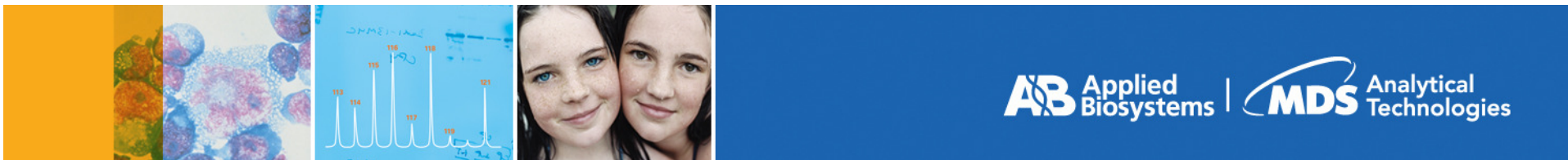
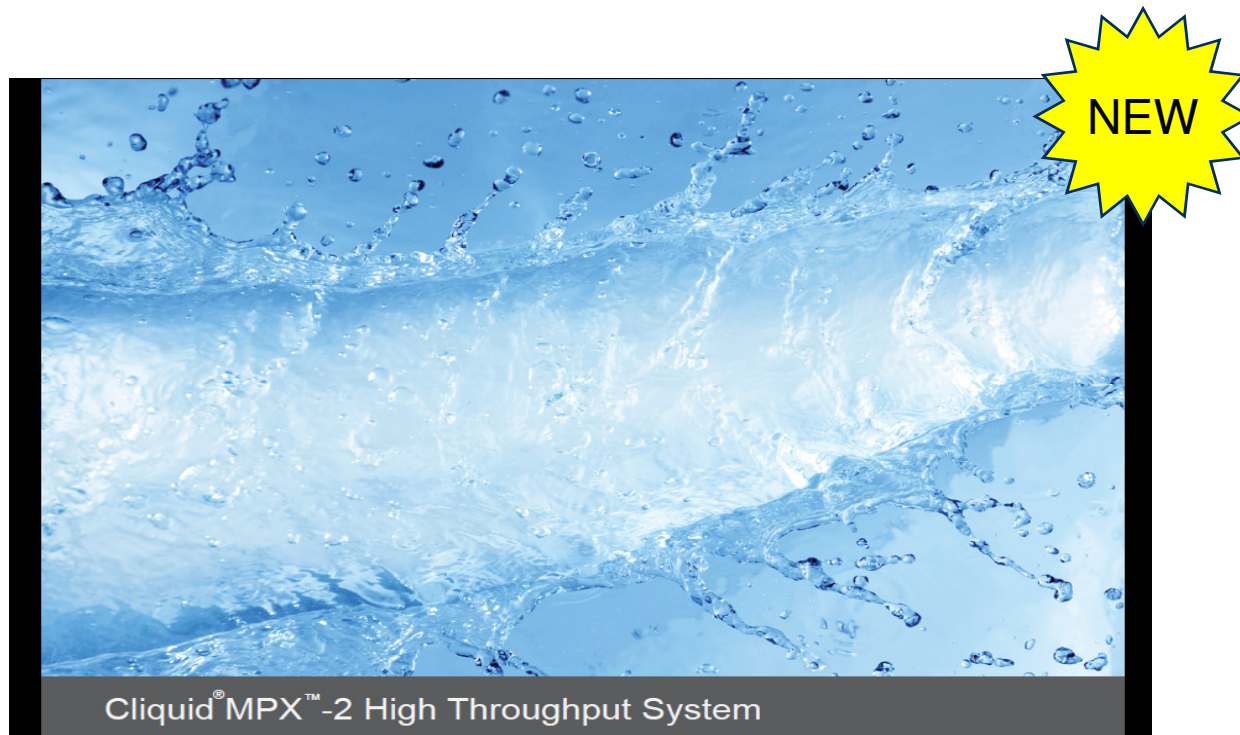


