White Paper

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Maximize Return on Investment with the Agilent InfinityLab Pro iQ Series

Intelligent mass detectors designed for optimal productivity

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Abstract

Laboratories face increasing pressure to optimize efficiency, reduce costs, and maintain compliance while managing space constraints and aging LC/MS systems. Unplanned downtime and inefficient workflows can cost labs thousands annually in lost productivity and service expenses.

- High sample volumes and limited lab space are major constraints (75% of surveyed lab managers face pressure to process more samples).
- Pharma leaders prioritize quicker results, superior data quality, and workflow optimization (65% seek innovations to increase efficiency and 70% want better documentation and data integrity).
- In the face of evolving expectations, lab managers demand connected, automated, and data-driven environments to minimize downtime and simplify data management.

Agilent Infinity III LC systems and Agilent OpenLab CDS software integrate seamlessly with the powerful Agilent InfinityLab Pro iQ Series single quadrupole mass detector—a combination engineered to optimize workflows, lower total cost of ownership, and improve sustainability. Built for durability, ease of use, and consistent performance, Agilent LC/MS systems provide a complete solution, helping labs maximize productivity and efficiency while reducing hidden costs. This white paper explores how this unified solution streamlines LC/MS adoption, accelerates productivity, and supports long-term operational value.

Introduction

Aging LC/MS instruments often drain resources through insufficient sensitivity, poor robustness, limited automation, high power consumption, and frequent downtime, leading to higher cost of ownership and reduced productivity. Refreshing LC/MS systems and upgrading from legacy LC/UV to data-rich MS-based methods can result in significant productivity gains and cost savings.

Agilent LC/MS systems deliver robust, comprehensive solutions with streamlined workflows, lower costs, and improved sustainability. By investing in the high-quality Agilent Infinity III LC Series, Agilent OpenLab CDS software, and Agilent InfinityLab Pro iQ Series mass detectors, labs can better achieve their analytical goals, maximizing productivity and efficiency without compromising data quality. As part of this solution, Pro iQ Series single quadrupole mass detectors provide superior sensitivity, robustness, instrument intelligence, and mass range, expanding LC/MS capabilities while reducing time and cost.

This white paper examines how the Infinity III LC Series with the Pro iQ and Pro iQ Plus mass detectors provide measurable return on investment (ROI) through reduced total cost of ownership, increased productivity, and strategic simplification—particularly when replacing aging technology.

See what lab managers want: Agilent survey

Table 1. Value of the Agilent InfinityLab Pro iQ Series within the Infinity III LC and Agilent OpenLab CDS solution.

Solution Highlights	ROI Advantage	Added Value for Your Lab
Industry-Leading LC and CDS	Seamless integration of Pro iQ Series with Infinity III LC separation and OpenLab CDS	Single-vendor solution with proven track record
Lab Real Estate	– 18 to 36% smaller than comparable systems – Stackable with LC – Compatible with mobile bench	– Maximized productivity and ROI per square foot – A global survey of **700 lab managers** reveals: – **18%** (~1 in 5) of respondents indicate that the **size or footprint of their laboratory** is a **limiting factor** affecting operations today – Among those, **75%** believe that **space-saving instrument designs** can help overcome this limitation
Workflow Consolidation	– Simplified, fit-for-purpose instrumentation – Higher productivity with mass-based fraction collection – Cerno Bioscience's MassWorks MS calibration technology for high mass accuracy on a single quadrupole LC/MS system	– Reduced training requirements (typically less than half a day of training for routine production workflows) – Up to 6x faster fraction analysis – Reduced cost and power consumption
Cost of Instrument Maintenance and Repair	– Exceptional robustness – Early maintenance feedback – VacShield for ventless maintenance	– Peak instrument performance and consistency with RSDs as low as 1.6% – Less downtime through proactive monitoring and predictive maintenance – Up to 89% time savings for routine maintenance with VacShield – Increased throughput
Cost of Service	– Accessible design for easy servicing – Best-in-class support and consulting – More favorably priced service contracts for newer instruments	– Faster service turnaround – Increased productivity – Expert guidance – Reduced cost of ownership
Sustainability	– Resource-efficient design – Reduced carbon footprint – Optional oil-free dry pump	Energy savings (power consumption, heat dissipation) and less waste
Ease of Use: Instrument Intelligence and Automation	– Complete control with OpenLab CDS – InfinityLab Assist for task automation, easier maintenance, and guided troubleshooting – Level Sensing and BlendAssist software – Auto Acquire for rapid acquisition method setup – Simple sample submission with WalkUp software – Single MMI source covers wide chemistry of analytes in single run – AI-based SWARM autotune – Automated MS spectral deconvolution in seconds – Oligo Analysis Accelerator with guided workflows	– No loss in productivity when adding MS – Savings of up to 125 hours per year per instrument with InfinityLab Assist – Higher efficiency; fewer errors – Consistent performance – Over 60% time savings for an autotune compared to legacy models – Streamlined batch analysis – Faster screening workflows with MMI source
Risk Mitigation and Compliance	– Built-in data integrity features – InfinityLab Sample ID reader for simplified sample barcoding – Intelligent System Emulation technology (ISET) for easier method transfer – CrossLab Connect for optimized lab operations	– Improved compliance and traceability – Significant time and cost savings – Savings of up to 135 hours per year with InfinityLab Sample ID reader – Savings of up to $16,000 per year with ISET – Enhanced productivity

Industry-leading LC and CDS

Labs can cut downtime and energy costs while boosting productivity through seamless integration of the Pro iQ Series with the industry-leading Infinity III LC and Agilent OpenLab CDS (Figure 1).[1] Built for consistent results, this highly dependable solution delivers confidence across diverse analytical needs. Infinity III LC systems feature Agilent InfinityLab Assist, a module that automates tasks, facilitates maintenance, and guides troubleshooting—minimizing errors while improving efficiency and uptime. Studies show that, when paired with InfinityLab Assist, these LC systems also support optimized energy consumption. For example, the Agilent 1260 Infinity III Prime LC system was found to consume less energy across daily operational states compared to a competitor system.[2]

Read the eBook: Achieving the Full Lifecycle Value of LC Investments

Learn more about how InfinityLab Assist helps cut energy consumption

The Agilent 1290 Infinity III LC system has been recognized for superior performance and sustainability, earning the 2025 Sustainable Lab Product Innovation Award from My Green Lab and Lab Manager. Additionally, BioTechniques magazine named the Pro iQ Series among the top five mass spectrometry releases of 2025.

