Intelligence That Inspires Productivity

Agilent StreamSelect LC/MS system

Produce up to four times faster

Are you struggling to meet the challenges of increased sample numbers and shorter turnaround times? Could you benefit from a system that offers easy adoption and even easier method development? Do you want to maximize your LC/MS investment?

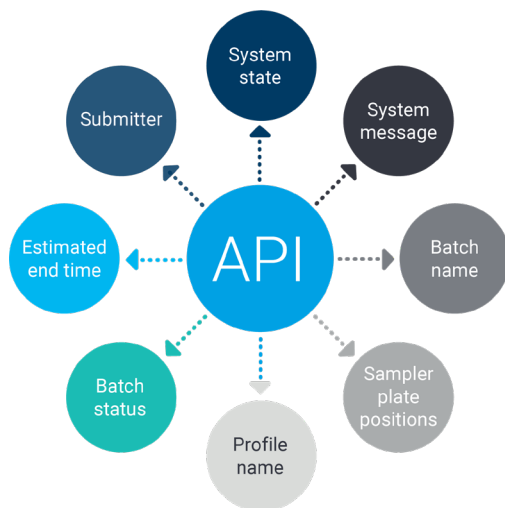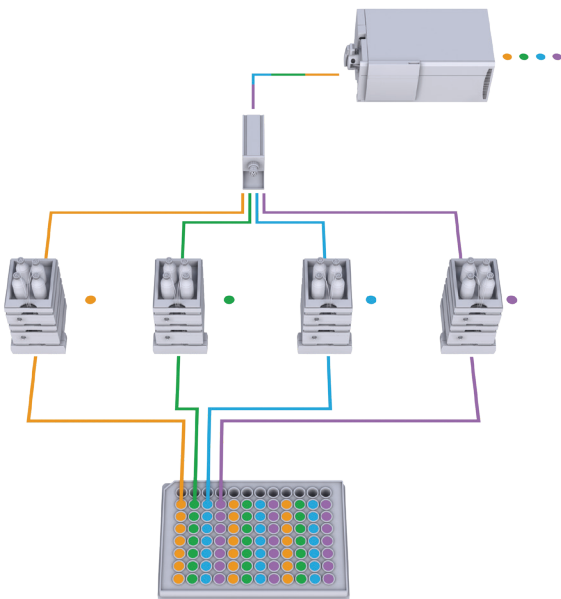**Then, the Agilent StreamSelect system is for you.**

Boost lab productivity without compromising on data quality

Sample numbers are increasing, and demands for higher throughput are growing. You need the results provided by LC/MS, but you don't have the budget or space for four individual LC/MS systems.

Expand your laboratory capabilities with the Agilent StreamSelect LC/MS system

StreamSelect technology lets you multiplex up to four liquid chromatography systems with a single mass spectrometer, allowing full use of the detector. This configuration is also fail-safe, so your workflow will continue uninterrupted, even if an LC goes down. This innovative solution improves workflow efficiency with:

- **Higher throughput.** Generate results two, three, or even four times faster, compared to standard LC/MS systems.

- **Intuitive data collection, processing, and reporting** with MassHunter software.

- **Intelligent error handling.** When one HPLC goes down, the software seamlessly switches to the next LC in the system. No dropped samples, no lost data. Peace of mind.

- **The ability to easily obtain data of testing status.** The application programming interface (API) allows access to status information.

- **Superior data quality,** with equivalent performance across all streams.

- **Increased flexibility.** Run single or multiple methods.

- **Hassle-free online sample cleanup.**

- **Cost-effective implementation.** Easily transfer your existing Agilent LC/MS methods.

- **Excellent return on investment.** Efficient use of a single MS lowers your cost-per-sample.

