



# Alliance HPLC

DEFINED BY DEPENDABILITY, TODAY AND IN THE FUTURE

## AN HPLC THAT WORKS AS HARD AS YOU DO

Confidence in your results comes with high performance, day-to-day reliability, and overall system robustness. The Alliance® HPLC System was designed to meet demanding method criteria for repeatability, linearity, and accuracy, resulting in data that you can depend on with each and every analysis. Achieving low carryover with a programmable wash routine, delivering reproducible gradients with automatic solvent compressibility and Auto•Blend™ Technology, and streamlining daily start-up with SystemPREP are just some of the ways that the Alliance HPLC System delivers the performance your methods require, making your laboratory more efficient.

Your business requires accurate and timely answers from your laboratory. To support this, you need reliable analytical tools that are ready to perform when the samples arrive. Liquid chromatography is one of the most important tools in an analytical laboratory, often referred to as the gold standard for quantification. As such, LC systems are required to deliver unequivocal results that give you confidence in your scientific and business decisions.

For 20 years, laboratories have relied on Alliance HPLC Systems as a key part of their scientific operations. With over 70,000 systems installed, Alliance HPLC continues to support scientists around the world in scientific discovery and quality assurance.

Whether you analyze small molecules, biomolecules, or polymers, whether you require the highest sensitivity, or you're performing analytical scale purification, the Alliance HPLC System gives you flexibility for analyzing a wide variety of sample types, under many different conditions with ease.

- Optional sample heating and cooling
- Optional column heating and cooling
- Wide range of detection capabilities including photodiode array, UV/Vis, fluorescence, refractive index, evaporative light scattering, electrochemical, and conductivity
- Mass detection
- Compatible with Waters mass spectrometers
- Optional chilled sample collection
- Compatibility with Empower® and MassLynx® Software
- Wide range of scalable column chemistry including CORTECS®, XBridge®, XSelect®, Atlantis®, and Sunfire®

## FLEXIBILITY FOR YOUR APPLICATION DIVERSITY

### Integrated leak management

For confident, unattended operation.

### Simplified set-up

User-interface featuring automated system preparation (SystemPREP) functionality.

### Flexible sample support

High sample capacity, at 120 vials, in a closed environment with optional temperature control and access to STAT samples.

### Maximized uptime

Tool-free maintenance for common user-replaceable parts minimizes system PM times.

### Quaternary solvent blending

Consistent, predictable, and repeatable separations come from a fixed gradient delay volume and automated solvent compressibility.

### Designed for robustness

Integrated solvent degassing, integrated seal wash, and PerformancePLUS™ check valves for maximum uptime.

### Versatile detection

A wide range of detection capabilities, optimized to support the diversity of applications. Includes photodiode array, UV/Vis, fluorescence, refractive index, evaporative light scattering, electrochemical, conductivity, and mass detection.

### Column management options

Heating or heating/cooling that supports columns up to 300 mm in a stable temperature environment for method repeatability from lab-to-lab. Optional and integrated column switching for up to six columns provides unattended column changeover.

### Flow-through-needle injector

Supports injection volumes from 0.1  $\mu$ L up to 2 mL and an active, user-definable needle wash sequence for consistently low carryover performance.

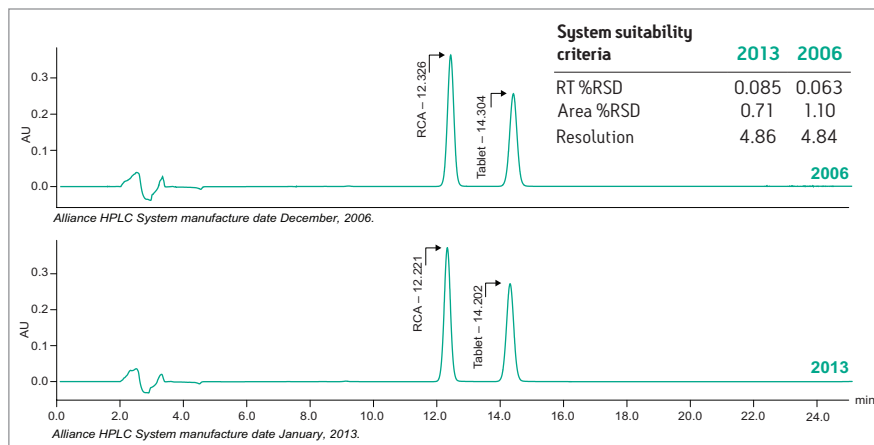
### Auto•Blend Technology

Blend up to four solvents in any proportion and reduce the day-to-day variability associated with manual mobile phase preparation.



