Application Note

031003X

Analysis of Alkylphenones Using High Pressure Resistance and High Performance Column under High Pressure at 120 MPa

Introduction

In UHPLC, in order to perform the measurement in short period of time by using a long column offering high resolution and theoretical plates , there needs to apply relatively high flow rate, causing extremely high pressure to be applied to the column. Also, if water/methanol or water/ethanol solvent system is required in gradient elution mode, the extremely high pressure will be caused due to the change of viscosity. For avoiding such potential problems, JASCO now offers the UHPLC system including pump, dynamic mixer and autosampler which can be operated under the extremely high pressure up to 130 MPa (option). In this application note, JASCO X-LC system including such optional UHPLC hardware was applied to the quick analysis of alkylphenones under high pressure (120 MPa pressure) using high pressure resistance and high performance column.

Keyword: UHPLC, alkylphenones, 130 MPa, 1.8 µm, C18 column, PDA detector

Experimental

[Equipment]		[Conditions]	
Pump:	X-LC 3185PU-130	Column:	ZORBAX RRHD SB-C18 (2.1 mmID x 150 mmL, 1.8 µm)
Degasser:	X-LC 3080DG	Eluent :	Water/Acetonitrile (30/70)
Column oven:	X-LC 3067CO	Flow rate:	1.0 mL/min
Autosampler:	X-LC 3159AS-130	Column temp.:	40 ºC
Detector:	X-LC 3110MD	Wavelength:	254 nm
		Injection volume:	1 µL
		Pressure:	120 MPa
		Standard sample:	Acetanilide, Acetophenone, Propiophenone, Butyrophenone Valerophenone, Hexanophenone, Heptanophenone, Octanophenone (2 µg/mL each)

Results

The chromatogram and contour plot of standard mixtures of alkylphenones are shown in Fig. 1. The result was obtained only within two minutes with good separation.

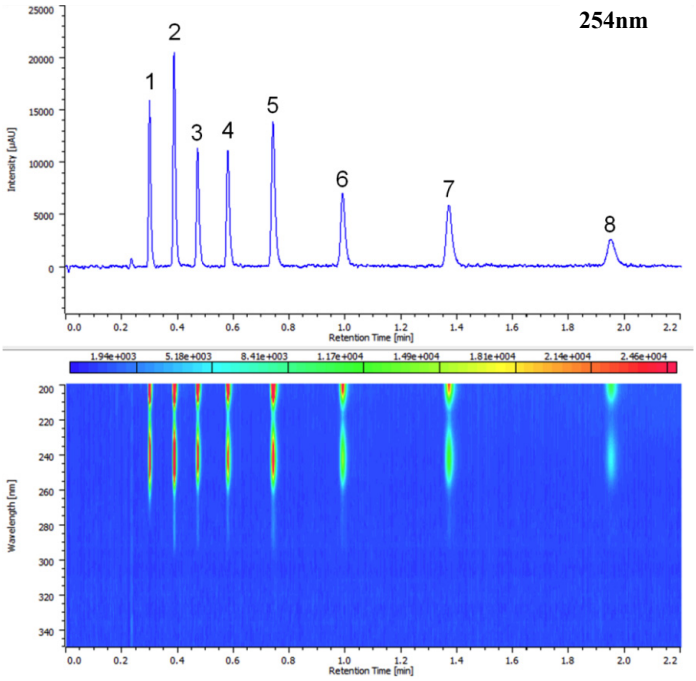

Fig. 1. Chromatogram of Standard Mixtures of Alkylphenones.

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