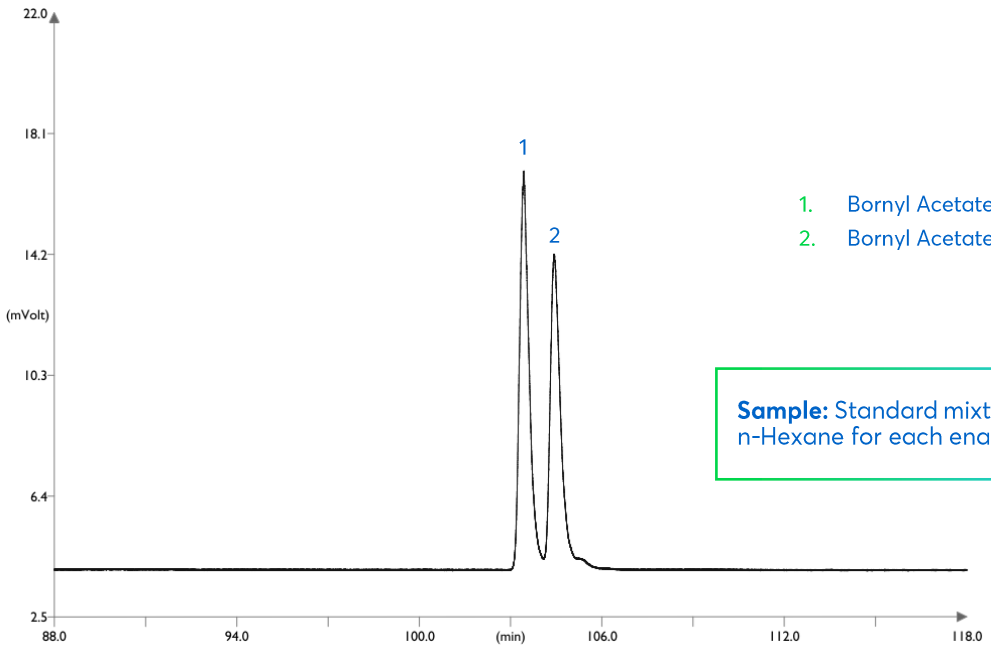
Chromatography Solutions

Application note # C-13002

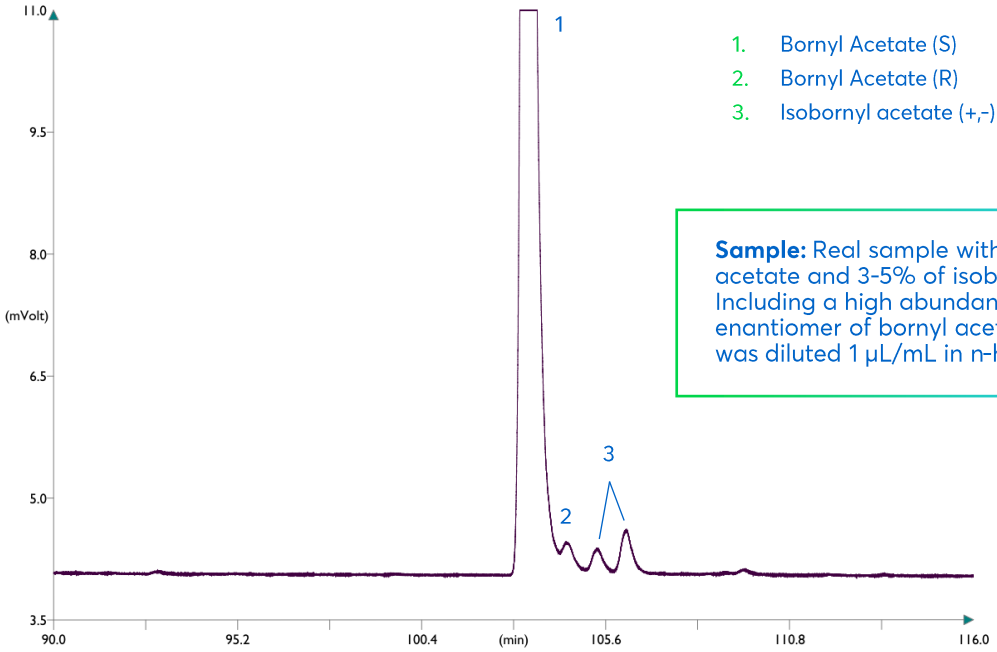
Chiral Separation of Bornyl Acetate using the Avantor® Hichrom HI-DEX G-01 Phase



1. Bornyl Acetate (S)
2. Bornyl Acetate (R)

Sample: Standard mixture, diluted 1 µL/mL in n-Hexane for each enantiomer.

Figure 1: Separation of bornyl acetate enantiomers in a standard mixture using the Avantor® Hichrom HI-DEX G-01 phase.



1. Bornyl Acetate (S)
2. Bornyl Acetate (R)
3. Isobornyl acetate (+,-)

Sample: Real sample with 95-97% of bornyl acetate and 3-5% of isobornyl acetate. Including a high abundance of the "S" enantiomer of bornyl acetate. The sample was diluted 1 µL/mL in n-hexane.

Figure 2: Separation of bornyl acetate and isobornyl acetate enantiomers in a real sample using the Avantor® Hichrom HI-DEX G-01 phase.

Method Details

CONDITIONS

Oven Program:	40 °C, 0.5 °C/min, 99 °C
Carrier Gas:	Hydrogen, 180 kPa (best conditions with Helium carrier gas are 300 kPa pressure)
Injection:	Split, 250 °C, 75 mL/min split flow, 0.5 µL injection volume
Detector:	FID, 250 °C

The HI-DEX G-01 is a proprietary cyclodextrin phase, useful in the analysis of chiral compounds in fragrances, pesticides and pharmaceuticals. This unique selectivity is able to separate Bornyl Acetate enantiomers.

ORDERING TABLE

Product	Details	Dimensions	Part Number
Avantor® Hichrom HI-DEX G-01	GC Column	0.25 mm, 0.25 µm, 60 m	HI74-25-025-60

This separation is difficult to obtain and it is recommended to follow the chromatographic conditions reported here, which are the optimised parameters for this analysis.

Avantor®