. The **6545** features sensitivity that is five times higher than our earlier workhorse instruments. The **6550** with iFunnel technology delivers the lowest detection levels of any high resolution LC/MS instrument. The **6560** provides the added dimension of ion mobility separation to reveal the greatest detail from complex samples.
- The **Agilent StreamSelect LC/MS** system can run parallel chromatographic separations with optimized mass spec output to greatly enhance sample throughput and lab productivity.
- The **Agilent RapidFire 365 High-throughput MS** system provides fast, efficient analyses of functional biochemical assays and samples in biological matrices.



AGILENT ICP-MS SYSTEMS

Our quadrupole and triple quadrupole ICP-MS instruments deliver exceptional sensitivity, freedom from interference, and accurate analyses of your most complex samples.

- The **Agilent 7800 ICP-MS** system offers a streamlined approach to routine trace metal analysis, with startup tools, well-documented operating procedures, and a method wizard to simplify your workflow, without compromising performance.
- The **Agilent 7900 ICP-MS** system delivers market-leading performance with the flexibility to address routine and research applications, including emerging fields such as nanoparticle characterization.
- With helium mode performance and productivity to match Agilent's quadrupole ICP-MS systems, the 2nd generation **Agilent 8900 Triple Quadrupole ICP-MS** adds MS/MS mode for controlled and consistent interference removal in reaction mode, making it the world's most powerful and flexible multi-element analyzer.

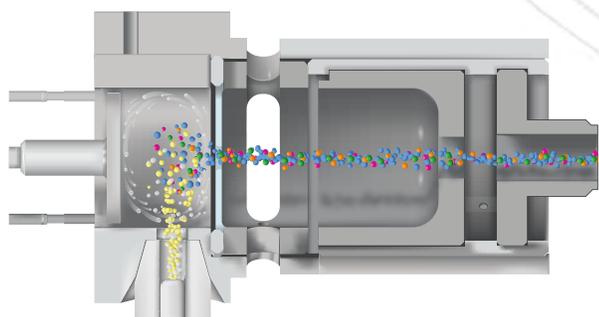


EVERYTHING YOU NEED TO BE SUCCESSFUL

At Agilent, we invest heavily in R&D because we want to make sure we continue to increase the performance, reliability and productivity of our instruments. But we don't stop there. Each piece of the puzzle is important to us, because we know it's important to you.

ION SOURCES

Agilent instruments offer the widest selection of alternate sources – Jet Stream, electrospray, multimode, Nano-ESI, APCI, and APPI – to meet the needs of your varying analyses. Agilent sources have a novel low-maintenance orthogonal spray geometry, which reduces contamination in the inlet. The new **Agilent JetClean** self-cleaning ion source uses a patented process to greatly reduce – or even eliminate – the need to clean the ion source on Agilent single and triple quadrupole GC/MS systems.



To imitate serious contamination in the source, we marked a lens with red ink, creating a significant Rhodamine 6 deposit. The JetClean self-cleaning ion source removed the deposit and restored performance with one automatic cleaning cycle.

SAMPLE PREPARATION

Proper sample preparation minimizes interferences that can jeopardize your results. It can also extend column life and reduce instrument maintenance. Agilent offers sample prep products for all of your challenging samples.

Agilent Captiva products include syringe filters, filter cartridges, filter plates, and collection plates.

Agilent Bond Elut solid phase extraction products provide the cleanest extracts and selectively remove interferences from complex matrices. Choose from over 40 phase functionalities in more than 30 formats.

Agilent QuEChERS kits make sample preparation faster, easier, and more reliable. Kits are available for both extraction salts and dispersive SPE tubes.

The **Agilent Bravo Liquid Handling Platform** combines liquid handling with various enhancements for superior proteomics and biologics analysis.

The **Agilent AssayMAP Bravo Platform** combines liquid handling with various enhancements for superior proteomics and biologics analysis.



COLUMNS

Agilent J&W Ultra Inert GC columns are tested with the industry's toughest test probe mixture to ensure consistent column inertness and exceptionally low column bleed.

Agilent InfinityLab Poroshell 120 LC columns provide consistent, reliable performance for HPLC and UHPLC applications. Start with EC-C18 chemistry for the best all-around performance. With 12 chemistries, including Poroshell HPH designed for robust performance in high pH conditions, you can refine your methods to support the highest LC/MS sensitivity and compound identification.

