

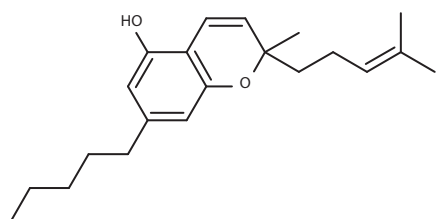


## CANNABINOIDS

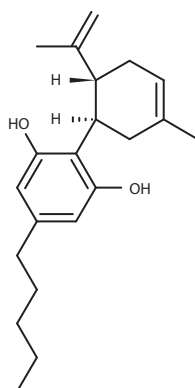
## INTRODUCTION

Cannabinoids have become more and more popular thanks to their health effects and the decriminalisation of their use. Analytical columns that can offer a suitable resolution play an important role. The challenge is to achieve the separation of the critical pair – CBD and CBG.

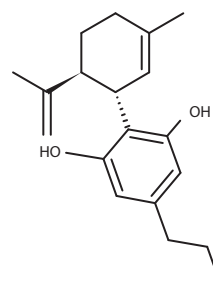
**Substance:** Cannabinoids (see the Analytes)



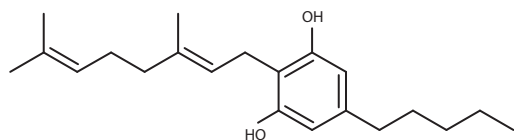
Cannabichromene (CBC)



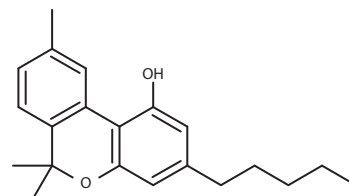
Cannabidiol (CBD)



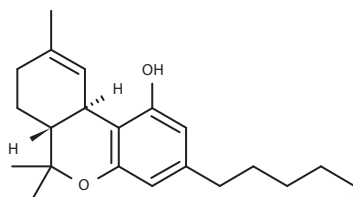
Cannabidivarin (CBDV)



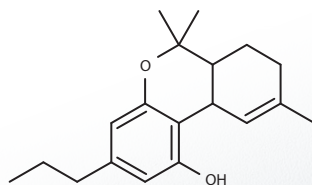
Cannabigerol (CBG)



Cannabinol (CBN)



(-)-trans-Δ9-THC (THC)



Tetrahydrocannabivarin (THCV)

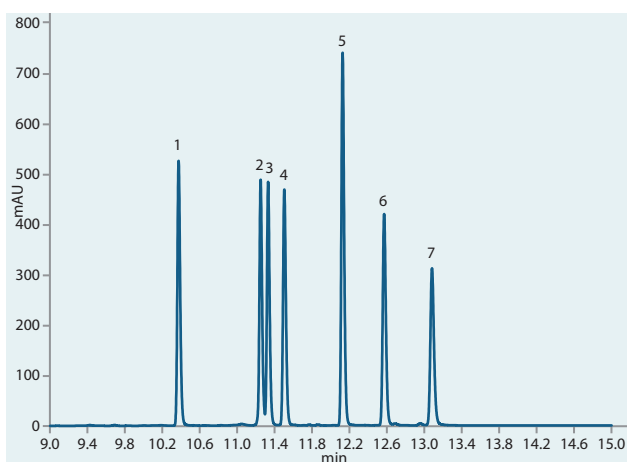




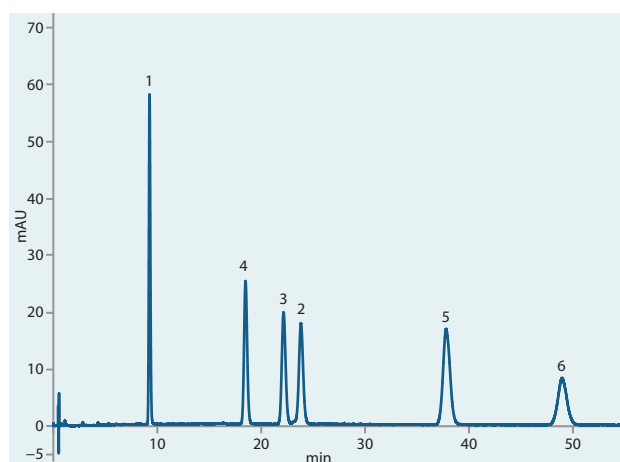
## CANNABINOIDS

## CBD AND CBG SEPARATION

The ARION® column shows the separation of CBD and CBG. When running gradient mode, separation is possible within 15 minutes. The isocratic mode enables a baseline separation of CBD and CBG, but the analysis takes longer. Also the selectivity of CBG, CBD and THCV changes. This phenomenon appears throughout the different column phases.



Standard on ARION® Plus C18, 1.7 μm



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|                         |                                                                                                                       |              |              |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------|--------------|
| <b>Columns</b>          | ARION® Plus C18, 1.7 μm                                                                                               |              |              |
| <b>Dimensions</b>       | 100 mm × 2.1 mm                                                                                                       |              |              |
| <b>Part numbers</b>     | ARI-5720-BI21                                                                                                         |              |              |
| <b>Mobile phase</b>     | (A) Water, (B) Acetonitrile                                                                                           |              |              |
| <b>Gradient elution</b> | <b>Time</b>                                                                                                           | <b>A (%)</b> | <b>B (%)</b> |
|                         | 0                                                                                                                     | 70           | 30           |
|                         | 1                                                                                                                     | 70           | 30           |
|                         | 5                                                                                                                     | 50           | 50           |
|                         | 10                                                                                                                    | 10           | 90           |
|                         | 13                                                                                                                    | 10           | 90           |
|                         | 14                                                                                                                    | 70           | 30           |
|                         | 16                                                                                                                    | 70           | 30           |
| <b>Flow rate</b>        | 0.3 ml/min                                                                                                            |              |              |
| <b>Temperature</b>      | 30 °C                                                                                                                 |              |              |
| <b>Detection</b>        | DAD @220 nm                                                                                                           |              |              |
| <b>Analytes</b>         | <b>1. CBDV</b><br><b>2. CBG</b><br><b>3. CBD</b><br><b>4. THCV</b><br><b>5. CBN</b><br><b>6. THC</b><br><b>7. CBC</b> |              |              |

|                     |                                                                                                                       |  |  |
|---------------------|-----------------------------------------------------------------------------------------------------------------------|--|--|
| <b>Columns</b>      | ARION® Plus C18, 1.7 μm                                                                                               |  |  |
| <b>Dimensions</b>   | 100 mm × 2.1 mm                                                                                                       |  |  |
| <b>Part numbers</b> | ARI-5720-BI21                                                                                                         |  |  |
| <b>Mobile phase</b> | Water/Acetonitrile 50/50 (v/v)                                                                                        |  |  |
| <b>Flow rate</b>    | 0.5 ml/min                                                                                                            |  |  |
| <b>Temperature</b>  | 40 °C                                                                                                                 |  |  |
| <b>Detection</b>    | DAD @220 nm                                                                                                           |  |  |
| <b>Analytes</b>     | <b>1. CBDV</b><br><b>2. CBG</b><br><b>3. CBD</b><br><b>4. THCV</b><br><b>5. CBN</b><br><b>6. THC</b><br><b>7. CBC</b> |  |  |