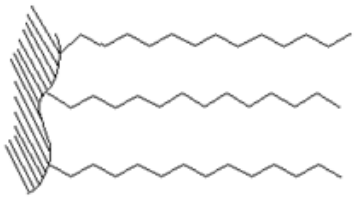
CoAp # 2019-1

# Cool Applications

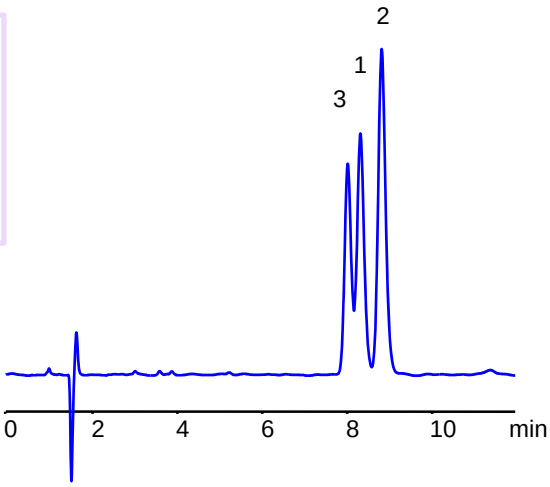
"Making Tough LC Applications Look Cool"

## HPLC SEPARATION OF MIXTURE OF PHENYLPROPANOLS

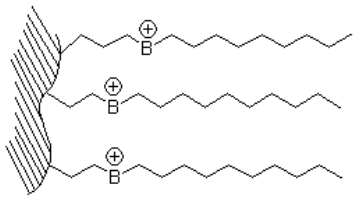
### Reverse phase columns



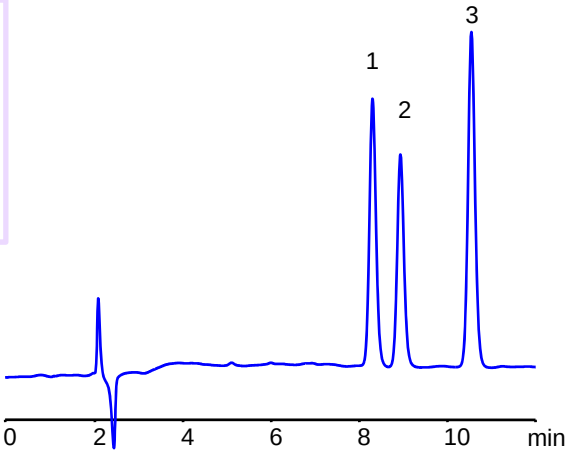
**Column:** C18
**Column size:** 4.6 × 150 mm, 5 µm
**Mobile phase:** MeCN /H2O -30/70%
**Buffer:** Acetic Acid 0.1%
**Flow rate:** 1 mL/min
**UV detection:** 207 nm



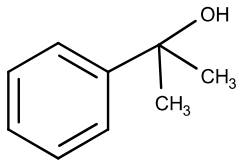

### Primesep SB mixed-mode column



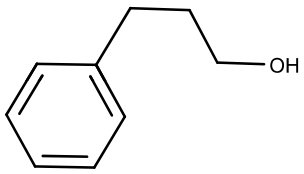
**Column:** Primesep SB
**Column size:** 4.6 × 100 mm, 5 µm
**Mobile phase:** Gradient MeCN – 10-30% 15 min
**Buffer:** Acetic Acid 0.1%
**Flow rate:** 1 mL/min
**UV detection:** 207 nm



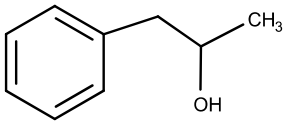

1 2-Phenyl-2-propanol




2 3-Phenyl-1-propanol




3 1-Phenyl-2-propanol




## Application Comments

Separation of structural isomers in reverse phase (RP) chromatography can be a challenging task. Many different RP columns of C18, C8 or phenyl type can be screened to find one which is selective enough to resolve peaks of structurally similar compounds. Mixed-mode columns are generally used for separation of charged molecules, but can also be used as an alternative RP media for neutral molecules.

Example here shows a chromatogram of 2-phenylpropanol isomers separation. In order to obtain a base line resolution, many brands of RP columns were screened. However no satisfactory separation was found. When Primesep SB column - a reverse phase-anion exchange mixed mode column - was used, the separation was obtained with resolution of 2.0 for closely eluted peaks.

Thus, a positively charged reverse stationary phase provides selectivity as an alternative to most other RP phases, which generally have a negative surface charge due to residual silica effect.