

APPLICATIONS

16 Cannabinoids for Potency Testing by Practical LC-UV

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Introduction

While legalization of medical and recreational marijuana is proliferating through more and more states, potency testing needs are expanding as the amounts of each particular cannabinoid in a sample will impact its indication, evident by the emergence of purified, isolated cannabinoids for custom formulation.

Here we demonstrate a practical chromatographic separation of 16 cannabinoids with flexibility across HPLC and UHPLC platforms in a gradient aimed for speed as well as suitability in many diverse matrices. While 5 primary cannabinoids, Δ^9 -THC, CBD, THCA, CBDA, and CBN are the most common and abundant, new indications are continuously being explored with dozens of other cannabinoids. In addition, further expansion of suitability for minor and sub-minor cannabinoids can help with specificity and accuracy verification, especially when quantifying at a single low UV wavelength.

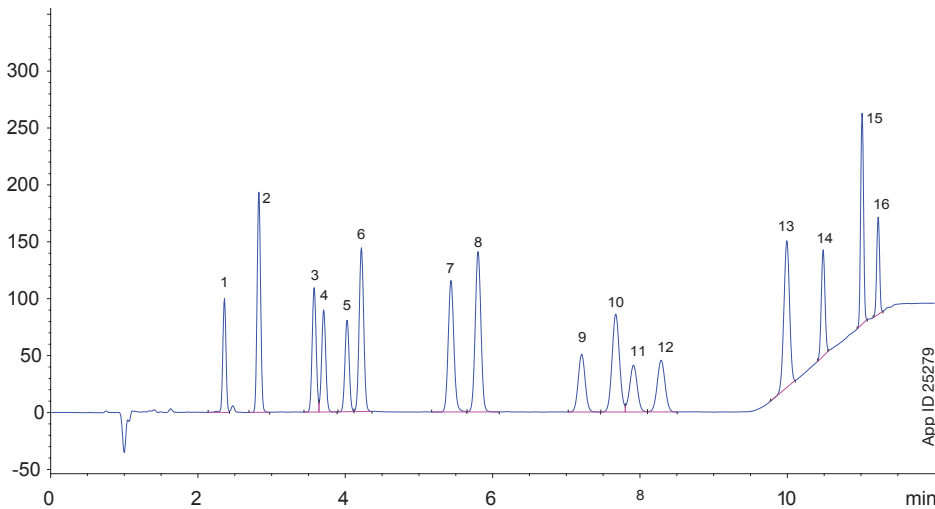
LC Method Parameters

Column: Kinetex® 2.6 μ m C18
Dimensions: 150 x 4.6 mm
Part No.: 00F-4462-E0
Mobile Phase: A: 0.1% Formic Acid in Water
 B: 0.1% Formic Acid in 75:25 Methanol/Acetonitrile
Gradient:

Time (min)	% B
0	80
8	80
10	100
12	100

Flow Rate: 1.5 mL/min
Backpressure: 360 Bar
Temperature: 30 °C
Detection: UV @ 228 nm

Separation of 16 cannabinoids on Kinetex 2.6 μ m C18 150 x 4.6 mm



Peak No.	Analyte Name	RT (min)
1	CBDV	2.358
2	CBDVA	2.826
3	CBD	3.576
4	CBG	3.706
5	THCV	4.023
6	CBDA	4.218
7	CBGA	5.433
8	CBN	5.801
9	D9-THC	7.208
10	THCVA	7.67
11	D8-THC	7.911
12	CBL	8.286
13	CBC	9.992
14	CBNA	10.485
15	THCA-A	11.014
16	CBCA	11.232

Kinetex[®] Core-Shell LC Ordering Information

5 µm Minibore Columns (mm)					SecurityGuard [™] ULTRA Cartridges [‡]
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
C18	00A-4601-AN	00B-4601-AN	00D-4601-AN	00F-4601-AN	AJ0-8782 for 2.1 mm ID

5 µm MidBore [™] Columns (mm)				SecurityGuard [™] ULTRA Cartridges [‡]
Phases	50 x 3.0	100 x 3.0	150 x 3.0	3/pk
C18	00B-4601-Y0	00D-4601-Y0	00F-4601-Y0	AJ0-8775 for 3.0 mm ID

5 µm Analytical Columns (mm)					SecurityGuard [™] ULTRA Cartridges [‡]
Phases	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	3/pk
C18	00B-4601-E0	00D-4601-E0	00F-4601-E0	00G-4601-E0	AJ0-8768 for 4.6 mm ID

2.6 µm Minibore Columns (mm)						SecurityGuard [™] ULTRA Cartridges [‡]
Phases	30 x 2.1	50 x 2.1	75 x 2.1	100 x 2.1	150 x 2.1	3/pk
C18	00A-4462-AN	00B-4462-AN	00C-4462-AN	00D-4462-AN	00F-4462-AN	AJ0-8782 for 2.1 mm ID

2.6 µm MidBore [™] Columns (mm)						SecurityGuard [™] ULTRA Cartridges [‡]
Phases	30 x 3.0	50 x 3.0	75 x 3.0	100 x 3.0	150 x 3.0	3/pk
C18	00A-4462-Y0	00B-4462-Y0	00C-4462-Y0	00D-4462-Y0	00F-4462-Y0	AJ0-8775 for 3.0 mm ID

2.6 µm Analytical Columns (mm)						SecurityGuard [™] ULTRA Cartridges [‡]
Phases	30 x 4.6	50 x 4.6	75 x 4.6	100 x 4.6	150 x 4.6	3/pk
C18	00A-4462-E0	00B-4462-E0	00C-4462-E0	00D-4462-E0	00F-4462-E0	AJ0-8768 for 4.6 mm ID

1.7 µm Minibore Columns (mm)					SecurityGuard [™] ULTRA Cartridges [‡]
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
C18	00A-4475-AN	00B-4475-AN	00D-4475-AN	00F-4475-AN	AJ0-8782 for 2.1 mm ID

1.7 µm MidBore Columns (mm)				SecurityGuard [™] ULTRA Cartridges [‡]
Phases	50 x 3.0	100 x 3.0		3/pk
C18	00B-4475-Y0	00D-4475-Y0		AJ0-8775 for 3.0 mm ID

1.3 µm Minibore Columns (mm)		
Phases	30 x 2.1	50 x 2.1
C18	00A-4515-AN	00B-4515-AN

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