

Application Data Sheet

No.25

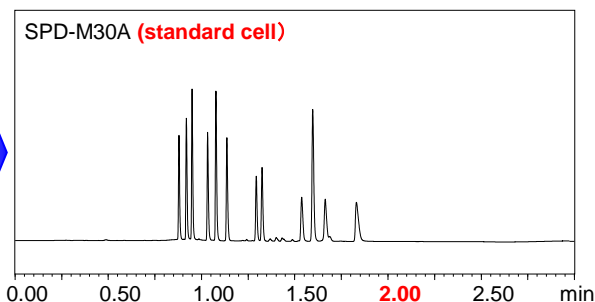
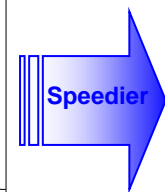
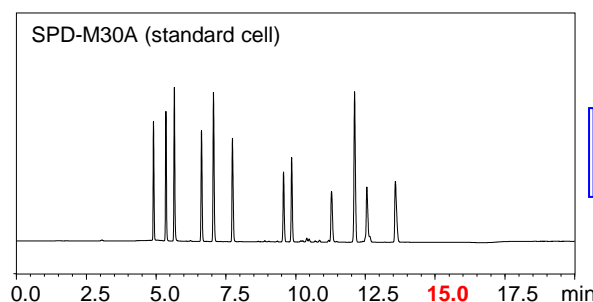
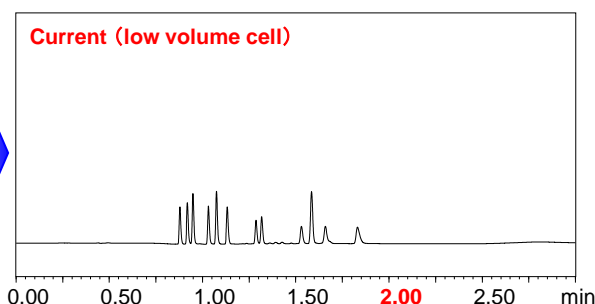
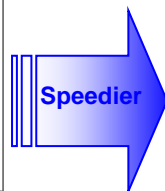
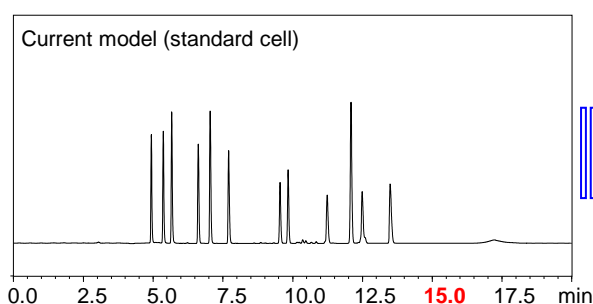
LC
Liquid Chromatograph

Ultra-Fast, High-Sensitivity Analysis of Artificial Colorings Using the SPD-M30A Photodiode Array Detector

The newly-designed capillary SR-Cell (Sensitivity and Resolution Cell) has been adopted for the SPD-M30A high-sensitivity photodiode array detector in the Nexera SR Ultra High Performance Liquid Chromatograph. By optimizing the cell's optical path length and diameter, both low noise levels and high sensitivity have been achieved. This article introduces the high-speed, high-sensitivity simultaneous analysis of artificial colorings using the Nexera SR UHPLC.

Simultaneous Analysis of 12 Artificial Colorings

The SR-Cell's optimized design permits analyses from UHPLC to HPLC without changing the flow cell. Shown below is the simultaneous analysis of 12 artificial colorings. The example shows the ability to transfer HPLC analysis to UHPLC without changing the flow cell. In the Nexera SR, a high-end model of the Nexera X2 series, there is no need to change the piping to fit the LC system, whether performing HPLC or UHPLC analysis.



HPLC Conditions

Column : Shim-pack VP-ODS
(150 mmL. X 4.6 mmI.D., 5.0 μm)
Mobile Phase : A) 10 mmol/L Ammonium acetate
B) 10 mmol/L Ammonium acetate / Acetonitrile
(v/v=50/50)
Gradient : B 5% (0.0min.)→5% (0.90min.)
→100% (12.0min.) →100% (14.5min.)
Flow Rate : 1.0 mL/min
Column Temp. : 40 °C
Injection Volume : 5 μL

UHPLC Conditions

Column : Shim-pack XR-ODS II
(75 mmL. x 3.0 mmI.D., 2.2 μm)
Mobile Phase : A) 10 mmol/L Ammonium acetate
B) 10 mmol/L Ammonium acetate / Acetonitrile
(v/v=50/50)
Gradient : B 5% (0min.) → 100% (2.0min.) → 100% (3.0min.)
Flow Rate : 1.2 mL/min
Column Temp. : 40 °C
Injection Volume : 1 μL

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