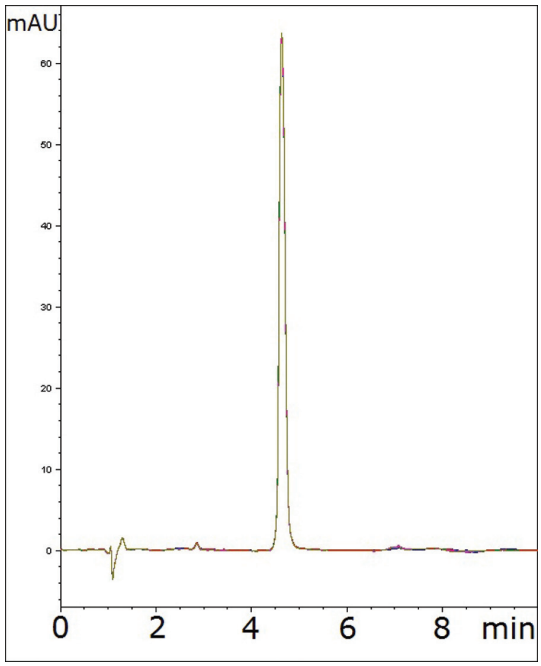
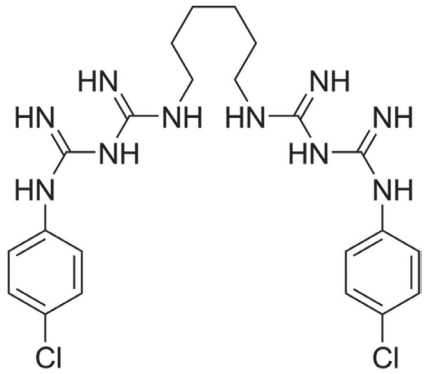
Chlorhexidine

Rapid, reliable assay without ion-pairing agents





Note: Chlorhexidine is an antiseptic which is used in a variety of common products, including contact lens solutions and mouthwash.

Method Conditions

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

Catalog No.: 70000-7.5P

Dimensions: 4.6 x 75 mm

Solvents: A: DI H_2O / 0.1% formic acid
B: 97% acetonitrile / 3% DI H_2O / 0.1% formic acid

Gradient:

time (min.)	%B
0	75
5	10
6	75

Injection vol.: 2µL

Flow rate: 1.0 mL/min

Detection: UV 239 nm

Sample: Stock Solution: 1 mg/mL chlorhexidine in methanol diluent.
Working Solution: A 100µL aliquot of the stock was diluted to 0.1 mg/mL using 900µL 50% solvent A / 50% solvent B mixture diluent.

Peak: Chlorhexidine

t_0: 1.0 min

Discussion

Chlorhexidine contains numerous amine functionalities that can have a detrimental effect on peak shape. The reversedphase USP assay method uses triethylamine in the mobile phase for this reason. However, the method developed here in aqueous normal phase (ANP) mode uses only formic acid as the mobile phase additive. The figure illustrates how retention by an ANP mechanism can often avoid peak shape issues encountered in reversed phase. In addition, the method shows excellent repeatability, as is shown by the five-run overlay in the figure.

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