The New Cliquid® MPX™-2 High Throughput System





Cliquid® MPX™-2 High Throughput System



Multiplexing of two HPLCs into a single Mass Spectrometer

Based Upon Customer Input



More Samples

+



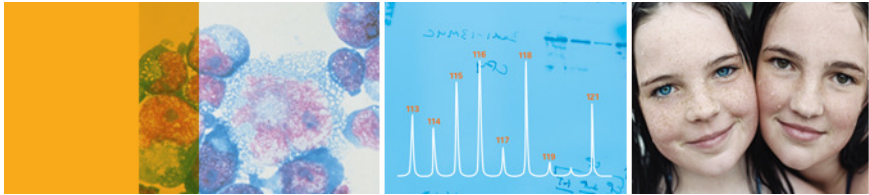
Less Time

=

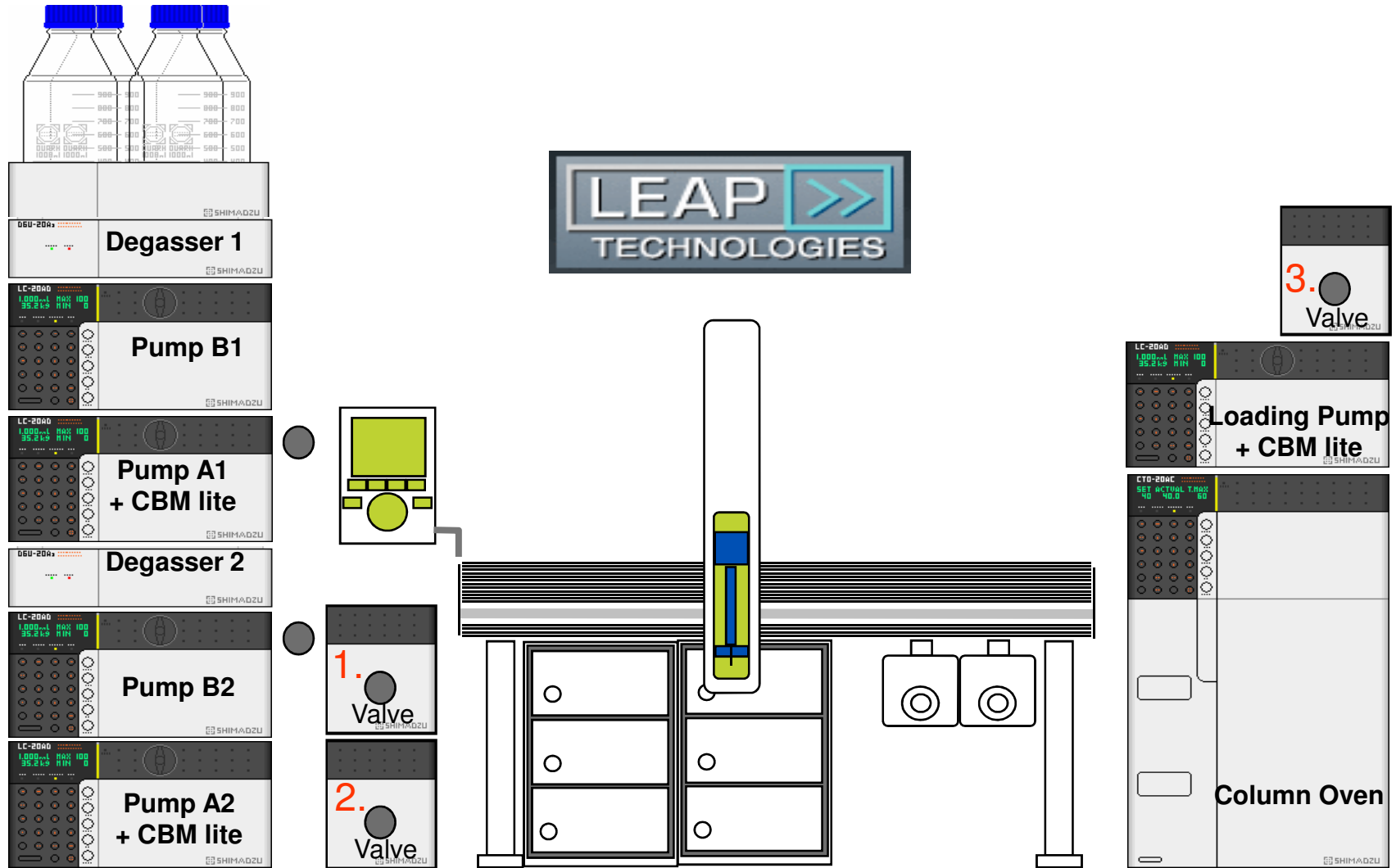


