

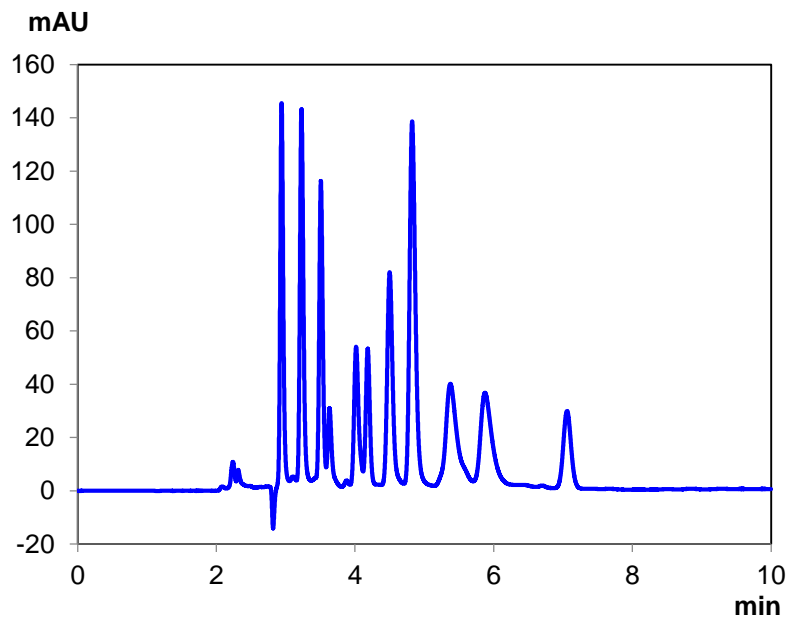
## Supplementary

### The Separation of Cannabinoids on sub-2 $\mu\text{m}$ Immobilized Polysaccharide Chiral Stationary Phases

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**Table S1:** Fastest ten-cannabinoid mixture separation under normal phase conditions  
with Chiralpak IB-U – Analysis Conditions

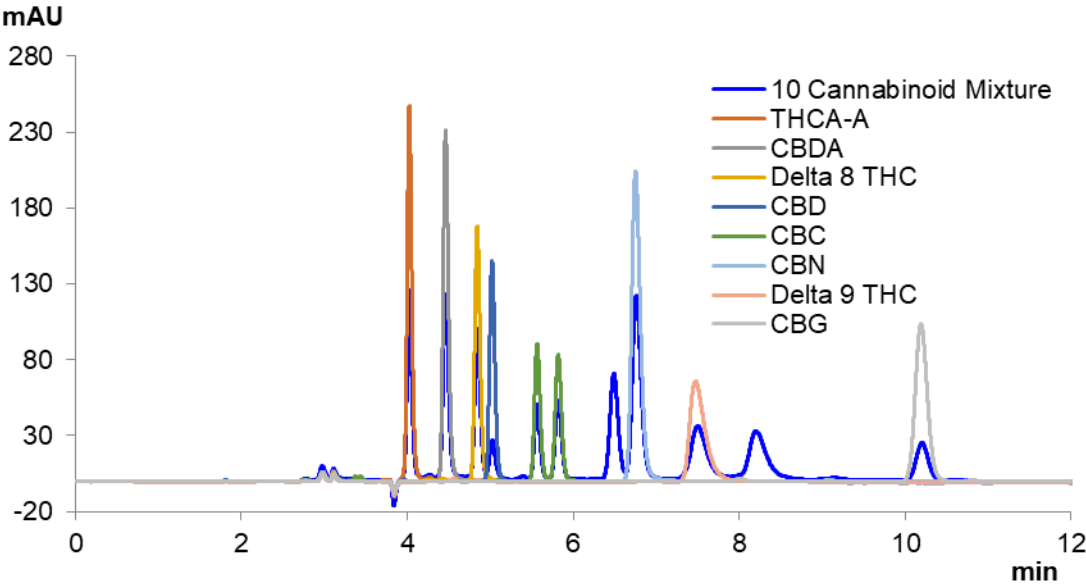
	<b>Chiralpak IB-U</b>
Column Dimension	3.0 mm i.d. $\times$ 100 mm L (2 columns coupled) 95.7/3.3/1/0.1 = n-
Mobile Phase	Hexane/Isopropanol/Ethanol /Trifluoroacetic acid (v/v/v/v)
Flow Rate	0.425 ml/min
Temperature	25°C (controlled)
Detection	220 nm UV
Sample	10 cannabinoid mixture (1) 0.1 mg/ml in Hexane/IPA/EtOH = 96/3/1
Injection Volume	0.5 $\mu\text{l}$



