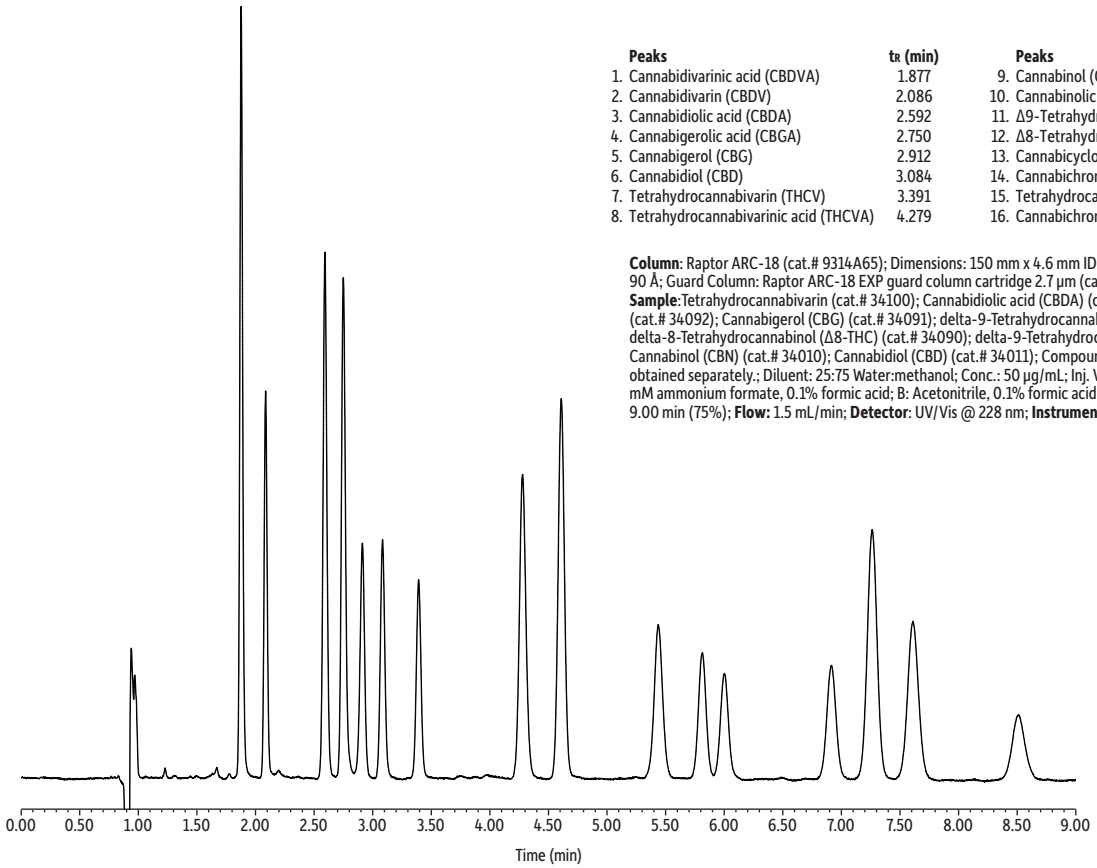
Featured Application: *Cannabinoid Profiles on Raptor ARC-18*

High-Throughput Analysis of Cannabinoids by LC-UV

- Increase sample throughput with this fast, 9-minute analysis.
- Baseline separation of 16 cannabinoids provides more accurate and comprehensive potency and profile data.
- Simple, isocratic method is more easily transferable between instruments and labs than gradient methods.

As the cannabis market grows, interest in more detailed analysis of cannabinoid profiles is expanding because more comprehensive data can be used for strain identification as well as to ensure more accurate potency testing. More than 100 cannabinoids have been isolated from cannabis to date, and these compounds can interfere with the five most commonly analyzed cannabinoids: tetrahydrocannabinol (THC), delta-9-tetrahydrocannabinolic acid A (THCA), cannabidiol (CBD), cannabidiolic acid (CBDA), and cannabinol (CBN). The LC-UV method shown here uses a Raptor ARC-18 column to fully resolve 16 major and most frequently observed minor cannabinoids for which commercial standards are available. Baseline separation ensures positive identification and accurate quantitation. As shown, all compounds were resolved in a fast 9-minute analysis, making this method suitable for high-throughput cannabis testing labs. In addition, this analysis uses a simple isocratic mobile phase so it is more easily transferable between instruments, compared to more complex methods that incorporate atypical mobile phase gradients or additives.



	Peaks	t_R (min)		Peaks	t_R (min)
1.	Cannabidivarinic acid (CBDVA)	1.877	9.	Cannabinol (CBN)	4.609
2.	Cannabidivarin (CBDV)	2.086	10.	Cannabinolic acid (CBNA)	5.437
3.	Cannabidiolic acid (CBDA)	2.592	11.	Δ9-Tetrahydrocannabinol (Δ9-THC)	5.815
4.	Cannabigerolic acid (CBGA)	2.750	12.	Δ8-Tetrahydrocannabinol (Δ8-THC)	6.002
5.	Cannabigerol (CBG)	2.912	13.	Cannabicyclol (CBL)	6.916
6.	Cannabidiol (CBD)	3.084	14.	Cannabichromene (CBC)	7.263
7.	Tetrahydrocannabivarin (THCV)	3.391	15.	Tetrahydrocannabinolic acid A (THCA-A)	7.612
8.	Tetrahydrocannabivarinic acid (THCVA)	4.279	16.	Cannabichromenic acid (CBCA)	8.510