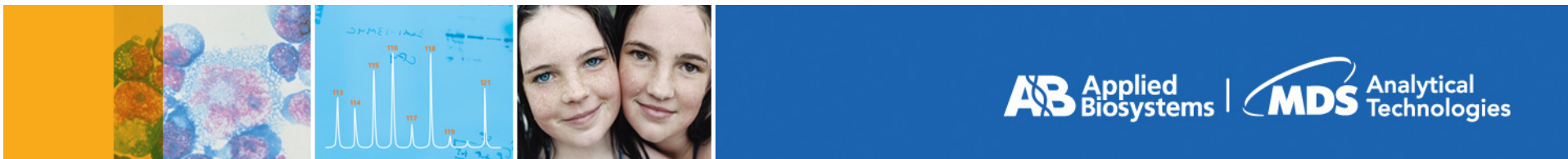
Savings

A new way to increase instrument utilization



Cliiquid® MPX™-2 High Throughput System Configuration

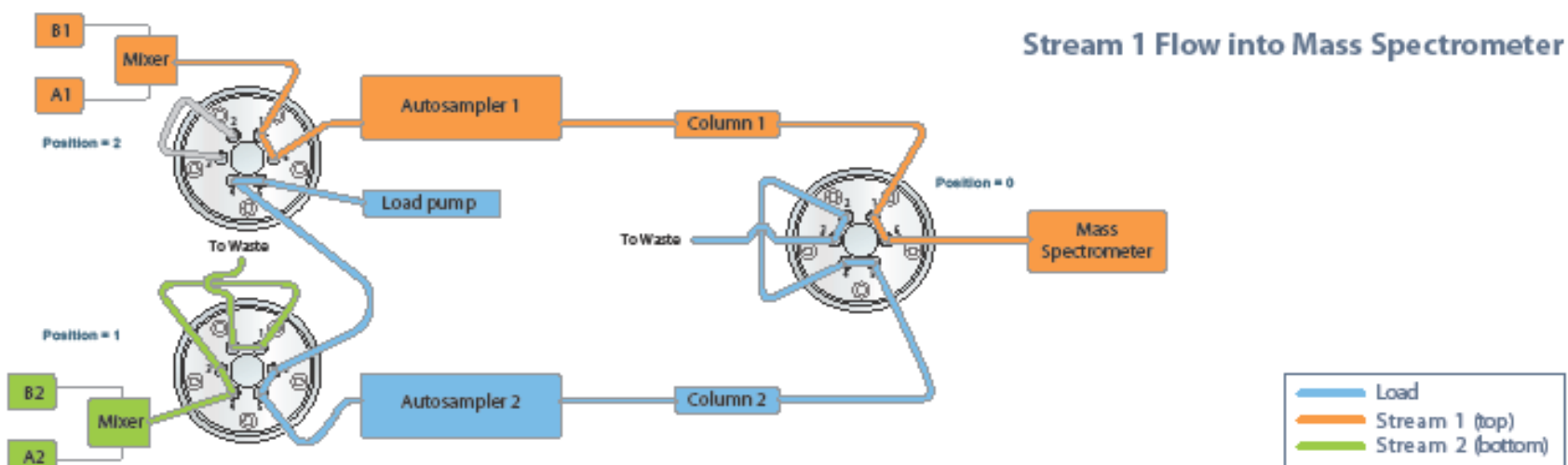


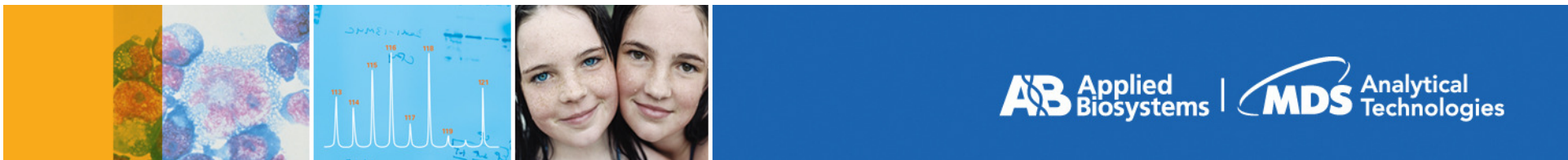


Modes of Operation

Three modes of operation with two HPLC Systems:

