

Urea Analysis

Application

Organic Chemical

Robert Ricker

Amines can be difficult to analyze by reversed-phase HPLC. Excessive retention and poor peak shape, or lack of retention, must be overcome for rugged chromatography. Urea and uracil are both unretained by reversed-phase columns because they are highly hydrophilic. By using the Agilent ZORBAX Rx-SIL column with a reversed-phase mobile phase, not only are these compounds retained, but they are also resolved. Under these conditions, retention of urea is mainly due to electrostatic interaction.

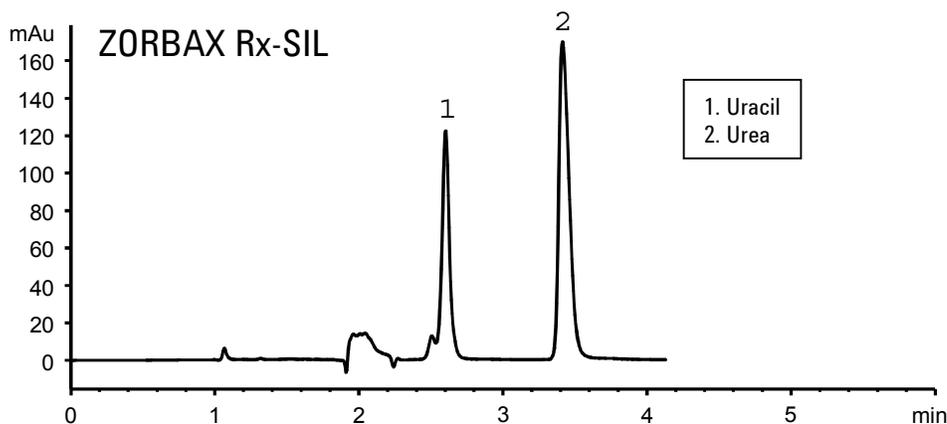
Operating Conditions:

HPLC System: HP1090
Column: ZORBAX Rx-SIL, 4.6 x 150 mm
Agilent Part No. 883975-901
Mobile Phase: ACN: K₂HPO₄, 20 mM pH 7.2 (90:10)
Detection: UV 210 nm
Flow: 1 mL/ min.
Temperature: ambient

Note: Rx-SIL columns are shipped containing normal phase solvent. They must be flushed with a miscible solvent, such as THF, before equilibrating with aqueous mobile phase.

Highlights

- ZORBAX Rx-SIL with a reversed-phase eluent is an option for analysis of very hydrophilic compounds.
- ZORBAX Rx-SIL with a reversed-phase eluent offers unique selectivity, often very different than that with bonded-phase.
- ZORBAX Rx-SIL particles are stronger (thicker walls) than xerogel silicas and are more resistant to dissolution.



Agilent Technologies

*Robert Ricker is an application chemist
based at Agilent Technologies, Wilmington,
Delaware.*

For more information on our products and
services, visit our website at:
www.agilent.com/chem

Copyright© 2002 Agilent Technologies, Inc.
All Rights Reserved. Reproduction,
adaptation or translation without prior
written permission is prohibited, except as
allowed under the copyright laws.

Agilent shall not be liable for errors
contained herein or for incidental or
consequential damages in connection with
the furnishing, performance, or use of this
material.

Information, descriptions, and specifications
in this publication are subject to change
without notice.

Printed in the USA
April 25, 2002
5988-6370EN



Agilent Technologies