Agilent AdvanceBio columns provide robust, fast, reliable separations for the analysis of intact, reduced, and digested recombinant proteins as well as oligonucleotides. AdvanceBio includes unique chemistries for the analysis of purity, aggregation, charge isoform, peptide mapping, glycan mapping, and antibody titer.



ULTRA INERT GC FLOW PATH

Agilent Ultra Inert GC flow path solutions minimize activity along every step of the GC/MS flow path and allow your samples to pass safely from injector to detector. As regulatory agencies drive limits of detection lower for increasingly active and more complex samples, you cannot afford losses caused by flow path activity. Having to repeat or verify suspect analyses wastes valuable resources, hinders productivity, and hurts your bottom line. With a limited amount of sample available and the clock ticking on its viability, you may not get a second chance.



EVERYTHING YOU NEED TO BE SUCCESSFUL

SUPPLIES

GC/MS:

Agilent split/splitless inlet and Ultra Inert liners

provide an extra measure of flow path inertness.

Agilent Ultra Inert gold seals feature deactivation chemistry applied on top of their gold plating for the most inert surface and highest quality seal.

Agilent UltiMetal Plus flexible metal ferrules are compatible with capillary flow technology fittings, promoting a leak-free seal that requires less torque.

Agilent Gas Clean filter systems deliver the cleanest possible gas, reducing column damage and sensitivity loss.

Agilent GC detectors allow the selectivity or sensitivity that your application requires.

LC/MS:

Agilent Line fittings eliminate the broad peaks, re-runs, and data loss that can result from leaky LC fittings. Get a robust, reproducible, zero dead volume connection every time.

Agilent InfinityLab is an optimized portfolio of LC instruments, columns, and supplies that work together seamlessly for maximum efficiency and performance—regardless of application area.

ICP-MS:

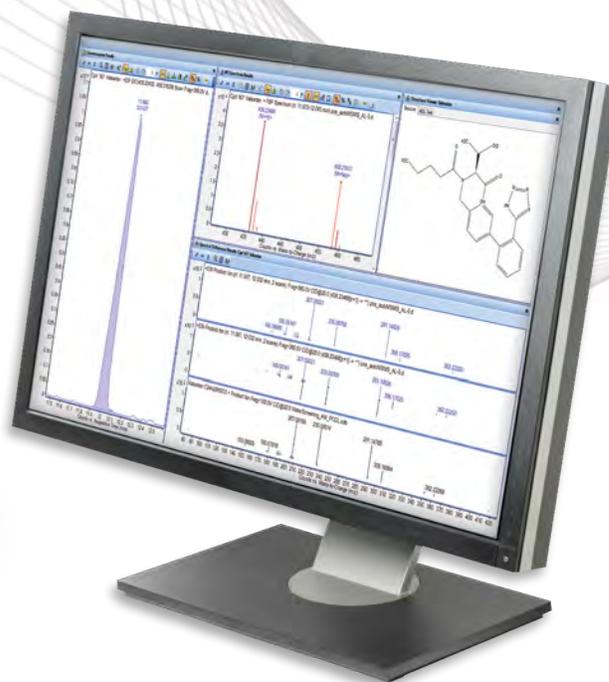
Manufactured to tight tolerances, ICP-MS supplies include torches, vacuum pumps, gas lines, spray chambers, and electron multipliers.

ANALYZERS, DATABASES, AND LIBRARIES

Agilent GC/MS analyzers are factory configured and chemically tested to produce quality data, and put you on the fast track to reducing your sample backlog while reducing method development costs. Optimized for your specific application, Agilent analyzers incorporate effective tools – from capillary flow technology to target compound databases and libraries – to transform your results from acceptable to exceptional.

Agilent databases and libraries for LC/MS and GC/MS

allow you to quickly build methods for targeted and untargeted screening of a wide variety of compounds. Our databases are seamlessly integrated into MassHunter workflows, and are comprehensive. We continually update them, and you can customize them to meet the latest requirements in your field.



