# UHPLC/MS Analysis of Cannabinoids Extracted from Raw Cannabis Sativa (Marijuana) on Ascentis® Express RP-Amide

Cannabis compounds reportedly have therapeutic efficacy in the treatment of pain, mood disorders, inflammatory diseases, and other health conditions. Shown here is a raw cannabis sample extracted using a simple procedure followed by LC/MS/MS analysis. Eight major cannabis compounds were detected. Reversed-phase HPLC separation was achieved on an Ascentis Express RP-Amide column. Dried cannabis sample was obtained courtesy of Dr. Hari H. Singh, Program Director at the Chemistry & Physiological Systems Research Branch of the National Institute on Drug Abuse at the US National Institute of Health. The extract strain of the sample was not known.

market focus . . . . . Food and Beverages; Forensics and Toxicology; Vitamins, Nutraceuticals, and Natural Products

sample preparation . . A 100 mg sample of dried cannabis sativa leaves was extracted with 50 mL of ethanol:water (50:50, v/v) for 15 mins in an ultrasonic bath. (The sample was then filtered through a 0.45 µm Millex LH filter prior to LC/MS analysis.)

column . . . . . Ascentis Express RP-Amide, 10 cm x 2.1 mm I.D., 2.0 µm particles (53913-U)

mobile phase . . . . . [A] 0.1% formic acid; [B] 0.1% formic acid in acetonitrile

gradient . . . . . 60% B to 100% B in 10 min

flow rate . . . . . 0.4 mL/min

pressure . . . . . 7600 psi (524 bar)

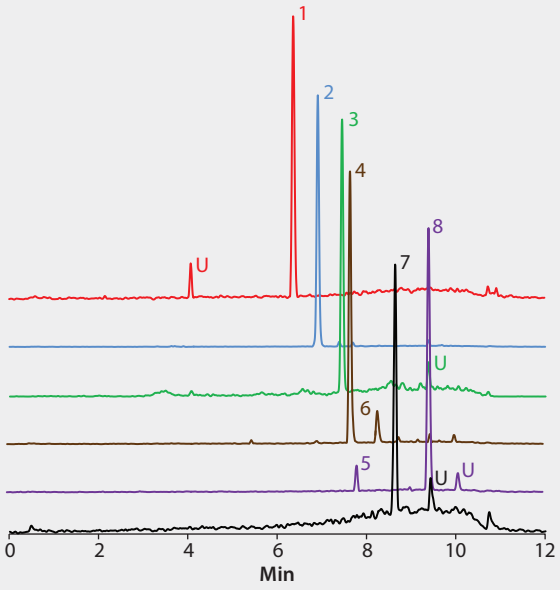
column temp. . . . . 35 °C

detector . . . . . MS, ESI(+), ESI(-), MRM

injection . . . . . 1 µL

Application No. . . . . G1006679

| Peak | Name | m/z |
|---|---|---|
| 1 | Tetrahydrocannabivarin (THCV) | 287 |
| 2 | Cannabigerol (CBG) | 317 |
| 3 | Cannabinol | 311 |
| 4 | (-)-$\Delta^9$-THC | 315 |
| 5 | Cannabidiolic acid (CBDA) | 359 |
| 6 | Cannabichromene (CBC) | 315 |
| 7 | Cannabigerolic acid (CBGA) | 359 ESI(-) |
| 8 | $\Delta^9$-Tetrahydrocannabinolic acid A (THCA-A) | 359 |
| U | Unknown | |




**Related Products**

analytical column
Ascentis® Express RP-Amide, 2.7 Micron HPLC Column (Supelco 53913-U)

standard
Cannabichromene solution (Cerilliant C-143)
Cannabidiol solution (Cerilliant C-045)
Cannabidiolic acid solution (Cerilliant C-144)
Cannabidivarin solution (Cerilliant C-140)
Cannabigerol solution (Cerilliant C-141)
Cannabigerolic acid solution (Cerilliant C-142)
Cannabinol solution (Cerilliant C-046)
(–)-$\Delta^9$-THC solution (Cerilliant T-005)
Tetrahydrocannabivarin (THCV) solution (Cerilliant T-094)
$\Delta^9$-Tetrahydrocannabinolic acid A (THCA-A) solution (Cerilliant T-093)