Intuitive and accessible automation software seamlessly controls the system—greatly enhancing throughput.
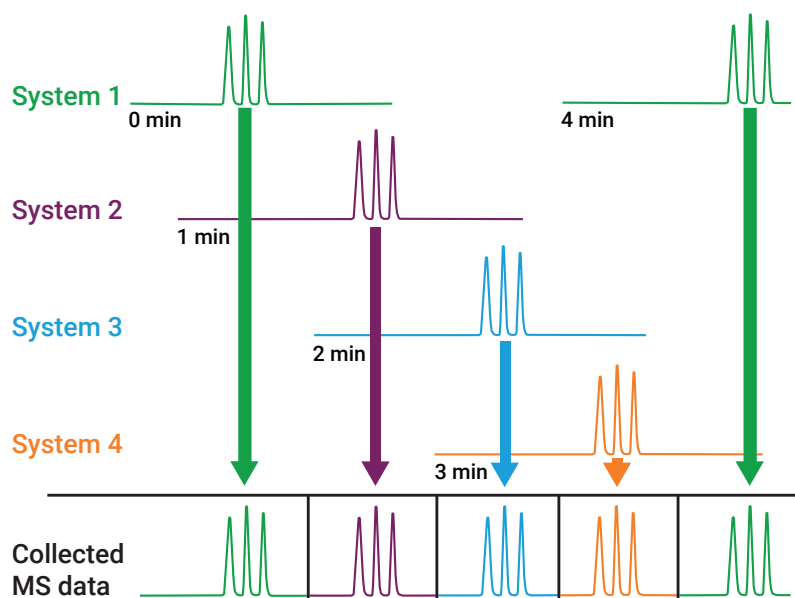
Increase your throughput and lower your stress

One of your most valuable lab resources—your mass spectrometer—is often idle when used in a traditional single LC configuration. Meanwhile, samples are stacking up, waiting for the next run.

Maximize the use of your mass spectrometer

Agilent StreamSelect LC/MS software sends only the analytes you specify from each LC run to the MS for analysis. Staggering injections from multiple LCs sends more samples to the MS—resulting in more samples analyzed in the same amount of time.

Increase productivity by two, three, or even four times over traditional MS

The Agilent StreamSelect LC/MS system can collect four times the results in the same time window by reducing MS idle time.

StreamSelect system core configuration

– MassHunter StreamSelect software

– Up to four Agilent 1260 Infinity binary pumps or 1290 Infinity high-speed pumps and 1290 Infinity multicolumn thermostats

– StreamSelect RSI autosampler with up to four injection ports

– Agilent 6400 Series triple quadrupole LC/MS system, including the Ultivo triple quadrupole LC/MS system

Add functionality with online sample cleanup

– Use workflow enhancements like trap-and-elute or elution loop to remove matrix

– Add up to four Agilent Infinity quaternary or flex pumps

– Add column switching valves and capillary kits

Robust sample handling

No more lost samples

MassHunter software maintains direct communication between all HPLC and mass spectrometer components. The software seamlessly orchestrates all LC functions and MS acquisition, resulting in:

