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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[1]

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

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.

LC CONDITIONS

Sample:	Abacavir and related substances
Sample diluent:	Water
Systems:	1. Agilent 1100 Series LC System
	2. ACQUITY UPLC® H-Class System with ACQUITY UPLC PDA Detector and CH-A
Transfer:	Gradient delay was entered using SmartStart Technology
Wavelength:	245 nm
Column temp.:	36 °C
Column:	CORTECS® C$_{18}$, 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

Gradient:

Time (min)	%A	%B	%C
Initial	95	5	Initial
6.38	70	30	6.38
10.37	10	90	10.37

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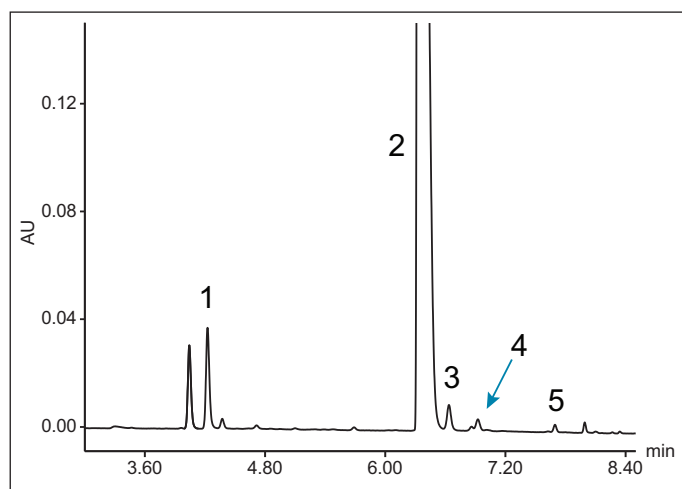T: 1 508 478 2000   F: 1 508 872 1990
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CONCLUSIONS

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.

Name	t$_R$ Agilent 1100	t$_R$ 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