Bench space and flexibility

A smaller instrument footprint results in more instruments per square foot. Well-configured lab layouts are vital to ensure optimal operational productivity and maximum ROI per square foot. With a footprint 18 to 36% smaller than comparable on-market systems—as well as the legacy Agilent InfinityLab LC/MSD XT—the Pro iQ and Pro iQ Plus mass detectors save bench space without compromising performance (Figure 2).[3]

Add to this their ability to easily stack with the LC modules, and the result is even greater lab space savings, making this mass detector ideal for space-constrained or multi-instrument environments. The Agilent InfinityLab Flex Bench MS (Figure 3) consolidates all modules and the mass detector into a single, mobile stack, allowing flexible movement around the lab to accommodate changing project needs.[4]

Figure 1. Agilent 1290 Infinity III bio LC system with Pro iQ Plus and OpenLab CDS.

Figure 2. Compared to other Agilent and competitor mass detector systems, the Pro iQ Series footprint is up to 36% smaller.

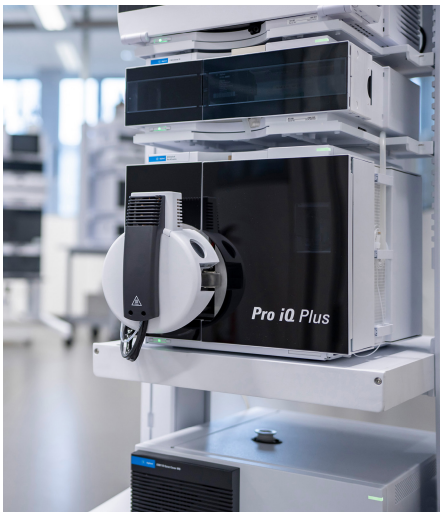


Figure 3. Agilent InfinityLab Pro iQ Plus instrument stacked with LC system on InfinityLab Flex Bench MS.

Table 2. Size comparisons across Agilent and competitor mass detector instruments.

Instrument	Stackable with LC	Width (cm)	Height (cm)	Depth/Length (cm)	Footprint (cm^2)	Footprint Reduction (%) with Pro iQ
Agilent InfinityLab Pro iQ/Pro iQ Plus	Yes	40	35	55	2,170	N/A
Agilent InfinityLab LC/MSD XT	Yes	45	45	75	3,375	36%
On-Market, Entry-Level Benchtop SQ (*m/z* 30 to 3,000)	No	36	59	74	2,664	19%
On-Market, High-End Benchtop SQ (*m/z* 30 to 1,250)	Yes	35	20	75	2,648	18%
On-Market, Entry-Level Benchtop HRMS	No	40	75	76	3,056	29%

SQ = Single quadrupole, HRMS = High-resolution mass spectrometry

Workflow consolidation

Streamlined workflows with simplified, high-sensitivity instruments

Complex instruments can be more costly than simpler systems—from higher operational and maintenance costs to increased training requirements and greater use of a lab's available real estate. By reducing complexity, fit-for-purpose systems can deliver significant savings in user training, required bench space, upkeep, and disposal by leveraging advanced technologies that improve efficiency. For example, operators new to the Pro iQ Series can typically be trained in under half a day for routine production workflows. Furthermore, use of a single ion source for ESI and APCI, the Agilent MMI source, covers a wide chemistry of analytes in a single run for faster screening workflows.

In many workflows, a single quadrupole instrument with a broad mass range and exceptional sensitivity can streamline analyses traditionally performed on triple quadrupole (TQ) or quadrupole time-of-flight (Q-TOF) systems, especially for prescreening workflows.[5,6]

Proven performance example

Using Agilent Auto Acquire parameters, a 100 pg on-column injection (5 µL of 20 pg/µL) of sulfadimethoxine was analyzed at a mobile phase flow rate of 0.8 mL/min. This resulted in an outstanding signal-to-noise ratio of up to 20,000 at *m/z* 311 in positive mode (Figure 4), with peak area percent relative standard deviation (%RSD) of 1.02%. Additional selected ion monitoring (SIM) analyses for sulfamethizole, sulfamethazine, and sulfachloropyridazine further demonstrate system versatility and precision.

Read how the Pro iQ Plus is used for purity assessments of antisense oligonucleotides

Read how the Pro iQ Plus is used for PFAS screening

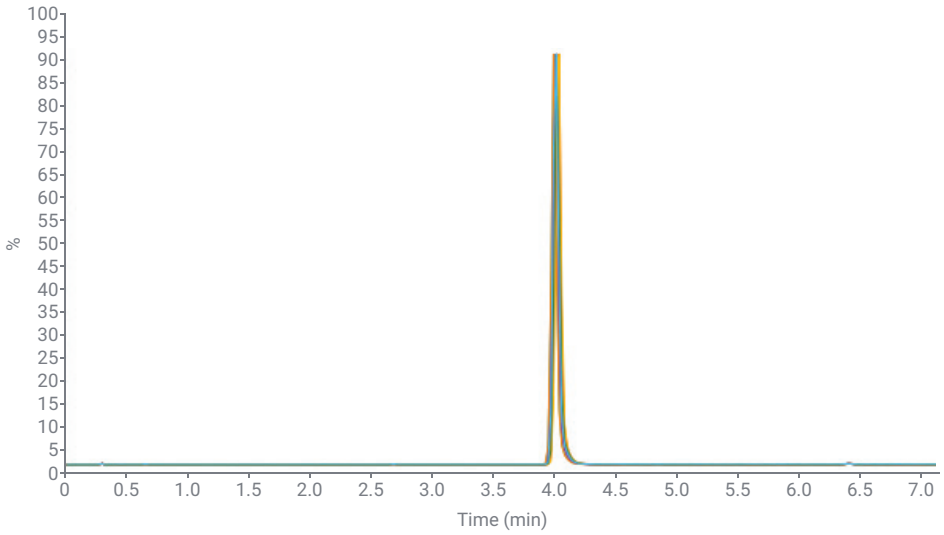


Figure 4. Replicate SIM-mode injections of sulfadimethoxine showing highly consistent chromatographic performance, accompanied by corresponding quantitative results.

