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응용 자료

Sulfonamides

Waters Corporation

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

Abstract

This application brief demonstrates analysis of Sulfonamides using Sunfire C_{18} and C_8 Columns. Sulfonamides are class of antibiotics used to treat a wide range of bacterial infections.

Introduction

The compounds analysed in this study using Sunfire C_{18} Column are -

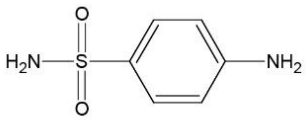
Compounds	USP tailing
1. Sulfanilamide	1.30
2. Sulfathiazole	1.24
3. Sulfamerazine	1.17
4. Sulfamethoxazole	1.18
5. Sulfaquinoxaline	1.18

The compounds analysed in this study using Sunfire C_8 150 mm Column are -

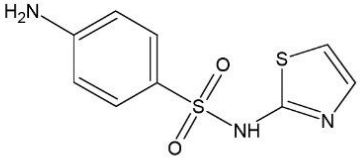
Compounds	USP tailing
1. Sulfanilamide	1.39
2. Sulfathiazole	1.25
3. Sulfamerazine	1.18
4. Sulfamethoxazole	1.18
5. Sulfaquinoxaline	1.22

The compounds analysed in this study using Sunfire C_8 100 mm Column are -

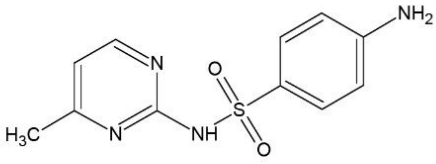
Compounds	USP tailing
1. Sulfanilamide	1.34
2. Sulfathiazole	1.24
3. Sulfamerazine	1.25
4. Sulfamethoxazole	1.12
5. Sulfaquinoxaline	1.24



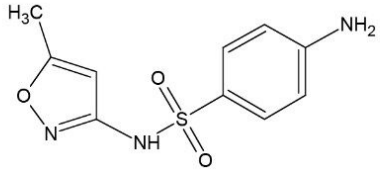
Sulfanilamide



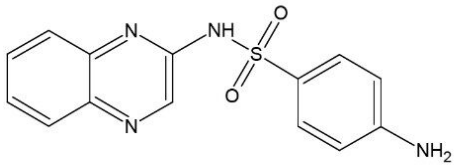
Sulfathiazole



Sulfamerazine



Sulfamethoxazole



Sulfaquinoxaline

Experimental

Conditions

Column:	SunFire C_{18}, 4.6 x 150 mm, 5 µm

Part number:	186002559
Mobile phase A:	Water
Mobile phase B:	Acetonitrile
Mobile phase C:	100 mM $CH_3COO^-NH_4^+$, pH 5.0
Flow rate:	1 mL/min
Injection volume:	10 µL
Sample concentration:	10 µg/mL in water
Temperature:	30 °C
Detection:	UV @ 254 nm
Instrument:	Alliance 2695 with 2996 PDA

Gradient

Time (min)	Profile		
	%A	%B	%C
0.0	75	15	10
10.0	30	60	10
12.0	75	15	10
20.0	75	15	10

Conditions

Column:	SunFire C_8, 4.6 x 150 mm, 5 µm

Part number:	186002737
Mobile phase A:	Water
Mobile phase B:	Acetonitrile
Mobile phase C:	100 mM $CH_3COO^-NH_4^+$, pH 5.0
Flow rate:	1 mL/min
Injection volume:	10 µL
Sample concentration:	10 µg/mL in water
Temperature:	30 °C
Detection:	UV @ 254 nm
Instrument:	Alliance 2695 with 2996 PDA

Note: Method is same as for the C_{18}.

