



Agilent 1200 Infinity Series

Infinitely better



**1220  
Infinity LC**



**1260  
Infinity LC**



**1290  
Infinity II LC**



**Agilent Technologies**

## INFINITELY BETTER UHPLC SOLUTIONS – FOR ANY APPLICATION AND BUDGET

With more than one million modules sold, the Agilent 1200 Infinity Series builds on a 40-year heritage in the development and manufacture of highest quality instrumentation for liquid chromatography. Whether your laboratory requires highest data confidence from routine analysis or scientific breakthroughs from cutting-edge research, Agilent offers the best solution for your application.

### Setting new benchmarks in liquid chromatography

The 1200 Infinity Series represents a continuous stream of leading technology innovations. The 1220 and 1260 Infinity LCs give you UHPLC capability at the price of an HPLC system. What's more, you get outstanding sensitivity and 100 percent compatibility with all your HPLC methods, ensuring riskless replacement of current instruments. The latest addition to the series is the new 1290 Infinity II LC, which sets new benchmarks in analytical, instrument and laboratory efficiency. Whatever your application requires the 1290 Infinity II LC delivers the performance, flexibility and reliability you need – for any application from research to quality control.

Together, this portfolio offers a unique continuum of future-proof HPLC and UHPLC solutions to match any application or budget. Plus, it's from a name you trust for highest quality – Agilent.

### Infinitely better investment protection

Agilent offers almost unlimited module and system compatibility between the current 1200 Infinity Series and earlier 1100 or 1200 Series. This Agilent value promise facilitates flexible, stepwise upgrade for any Agilent LC – now or in the future!

- Upgrade to 10x higher detection sensitivity or highest dynamic range
- Upgrade to higher column capacity and unmatched ease-of-use
- Upgrade to highest sample capacity per unit bench space, highest speed and lowest carryover

Invest in the 1200 Infinity Series today and rest assured that your system can be upgraded in the future with any new or enhanced module.



## 1220 Infinity LC

### Infinitely more affordable

The 1220 Infinity LC is a high quality, integrated system for routine HPLC and advanced UHPLC analysis – for maximum return on investment.

- 600 bar power range up to 5 mL/min flow rate and 80 Hz detector speed – prepare your lab to take advantage of latest advances in LC column technology
- Full compatibility with all other Agilent detectors within the 1200 Infinity Series and with 6100 Series Quadrupole MS
- Built with the same technology and parts as 1260 Infinity and 1290 Infinity II LC systems



## 1260 Infinity LC

### Infinitely more confident

The 1260 Infinity LC sets higher standards in performance to give you more confidence in your results. It offers UHPLC levels of productivity, data quality and robustness – all within the price range of a typical HPLC system.

- 600 bar power range and up to 10 mL/min flow rate, 80 Hz detector speed and up to 10x higher UV detection sensitivity – for today's and tomorrow's challenges
- 100 percent compatible with all your HPLC methods, ensuring riskless replacement of existing equipment
- More value for the same budget – you get a UHPLC at a price similar to earlier 1200 Series HPLCs



## 1290 Infinity II LC

### Infinitely more efficient

The new 1290 Infinity II LC embodies the future of UHPLC – with the exceptional reliability and robustness you expect from Agilent, plus breathtaking chromatographic performance and maximum efficiency.

- **Maximum analytical efficiency:** Unmatched separation and detection performance deliver analysis data of the highest quality – for ultimate confidence in your results
- **Maximum instrument efficiency:** Highest sample capacity and fastest injection cycles combine with new levels of usability – for highest throughput regardless of your application
- **Maximum laboratory efficiency:** Seamless integration in current infrastructure and smooth method transfer from legacy equipment – for non-disruptive transition to highest productivity and lowest cost of ownership

## FUTURE PROOF

Purchase an LC system from Agilent and you can be confident that you have made the safest possible investment. Seamless integration of column technology, instrumentation and software ensure utmost productivity. With more performance to meet today's requirements, you also have more compatibility and flexibility to take on tomorrow's challenges.