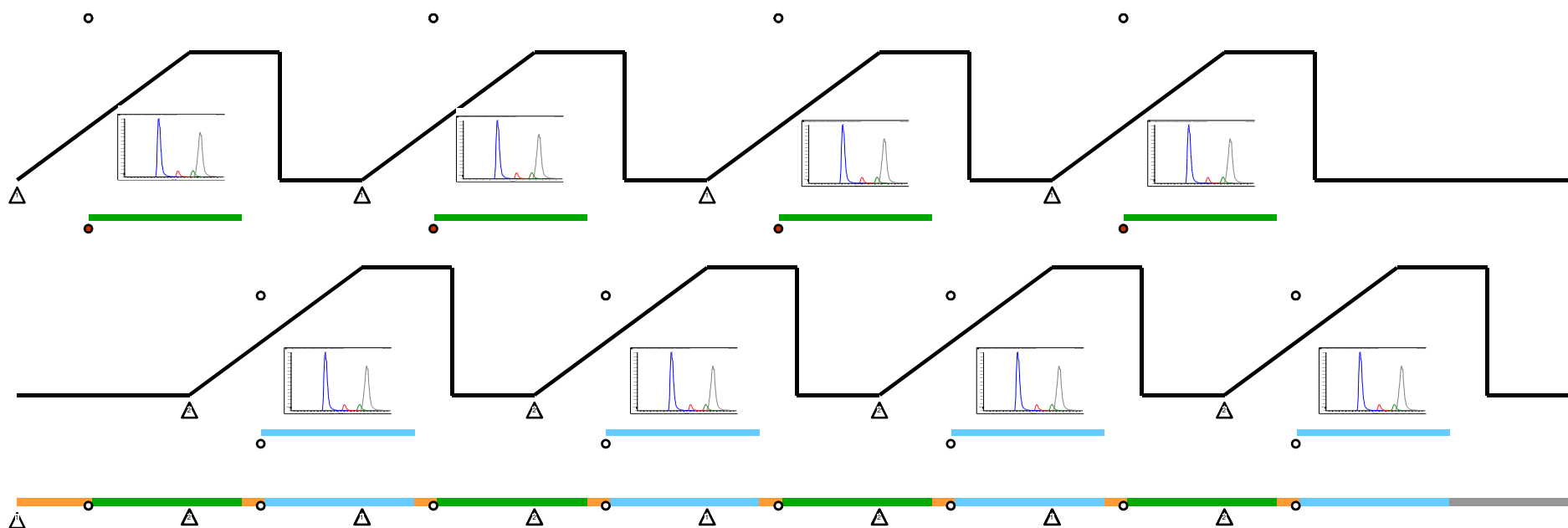
- Staggered injections running the same method
- Staggered injections running two different methods
- Two sequential sample batches run one after the other





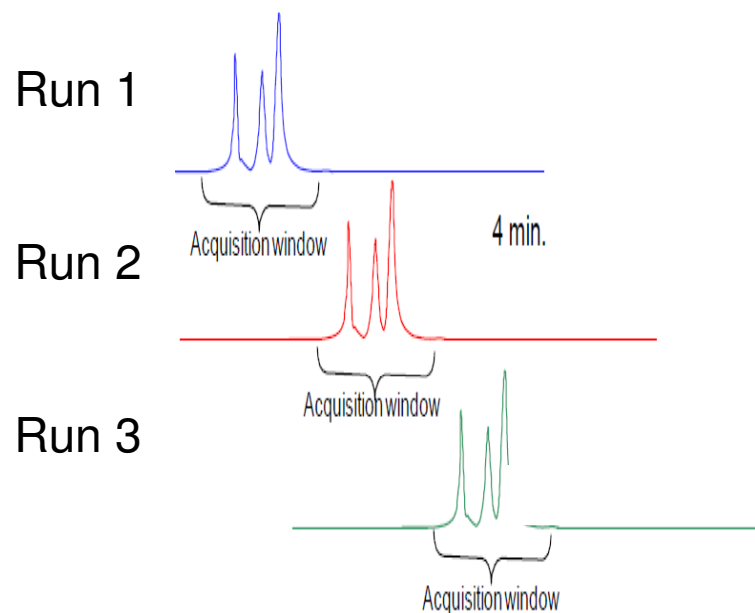
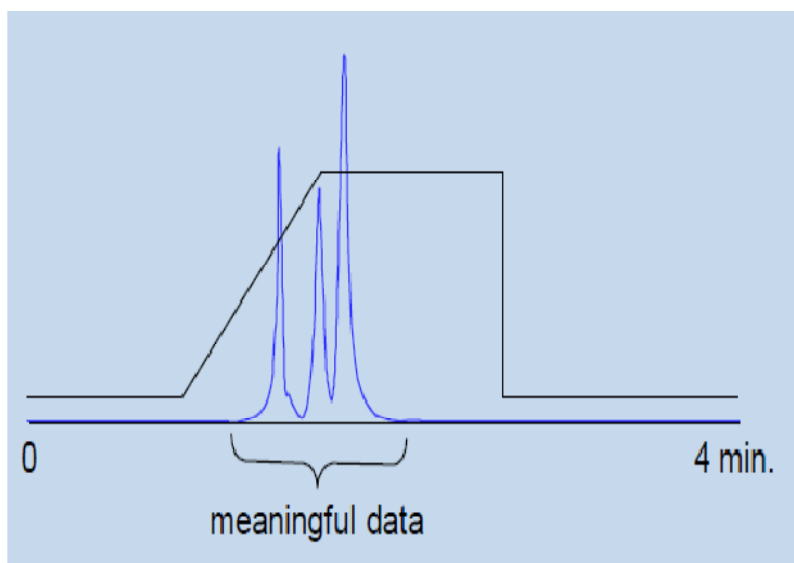
How Multiplex LC Works

