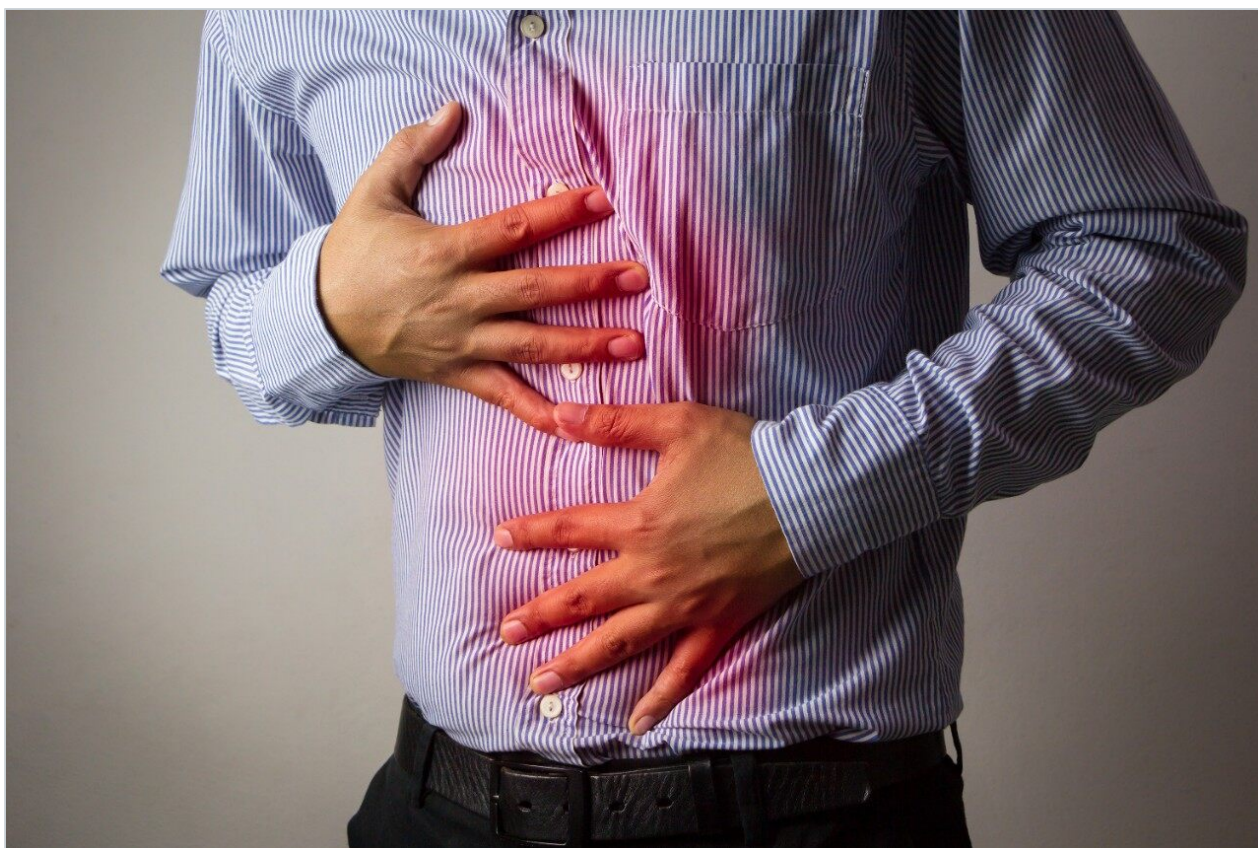




Lansoprazole: Isocratic Separation and Degradation by 0.4 N HCl

Waters Corporation



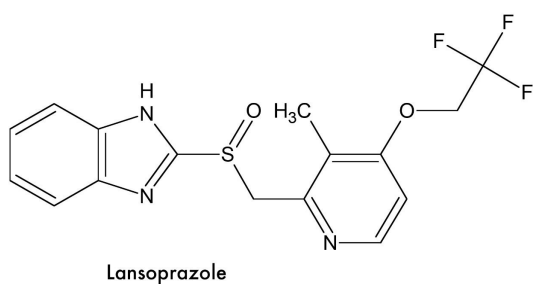
This is an Application Brief and does not contain a detailed Experimental section.

Abstract

This application brief highlights the isocratic separation and degradation of lansoprazole.

Introduction

Lansoprazole is used to treat ulcers, gastroesophageal reflux disease (GERD), and conditions where the stomach produces too much acid.