## EXCELLENCE THROUGH THE YEARS

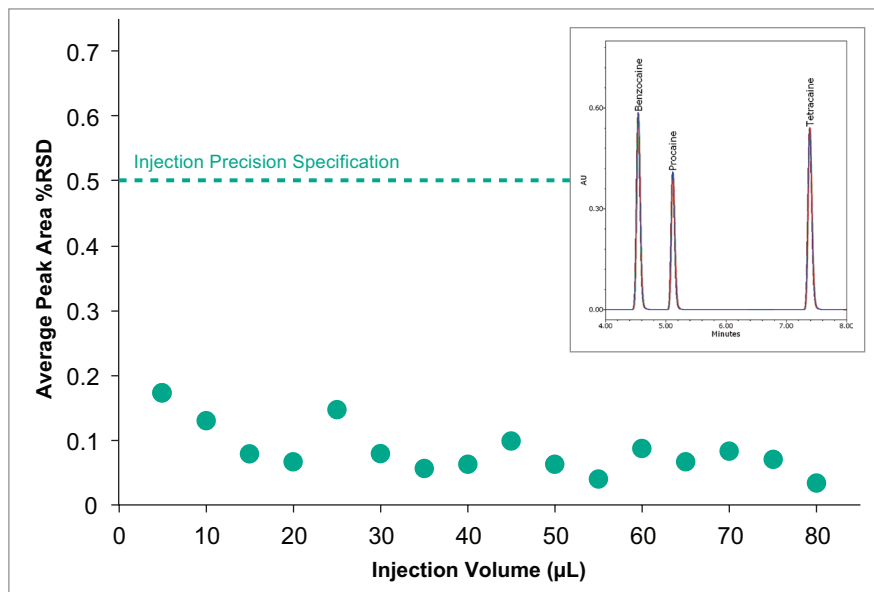
Your validated methods do not change. And your HPLC system needs to support them consistently and throughout the lifecycle of your products. Whether you're running methods on a newly manufactured Alliance HPLC System or one that is several years old, the robustness of the Alliance HPLC System consistently yields accurate and reproducible results. It is consistency that gives you exceptional confidence in your data and your product quality, day-to-day and year-to-year.



The same USP method was run on a new Alliance HPLC System and one that was seven years older, with the same results. Ensuring consistency in our products ensures consistency in your results.

## PERFORMANCE THAT EXCEEDS YOUR METHOD REQUIREMENTS

The reliability of your results directly links to the repeatability of the measurement, so the requirements for the injection-to-injection precision on your LC system need to be stringent. The Alliance HPLC System utilizes a needle-in-flow-path design, giving you the flexibility to run multiple methods on a single system without configuration changes, all while delivering repeatable injection performance, regardless of the injection volume you require. And with an active and programmable needle wash, it consistently delivers low-carryover performance across all your sample sequences.



Average peak area %RSD for six replicate injections is plotted as a function of injection volume. Across the entire volume range, the injection precision is below 0.2% and well below instrument specification. Inset shows and overlay of six replicate injections at 50 µL.

## ENHANCING YOUR HPLC METHODS BY UPDATING YOUR LABORATORY ASSETS

You can dramatically enhance your analytical HPLC data by adding mass confirmation data, without changing the way that you work. The ACQUITY® QDa® Detector works just like your existing photodiode array detectors, and the mass data is integrated and displayed the same way as all of your other data in Empower 3 Software. What can adding mass detection to your HPLC systems do for your laboratory?