Designed to Support Two Parallel LC Streams into a Single MS

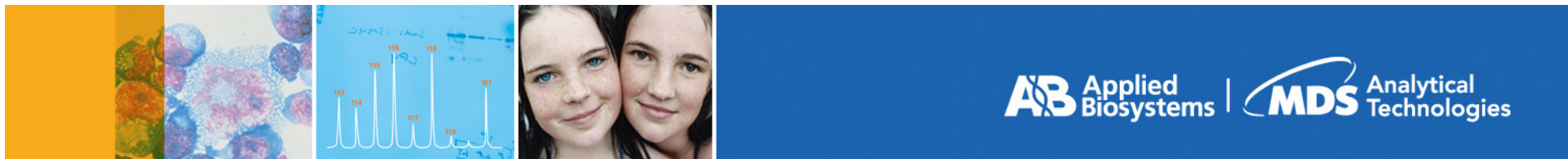


Example of staggered injections from two HPLC systems running the same method

Target Applications for Multiplexing Staggered Injections



LC/MS/MS methods that have a narrow elution window and long HPLC column equilibration times



Cliiquid® MPX™-2 High Throughput System

Key Features:

- Single point of control software
- Audit trail / traceability for compliance
- Intuitive, simple to use method editor
- Flexible reporting options.
- Real-time instrument status
- High Pressure HPLC Compatible
- Single vendor solution
- Simple Cliiquid® Software workflow
- Supported for use in either Analyst® or Cliiquid® Software

Method Editor View

Workspace

Project: Adrian Method: Stream1sMRM.AA45 SST.API4000.MultiplexLC.AA2.0.dam Help...

Gradient

%B vs Time (Min) graph showing a gradient from 2% at 0 min to 100% at 10 min, then constant at 100% until 16 min, then back to 2% at 25 min.

Acquisition Window: Start (min) 0 End (min) 11

Time (min)	%B
0	2
10	28
10.1	100
16	100
16.1	2
25	2

Options

Default Stream Number: Default stream # 1

Pump Options: Total flow rate (mL/min) 0.8

Sample Handling Options: Cooling set point (°C) 4

Default inject volume (uL) 2

Sampling speed (uL/sec) 5

Needle stroke (mm) 52

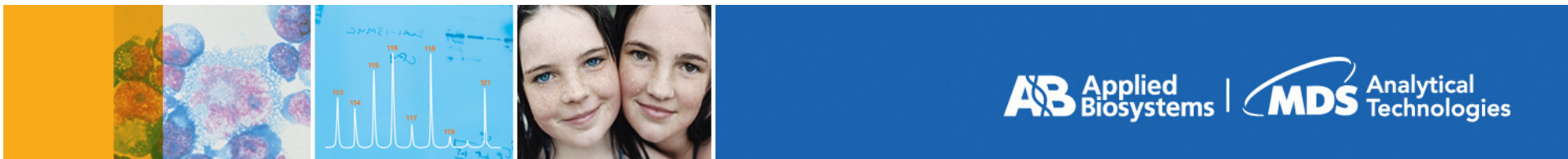
Column Options: Column temperature (°C) 50

Other Options: Normal Wash

AutoSampler Rinse Volume: 200 uL
Needle Dip Time: 2 sec
Sample Loading Time: 6 sec

Mass Spec Idle LC Stream 1 Idle LC Stream 2 Idle

A single screen within Analyst Software to input all HPLC parameters



Instrument Status View

MPX Driver

Workspace

- Status
- Methods

LC Devices

Reset

LC Status How Do I...?

Pressure

Legend: Stream 1 (orange), Stream 2 (grey)

Y-axis: Pressure (psi) [0, 1000, 2000, 3000]

X-axis: Time [10 min]