Experimental

Conditions

Column:	SunFire C ₁₈ 4.6 x 150 mm, 5.0 μm (p/n: 186002559)
Mobile phase A:	20 mM HCOO-NH ₄ +, pH 3.0
Mobile phase B:	Acetonitrile
Isocratic:	as indicated
Flow rate:	1.4 mL/min
Injection volume:	2 μL

Sample Diluent:	75:25 H ₂ O:ACN
Sample concentration:	350 µg/mL
Temperature:	30 °C
Detection:	UV @ 254 nm
Sampling rate:	10 pts/sec
Time Constant:	0.1
Instrument:	Waters Alliance HT 2795, with 2996

Conditions

Column:	SunFire C ₁₈ 4.6 x 150 mm, 5.0 µm (p/n: 186002559) SunFire C ₈ 4.6 x 150 mm, 5.0 µm (p/n: 186002737)
Mobile phase A:	20 mM HCOO-NH ₄ +, pH 3.0
Mobile phase B:	Acetonitrile
Isocratic:	as indicated
Flow rate:	1.4 mL/min
Injection volume:	5 µL
Sample Diluent:	50:50 H ₂ O:ACN
Sample concentration:	2.63 mg/mL

Temperature:	30 °C
Detection:	UV @ 254 nm
Sampling rate:	5 pts/sec
Time Constant:	1
Instrument:	Waters Alliance HT 2795, with 2996

Degradation Conditions:

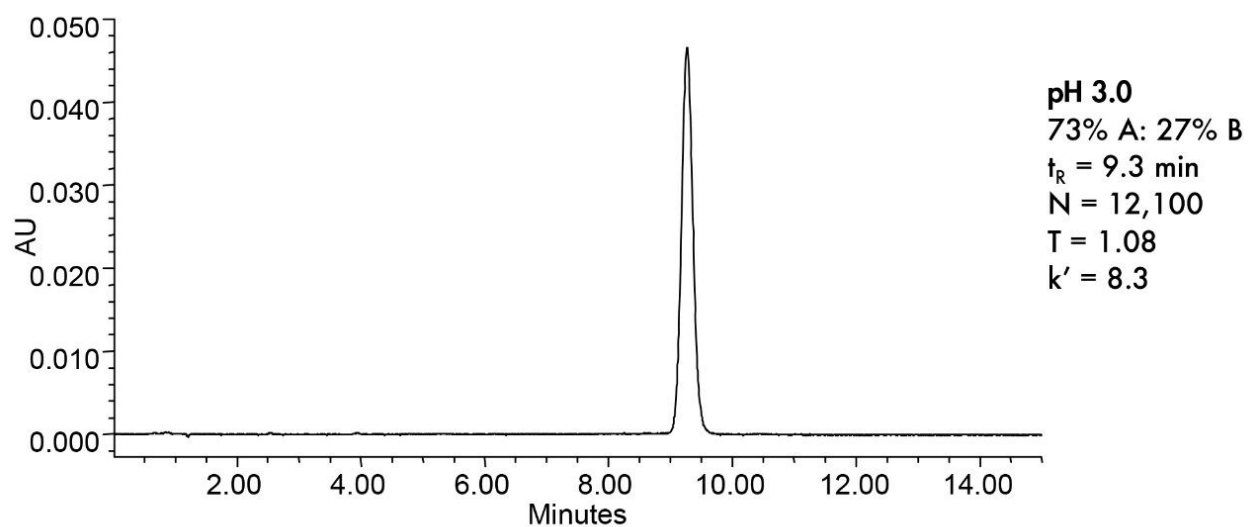
Temperature: ambient

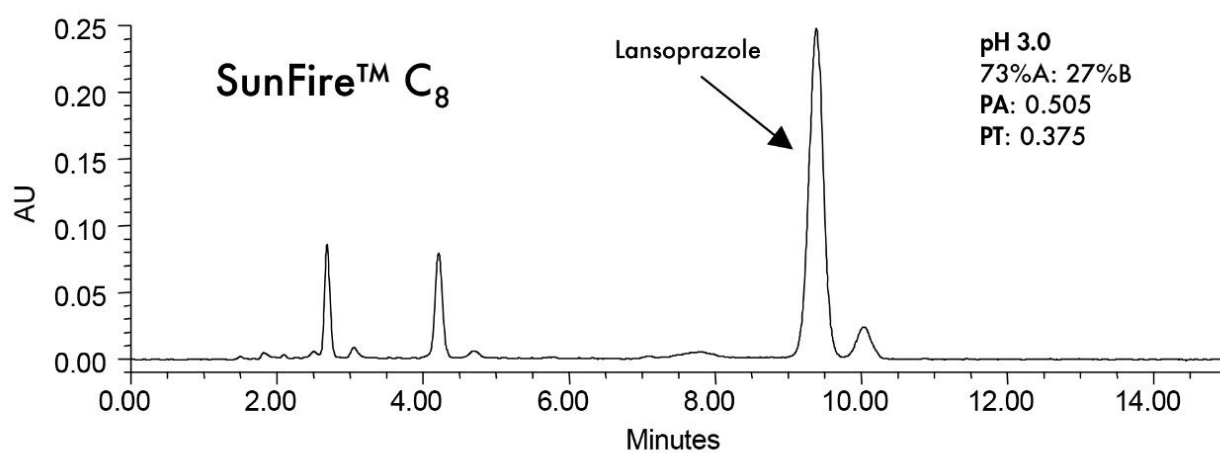
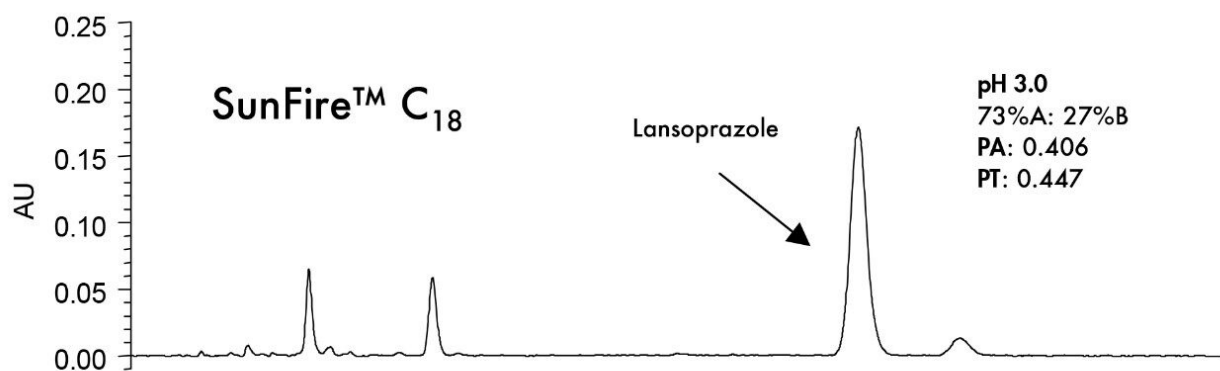
50 mg of Lansoprazole + 5 mL of 0.4N HCl stirred for ~ 30 seconds

