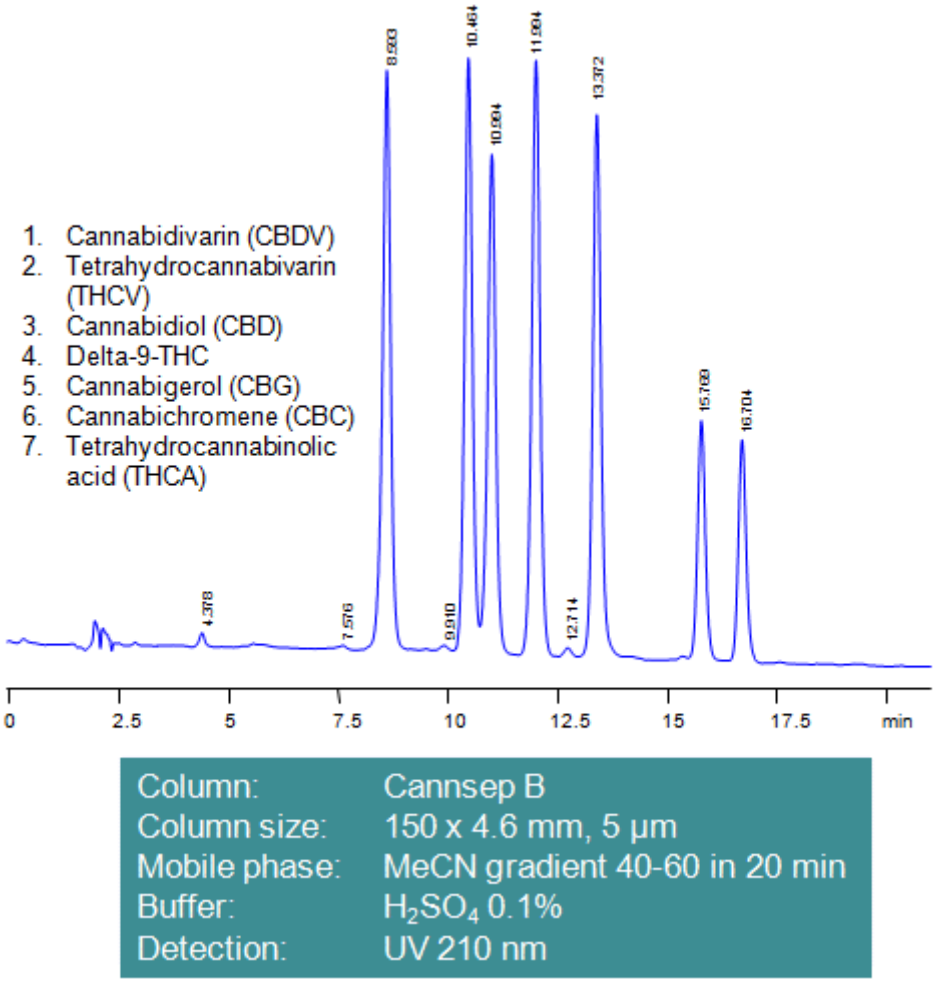
Fast Separation of Cannabinoids on Mixed-Mode HPLC Column Cannsep B

https://sielc.com/Application-Fast-Separation-of-Cannabinoids-on-Mixed-Mode-Core-Shell-HPLC-Column

Chromatogram



Description

With legalization of marijuana in much of the United States, more and more attention is paid to developing quick, robust and reliable method for quantitation of cannabinoids in marijuana plants and related edible products. The main challenge lies in sample preparation and quantitative analysis of four major cannabinoids: cannabidiol, cannabinol, tetrahydrocannabinol and tetrahydrocannabinolic acid. All compounds are hydrophobic with only THCA (THC-A) and cannabidiolic acid (CBDA) being an acid. Hydrophobic interaction is the main interaction in the separation of cannabinoids on reverse phase columns. On our mixed mode columns acidic molecules retained by ion-exchange mechanism in addition to hydrophobic. Method can be used for analysis and prep separation of cannabinoids in marijuana plants, seeds and other cannabis-based products. Extraction of cannabinoids is the main procedure in sample preparation. Extraction can be done with organic solvents like chloroform, methanol, ethanol, acetonitrile. Cannabinoids can be monitored by UV and LC/MS. Mixed-mode columns containing polar embedded groups provide different selectivity than regular reversed-phase columns.

Method Parameters

Mobile Phase	Gradient MeCN 40-60% , 20 min
Buffer	H2SO4 – 0.1%
Flow Rate	1.0 ml/min

Detection	UV, 210 nm
Class of Compounds	Drug, Hydrophilic, Ionizable, Supplements
Analyzing Compounds	Cannabidivarin (CBDV),Tetrahydrocannabivarin (THCV),Cannabidiol (CBD),Delta-9-Tetrahydrocannabinol (THC),Cannabigerol (CBG),Cannabichromene (CBC), Tetrahydrocannabinolic acid (THCA-A)

HPLC Column Used

Cannsep B, 4.6×150 mm, 5 µm, 100A

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