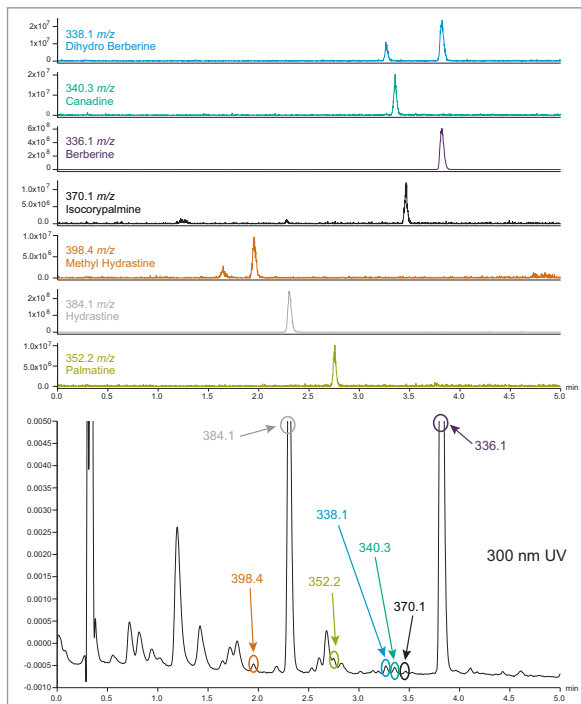
- Easily identify new peaks in an existing method
- Track peaks during method development
- Increase confidence in identification

The benefits are significant, and without the need for sample-specific tuning, your lab can be up and running with your assays on the day of installation.

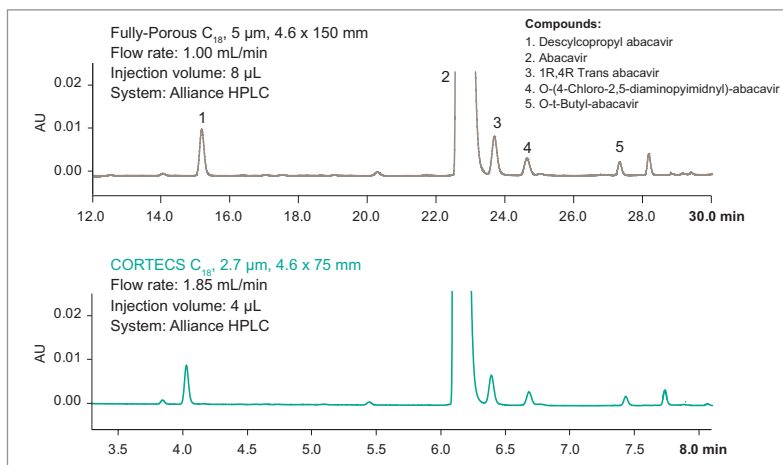
## MAXIMIZE YOUR HPLC EFFICIENCY

Get better chromatographic resolution, reduce run times, and improve the productivity of your laboratory.

Whether you're working within the limits of the USP <621> method allowances, or you want to improve your existing HPLC methods using the most efficient chemistries available, adding CORTECS 2.7 µm or *XP* 2.5 µm chemistry to your HPLC column portfolio will enhance the performance of your Alliance HPLC System.



*By adding mass detection with the ACQUITY QDa Detector to an existing Alliance HPLC System with UV detection, the peaks of interest in this Golden Seal sample can be easily identified by their m/z values. The mass analysis window in Empower 3 Software allows you to easily review UV and MS data in a single view.*



*The method for Abacavir is transferred from a fully porous 5 µm C<sub>18</sub> to a CORTECS C<sub>18</sub> 2.7 µm with a 4x reduction in run time and equivalent resolution, both on an Alliance HPLC System.*

[www.waters.com/alliance](http://www.waters.com/alliance)

For your local sales office, please visit [www.waters.com/contact](http://www.waters.com/contact)

# Waters

**THE SCIENCE OF WHAT'S POSSIBLE.®**

Waters, The Science of What's Possible, ACQUITY, Alliance, Atlantis, CORTECS, Empower, MassLynx, QDa, Sunfire, XBridge, and XSelect are registered trademarks of Waters Corporation. Auto•Blend and PerformancePLUS are trademarks of Waters Corporation. All other trademarks are the property of their respective owners.

©2015 Waters Corporation. Printed in the U.S.A. June 2015 720000370EN LM-SIG

**Waters Corporation**  
34 Maple Street  
Milford, MA 01757 U.S.A.  
T: 1 508 478 2000  
F: 1 508 872 1990  
[www.waters.com](http://www.waters.com)