**Figure S1:** Fastest ten-cannabinoid mixture separation under normal phase conditions  
with Chiralpak IB-U - Chromatogram

**Table S2:** Peak Identification for the separation under normal phase conditions with Chiralpak IB-U – Analysis Conditions

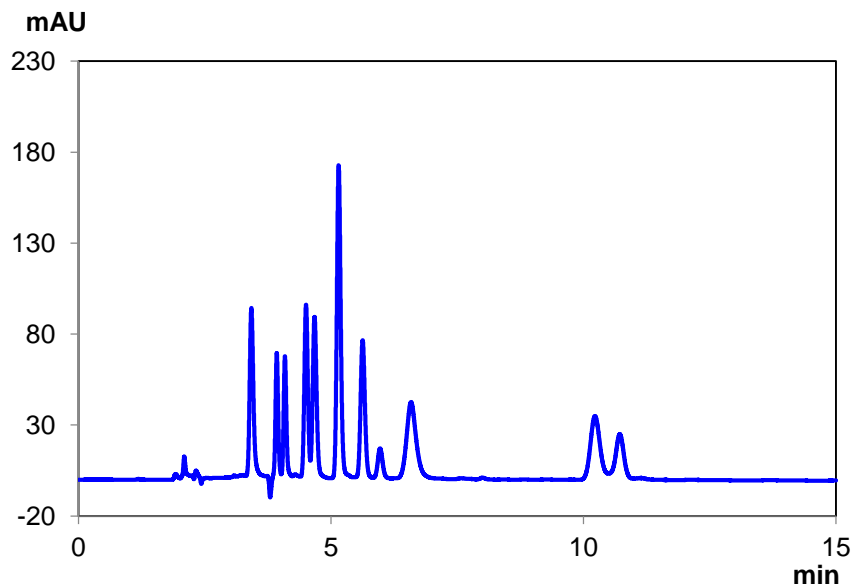
	<b>Chiralpak IB-U</b>
Column Dimension	3.0 mm i.d. × 100 mm L (2 columns coupled)
Mobile Phase	96/3/1/0.1 = n-Hexane/Isopropanol/Ethanol/Trifluoroacetic acid (v/v/v/v)
Flow Rate	0.318 ml/min
Temperature	25°C (controlled)
Detection	220 nm UV
Sample	10 cannabinoid mixture (1) 0.1 mg/ml in Hexane/IPA/EtOH = 96/3/1 Individual Samples: 1.0 mg/ml in Hexane/IPA/EtOH = 96/3/1
Injection Volume	10 cannabinoid mixture - 0.5 µl Individual Samples – 0.1 µl



**Figure S2:** Peak Identification for the separation under normal phase conditions with Chiralpak IB-U

**Table S3:** Fastest ten-cannabinoid mixture separation under normal phase conditions with Chiralpak IH-U – Analysis Conditions