Accelerate purification and simplify workflows with intelligent mass-based fraction collection

Mass-based fraction collection (MBFC) is streamlined by the incorporation of Pro iQ and Pro iQ Plus mass detectors. Reduce postseparation time by up to **83%** with MBFC instead of LC/UV-based fraction collection. These benefits are evident in practice.[7]

Figure 5. Agilent 1290 Infinity II preparative LC/MSD system.

Bertrand Arnaud, scientific associate at Welmedis GmbH, has seen the productivity enhancements of mass-based fraction collection firsthand.[8] "With mass-based fraction collection, we can pinpoint a compound to 1 to 2 vials versus 10 to 20 with UV only—saving time. For a single separation, the time for fraction analysis postseparation is reduced from approximately 30 minutes with UV to only 5 minutes with MBFC, accelerating our process for purifying final products and helping us to be more productive, as we use the saved time to prepare other products."

MBFC with Pro iQ is fully compatible with the Agilent 1260 Infinity II preparative LC/MSD system, the Agilent 1290 Infinity II preparative LC/MSD system (Figure 5), and the Agilent 1290 Infinity II autoscale preparative LC/MSD system. The OpenLab CDS MBFC user interface is elegantly designed, allowing even new users to collect their fractions of interest with minimal training. By simply entering the desired compound's empirical formula, the software calculates all potential mass-to-charge ratios to ensure the appropriate charge states and adducts are included in the collected fraction, saving time and reducing error. For those working with biological molecules, the peptide or oligonucleotide sequence can be entered without the need to manually calculate specific mass-to-charge ratios.

Agilent is also the only vendor to include built-in delay sensors in its fraction collectors, allowing convenient calibration of delay time through separation of a provided calibration mix.

Read more about the ease of MBFC using the Pro iQ Series

Confident identification through advanced MS calibration technology

Achieve confident identification of unknowns using both accurate mass and exact isotope modeling through Cerno BioScience's MassWorks MS calibration technology. This technology allows the easiest calibration of raw MS data for high mass and spectral accuracy on unit mass instruments, such as the Pro iQ.[9,10]

Cost-efficient ownership: Optimized maintenance, repair, and service

Cost-efficient ownership is a key advantage of the Agilent LC/MS solution, differentiating these instruments from competitor systems. By streamlining maintenance, repair, and service needs, Infinity III LC systems and robust Pro iQ mass detectors dramatically reduce downtime and labor requirements while delivering substantial time savings.

Dependable robustness

Challenging sample matrices can result in system soiling, contamination of ion optics, and degradation of detector performance over time. Pro iQ Series single quadrupole mass spectrometers deliver advanced stability and reliability, helping to ensure consistent performance and maximum uptime—even with the most challenging samples.

Analyses demonstrate that the Pro iQ Series achieves excellent precision with low percent relative standard deviations (%RSDs). An evaluation of system robustness showed that, across 800 injections of small molecules in crashed plasma, the Pro iQ Plus maintained a %RSD < 7% (Figure 6).[11] Furthermore, a multipoint calibration curve collected throughout a 500-injection sequence in plasma was highly linear with a %RSD of only 2%, confirming exceptional sensitivity and dynamic range performance (Figure 7).[12]

