



ACQUITY UPLC H-Class

PERFORMANCE THAT ADVANCES YOUR LAB

TRANSFORM STANDARD PROCEDURES INTO ULTIMATE PERFORMANCE

As an analytical laboratory, you solve problems and provide scientific information to other business units within your company. You require scientific tools that give you definitive results. You need flexibility to handle the diversity samples you support and you need your tools to fit within your existing laboratory workflows. What you don't need is to compromise the quality of data or timeliness of the result.

The ACQUITY UPLC® H-Class System is the only quaternary based liquid chromatographic system that was designed for *TRUE UPLC PERFORMANCE* without compromise. Whether you routinely develop new methods or you perform routine analysis and support large numbers of samples, the ACQUITY UPLC H-Class System can help you reach your laboratory's goals of decreasing the time to result, while increasing the depth and quality of the information about your samples.

SYSTEMS THAT MEET YOUR NEEDS FOR TODAY AND TOMORROW

- Improve laboratory efficiency by moving methods to UPLC® Technology
- Tools to simplify and streamline your method development workflow
- Increased resolution provides improved characterization of your complex samples
- Ideally suited to reproduce existing HPLC, UHPLC, and UPLC methods

HIGHEST RESOLUTION OF ANY QUATERNARY LC SYSTEM

Low dispersion

True UPLC performance with band spread of less than 10 μ L for highest chromatographic resolution.

Optional fraction collection

Temperature-controlled and compatible with narrow UPLC peaks.

Flexible sample support

Use either vials or ANSI well plate formats and with the sample organizer the sample capacity is extended for high-throughput and open access environments.

Gradient SmartStart

Easily manage system volume when transferring methods between different LC systems. Automate the timing of pre-injection steps for reduced inject-to-inject cycle times.

Auto•Blend Plus™ Technology

Automated online solvent blending at a specific pH and ionic strength that supports reversed phase, SEC, and IEX.



Wide range of detection capabilities

UPLC-optimized detectors to match your application needs, including photodiode array, UV/Vis, fluorescence, refractive index, evaporative light scattering, and mass spectrometry.

Versatile column management

Support for analytical LC column dimensions up to 300 mm with automated column switching between up to 6 analytical columns. Equipped with independently temperature controlled zones, active pre-heating, and eCord™ tracking for each column.

Flow-through-needle injector

Volume range of 0.1 to 1000 μ L and ultra-low carryover performance compatible with your most sensitive LC-MS applications.

Quaternary solvent blending

Delivering repeatable gradient separations at pressures up to 15,000 psi. An optional solvent select valve adds access to an additional six solvents. Automated solvent compressibility, integrated solvent degassing, and programmable seal wash maximize flow accuracy, precision, and reliability.

DISCOVERING THE BEST METHOD GETS YOU THE BEST RESULTS

In method development, whether you use a step-wise approach, systematic screening, or a Quality by Design (QbD) protocol, you encounter the same obstacles.

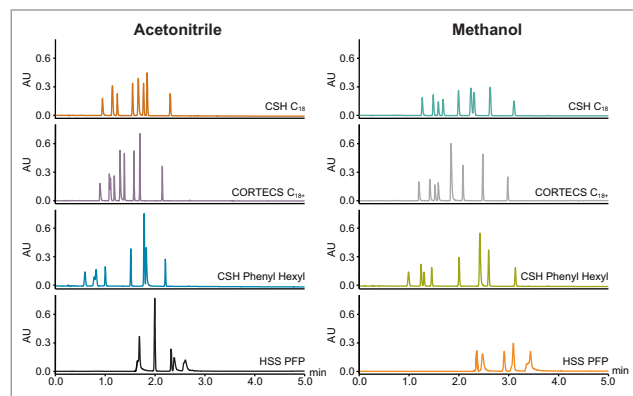
- What conditions should I investigate?
- How do I track my peaks as conditions change?
- How can I reduce the time it takes to get a robust method?

The ACQUITY UPLC H-Class System gives you the flexibility to screen many method variables, quickly and automatically. Select between up to six columns, each in separate and independently controlled temperature zones. Eluents can be blended from four online from stock solutions to give you a wide range of selectivity, and this can be further expanded with addition of a six-solvent select valve. Combining these system capabilities with the Empower® Sample Set Generator can help you to completely automate your method development experiment. Adding the ACQUITY® QDa® Mass Detector allows you to track the peaks in the separation without needing to inject individual standards, decreasing the time it takes to run the experiment, process the results, and select the final conditions.

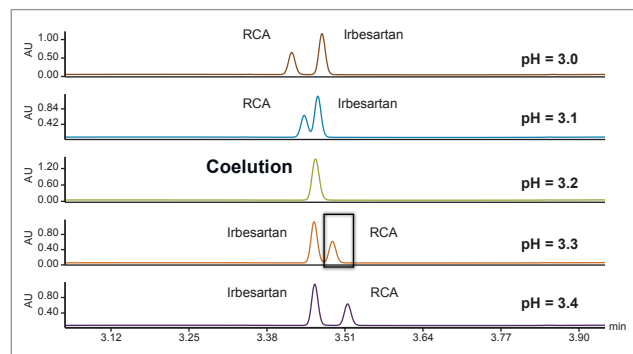
ONLINE ELUENT BLENDING – ANY BUFFER, ANY SOLVENT, ANY pH

Auto•Blend Plus Technology automatically blends your mobile phase to a specified pH and ionic strength or organic modifier percentage, for any set of analytical conditions you need. By blending online to the desired pH and ionic strength conditions, you can significantly reduce the number of buffers you need to prepare every day. Also, having the system prepare the buffers for you can reduce day-to-day method variability.