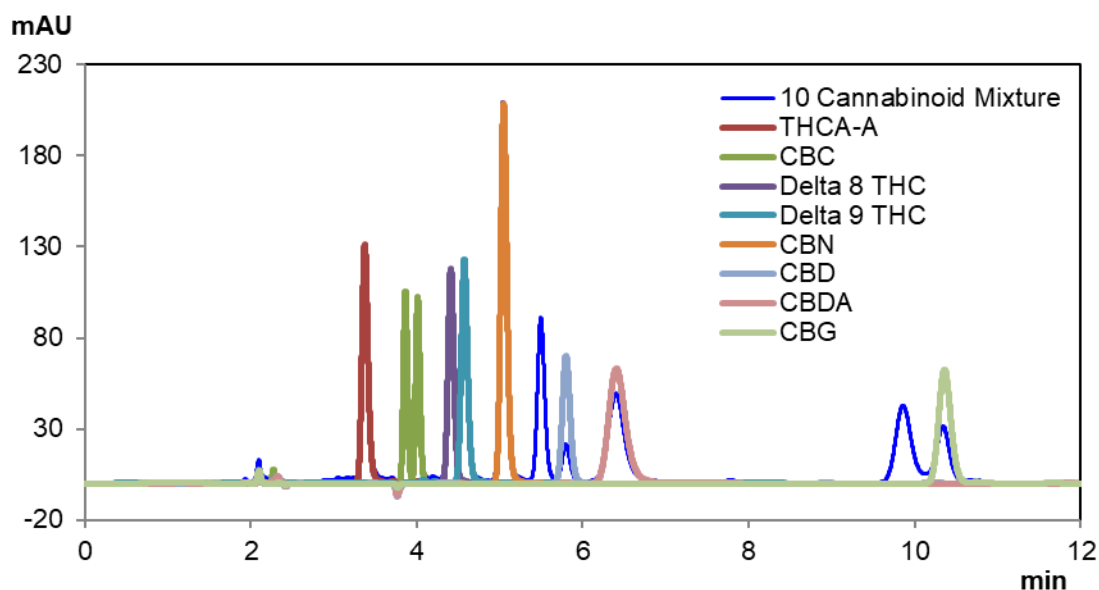
Chiralpak IH-U	
Column Dimension	3.0 mm i.d. × 100 mm L (2 columns coupled)
Mobile Phase	96/3/1/0.1 = n- Hexane/Isopropanol/Ethanol /Trifluoroacetic acid (v/v/v/v)
Flow Rate	0.425 ml/min
Temperature	25°C (controlled)
Detection	220 nm UV
Sample	10 cannabinoid mixture (1) 0.1 mg/ml in Hexane/IPA/EtOH = 96/3/1
Injection Volume	0.5 µl



**Figure S3:** Fastest ten-cannabinoid mixture separation under normal phase conditions with Chiralpak IH-U

**Table S4:** Peak Identification for the separation under normal phase conditions with Chiralpak IH-U – Analysis Conditions

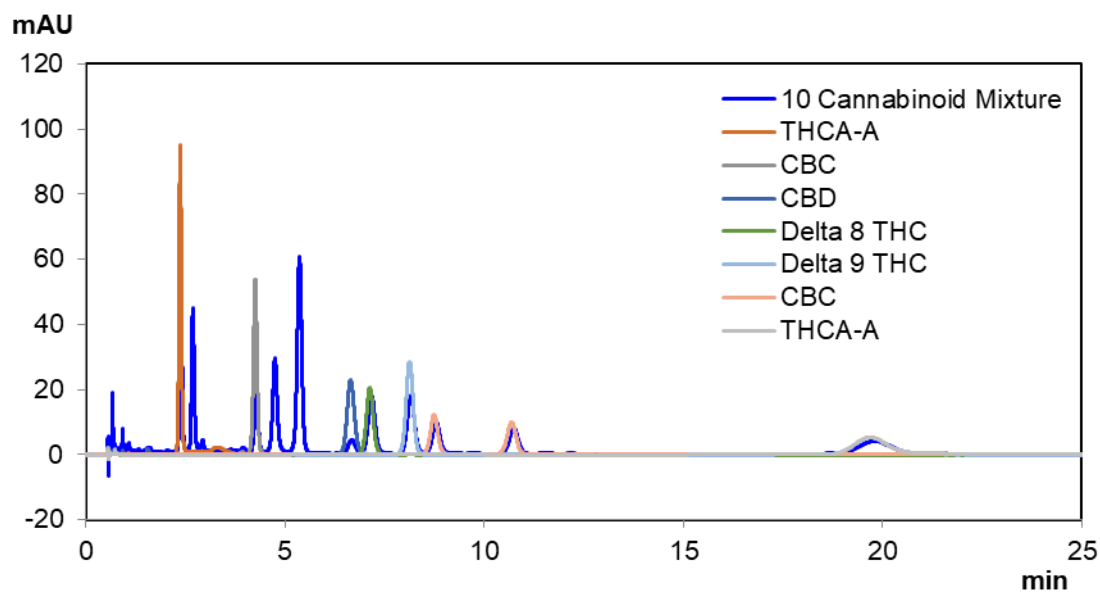
Chiralpak IH-U	
Column Dimension	3.0 mm i.d. × 100 mm L (2 columns coupled)
	96/3/1/0.1 = n-
Mobile Phase	Hexane/Isopropanol/Ethanol /Trifluoroacetic acid (v/v/v/v)
Flow Rate	0.425 ml/min
Temperature	25°C (controlled)
Detection	220 nm UV
	10 cannabinoid mixture (1)
	0.1 mg/ml in
Sample	Hexane/IPA/EtOH = 96/3/1
	Individual Samples: 1.0
	mg/ml in Hexane/IPA/EtOH
	= 96/3/1
Injection Volume	10 cannabinoid mixture - 0.5
	µl
	Individual Samples – 0.1 µl