Column

Column Temperature (°C): 50

Stream Selector Valve Position #: 2

Stream 1: Running... 16.41 min

Pressure (psi): 1486.6

Flow Rate (ml/min): 0.80

Stream 2: Running... 5.71 min

Pressure (psi): 2976.9

Flow Rate (ml/min): 0.80

Flow Paths

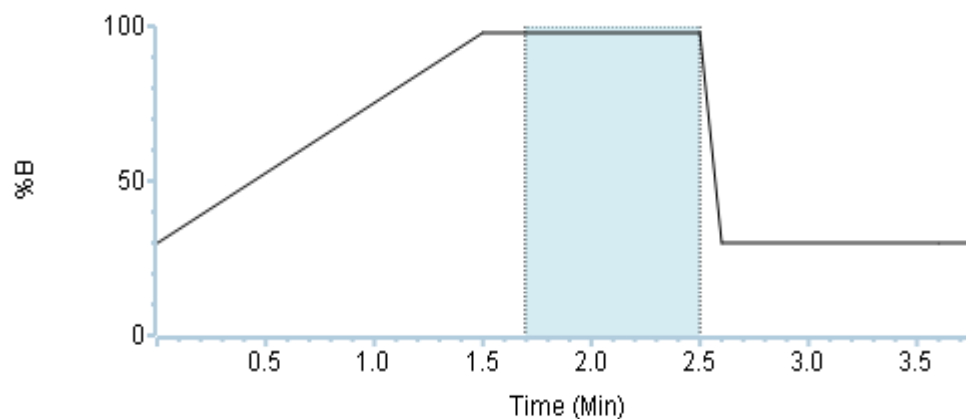
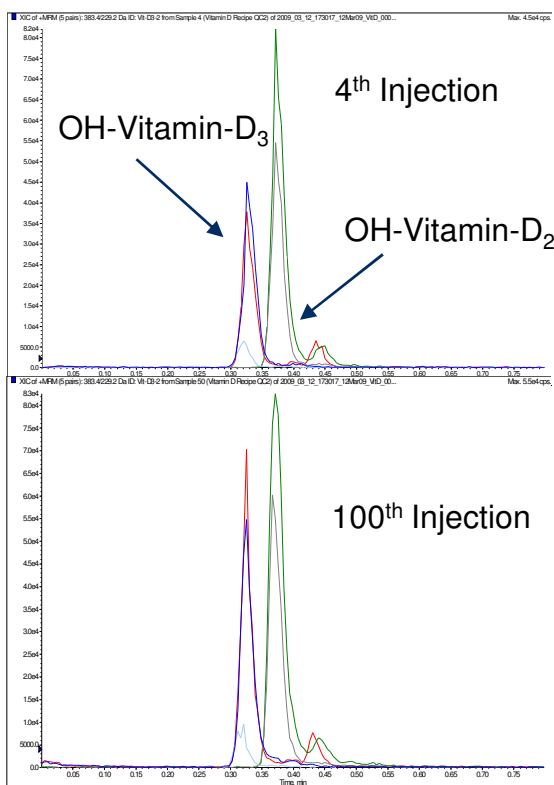
Mass Spec Running

LC Stream 1 Running

LC Stream 2 Running

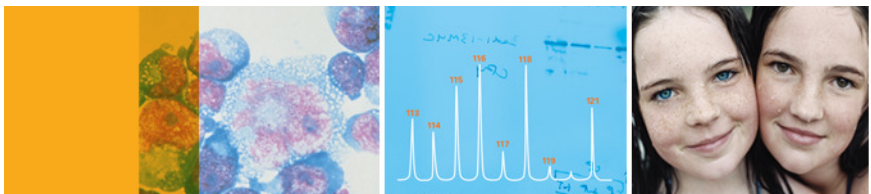
A second screen to monitor the real time instrument status

