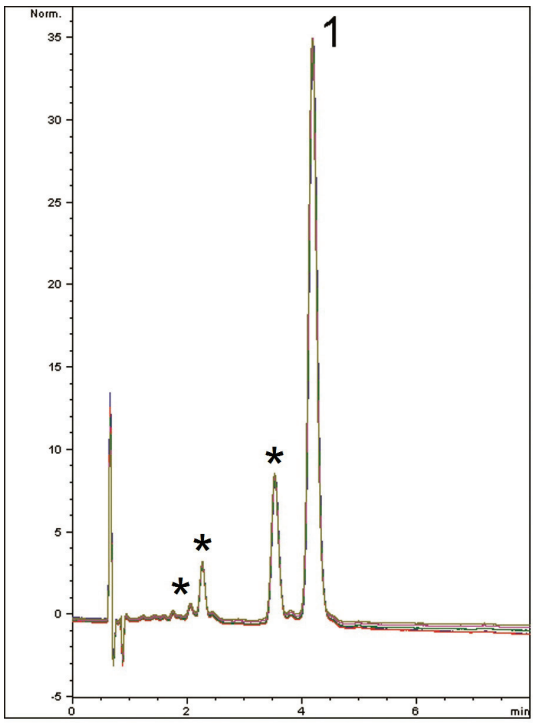
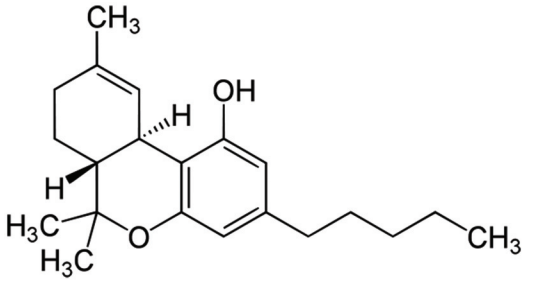
(–)-trans-Δ^9-tetrahydrocannabinol (THC)

Psychoactive component in cannabis



Overlay of 5 runs



Note: THC is the psychoactive component found naturally in the cannabis plant. Although still classified as a Schedule I controlled substance at the federal level, several US states now have laws allowing its use for recreational purposes.

Method Conditions

Column: Cogent Bidentate C18™, 4µm, 100Å

Catalog No.: 40018-75P

Dimensions: 4.6 x 75 mm

Mobile Phase: 30% DI H_2O / 70% acetonitrile / 0.1% formic acid (v/v)

Injection vol.: 20.0 µL

Flow rate: 1.0mL/min

Detection: UV 288 nm

Sample: Δ^9-Tetrahydrocannabinol analytical standard solution (1 mg/mL in methanol, Sigma-Aldrich cat# T4764) was diluted 1:10 with diluent of 80% acetonitrile / 20% DI water.

Peaks: 1. (–)-trans-Δ^9-tetrahydrocannabinol
* Unknown

Discussion

Tetrahydrocannabinol has several isomeric forms, which may account for the extra peaks observed in the chromatograms. Although their identities could not be confirmed, these peaks can be separated from the main peak using the Bidentate C18 column. The compound is quite hydrophobic and therefore a relatively high organic content is used in the mobile phase to ensure the retention is not excessive. Run-to-run precision is very reliable using this column, as the overlay of five injections demonstrates.

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