### Future-proof methods

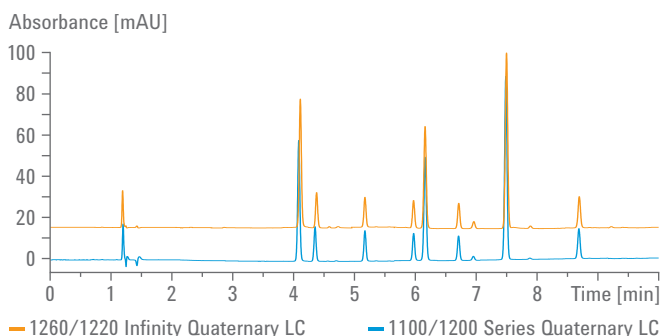
The 1200 Infinity Series facilitates seamless transfer of existing or future methods. Whether you developed your methods on earlier 1100 or 1200 Series systems, full method compatibility means you will be running your samples with no adjustments to conditions. The 1290 Infinity II LC even allows you to transfer methods developed on third-party LCs.

### Future-proof investment

The 1200 Infinity Series provides a common platform on which you can build your own solution. It is also available as preconfigured solutions for many dedicated applications. Optimize your chromatography with a 1290 Infinity II method development system and then simply transfer your methods to a routine analysis environment with Agilent's unique Intelligent System Emulation Technology (ISET) – with no disruption.

### Future-proof data confidence

Agilent's detection systems provide 10x higher sensitivity than before and a 30x wider linear range. Stay ahead of your customer's requirements with the superior chromatographic performance of the 1200 Infinity Series.



The 1200 Infinity Series is 100 percent compatible with your current methods – run your samples with no adjustments to conditions.

## Infinitely more innovation

Agilent has 40-year track record of relentless innovation and groundbreaking contributions to LC and LC/MS technology. When you choose an Agilent system, you can rest assured that it gives you the proven quality and performance you expect from the technology leader.

Commercial orthogonal spray interface for MS  
Automatic tuning method and chemistries for MS

<p><b>1976</b>–1977–1978–1979–1980–1981–<b>1982</b>–1983–1984–<b>1985</b>–1986–1987–1988–1989–1990–1991–1992–1993–1994–<b>1995</b>–1996–<b>1997</b>–1998–<b>1999</b></p> <p>Microprocessor controlled LC system</p>	<p>Diode array detector for peak-purity detection in LC True low-delay, low-dispersion microbore LC system</p>	<p>Single-valve, high-pressure injector for LC</p>	<p>Electronic column-id tracking with RFID technology Video-supported diagnostics for preventive maintenance (EMF)</p>	<p>Flow-sensor-based capillary and nanoflow systems for LC</p>
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## RELIABLE, SECURE AND TRUSTED

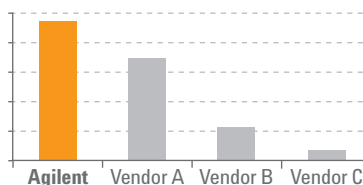
Tens of thousands of laboratories worldwide rely on Agilent LC equipment to provide the high quality results they need, run after run and day after day. Over one million LC modules are hard at work around the globe, delivering unmatched performance, productivity and reliability. Put your trust in Agilent – the acknowledged leader in solutions for liquid chromatography.

### Reliability for highest uptime

**“It just never fails.”** That’s how users perceive the world’s top-selling LC from Agilent. Every system is packed with highest quality parts for highest uptime and longest maintenance intervals. Further, sophisticated built-in diagnostic and maintenance tools ensure reliable and secure operation:

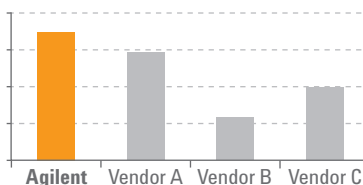
- Complete leak control in every module
- Modular intelligence through CAN networking
- Unique radio-frequency tagging on detector lamps, flow cells, columns and valve heads
- Easy front access to all user-maintainable parts
- Single LAN/PC connection
- Screw-less electronic board mounting
- Sophisticated diagnostics for maximum uptime