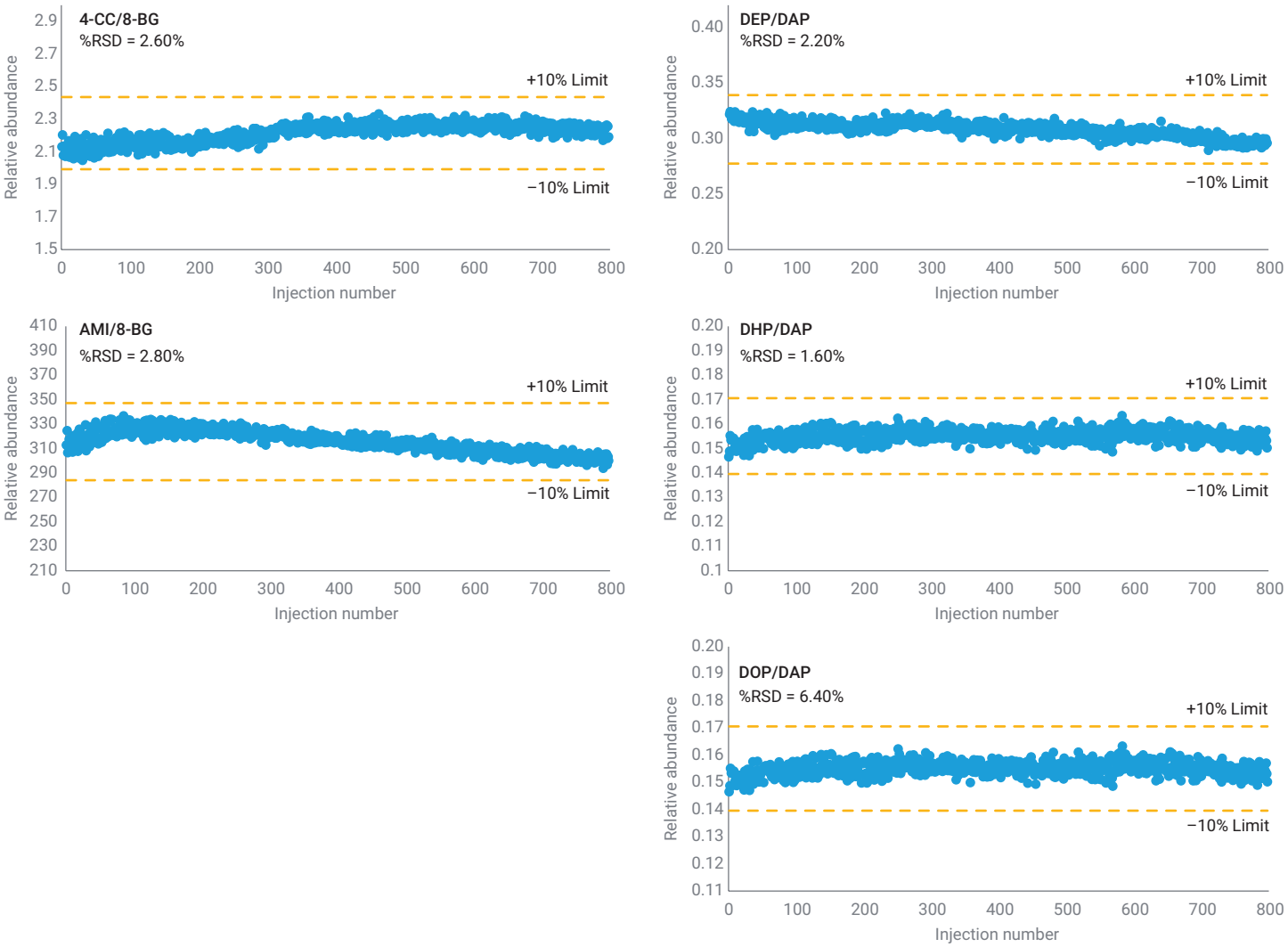


Figure 6. LCMS-7 in crashed mouse plasma was injected nonstop over 800 total injections. The injection-to-injection time was approximately 5 minutes/run, resulting in 2.5 days of continuous detection. The plots show the relative abundances, corrected according to the chemical classes. The active pharmaceutical components are corrected with 8-bromoguanosine (8-BG), while the phthalates are corrected with diamyl phthalate (DAP). Although raw abundances over time resulted in %RSD < 15%, correction with an internal standard decreased %RSD to < 7%, demonstrating excellent detection stability over the course of this experiment.

Early maintenance feedback

Early maintenance feedback (EMF) actively monitors system metrics using built-in monitors for each component, enabling quick and easy review of instrument status and health (Figure 8). This proactive feature helps to anticipate potential downtime or address immediate issues before they escalate.[13,14]

Watch the video to learn more

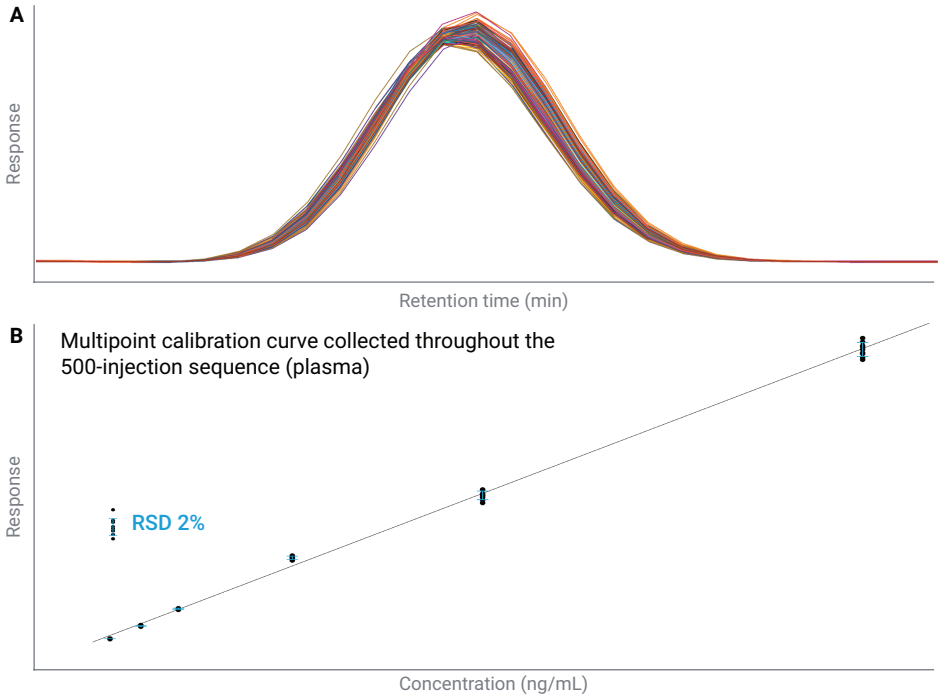


Figure 7. Plots show Agilent InfinityLab Pro iQ Plus overlay of 100 consecutive injections of a small molecule in crashed plasms (A) and small molecule calibration curve (1, 5, 10, 25, 50, and 100 ppb), with data points collected at intervals throughout a 500-injection sequence (B).

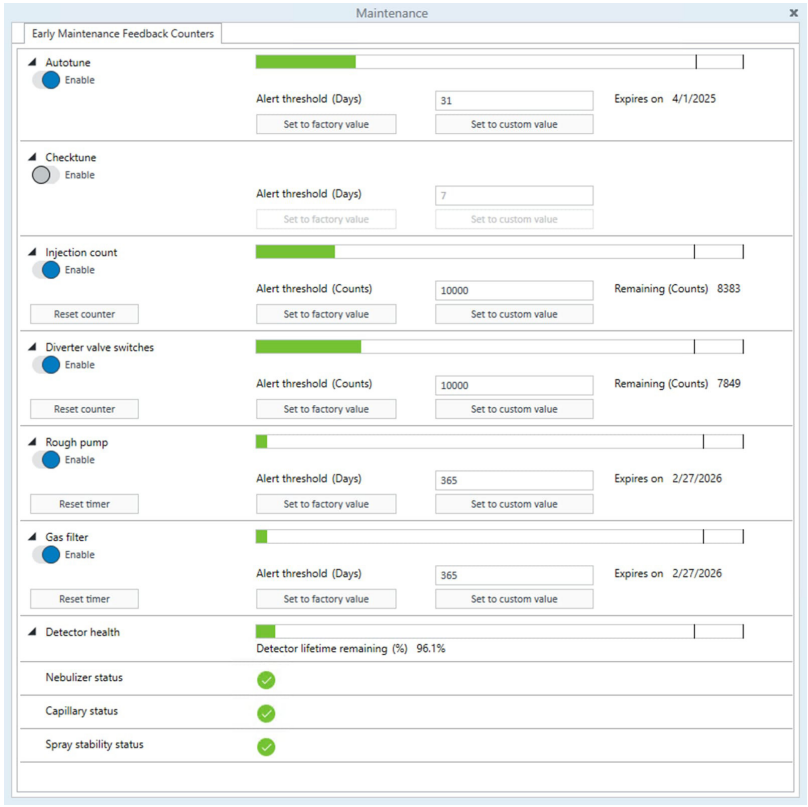


Figure 8. Early maintenance feedback example.