Example: Vitamin D Analysis

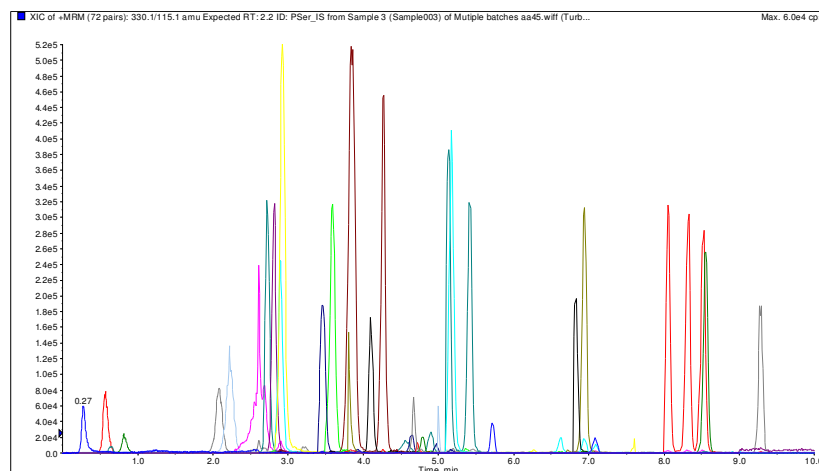
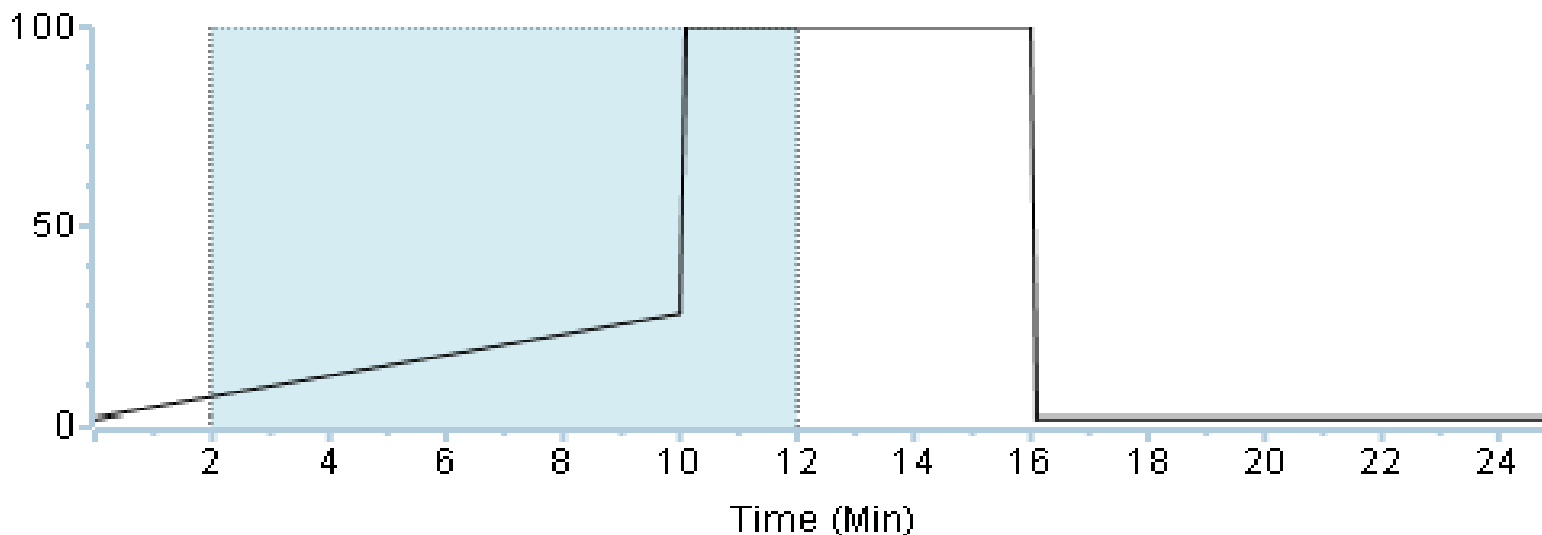


Two fold increase in throughput:

- 100 injections, Singleplex Run Time: >6 hr 30 min
- 100 injections, Multiplex Run Time: 3 hr 30 min
- Time saved: 3 hr

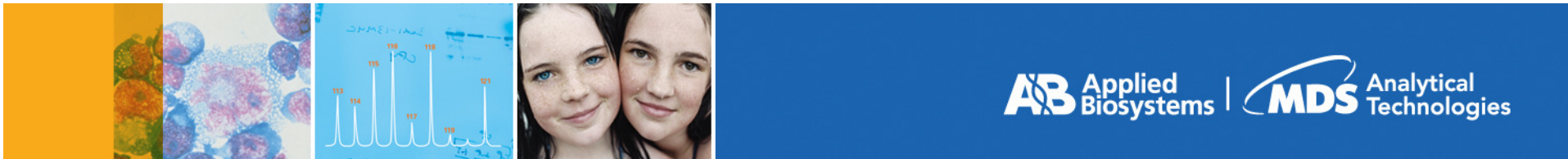


Example: Amino Acid Analysis



Two fold increase in throughput:

- 100 AA45 sample injections
- Singleplex Run Time : >200 min
- Multiplex Run Time: 89 min
- Time saved: 111 min