– Accurate tracking of samples from each independent LC to the MS

– No misidentification of MS data files

– Peace of mind with sample handling

Easily set system pressure limits

Pump pressure monitoring lets you set thresholds for out-of-range pressures throughout the acquisition run—accurately reflecting the actual pressure changes of LC gradient conditions.
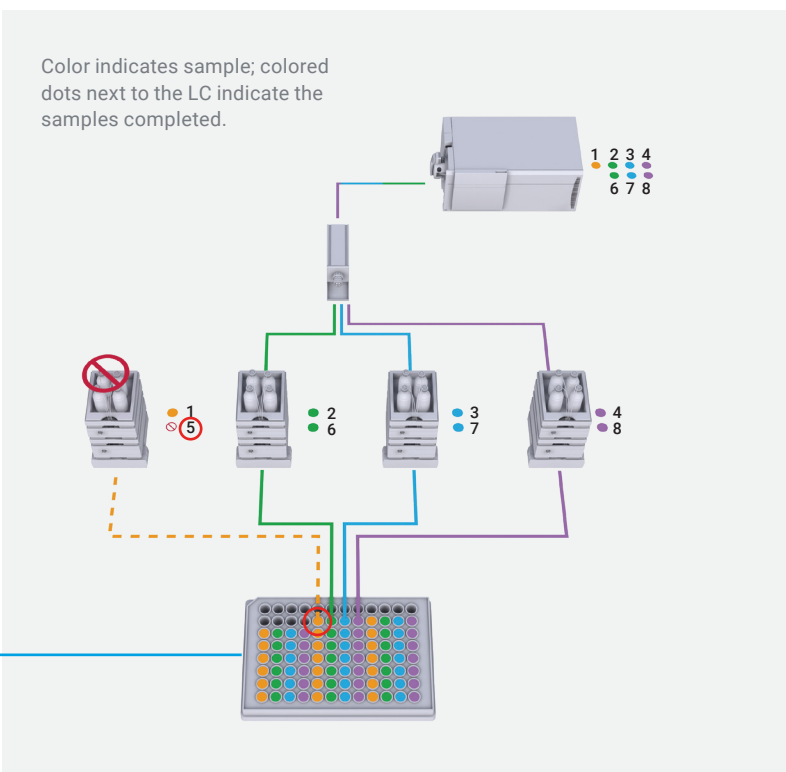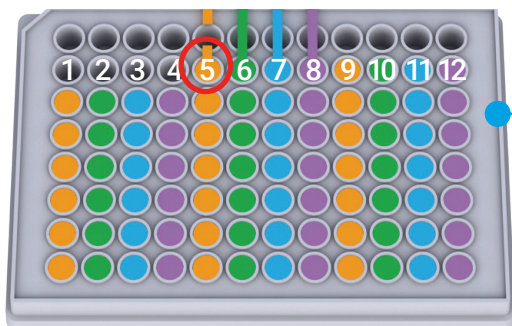
Intelligent error handling
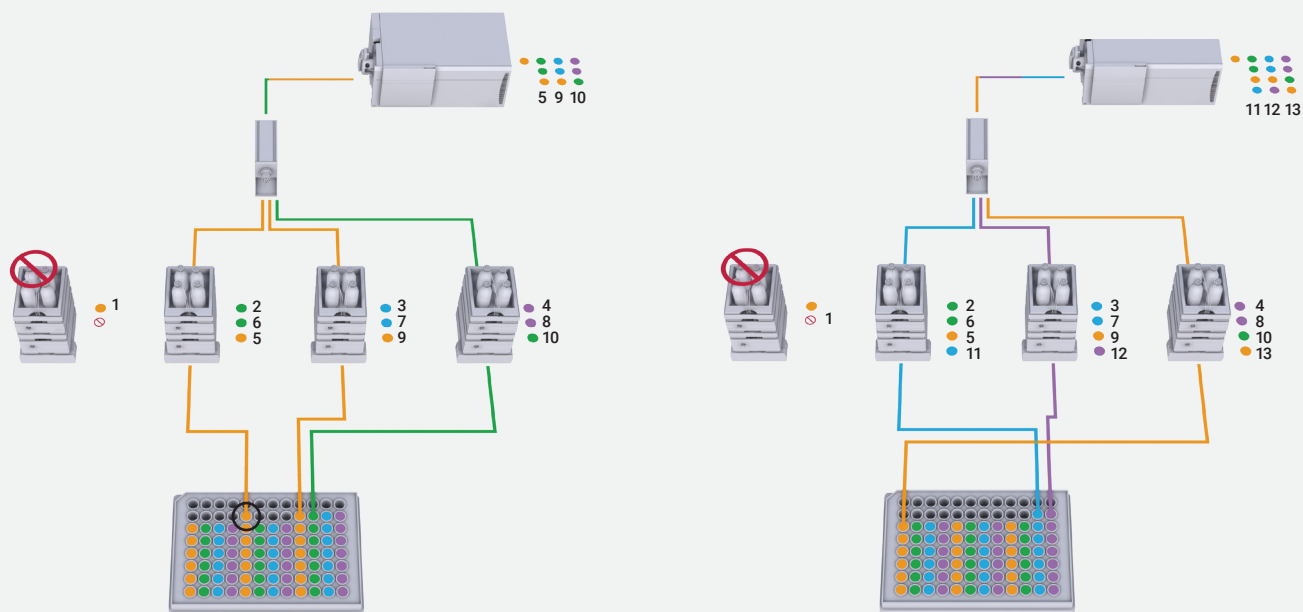
No interruptions. No data loss. No user intervention.

Agilent intelligent error handling makes sure that no samples are dropped. If one LC needs a service, the sample intended for that LC can be redirected to the next available LC. All other samples are sent to the next LC in the sequence, so that none are missed.

– StreamSelect automatically compensates for unexpected LC issues—like solvent leaks or pump overpressure—diverting the sample to the next available LC stream.