### #1 IN RELIABILITY

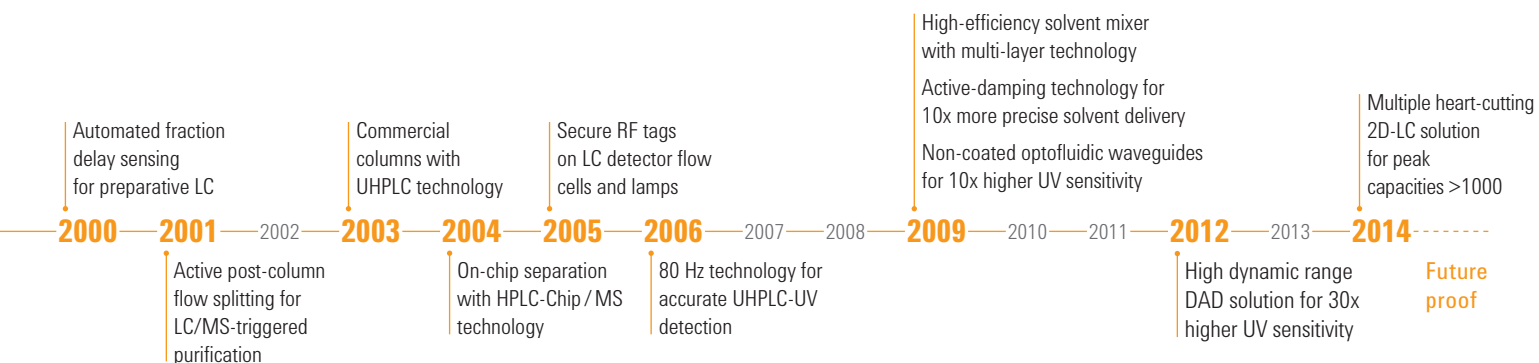


Agilent selected as vendor with most reliable LC instrumentation – Survey conducted through LCGC in 2014.

### #1 IN SYSTEM QUALITY AND INNOVATION



Agilent selected as vendor with highest system quality and innovation ratings – Survey conducted by Strategic Directions International, Inc. (SDI) and published in Market Analysis and Perspectives Report HPLC, 2012.



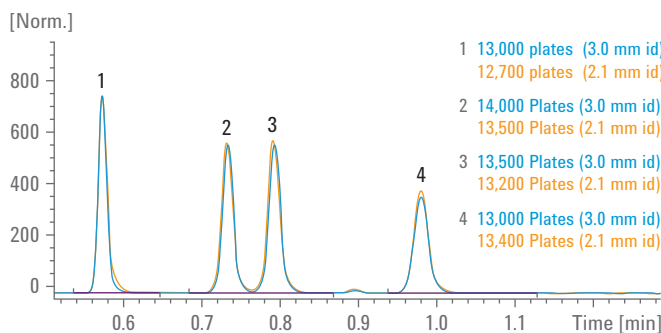
## INFINITELY MORE EFFICIENT

The new 1290 Infinity II LC embodies the next generation of UHPLC equipment. It sets new benchmarks by maximizing analytical, instrument and laboratory efficiency. It's designed to provide better analytical results, boost throughput, simplify user interaction and drive non-disruptive transition to higher productivity and lower costs.

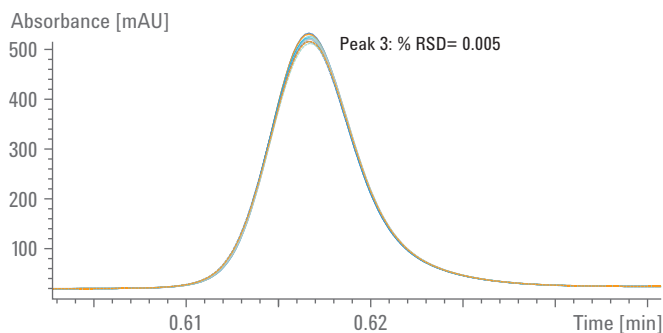
### Maximum analytical efficiency

The 1290 Infinity II LC achieves unmatched separation and detection performance, delivering data of the highest quality – for ultimate confidence in your results, and in your business decisions.

- Highest retention time precision through precise delivery of solvent flow and composition – for reliable peak identification, and reproducible and robust results
- More chromatographic resolution through power range of 1300 bar at 2 mL/min, and built-in lowest dispersion
- Ultralow carryover of less than 9 ppm for uncompromised data quality
- Unique detection capabilities with data rates up to 240 Hz and noise levels typically less than  $\pm 0.6 \mu\text{AU}/\text{cm}$  for highest resolution – even for fastest separations
- Highest peak capacity for challenging separations through simple upgrade to the most flexible and easy-to-use 2D-LC solution with multiple heart-cutting or comprehensive analysis capabilities



Thanks to lowest extra-column volume the 1290 Infinity II LC achieves highest chromatographic efficiency in terms of plate numbers for both 2.1 mm and larger inside diameter columns.



This overlay of 10 chromatograms shows superior retention time precision of 0.005 %RSD, even for ultrafast separations.

