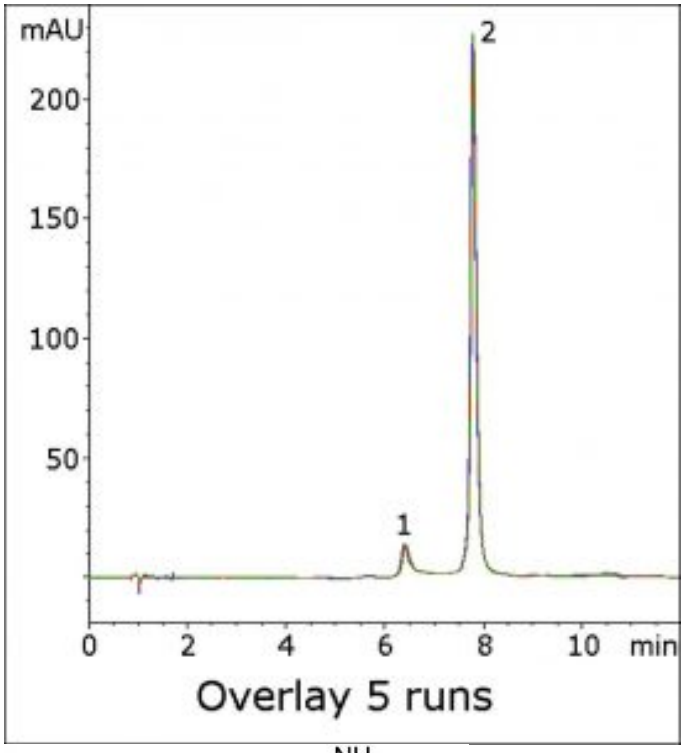
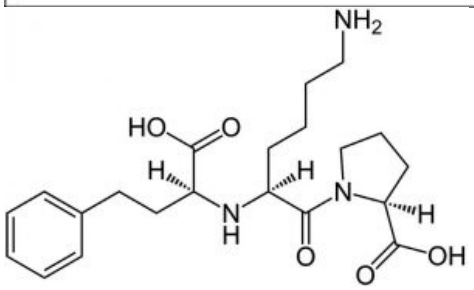
Lisinopril Analysis by HPLC – AppNote

Retention and Peak Shape for Highly Polar Compound

As a highly hydrophilic compound, Lisinopril is not well-suited to Reversed Phase Methods. The USP assay method for Lisinopril uses a highly Aqueous Mobile Phase (*96% 2.76 g / L Monobasic Sodium Phosphate adjusted to pH 5.0 / 4% Acetonitrile*) in Reversed Phase with an L7 Column.

The Peak efficiency was found to be significantly low when using the USP method. In this method, hydrophilic retention is readily achieved (*see Figure*) with a symmetric Peak shape. The analyte retention shows good repeatability, as shown in the five-run overlay.





Peaks:

1. Impurity
2. Lisinopril

Method Conditions

Column: Cogent Diamond Hydride™, 4µm, 100Å

Catalog No.: 70000-7.5P

Dimensions: 4.6 x 75mm

Mobile Phase:

A: DI Water / 0.1% Formic Acid (v/v)

B: Acetonitrile / 0.1% Formic Acid (v/v)

Gradient:

Time *(minutes)*	%B
0	85
2	20
9	20
10	85

Post Time: 2 minutes

Flow rate: 1.0 mL / minute

Detection: UV @ 215nm

Injection vol.: 5µL

Sample Preparation:

Stock Solution: 1mg / mL Lisinopril in 50% Solvent A / 50% Solvent B diluent

Working Solution: Stock solution was diluted to 0.1 mg / mL with 50% Solvent A / 50% Solvent B diluent

t_0: 0.9 minutes

Note: *Lisinopril is an Angiotensin-Converting Enzyme (ACE) inhibitor that is used for treatment of cardiovascular conditions such as hypertension, congestive heart failure, and heart attacks.*

Attachment

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MicroSolv Technology Corporation

9158 Industrial Blvd. NE, Leland, NC 28451

tel. (732) 380-8900, fax (910) 769-9435

Email: customers@mtc-usa.com

Website: www.mtc-usa.com

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