– No worrying about sample loss: StreamSelect keeps you running.

– No productivity loss overnight or during the weekend.

Color indicates sample; colored dots next to the LC indicate the samples completed.
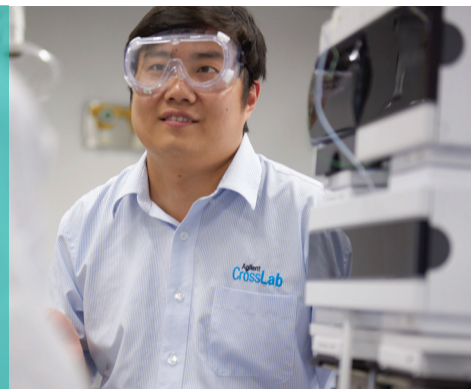
Here, there was a problem running sample number 5. Ordinarily, that would result in a dropped sample.

With StreamSelect, sample number 5 is redirected to the next available LC. Samples 9 through 13 are sent to the next LC in sequence.

More results,
same high-quality data

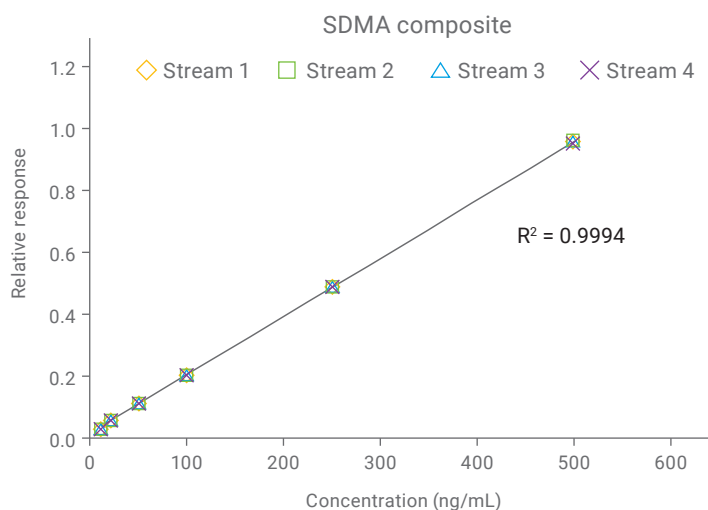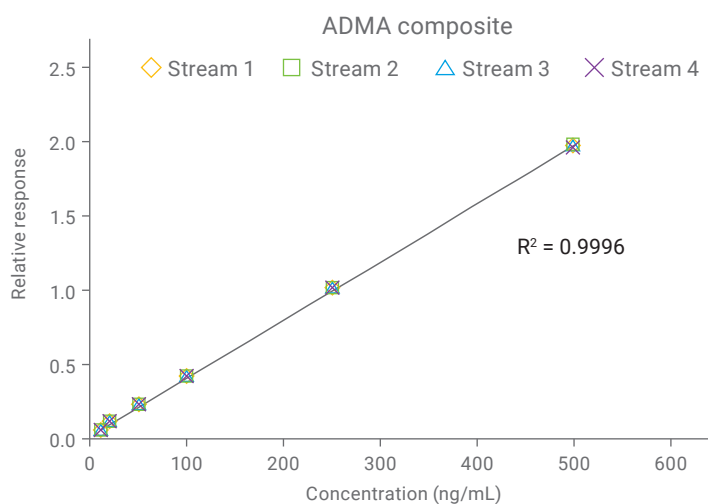## Superior data quality on every stream

The StreamSelect system delivers the superior analytical performance that you expect from Agilent. With the reliability of the Agilent InfinityLab LC Series—plus solid triple quadrupole MS—you can count on:

– Equal quantitative performance across all streams

– The same quantitative performance after intelligent error handling

– Reproducibility, robustness, and reliability

Accurate quantitation

The four parallel LC systems displayed excellent linearity and quantitative agreement.