**Figure S4:** Peak Identification for the separation under normal phase conditions with Chiralpak IH-U

**Table S5:** Peak Identification for the separation under reversed phase conditions with Chiralpak IG-U – Analysis Conditions

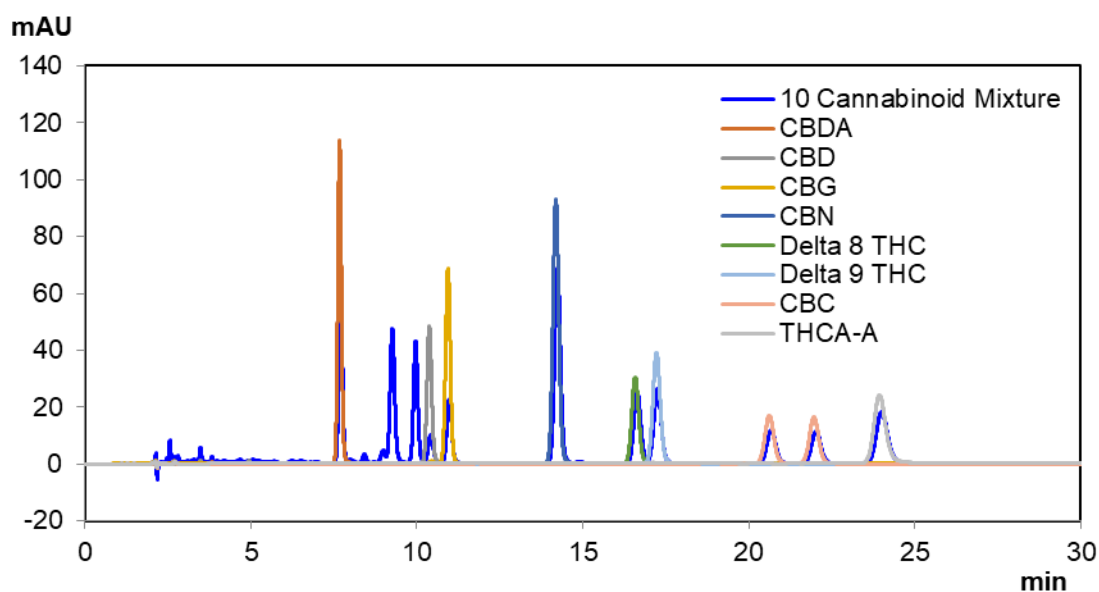
Chiralpak IG-U	
Column Dimension	3.0 mm i.d. × 100 mm L 45/55/0.1 =
Mobile Phase	Water/Acetonitrile/Trifluoroacetic acid (v/v/v)
Flow Rate	0.800 ml/min
Temperature	25°C (controlled)
Detection	220 nm UV
Sample	10 cannabinoid mixture (1) 0.1 mg/ml in Water/ACN = 47.5/52.5
	Individual Samples: 1.0 mg/ml in Water/ACN = 47.5/52.5
Injection Volume	10 cannabinoid mixture - 0.5 μl
	Individual Samples – 0.1 μl