## Maximum instrument efficiency

The 1290 Infinity II provides the capacity and speed you require to get your work done as effectively and efficiently as possible. Highest sample capacity and fastest injection cycles combine with new levels of usability – for highest throughput regardless of the demands of your application.

- Fast injection cycles with dual-needle injection – reduce cycle times to few seconds
- High capacity up to 6144 samples – within the footprint of a standard Agilent LC stack
- Flexibility for all applications through wide power range and modularity to configure a system according to your needs
- Higher levels of user experience through revolutionary Agilent A-Line Quick-Connect UHPLC column fittings with dead-volume-free connections, and new multicolumn thermostat with easy access to up to eight columns

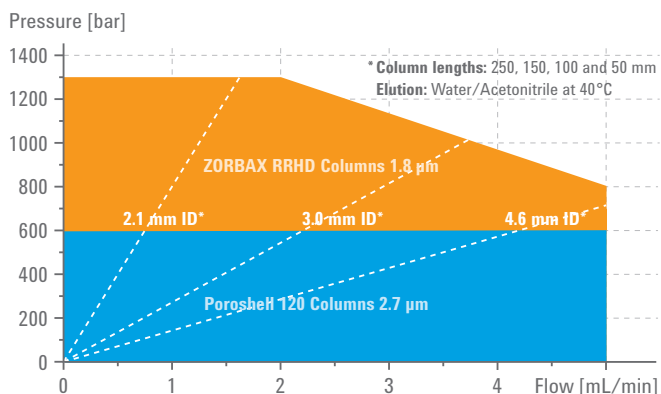


Installing columns has never been so easy, thanks to Agilent A-Line Quick-Connect UHPLC column fittings.

## Maximum laboratory efficiency

The 1290 Infinity II integrates seamlessly in your current laboratory and facilitates smooth method transfer from legacy equipment – for non-disruptive transition to highest productivity and lowest cost of ownership.

- Smooth transfer of methods regardless of origin through Agilent's Intelligent System Emulation Technology (ISET), minimizing instrument-related costs, achieving higher productivity for method development, and accelerating instrument-to-instrument method transfer
- Seamless integration in non-Agilent chromatography data systems through Agilent's Instrument Control Framework (ICF), giving access to advanced functionality when controlled through third-party software
- Significant lowering of total cost of ownership through optimized utilization of capital assets



The power range of the 1290 Infinity II gives you the flexibility to meet virtually any separation challenge.

## INFINITELY MORE CONFIDENT

The 1260 Infinity LC sets higher standards in performance and value to give you more confidence in your results. The 600 bar power range combines with 80 Hz UV detector speeds and up to 10x higher sensitivity. That's true UHPLC performance! At the same time you can run your current HPLC methods – completely unchanged. Whatever your application requires you can be confident of achieving higher quality data and faster results.

### Raising the HPLC standard

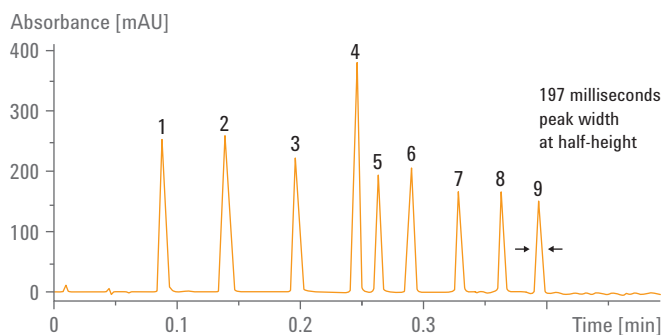
The 1260 Infinity LC raised the bar in HPLC! With a 600 bar power range up to 5 mL/min and 200 bar up to 10 mL/min plus 80 Hz detector speed and 10x higher sensitivity, you can aspire to new levels of versatility, higher resolution and faster separations. The new 1260 Infinity Multisampler can increase your sample capacity to more than 6000 samples, lower your carryover below 9 ppm and boost your injection cycle time to few seconds.