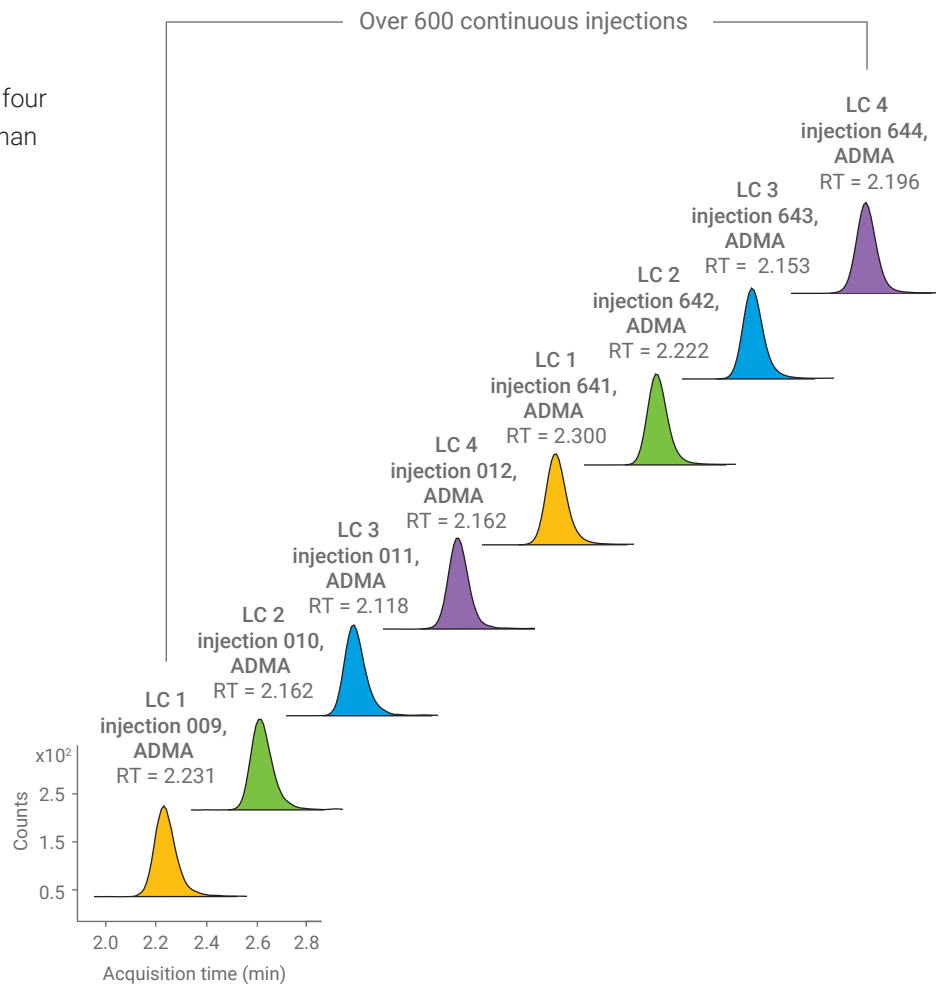Simultaneous analysis of asymmetric and symmetric dimethyl arginine (ADMA and SDMA, respectively) from four LC streams, with combined calibration curve.

ADMA composite

◇ Stream 1   □ Stream 2   △ Stream 3   ✕ Stream 4

$R^2 = 0.9996$

Relative response / Concentration (ng/mL)

SDMA composite

◇ Stream 1   □ Stream 2   △ Stream 3   ✕ Stream 4

$R^2 = 0.9994$

Relative response / Concentration (ng/mL)

Reproducible performance

Deviations in retention time between the four streams were minimal, resulting in less than 5% RSD.

Retention time reproducibility of ADMA over 600 injections across four LC streams. (Injections 1 to 8 were blanks, 2 per stream.)

Over 600 continuous injections

LC 4
injection 644,
ADMA
RT = 2.196

LC 3
injection 643,
ADMA
RT = 2.153

LC 2
injection 642,
ADMA
RT = 2.222

LC 1
injection 641,
ADMA
RT = 2.300

LC 4
injection 012,
ADMA
RT = 2.162

LC 3
injection 011,
ADMA
RT = 2.118

LC 2
injection 010,
ADMA
RT = 2.162

LC 1
injection 009,
ADMA
RT = 2.231

$\times 10^2$

Counts

2.5

1.5

0.5

2.0   2.2   2.4   2.6   2.8

Acquisition time (min)