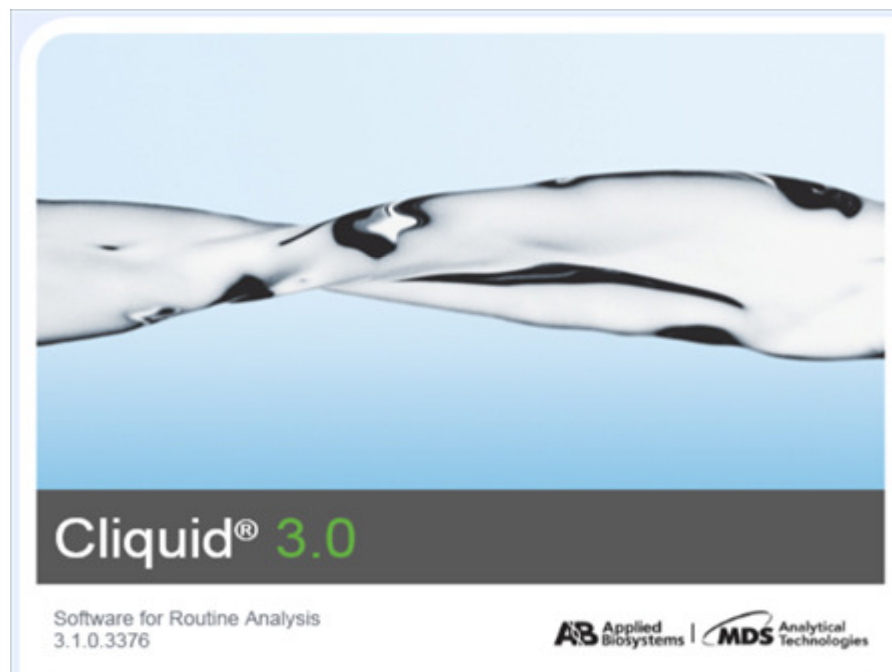


New Cliquid® 3.0 Software

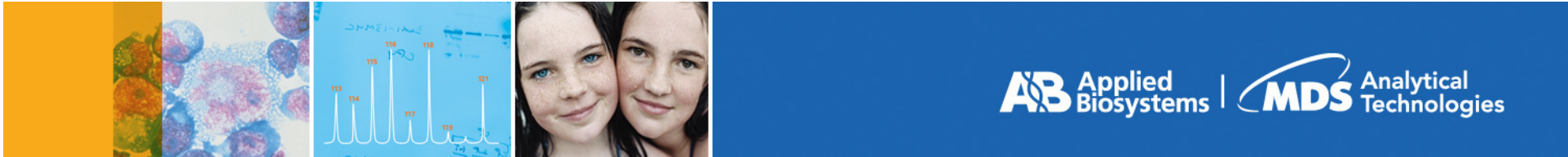


New Features:

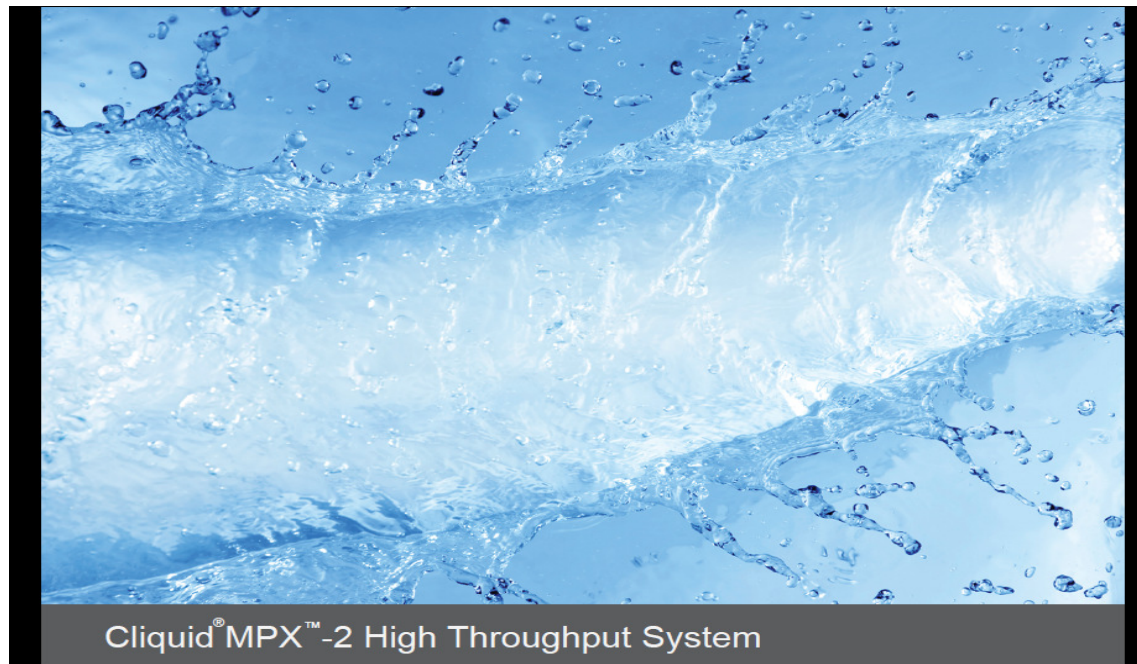
- Common Platform for all Versions
- Customizable Workflow
- General Unknown Screening
- Open Access
- Use Updated Peak Integrations
- Project Based Archiving
- Auto Lock
- Reset Analyst Service
- Export Job List to Excel
- Multiplexing



The Latest Revision for Routine Screening and Quantification



Want to Learn More.....



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