

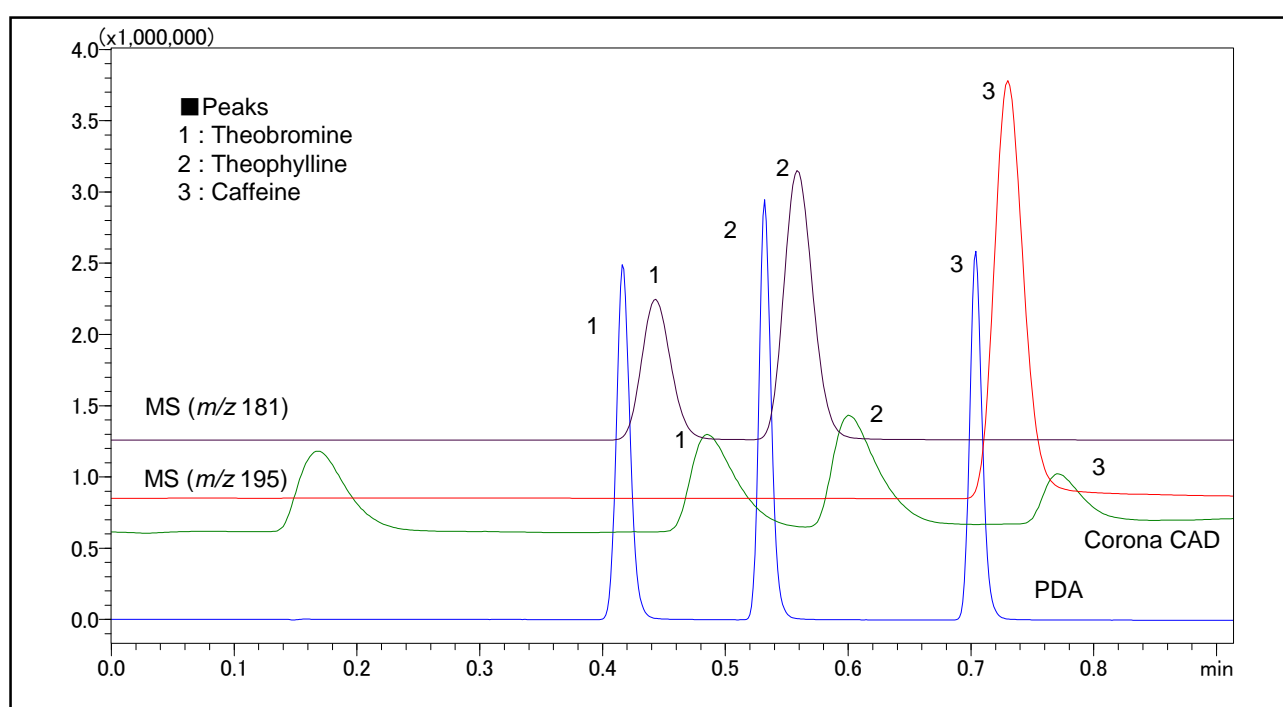
Application Data Sheet

High Performance Liquid Chromatography

No. 50

High Speed Analysis of Xanthine Derivatives Using LCMS-2020

This is an example of analysis for 3 xanthine derivative components (theobromine, theophylline, and caffeine) in coffee and green tea, by branching the eluate obtained from a Prominence UFLC into an LCMS-2020 and Corona CAD*).



Analysis of 3 Xanthine Derivative Components

[Sample Preparation]

Created standard solutions of theobromine, theophylline, and caffeine respectively (each component: 1 µg/mL).

Analytical Conditions

Instrument	: Prominence UFLC system + LCMS-2020 + Corona CAD
Column	: Shim-pack XR-ODS (30 mmL. × 3.0 mm <i>i.d.</i>)
Mobile Phase	: A) 0.1% Formic acid B) Acetonitrile B. conc; 5% to 20% (0 to 0.7 min), 5% (0.7min to 1.0min)
Flow Rate	: 1.5 mL/min (PDA) → 1.0 mL/min (Corona CAD) + 0.5 mL/min (MS)
Column Temperature	: 40 °C
Detection	: MS; ESI, PDA 275 nm (Semi-micro flow cell), Corona CAD
Sample Volume	: 1 µL

Note: Corona and CAD are trademarks and registered trademarks of ESA Biosciences, Inc. USA and in other countries.