The Agilent StreamSelect system

Sample Throughput Needs	StreamSelect Solution Choice	Productivity Improvement	Online Sample Cleanup SPE: Trap-and-Elute or Elution Loop
Medium 100s/day	2-stream	2x	Supported
High 100s—1000s/day	3-stream 4-stream	3 to 4x	Supported

Integrated, intuitive, StreamSelect software

Complete system information at your fingertips

User-friendly automation software coordinates the integrated system. The StreamSelect console gives you instant access to:
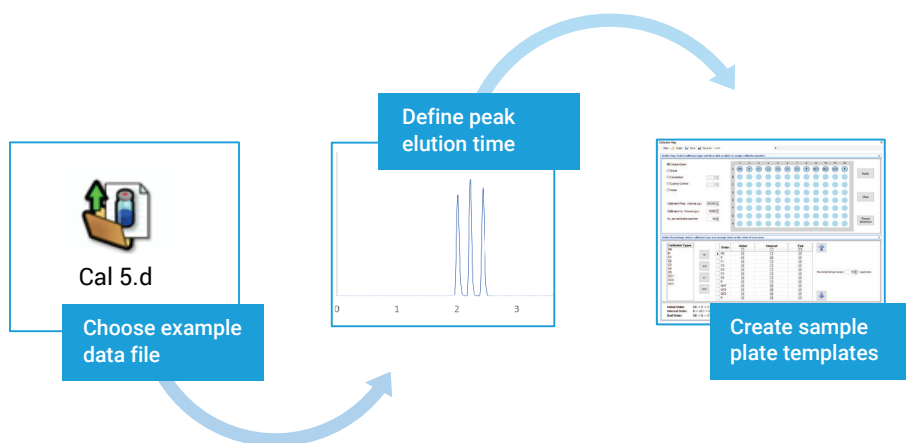
- The status of all LC streams
- Mass spectrometer chromatograms
- Sample batch queue
- Customizable window arrangement

Easy adoption, easier method development

You can effortlessly implement your existing LC/MS methods in StreamSelect. Simply load the data file, define the window of interest for your analytes, and create plate templates, if desired. Setting up batch acquisition is as straightforward as identifying the sample list and specifying the sample location.

What's more, StreamSelect is fully integrated into our MassHunter acquisition software for GC/MS systems, making method development a breeze.

Cal 5.d

Choose example data file

Define peak elution time

Create sample plate templates

How much could your return on investment be with StreamSelect?

To find out, use our easy StreamSelect ROI calculator. Simply answer a few quick questions about your method, LC/MS use, and sample numbers, and watch how your savings can add up.

Try it now at **www.agilent.com/chem/streamselect-roi-calculator**

StreamSelect ROI calculator

See what your return on investment could be with the StreamSelect LC/MS system.

How many hours a day do you use a single LC/MS?	How long is your method? (Min) (injection-to-injection)	How many samples do you want to run per day?	Your revenue per sample (USD$)
18	8	850	80

How many systems do I need?

Single LC/MS	StreamSelect 2-stream	StreamSelect 3-Stream	StreamSelect 4-Stream
7	4	3	2

How many samples can I run per system, daily?

Single LC/MS	StreamSelect 2-Stream	StreamSelect 3-Stream	StreamSelect 4-Stream
135	270	405	540

Potential daily revenue per system

Single LC/MS	StreamSelect 2-Stream	StreamSelect 3-Stream	StreamSelect 4-Stream
$10,800	**$21,600**	**$32,400**	**$43,200**

Keep up with your growing demand

Clinical research. Analyzing target compounds in complex biological matrices is challenging. The StreamSelect LC/MS system provides online sample cleanup, maximizes efficiency, and dramatically enhances sample throughput.

Bioanalytical assays. Drug discovery involves large numbers of standardized analyses. Robustness and high throughput are essential. The StreamSelect LC/MS system is an excellent fit into a routine workflow.

Environmental and food safety. Growing and stricter regulations have increased the number of samples to be analyzed. The StreamSelect LC/MS system keeps your lab productive at a lower cost.

Learn more:
www.agilent.com/lcms/streamselect-lc-ms-system

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U.S. and Canada
1-800-227-9770
agilent_inquiries@agilent.com

Europe
info_agilent@agilent.com

Asia Pacific
inquiry_lsca@agilent.com

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