Fast ion injector maintenance with VacShield technology

Agilent VacShield technology (Figure 9) allows ventless removal of the ion capillary for cleaning. This design reduces routine maintenance time to as little as 35 minutes, compared to four hours or more with venting and disassembly, leading to approximately 89% time savings (Table 3).

Watch the video to learn more

Enhanced instrument accessibility and modularity

Accessibility to the Pro iQ and Pro iQ Plus for maintenance is further enhanced by the InfinityLab Flex Bench MS, which features a retractable bottom tray. By sliding the mass detector outward, this tray gives service engineers the space needed to work comfortably, minimizing downtime. This user-friendly design also allows for simple robotic automation integration, independent of workflow. Moreover, the compact, wheeled configuration offers flexible use of laboratory space and allows the entire system to be moved as analytical needs change.

Figure 10. Agilent InfinityLab Flex Bench MS with a Pro iQ Plus mass detector on a retractable tray.

Figure 9. VacShield technology.

Additionally, most repairs or maintenance operations are designed to be performed from the side panels rather than the top, making service straightforward—even when the Pro iQ is stacked directly on the bench with an LC system.

Watch the video to learn more

Table 3. Benefits of Agilent VacShield for routine maintenance on the Agilent InfinityLab Pro iQ Series.

Maintenance Procedure	Time without VacShield	Time with VacShield
Cool Down to Acceptable Temperature	15 min	Not needed
Break Vacuum and Leak Air Into Instrument	15 min	Not needed
Remove and Clean Ion Injector Capillary	20 min	20 min
Power On and Pump Down	180 min (3 hrs)	Not needed
Checktune or Autotune Instrument	6 min (Checktune) 15 min (Autotune)	6 min (Checktune) 15 min (Autotune)
Total Time	236–245 min (3.9–4.1 hrs)	26–35 min
Time Savings		86–89% with VacShield
		89% with 15 min Autotune
		86% with 6 min Checktune

Best-in-class service and support

In addition to advanced instrument features, Agilent-certified professionals provide expert support and guidance to help laboratories maintain efficiency, optimize resources, maximize instrument uptime, and build user proficiency. Award-winning Agilent services have been recognized for their commitment to advancing laboratory productivity and performance, earning the 2023 Select Science Award for Analytical Science Customer Service of the Year.

Learn more about what sets Agilent service professionals apart

Studies of Agilent Preventative Maintenance (PM) have revealed that this service offers a clear advantage. Instrument systems receiving both repair and PM from Agilent showed a 24% reduction in the number of repairs, 31% lower repair costs, and 2.4 days less downtime per year compared to systems on Agilent repair-only agreements.[15] Agilent PM ensures early detection of potential issues, which leads to further reductions in unscheduled downtime, cost, and frequency of repairs.

Any of the following Agilent services can be added to the purchase of the Pro iQ or Pro iQ Plus:

- Method Optimization Services for enhanced efficiency of methods—includes option for method transfer
- Instrument and Software Qualification Services for strengthening data integrity with negative mode
- CrossLab Enhanced Extended Warranty and other Agilent service plans to defend against unplanned downtime
- Site Preparation Service to ensure a successful service delivery and peace of mind ahead of installation
- Expert and self-led trainings for LC/MS using Agilent ePass
- Computer System Validation for regulated labs requiring new system commissioning, change control, system upgrades or relocations, and system decommissioning for archival

Service contract savings

For newer instruments, service contracts are more favorability priced compared to legacy instruments. For example, Pro iQ CrossLab Silver contracts are priced $6,000 to $8,600 lower than for legacy systems. This can add to considerable savings post-warranty when replacing an older fleet of instruments with Pro iQ Series mass detectors.

Sustainability-driven innovations for reduced environmental impact

Sustainability is transforming the way researchers approach products, technologies, processes, and supply chains. Agilent LC/MS instruments are designed to conserve resources and decrease their carbon footprint.

Agilent LC/MS solutions incorporate features that reduce power consumption and support environmentally friendly operation, driving energy-efficient operation and cost savings while preserving analytical performance. The optional oil-free dry pump adds efficiency by lowering energy use and heat dissipation.

This environmental sustainability is further underscored by Agilent's partnership with My Green Lab. Through this collaboration, Agilent instruments are independently audited for the Accountability, Consistency, and Transparency (ACT) label.

Learn more about sustainability at Agilent

Mass confirmation as easy as UV detection: LC automation and intelligence features

Infinity III LC systems offer options for full integration with Pro iQ Series mass detectors, maintaining the same footprint and leveraging the same OpenLab software for seamless continuity from LC/UV to LC/MS—without sacrificing productivity. Features such as early maintenance feedback (EMF), AI-based SWARM autotune, Checktune, among others, as well as enhanced mass-based fraction collection workflows, drive measurable improvements in ROI.

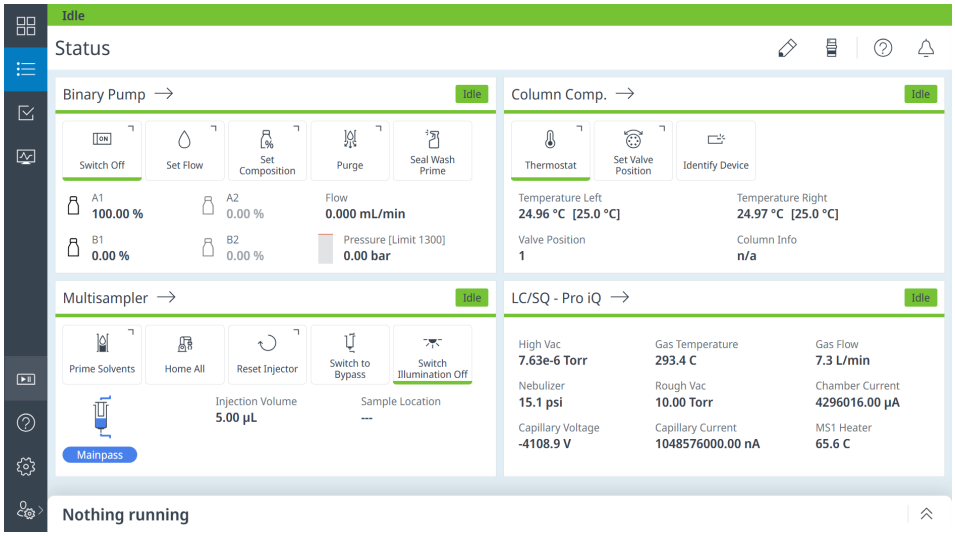


Figure 11. Instrument status as displayed by Agilent InfinityLab Assist.

