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

1. Cannabidivarin (CBDV)
2. Tetrahydrocannabivarin (THCV)
3. Cannabidiol (CBD)
4. Delta-9-THC
5. Cannabigerol (CBG)
6. Cannabichromene (CBC)
7. Tetrahydrocannabinolic acid (THCA)

Column:	Cannsep B
Column size:	150 x 4.6 mm, 5 µm
Mobile phase:	MeCN gradient 40-60 in 20 min
Buffer:	H_2SO_4 0.1%
Detection:	UV 210 nm
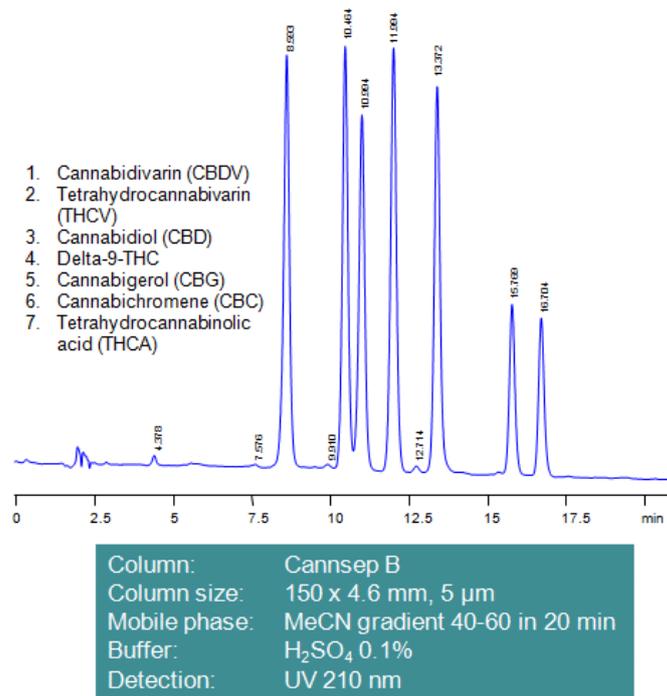
With legalization of marijuana in much of the United States, more and more attention is paid to developing quick, robust and reliable method for quantitation of cannabinoids in marijuana plants and related edible products. The main challenge lies in sample preparation and quantitative analysis of four 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.

The Cannsep family of columns is a specially developed line of reverse-phase columns designed to retain and separate most of the compounds responsible for cannabis's physiological properties. With three options available - Cannsep A , Cannsep B , and Cannsep C - customers can resolve all the various cannabinoids, each providing unique and significantly orthogonal selectivity.

Method Parameters

Mobile Phase	Gradient MeCN40-60% , 20 min
Buffer	H2SO4 – 0.1%
Flow Rate	1.0 mL/min
Detection	UV, 210 nm

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