MORE THAN PEAKS AND DATA POINTS – ANSWERS

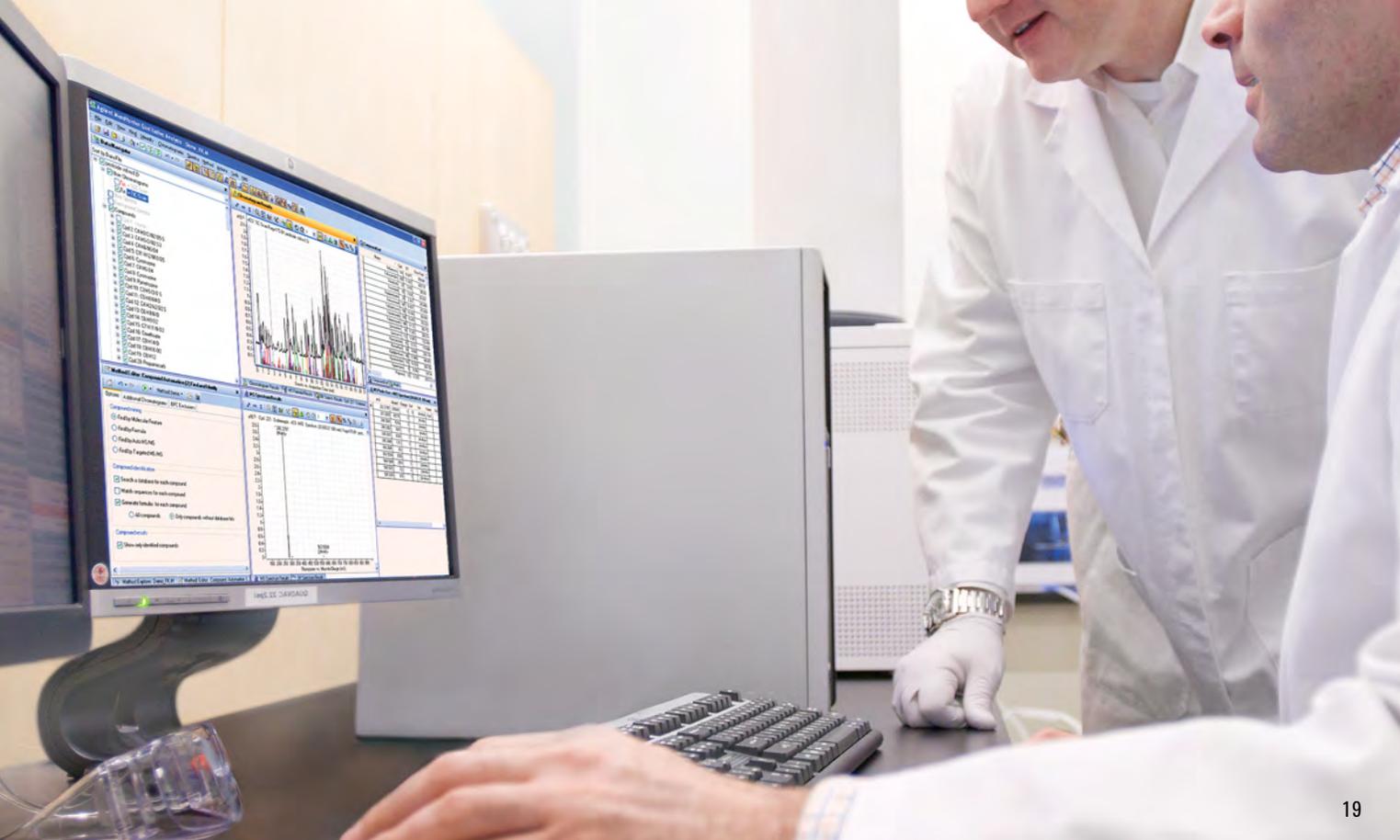
AGILENT MASSHUNTER SOFTWARE

The advanced data mining and processing tools in our **MassHunter suite** help you quickly and accurately extract all available information from the analytes in your samples. You'll experience unprecedented productivity with time-saving features such as:

- Interactive batch-at-a-glance data review
- Compounds-at-a-glance data review
- Dynamically linked results
- Customizable views

With MassHunter Walkup software, even untrained users can take full advantage of powerful LC/MS capabilities without assistance from expert staff – all that's required is the input of some basic information, choose a method, and insert samples as directed.

The software also enables administrators to customize user access to instrument parameters, significantly simplifying system operation and minimizing costly instrument downtime.



The Agilent Value Promise: 10 years of Guaranteed Performance.

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 of a safe purchase now, and protecting your investment into the future.

Learn more

www.agilent.com/chem/mass-spec

GC column selection tool

selectgc.chem.agilent.com

Inert flow path

www.agilent.com/en-us/promotions/inertflowpath

Buy online

www.agilent.com/chem/store

QuEChERS selection tool

www.agilent.com/chem/selectquechers

LC column selection tool:

www.agilent.com/chem/navigator

ICP-MS supplies:

www.agilent.com/en-us/products/icp-ms/icp-ms-supplies

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© Agilent Technologies, Inc. 2016
Printed in the USA December 6, 2016
5991-6965EN