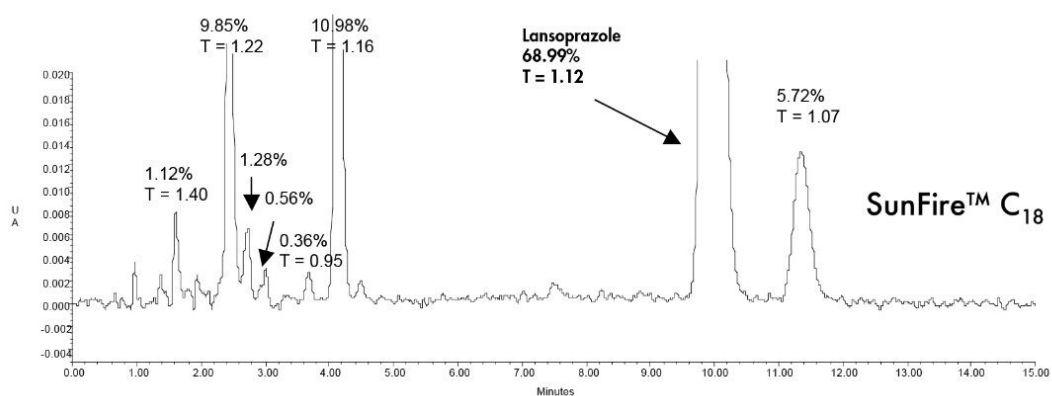
Stop reaction by add 0.9 mL of 0.4N NaOH, then dilute with 1.9 mL ACN

Lansoprazole degraded ~ 32%

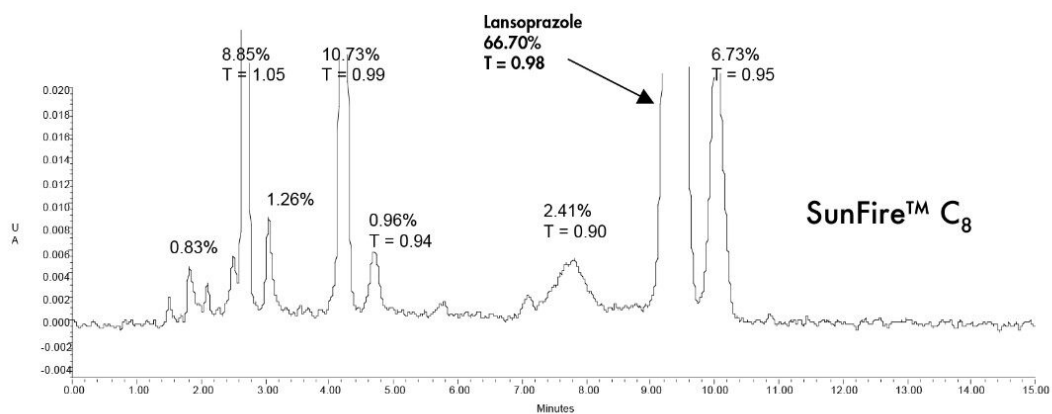
Results and Discussion







pH 3.0
73%A: 27%B
PA: 0.406
PT: 0.447



pH 3.0
73%A: 27%B
PA: 0.505
PT: 0.375

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Alliance HPLC <<https://www.waters.com/514248>>

WA41893, March 2005