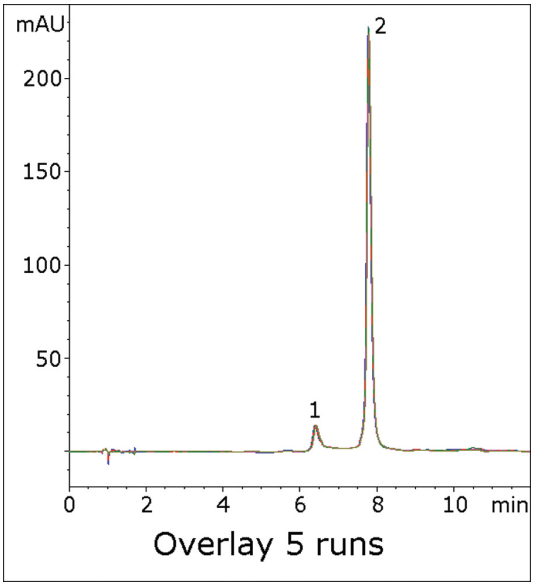
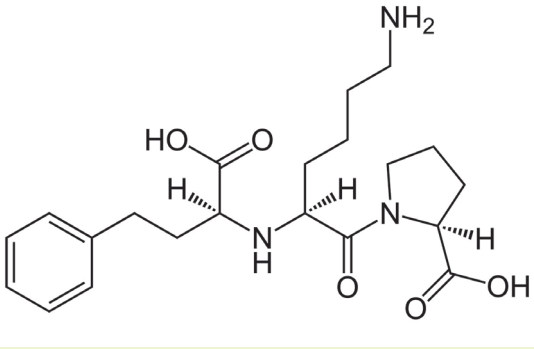
Lisinopril

Excellent retention and peak shape for highly polar compound





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.

Method Conditions

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

Catalog No.: 70000-7.5P

Dimensions: 4.6 x 75 mm

Mobile Phase: A: DI H_2O / 10mM ammonium acetate
B: 90% acetonitrile / 10% DI H_2O / 10 mM ammonium acetate

Gradient:

time (min.)	%B
0	85
2	20
9	20
10	85

Post Time: 2 min

Injection vol.: 5 microL

Flow rate: 1.0 mL/min

Detection: UV 215nm

Sample: **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

Peaks: 1. impurity
2. Lisinopril

t_0: 0.9 min

Discussion

As a highly hydrophilic compound, lisinopril is not well-suited to reverse 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 reverse phase with an L7 column. Furthermore, the peak efficiency was found to be significantly low when using the USP method. With the Cogent Diamond Hydride column, however, hydrophilic retention is readily achieved (see Figure) with a symmetric peak shape. The analyte retention shows excellent repeatability, as shown in the five-run overlay.

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