**Figure S5:** Peak Identification for the separation under reversed phase conditions with Chiralpak IG-U

**Table S6:** Peak Identification for the separation under reversed phase conditions with Chiralpak ID-U+IC-U – Analysis Conditions

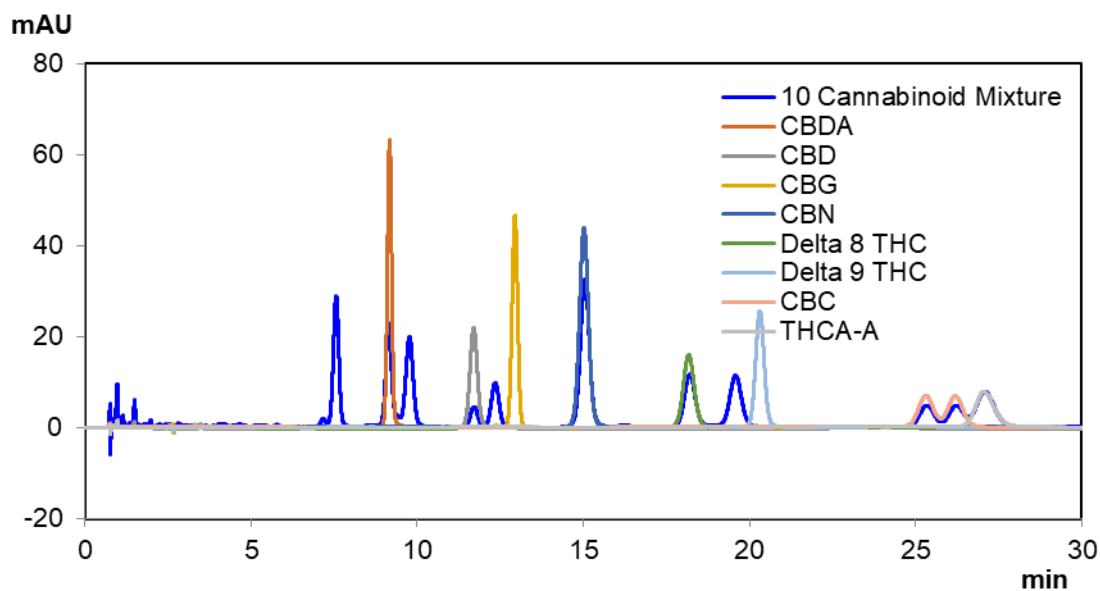
	Chiralpak ID-U+IC-U
Column Dimension	3.0 mm i.d. × 100 mm L (2 columns coupled) 42.5/57.5/0.1 =
Mobile Phase	Water/Acetonitrile/Trifluoroacetic acid (v/v/v)
Flow Rate	0.425 ml/min
Temperature	25°C (controlled)
Detection	220 nm UV
Sample	10 cannabinoid mixture (1) 0.1 mg/ml in Water/ACN = 47.5/52.5 Individual Samples: 1.0 mg/ml in Water/ACN = 47.5/52.5
Injection Volume	10 cannabinoid mixture - 0.5 μl Individual Samples – 0.1 μl



**Figure S6:** Peak Identification for the separation under reversed phase conditions with Chiralpak ID-U + IC-U

**Table S7:** Peak Identification for the separation under reversed phase conditions with Chiralpak ID-U – Analysis Conditions

Chiralpak ID-U	
Column Dimension	3.0 mm i.d. × 100 mm L
	55/45/0.1 =
Mobile Phase	Water/Acetonitrile/Trifluoroacetic acid (v/v/v)
Flow Rate	0.600 ml/min
Temperature	25°C (controlled)
Detection	220 nm UV
	10 cannabinoid mixture (1)
	0.1 mg/ml in Water/ACN =
	47.5/52.5
Sample	Individual Samples: 1.0
	mg/ml in Water/ACN =
	47.5/52.5
	10 cannabinoid mixture - 0.5
Injection Volume	µl
	Individual Samples – 0.1 µl



**Figure S7:** Peak Identification for the separation under reversed phase conditions with Chiralpak ID-U