InfinityLab Assist

Assessing LC/MS readiness begins with InfinityLab Assist, a tablet-style user interface on each LC that brings important controls and diagnostics directly to users. Its intuitive local interface enables hands-on training and skill development at the bench, while remote access through a web browser allows managers to monitor and guide LC operations in real time. This dual approach minimizes overhead and accelerates onboarding, contributing to a more efficient, cost-effective, error-resistant lab environment.[1,2]

Designed to support both novice and experienced users, the real-time dashboard provides instant insights into instrument use, wear, and trends, as well as assisted guidance for maintenance and troubleshooting tasks (Figure 11). Ultimately, this valuable feature can save labs up to 125 hours in full-time employee hours per instrument per year by automating purging, diagnostics, and LC maintenance.[1]

For example, Wanhan Pharma was able to reduce HPLC system prep time by 80% (from 30 to 5 minutes) and method transfer from two weeks to three days, explaining that "the entire workflow, including smart purge and system prep, is handled automatically by InfinityLab Assist."

Read customer stories

Level Sensing and BlendAssist software

Automated solvent level monitoring uses accurate, weight-based measurements, preventing the system from running dry and avoiding costly re-analysis or instrument damage. Agilent InfinityLab Level Sensing fully integrates with OpenLab CDS software. This technology enables users to predict solvent consumption and receive warnings before starting a sequence, which ensures seamless operation and helps to maintain continuous workflows.

LC systems can hold multiple solvent bottles securely (four 1-liter and two 2.5-liter bottles). By preventing pump and column damage, Level Sensing can save labs up to $1,500 per year.

Watch video: Level Sensing

Additionally, Agilent BlendAssist software automates buffer blending for consistent results during method automation, reducing solvent waste and prep time for notable cost savings (up to $1,200 per year).[16]

Learn more about BlendAssist software

WalkUp software

Agilent WalkUp software minimizes time for sample submission and optimizes instrument sharing. Get clear, step-by-step guidance for sample placement as well as automatic email results when runs are completed. With its intuitive design, this software puts the power and precision of LC and LC/MS at everyone's fingertips—making advanced mass spectrometry simple and accessible.[17]

AI-based SWARM autotune

AI-based Agilent SWARM autotune allows tuning of instruments for specific applications and desired performance. By combining aspects of the particle swarm algorithm with the speed of the simplex algorithm, SWARM autotune rapidly locates the best parameters, ensuring consistent, application-specific results (Figure 13).[13,14]

Moreover, Autotune and Checktune can be scheduled to run during downtime, ensuring that instruments are always ready for operation. This scheduling feature can save more than 60% of tuning time compared to legacy models.

Watch the video to learn more

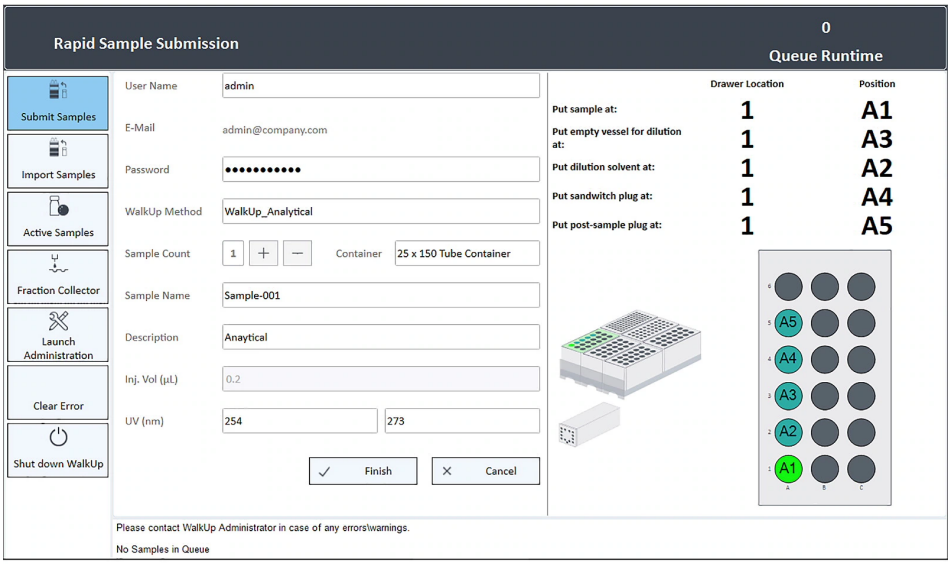


Figure 12. Rapid sample submission and placement using Agilent WalkUp software.