Whether you are running biomolecules and require pH gradients for charge variant analysis, or you are doing small molecule method robustness testing and want to test small variations in pH, Auto•Blend Plus Software allows you to program an infinite set of conditions for any analytical method type.



In developing a method for metoclopramide and its related components, the ACQUITY UPLC H-Class System was configured to automatically screen multiple column and eluent combinations to identify the separation conditions that provided the best chromatographic resolution.

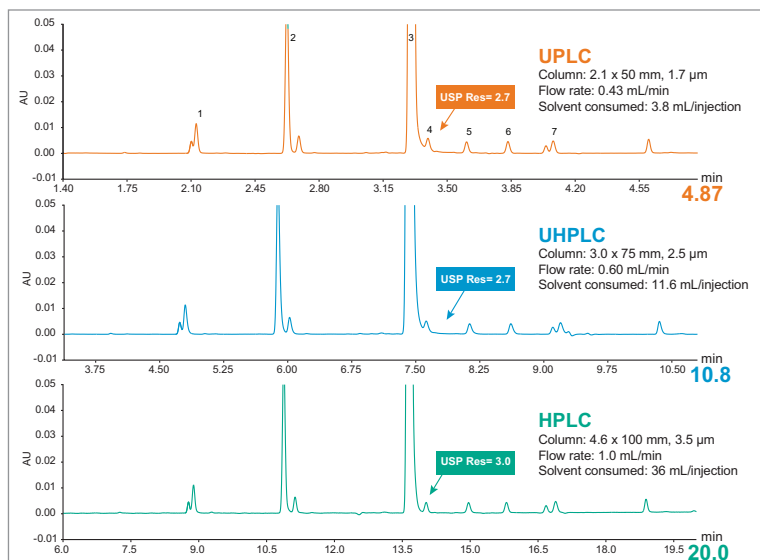


The USP assay for Irbesartan requires that the eluent be adjusted to pH 3.2, however this results in a co-elution of the API and its related compound. By making automated, online adjustments to the pH in 0.1 increments using Auto•Blend Plus, a more robust set of pH conditions can be found.

TAKE YOUR METHODS TO THE NEXT PERFORMANCE LEVEL

Leverage the benefits of UPLC Technology to improve your HPLC methods. By scaling your methods to UPLC, your applications will benefit from the combination of increased speed, resolution, and sensitivity that comes with modern small particle chemistries.

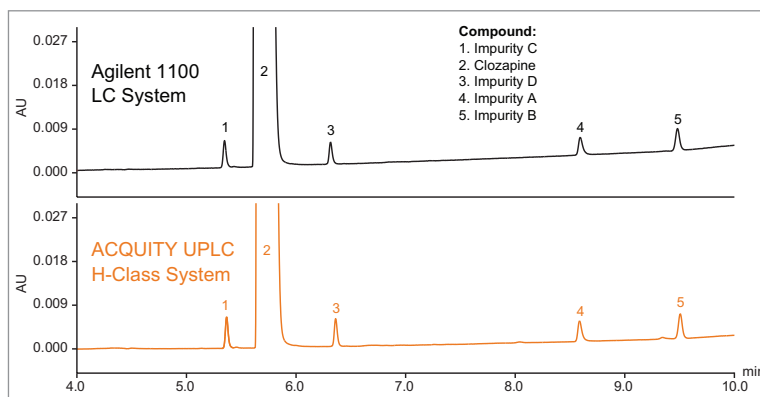
True UPLC performance comes by pairing a low-dispersion UPLC system with narrowbore columns packed with sub-2- μ m particles. With a toolbox of simple and intuitive applications to help you systematically scale your methods, the process of converting your methods is simple. The result is improved laboratory efficiency, achieved with increased sample throughput, more information per injection, and a reduced cost per analysis.



The USP Analysis of Diclazuril and Organic Impurities was scaled from HPLC to UHPLC to UPLC. The UPLC method resulted in a 4x reduction in run time with a 10x reduction in solvent consumption resulting in improved sample throughput and reduced cost per analysis.

UPLC TOMORROW, BUT HPLC TODAY

Adopting a new analytical technology that improves laboratory efficiency is advantageous for supporting your new projects and products. However, there may still be a need to run existing analytical methods to support your existing products. Designed to reliably support your HPLC, UHPLC, and UPLC methods, the ACQUITY UPLC H-Class System is the ideal solution to future-proof your laboratory, enabling the transition to true UPLC performance when you are ready.



For the USP assay of Clozapine, the system suitability solution was run on both an Agilent 1100 LC System and the ACQUITY UPLC H-Class System. For this gradient method, equivalent chromatographic results were achieved on both systems.

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Waters Corporation
34 Maple Street
Milford, MA 01757 U.S.A.
T: 1 508 478 2000
F: 1 508 872 1990
www.waters.com