Column: Raptor ARC-18 (cat.# 9314A65); Dimensions: 150 mm x 4.6 mm ID; Particle Size: 2.7 µm; Pore Size: 90 Å; Guard Column: Raptor ARC-18 EXP guard column cartridge 2.7 µm (cat.# 9314A0250); Temp.: 30 °C; **Sample**:Tetrahydrocannabivarin (cat.# 34100); Cannabidiolic acid (CBDA) (cat.# 34099); Cannabichromene (CBC) (cat.# 34092); Cannabigerol (CBG) (cat.# 34091); delta-9-Tetrahydrocannabinolic acid A (THCA-A) (cat.# 34093); delta-8-Tetrahydrocannabinol (Δ8-THC) (cat.# 34090); delta-9-Tetrahydrocannabinol (Δ9-THC) (cat.# 34067); Cannabinol (CBN) (cat.# 34010); Cannabidiol (CBD) (cat.# 34011); Compounds not present in these mixes were obtained separately.; Diluent: 25:75 Water:methanol; Conc.: 50 µg/mL; Inj. Vol.: 5 µL; **Mobile Phase:** A: Water, 5 mM ammonium formate, 0.1% formic acid; B: Acetonitrile, 0.1% formic acid; **Gradient (%B):** 0.00 min (75%), 9.00 min (75%); **Flow:** 1.5 mL/min; **Detector**: UV/Vis @ 228 nm; **Instrument**: HPLC

Raptor ARC-18 LC Columns (USP L1)

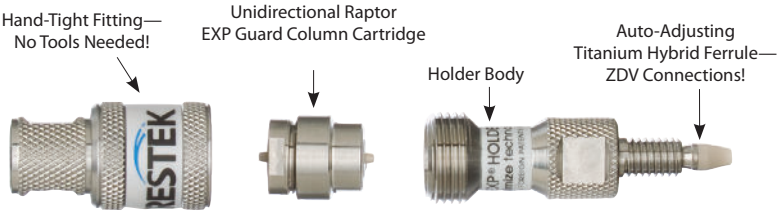
Length	2.1 mm cat.#	3.0 mm cat.#	4.6 mm cat.#
1.8 µm Columns			
30 mm	9314232	—	—
50 mm	9314252	931425E	—
100 mm	9314212	931421E	—
150 mm	9314262	—	—
2.7 µm Columns			
30 mm	9314A32	9314A3E	9314A35
50 mm	9314A52	9314A5E	9314A55
100 mm	9314A12	9314A1E	9314A15
150 mm	9314A62	9314A6E	9314A65
5 µm Columns			
30 mm	—	931453E	—
50 mm	9314552	931455E	9314555
100 mm	9314512	931451E	9314515
150 mm	9314562	931456E	9314565
250 mm	—	—	9314575

Thomson SINGLE StEP Standard Filter Vials

Porosity	Color	qty.	cat.#
Nylon			
0.2 µm	black pre-slit cap	100-pk.	25891
0.45 µm	pink pre-slit cap	100-pk.	25892
PES (polyethersulfone)			
0.2 µm	grey pre-slit cap	100-pk.	25897
PTFE (polytetrafluoroethylene)			
0.2 µm	green pre-slit cap	100-pk.	25893
0.45 µm	blue pre-slit cap	100-pk.	25894
PVDF (polyvinyldifluoride)			
0.2 µm	red pre-slit cap	100-pk.	25895
0.45 µm	yellow pre-slit cap	100-pk.	25896

Patent No. 7,790,117

Raptor EXP Guard Cartridges



Protect your investment and extend the life of our already-rugged LC columns and change guard column cartridges by hand without breaking fluid connections—no tools needed!

EXP Direct Connect Holder

Description	qty.	cat.#
EXP Direct Connect Holder for EXP Guard Cartridges (includes hex-head fitting & 2 ferrules)	ea.	25808

Maximum holder pressure: 20,000 psi (1,400 bar)

Raptor EXP Guard Column Cartridges

Description	Particle Size	qty.	5 x 2.1 mm cat.#	5 x 3.0 mm cat.#	5 x 4.6 mm cat.#
Raptor ARC-18 EXP Guard Column Cartridge	2.7 µm	3-pk.	9314A0252	9314A0253	9314A0250
Raptor ARC-18 EXP Guard Column Cartridge	5 µm	3-pk.	931450252	931450253	931450250

Maximum cartridge pressure: 600 bar/8,700 psi (2.7 µm) or 400 bar/5,800 psi (5 µm).

Raptor SPP LC columns combine the speed of SPP with the resolution of USLC technology. Learn more at **www.restek.com/raptor**

Medical Marijuana Singles

Certified reference materials (CRMs) manufactured and QC-tested in ISO-accredited labs satisfy your ISO requirements.

Concentration is µg/mL. Volume is 1 mL/ampul.

Compound	CAS #	Solvent	Conc.	cat.#
Cannabichromene (CBC)	20675-51-8	PTM	1,000	34092
Cannabidiol (CBD)	13956-29-1	PTM	1,000	34011
Cannabidiolic Acid (CBDA)	1244-58-2	ACN	1,000	34099
Cannabigerol (CBG)	25654-31-3	PTM	1,000	34091
Cannabinol (CBN)	521-35-7	PTM	1,000	34010
delta-8-Tetrahydrocannabinol (Δ^8-THC)	5957-75-5	PTM	1,000	34090
delta-9-Tetrahydrocannabinol (Δ^9-THC)	1972-08-3	M	1,000	34067
delta-9-Tetrahydrocannabinolic acid A (THCA-A)	23978-85-0	PTM	1,000	34093
Tetrahydrocannabivarin	31262-37-0	M	1,000	34100

ACN = acetonitrile; M = methanol; PTM = purge-and-trap grade methanol

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