# Waters<sup>™</sup>

Nota de aplicación

Method Transfer from an Agilent 1100 Series LC System to an ACQUITY UPLC H-Class System with Gradient SmartStart Technology: Analysis of an Active Pharmaceutical Ingredient and Related Substances<sup>1</sup>

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This is an Application Brief and does not contain a detailed Experimental section.

## Abstract

This application highlight demonstrates an assay for the analysis of abacavir and related substances that was successfully transferred from an Agilent 1100 Series LC System to an ACQUITY UPLC H-Class System.

# Introduction

When transferring a method to a different HPLC/UHPLC instrument, the new instrumentation must provide the same separation and meet all of the system suitability requirements of the original method/instrument. For gradient separations, the impact of dwell volume can be dramatic and should be considered when transferring a method across chromatographic instruments.

# Experimental

### LC Conditions

Sample:	Abacavir and related substances
Sample diluent:	Water
Systems:	<ol> <li>Agilent 1100 Series LC System</li> <li>ACQUITY UPLC H-Class System with</li> <li>ACQUITY UPLC PDA Detector and CH-A</li> </ol>
Transfer:	Gradient delay was entered using SmartStart Technology
Wavelength:	245 nm
Column temp.:	36 °C
Column:	CORTECS C <sub>18</sub> , 2.7 µm, 4.6 x 75 mm
Mobile phase A:	0.1% Trifluoroacetic acid in water
Mobile phase B:	85% Methanol in water
Flow rate:	1.85 mL/min
Injection volume:	5 μL

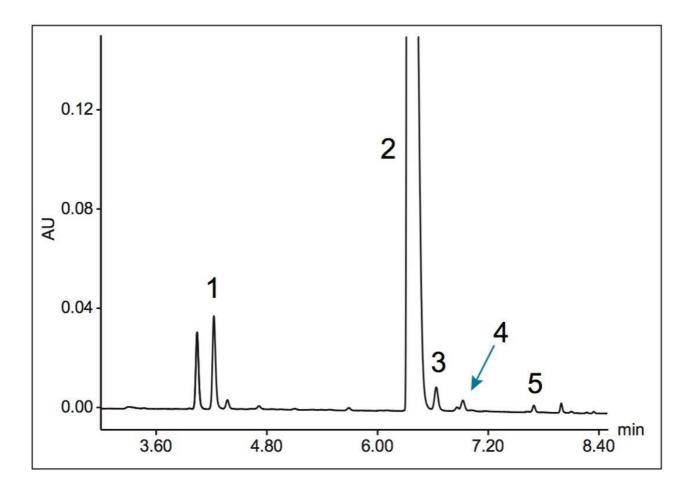
#### Gardient:

Time (min)	%A	%В	%С
Initial	95	5	Initial
6.38	70	30	6.38
10.37	10	90	10.37

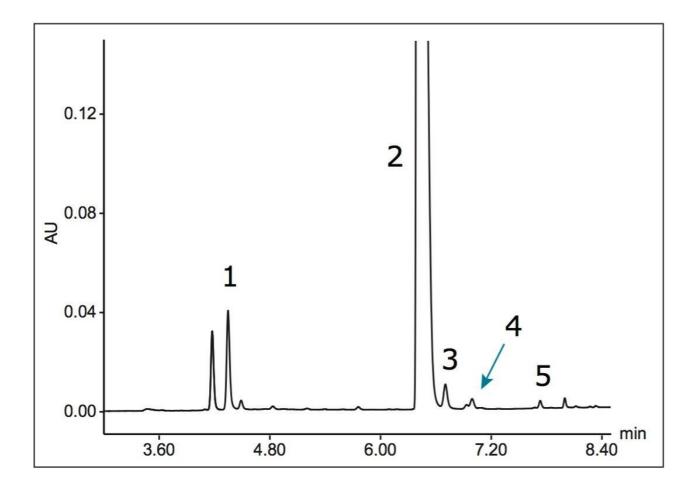
# Results and Discussion

Name	t <sub>R</sub> Agilent 1100	t <sub>R</sub> ACQUITY UPLC H-Class
1. Descycleopropyl abacavir	4.23	4.35
2. Abacavir	6.34	6.4
3. 1R, 4R Trans abacavir	6.64	6.7
4. O-(4-Chloro-2,5- diaminopyrimidynl)-abacavir	6.93	6.99
5. O-t-Butyl-abacavir	7.70	7.73

### Agilent 1100 Series LC System



#### ACQUITY UPLC H-Class System



# Conclusion

An assay for the analysis of abacavir and related substances was successfully transferred from an Agilent 1100 Series LC System to an ACQUITY UPLC H-Class System. Using gradient SmartStart Technology in the instrument method, the differences in system volume were factored into the method. No changes to the gradient table were required.

# References

1. For complete experimental details, refer to full technical brief 720005252EN at waters.com

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ACQUITY UPLC H-Class PLUS System <https://www.waters.com/10138533> ACQUITY UPLC PDA Detector <https://www.waters.com/514225>

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