### 100% HPLC compatibility

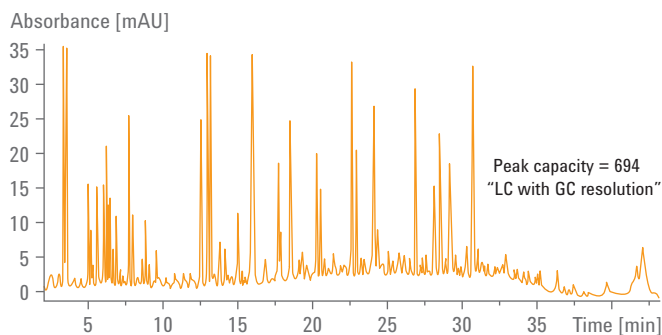
On one system you can run established and validated HPLC methods – unchanged – as well as push UHPLC to new levels of performance.

### HPLC price – UHPLC performance

The 1260 Infinity LC is priced similar to earlier 1200 Series HPLC Systems and significantly lower than 1200 Series RRLC systems – so you get much more value for your investment.



Ultrafast separation of a phenone mixture using the Agilent 1260 Infinity Binary LC with ZORBAX RRHT SB-C18 column (2.1 x 50 mm, 1.8  $\mu$ m).



Peak capacities of more than 650 can be achieved using a ZORBAX RRHT SB-C18 column (2.1 x 150 mm, 1.8  $\mu$ m) to analyze a tryptic digest of BSA.



## Boosting HPLC sensitivity ...

Fitted with a 60 mm path length Agilent Max-Light cartridge cell, the 1260 Infinity Diode Array Detector achieves a peak-to-peak noise level of 0.6  $\mu$ AU/cm (ASTM). This is the most significant improvement in detection sensitivity ever brought to HPLC and is proof of Agilent's relentless innovation and groundbreaking contributions to LC technology. Higher sensitivity means higher confidence in your data.

## ... and HPLC baseline robustness

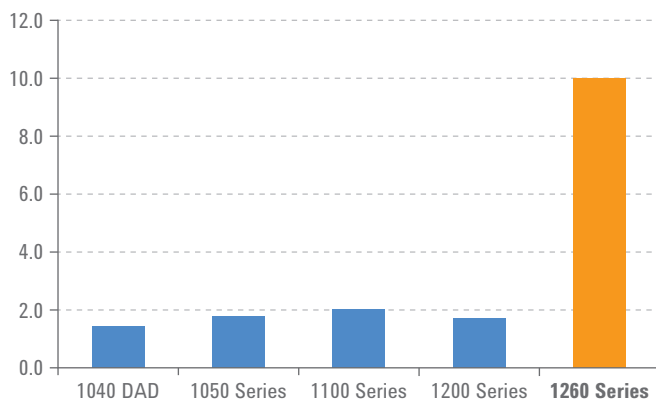
Highest sensitivity is not the only important performance characteristic. The 1260 Infinity DAD is also significantly less susceptible to refractive index effects for highest baseline robustness. Minimizing baseline drift simplifies your day-to-day work significantly.

## Infinitely more choice

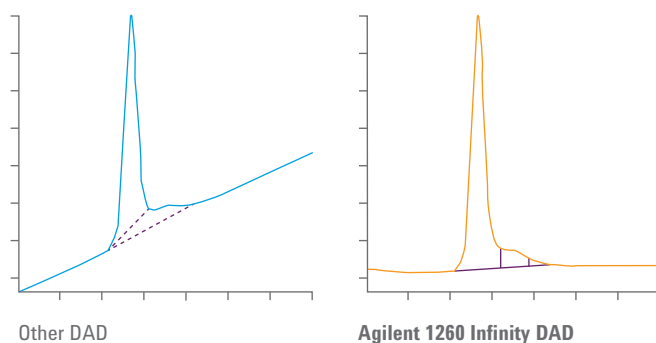
The modular design concept of the 1260 Infinity LC and the wide range of solvent delivery, injection and detection options, allow you to configure a system that matches exactly your needs for chromatographic performance and flexibility.

Whatever your application requires you can be confident of achieving higher quality data and faster results. Mix and match modules to configure your system for:

- Analytical LC with binary, quaternary or isocratic solvent delivery
- Bio-inert LC to ensure sample integrity and lowest metal release
- Low-flow LC with capillary or nanoscale flow rates for analysis of smallest sample amounts
- Purification by LC at analytical or preparative scale
- Workflow and application-based LC and LC/MS for automated method development, multiple methods, walk-up, high capacity or high throughput



Compared to the 1040 DAD – the world's first diode array detector – the new 1260 Infinity Diode Array Detector represents the most significant increase in detection sensitivity for HPLC users.



With other diode array detectors it is difficult to decide where exactly to position the integration marks. On a flat baseline as with the 1260 Infinity DAD this is much easier, giving more consistent results.