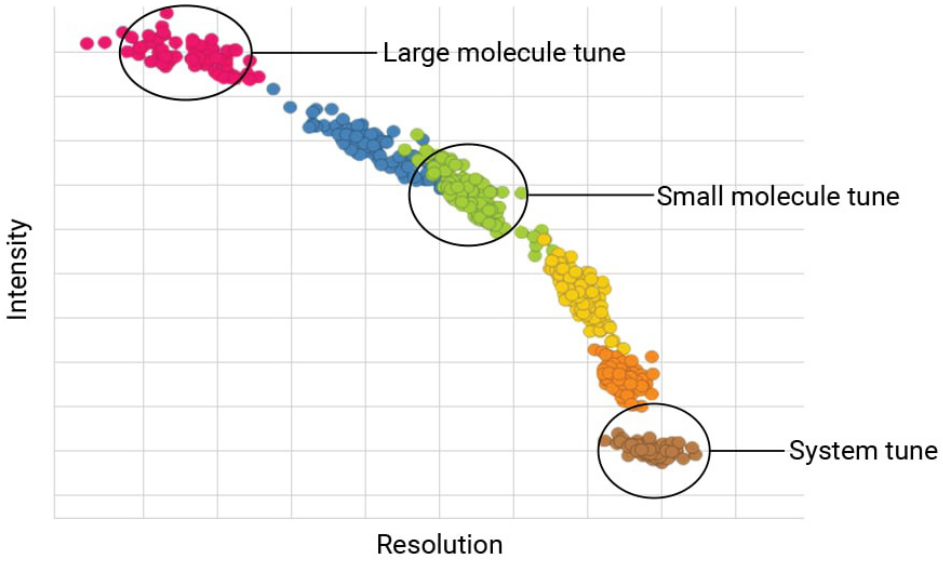


Figure 13. Resolution-intensity plot highlighting tune modes for large molecules, small molecules, and system-level calibration.

OpenLab CDS

OpenLab CDS is a chromatography data system that combines productivity, usability, and data integrity, allowing users to control instruments from a single interface while streamlining training and support. Built-in tools provide time savings during analysis, interpretation, and reporting workflows. Technical controls ensure work quality, effective records management, and enhanced security.

This software is the natural next step for labs already using Agilent OpenLab ChemStation or Agilent OpenLab EZChrom. It builds on familiar features, with significant advances for streamlining workflows—from fewer clicks, less sample injected, and more uptime to reduced labor per sample.

Auto Acquire

Auto Acquire in OpenLab CDS is a simplified interface that allows users to more rapidly set up their MS acquisition methods, automatically setting optimized instrument parameters without the need for user input.

Automated MS spectral deconvolution

MS spectral deconvolution processes complex *m/z* spectra into their corresponding neutral masses (Figure 14). Available as an add-on to OpenLab CDS, this feature streamlines manual qualitative workflows and can automate larger datasets, supporting molecular weight confirmation of peptides, oligos, or proteins. Once the processing method parameters are optimized, within seconds, complex spectra from even the toughest samples are transformed into valuable insights.[18]

Learn more about OpenLab CDS

Learn more about MS Spectral Deconvolution for OpenLab CDS

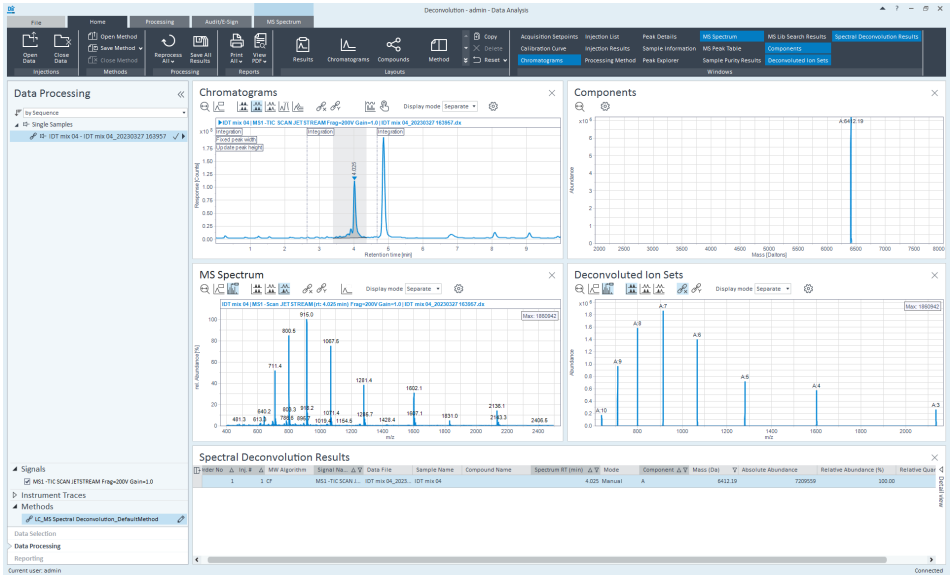


Figure 14. Automated spectral deconvolution in Agilent OpenLab CDS.

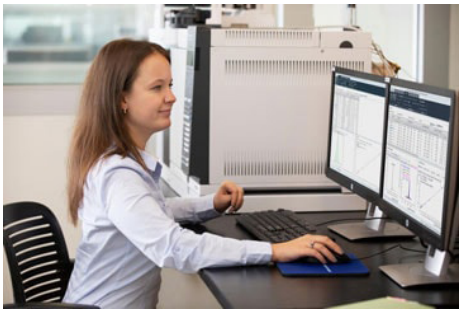
Oligo Analysis Accelerator

Agilent Oligo Analysis Accelerator (OAA) is an add-on for OpenLab CDS and is compatible with the Pro iQ. OAA offers a guided workflow that significantly reduces manual processing, saves time, and decreases training needs. This software enables smoother method transfers and easier implementation of LC/MS methods for oligo analysis in compliant, routine testing labs.[19]

Learn more about OAA for OpenLab CDS

Extensive learning tools for OpenLab CDS

As the exclusive software for the Pro iQ Series, OpenLab CDS provides complete control and comprehensive LC/MS capabilities for data acquisition, processing, and reporting.[13] The software features advanced analytical tools for molecular weight confirmation, impurity detection, and mass-based purification.