Gradient

Time (min)	Profile		
	%A	%B	%C
0.0	75	15	10
10.0	30	60	10
12.0	75	15	10
20.0	75	15	10

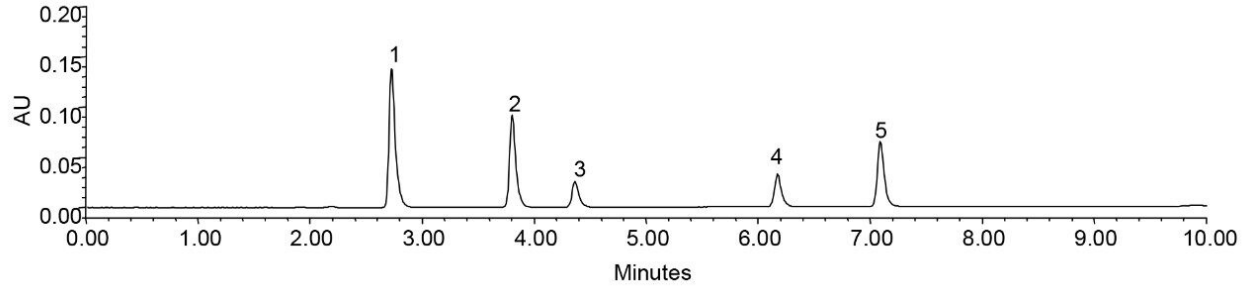
Conditions

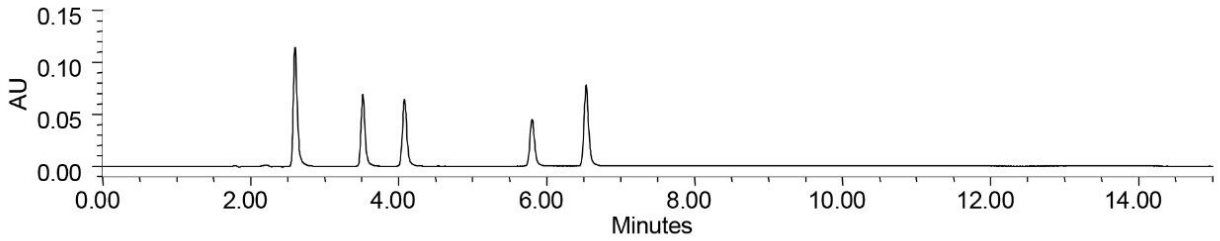
Column:	SunFire C_8, 4.6 x 100 mm, 3.5 µm
Part number:	186002731
Mobile phase A:	Water
Mobile phase B:	Acetonitrile
Mobile phase C:	100 mM $CH_3COO^-NH_4^+$, pH 5.0
Flow rate:	1 mL/min
Injection volume:	10 µL
Sample concentration:	10 µg/mL in water
Temperature:	30 °C
Detection:	UV @ 254 nm
Instrument:	Alliance 2695 with 2996 PDA

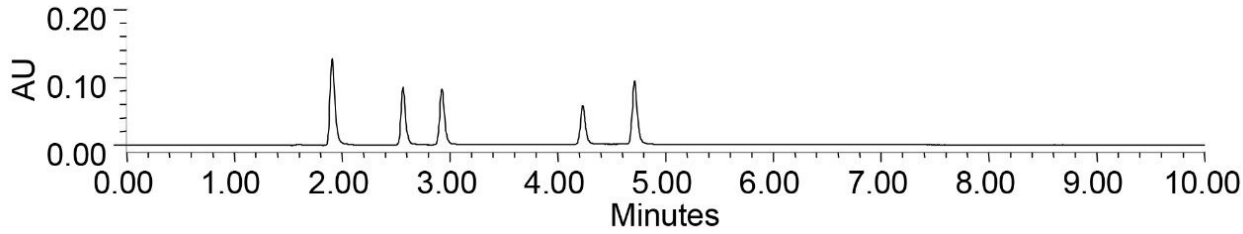
Gradient

Time (min)	Profile		
	%A	%B	%C
0.0	75	15	10
6.22	30	60	10
7.55	75	15	10
13.00	75	15	10

Results and Discussion







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Alliance HPLC System <https://www.waters.com/534293>

WA41902, May 2005