## INFINITELY MORE AFFORDABLE

Is your lab looking for a future-proof system that provides superior performance and robustness for routine analysis, run after run and day after day? Are you looking for the best system on the market that fits your application needs and your budget? The 1220 Infinity LC provides 600 bar pump pressure and 80 Hz detector speed for full HPLC and UHPLC compatibility.

### Simply more value

The 1220 Infinity LC is ideally suited to address the needs of small to medium sized labs that are mainly concerned with routine analysis using standard HPLC, but would like to take advantage of UHPLC. The system delivers all the performance needed to meet stringent regulatory demands – while setting new standards for compactness and ease of operation. The 1220 Infinity LC leverages the latest technology by sharing components with 1260 Infinity and 1290 Infinity II LCs.

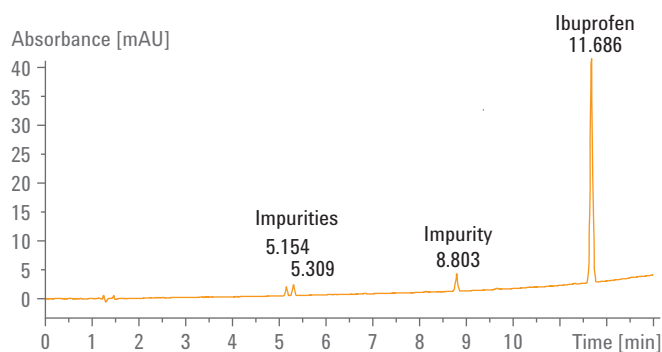
### And, more future options

Don't be misled by the compactness of the 1220 Infinity LC. It's a safe investment that is truly future-proof. Choose an upgrade path that meets your lab's requirements today and tomorrow.

- Move from isocratic to gradient solvent delivery, from manual injector to autosampler, or add a column oven
- Extend your detection capabilities with any 1200 Infinity Series detector or 6100 Series Single Quadrupole MS
- Upgrade your Agilent CDS software from a single workstation to a client/server installation for enhanced system control and data handling

### More routine power

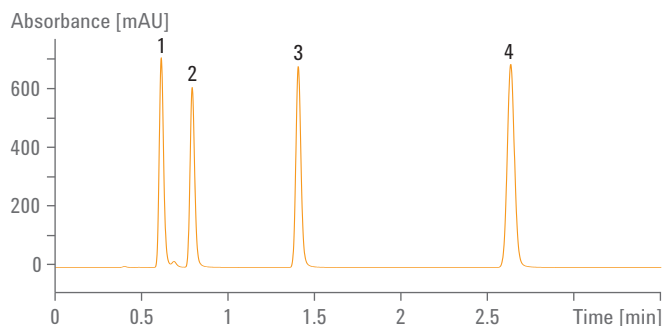
With its expanded power range of 600 bar at up to 5 mL/min the 1220 Infinity LC allows you to take advantage of the latest advances in column technology – immediately or in the future when your application requires that extra performance. Standard 5  $\mu\text{m}$  or 3.5  $\mu\text{m}$  particle columns may meet your needs today while sub-two micron or superficially porous particle columns could be selected in future for up to 4x higher efficiency.



Analysis of a pharmaceutical preparation, showing the active ingredient ibuprofen and three earlier-eluting impurities.

## More routine reproducibility

The 1220 Infinity LC is based on proven technology, making it ideal for routine applications in labs operating 24 hours a day, seven days a week. Whether you run a chemical or pharmaceutical quality assurance lab, an environmental or food analysis lab, or you're based in a government or university lab, the 1220 Infinity LC delivers all the performance needed to meet stringent regulatory demands.

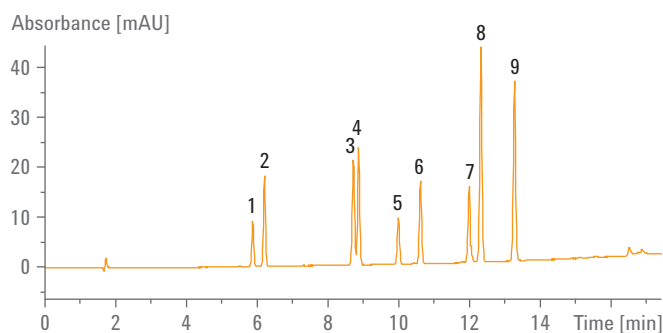


Peak	1	2	3	4
%RSD RT	0.056	0.059	0.037	0.021
%RSD Area	0.7088	0.7392	0.6783	0.6883

Excellent reproducibility of retention times and areas from six repetitive isocratic analyses of a standard sample – with 3  $\mu$ L injection volume.