Learn more about OpenLab CDS

Find tutorials

Learn how to switch to OpenLab CDS

Automate data transfer

Peace of mind with risk mitigation and compliance

OpenLab CDS

Backed by Agilent experts, OpenLab CDS software supports compliance needs across industries, ensuring data integrity and appropriate management. Manual and error-prone processes are eliminated, while data are securely stored and organized to enhance accountability. Features like e-signatures, audit trails, and role-based access ensure secure, traceable data handling and readiness for regulatory inspections and audits. System validation also allows labs to confirm that all hardware and software systems are operating as expected, according to their intended use and predefined specifications.[20]

Sample ID reader

Sample barcodes simplify LC workflows by ensuring correct sample assignment for improved reliability and confidence, avoiding the potential costs of sample mix-up. The Agilent InfinityLab Sample ID reader identifies sample vials by reading their barcode, adding this information to the sequence table or comparing it to stored sample information for verification. Barcoded samples are detected without the need to manually enter their location. These enhancements can save up to 135 hours each year, helping to maximize instrument availability and profitability.[1]

Intelligent System Emulation technology

Agilent Infinity III LC systems have the unique ability to emulate other LC instruments, including non-Agilent systems, using Agilent Intelligent System Emulation technology (ISET). ISET enables smooth and hassle-free HPLC method transfers, emulating the LC instrument on which the original method was developed.[1]

This risk-free, one-click transfer helps to further minimize instrument-related costs by facilitating the fastest possible method development at UHPLC speed, even if an HPLC method is the target. Legacy HPLC methods can also be converted to run at UHPLC speed with ISET. Depending on its level of use, a single Agilent LC instrument with ISET can easily take over the tasks of other LC instruments. This can, on average, eliminate the need for up to one additional LC instrument, resulting in cost savings of as much as $16,000 per year.[1]

CrossLab Connect

Asset performance management and digital enablement are critical components of laboratory efficiency. Agilent CrossLab Connect provides a suite of digital capabilities and proven lab operation approaches that accelerate performance with control over all scientific assets (Figure 15).

Learn more about CrossLab Connect

Conclusion

Agilent LC/MS systems and software are designed for robustness, ease of use, and consistent performance, helping labs ensure higher productivity and lower operating costs. Integrating seamlessly with Agilent Infinity III LC systems and Agilent OpenLab CDS software, the Agilent InfinityLab Pro iQ Series redefines LC/MS accessibility by combining advanced performance with intelligent design. A reduced footprint, simplified workflows, and cost-effective maintenance enable the most efficient, highest-quality analysis. Supported by superior service options and sustainability-driven innovations, the Agilent LC/MS portfolio offers a strategic solution for labs seeking to maximize ROI and future-proof their operations.

Learn more about Agilent HPLC and UHPLC systems

Learn more about OpenLab CDS

Learn more about the Pro iQ Series

Figure 15. Agilent CrossLab Connect software.

References

1. Achieving the Full Life Cycle Value of LC Investments. *Agilent Technologies eBook*, publication number 5994-8725EN, **2025**.
2. Energy Consumption of the Agilent 1260 Infinity III Prime LC System. *Agilent Technologies technical overview*, publication number 5994-7573EN, **2024**.
3. Agilent Technologies. Pro iQ Series Single Quadrupole Mass Detector for HPLC. Agilent Technol. https://www.agilent.com/en/product/liquid-chromatography-mass-spectrometry-lc-ms/lc-ms-instruments/single-quadrupole-lc-ms/pro-iq-series.
4. Agilent Technologies. InfinityLab Flex Bench MS for HPLC. Agilent Technol. https://www.agilent.com/en/product/liquid-chromatography/hplc-supplies-accessories/laboratory-instrument-benches/flex-bench-ms-for-hplc.
5. Chevallier, O. Analysis of PFAS Compounds on the Agilent InfinityLab Pro iQ Plus Mass Detector. *Agilent Technologies application note*, publication number 5994-8355EN, **2025**.
6. Bertram, L.; Rivera, B. Assessing the Purity of an Antisense Oligonucleotide Sample by LC/MS. *Agilent Technologies application note*, publication number 5994-8405EN, **2025**.
7. Pfeiffer, S. Purify with Ease Using Mass-Based Fraction Collection with InfinityLab Pro iQ and OpenLab CDS. *Agilent Technologies application note*, publication number 5994-8704EN, **2025**.
8. Agilent Technologies. InfinityLab Pro iQ Series Customer Stories: Clinical Research; Agilent Technologies. https://www.agilent.com/en/product/liquid-chromatography-mass-spectrometry-lc-ms/customer-stories#clinical-research.
9. Agilent Technologies. MassWorks Software. https://www.agilent.com/en/product/software-informatics/mass-spectrometry-software/data-analysis/massworks-software.
10. Gandhi, J.; D'Antonio, S.; Wright, J.; Wang, Y. Accurate Mass Full Spectral Monitoring and Analysis of Both the Analyte and Reference Standard with Ion Chromatography—Mass Spectrometry. *Agilent Technologies poster*, **2025**.
11. Chevallier, O.; Batoon, P.; Bertram, L.; Dong, X.; Burge, R. Evaluation of System Robustness for a High Performance Small Form Factor LC/MS Single Quadrupole System. *Agilent Technologies poster*, **2025**.
12. Harness the Power of Pro. *Agilent Technologies brochure*, publication number 5994-8330EN, **2025**.
13. Agilent Technologies. Instrument Intelligence Fundamentals. https://www.agilent.com/en/product/liquid-chromatography-mass-spectrometry-lc-ms/instrument-intelligence-fundamentals.
14. Boost Efficiency and Productivity with Instrument Intelligence and Workflow Automation. *Agilent Technologies technical overview*, publication number 5994-7430EN, **2024**.
15. 5-Year Study Substantiates Value Of Agilent Preventative Maintenance. *Agilent Technologies white paper*, publication number 5990-5938EN, **2018**.
16. Metzlaff, M.; Dickhut, C. Agilent 1260 Infinity II Flexbile Pump with Blend Assist. *Agilent Technologies technical overview*, publication number 5991-9088EN, **2024**.
17. Agilent Technologies. WalkUp Software. https://www.agilent.com/en/product/software-informatics/mass-spectrometry-software/simplified-interfaces/walkup-software.
18. Rivera, B.; Grossman, J. Unit Mass Spectral Deconvolution for Molecular Weight Confirmation Of Large Molecules. *Agilent Technologies technical overview*, publication number 5994-6928EN, **2024**.
19. Rivera, B.; Bertram, L. Automated LC/MS Quality Control Of Anti-Sense Oligonucleotides. *Agilent Technologies application note*, publication number 5994-8730EN, **2025**.
20. Agilent Technologies. Everyday Data Integrity. https://www.agilent.com/en/products/software-informatics/openlab-software-suite/everyday-data-integrity.

www.agilent.com/lcms/pro-iq-series

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