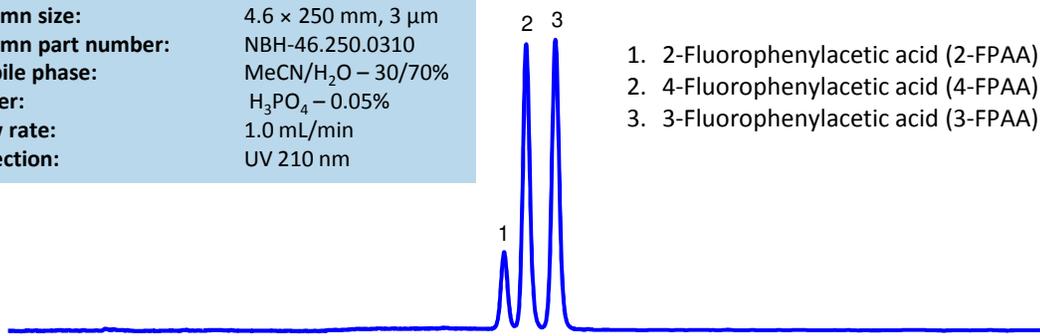


Cool Applications

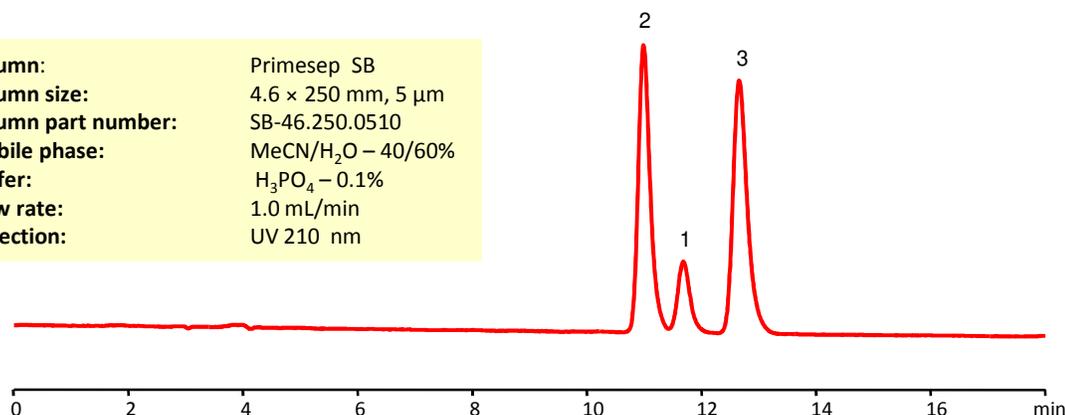
"Making Tough LC Applications Look Cool"

HPLC Separation of 2-Fluorophenylacetic acid, 4-Fluorophenylacetic acid, 3-Fluorophenylacetic acid on SIELC Columns

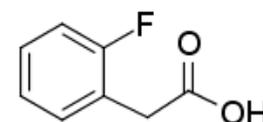
Column: Newcrom BH
Column size: 4.6 × 250 mm, 3 μm
Column part number: NBH-46.250.0310
Mobile phase: MeCN/H₂O – 30/70%
Buffer: H₃PO₄ – 0.05%
Flow rate: 1.0 mL/min
Detection: UV 210 nm

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1. 2-Fluorophenylacetic acid (2-FPAA)
 2. 4-Fluorophenylacetic acid (4-FPAA)
 3. 3-Fluorophenylacetic acid (3-FPAA)

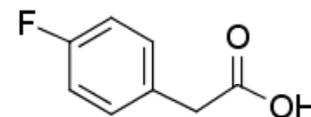
Column: Primesep SB
Column size: 4.6 × 250 mm, 5 μm
Column part number: SB-46.250.0510
Mobile phase: MeCN/H₂O – 40/60%
Buffer: H₃PO₄ – 0.1%
Flow rate: 1.0 mL/min
Detection: UV 210 nm



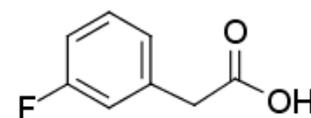
1. 2-Fluorophenylacetic acid



2. 4-Fluorophenylacetic acid



3. 3-Fluorophenylacetic acid



Application Comments

The separation of structural isomers often is a challenging task in HPLC. Even more challenging is to change their elution order. Occasionally when we work with customer samples we see some unusual selectivity of mixed-mode columns. In these examples two anion-exchange –RP mixed-mode columns produced a different selectivity toward isomers of fluorophenylacetic acids.

These two columns are different in position of embedded basic functional group in relation to the silica gel surface. Newcrom BH has a ligand with terminal basic functional groups while Primesep SB has an embedded basic functional group close to the silica surface. The silica surface probably plays a role in this selectivity difference.

SIELC portfolio has several types of cation-RP and anion-RP mixed-mode columns. This example justifies their existence as a tool for resolving sometimes very challenging separations.

If you have a hard time solving your separation problem, send us a request and we will be glad to work it out. Service is free and confidential if required.