## More routine sensitivity

The 1220 Infinity LC uses the latest in Agilent UV detector technology – variable wavelength as well as diode array detection – lowering your limits of detection through high sensitivity, low baseline noise and wide linear range. For extended detection possibilities, combine your 1220 Infinity LC with any detector from the 1200 Infinity Series such as evaporative light scattering (ELSD), fluorescence (FLD) or refractive index (RID), or couple to a 6100 Series Single Quadrupole MS for complementary mass spectral information. Choose from several standard 1220 Infinity LC configurations to fit your LC workflow.



1 Metamitron	4 Simazine	7 Propazine
2 Chloridazone	5 Prometryn	8 Terbutylazine
3 Cyanazine	6 Diuron	9 Chlortoluron

Trace analysis of pesticide residues, showing a limit of detection (LOD) of less than 50 pg. The relative standard deviation is less than 0.08 % for retention times and less than 0.5 % for areas.





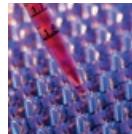
## INFINITELY MORE POSSIBILITIES

The flexibility of the 1200 Infinity Series allows Agilent to offer the broadest portfolio of LC solutions. Choose from high performance systems for analytical LC or configure your system to meet specific application requirements. From nanoflow to high-throughput LC/MS and from amino-acid to GPC analysis, the 1200 Infinity Series gives you infinite possibilities to solve your separation challenges.

	 <b>FOOD TESTING &amp; AGRICULTURE</b>	 <b>ENERGY &amp; CHEMICALS</b>	 <b>ENVIRONMENTAL</b>	 <b>PHARMACEUTICALS</b>	 <b>LIFE SCIENCE RESEARCH</b>
<b>2D-LC Solution</b> Multiple heart-cutting or comprehensive analysis	Food profiling, residue analysis	Degradation and polymerization analysis	Residue analysis	Drug impurities, TCM	Biomarker identification in -omics
<b>Method Development &amp; Multi-method Applications</b> Automatic access to up to 8 columns and 26 solvents	Method development	Method development	Method development	Method development	Method development
<b>Bio-inert HPLC Solutions</b> Highest confidence in analysis of biomolecules and compounds requiring inert conditions	High pH applications	Multi-method applications	High pH applications	Characterization of biologics and ID confirmation	Biomolecule characterization, offline 2D-LC
<b>High-throughput, high-capacity LC/MS Solutions</b> Low delay volume for high speed separations	Pesticide screening	Purity assessment	Screening	High sensitivity screening, Impurity testing	
<b>Low-flow LC Solutions</b> Electronic flow control for unprecedented flow stability				Cassette dosing and small animal studies	Biomarker identification and quantification
<b>LC Purification Solutions</b> Purification of nanogram to gram quantities of samples	Flavor enrichment	Impurities		Impurity testing, Purification for drug characterization assays	Analytical and micro scale fraction collection
<b>SFC – Super Critical Fluid Chromatography</b> New standards for ease-of-use, performance and reliability	Chiral compounds	Chiral compounds		Chiral drugs/compounds, impurities	
<b>GPC/SEC Analysis</b> High accuracy molecular weight determinations	Food stabilizers	Characterization of polymers		PEG-based formulations, mAbs	

## INFINITELY BETTER TOGETHER

If you're looking for more sensitive target compound analysis and better identification of unknowns, take a close look at Agilent's comprehensive LC/MS portfolio. With a 40-year track record of relentless innovation and groundbreaking contributions to MS technology, Agilent delivers everything according to your needs. All 1200 Infinity Series LC systems deliver performance perfectly in tune with all 6000 Series mass spectrometers.

	 <b>FOOD TESTING &amp; AGRICULTURE</b>	 <b>ENERGY &amp; CHEMICALS</b>	 <b>ENVIRONMENTAL</b>	 <b>PHARMACEUTICALS</b>	 <b>LIFE SCIENCE RESEARCH</b>
<b>6100 Series</b> <b>Single Quadrupole</b> Industry-leading data quality in an easy-to-use, space-saving bench-top package	Pollutant and veterinary drug residue screening	Toxicology	Pollutant and veterinary drug residue screening	Small scale purification and impurity testing	
<b>6200 Series</b> <b>Accurate-Mass TOF</b> Unmatched speed and performance in a compact bench-top instrument	Pesticide screening	Compound confirmation	Pesticide screening	Impurity testing, Library screening and high throughput ADME	Characterization of proteins, Metabolic profiling
<b>6400 Series</b> <b>Triple Quadrupole</b> Greater sensitivity, productivity, and value than ever before	Pesticide screening	Homeland and workplace security	Pesticide screening	ADME assays, regulated bioanalysis, DMPK, BABE	Quantitative proteomics, biomarker validation and confirmation
<b>6500 Series UHD</b> <b>Accurate-Mass Q-TOF</b> Unmatched combination of mass accuracy, mass resolution, sensitivity, in-spectrum dynamic range and speed	Pesticide screening, biodegradation studies	Products testing	Pesticide screening, biodegradation studies	Metabolite ID, identification of unknowns, impurity testing	Characterization of proteins, biomarker identification and relative quantification

## MORE PRODUCTIVITY THROUGH OPENLAB SOFTWARE

Agilent offers software and informatics solutions to obtain all the benefits of the 1200 Infinity Series' performance levels. Agilent OpenLAB CDS gives you the most comprehensive and fully traceable management of any 1200 Infinity Series system. This chromatography data system is fully scalable, and gives you instrument control, result generation, data management and advanced reporting.

### Make your lab more productive with OpenLAB CDS

OpenLAB CDS software makes your lab more efficient by reducing the time spent on data processing, review, and reporting.

- Create reports using powerful and intuitive "drag-and-drop" capabilities
- Process large data sets up to 40 times faster and review results quickly with powerful data analysis tools
- Overlay and compare hundreds of signals from both LC and GC instruments
- Work your preferred way with predefined or tailored user interface layouts

Secure centralized data storage is available through OpenLAB Data Store and OpenLAB ECM software, both of which integrate seamlessly with OpenLAB CDS.

- Scalable architecture expands from a single instrument to lab-wide implementation.
- Advanced data analysis and reporting drives greater throughput and productivity.
- A trusted upgrade path preserves your investment in workflows, data, and methods.
- Networked OpenLAB CDS allows you to get your work done from anywhere in the lab – and simplifies the administration of methods, user roles, and permissions.



Visualization tools such as Peak Explorer accelerate review of results.

## ACCURATE RESULTS QUICKLY AND CONFIDENTLY

Maximize system performance and reliability for all your separation needs by combining your 1200 Infinity Series LC system with Agilent ZORBAX and Poroshell LC columns and LC supplies. Designed with the same attention to detail, quality and superior performance you have come to expect from Agilent instruments, you can count on Agilent's columns and supplies to deliver the high quality results you need and expect, time after time.

### LC column choices for confidence and control

Agilent offers a broad range of analytical column chemistries for standard or ultrafast chromatography, including ZORBAX Rapid Resolution High Definition (RRHD) columns, 1.8  $\mu\text{m}$ , stable across the entire pressure range of the 1290 Infinity II LC, and Poroshell 120 columns, 2.7  $\mu\text{m}$ , stable to 600 bar, for flexibility with method transfer around the world. For help finding the best column for your application:

[www.agilent.com/chem/navigator](http://www.agilent.com/chem/navigator)



Agilent LC columns allow you to address the challenges of almost any application – and get accurate results quickly and confidently.

### Agilent consumables and new Agilent A-Line products

Vials, caps and other “small” components can contribute to big problems such as injector damage, ghost peaks and analyte degradation – particularly with fast LC. Agilent supplies are designed and manufactured to deliver the same reliability and reproducibility you expect from Agilent instruments and columns. Agilent long-life deuterium lamps provide consistent light intensity throughout the life of the lamp, supporting reproducible results and less rework. New Agilent A-Line LC lab products are specially designed to support easier usability and high efficiency in the lab.



Agilent A-Line Quick Connect UHPLC column fittings make column installation an easy task.



Agilent A-Line Stay Safe solvent caps protect you from harmful vapors.

### Analytical instrument services

Whether you need support for a single Agilent instrument or a multi-lab, multi-vendor operation, Agilent Advantage and CrossLab Services protect your laboratory investment and connect you with our global network of experienced service professionals. We are dedicated to helping you obtain optimal performance from every system in your lab, every day.

Learn more

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