Waters™

Application Note

Synthetic Corticosteroids

Waters Corporation

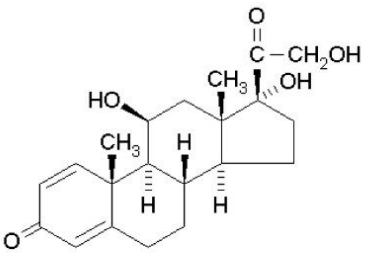
This is an Application Brief and does not contain a detailed Experimental section.

Abstract

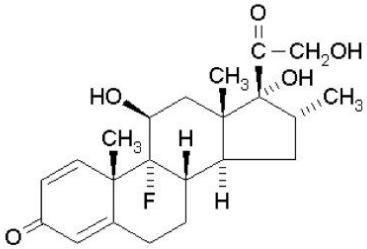
This application brief highlights the analysis of synthetic corticosteroids.

Introduction

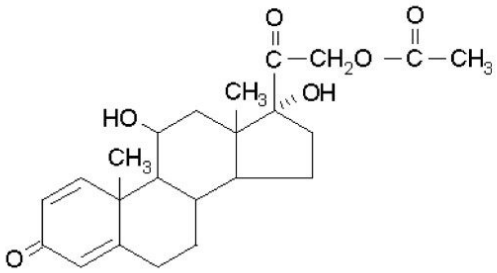
Corticosteroids have potent anti-inflammatory properties, and are used in a wide variety of inflammatory conditions such as arthritis, colitis, asthma, bronchitis, certain skin rashes, and allergic or inflammatory conditions of the nose and eyes.



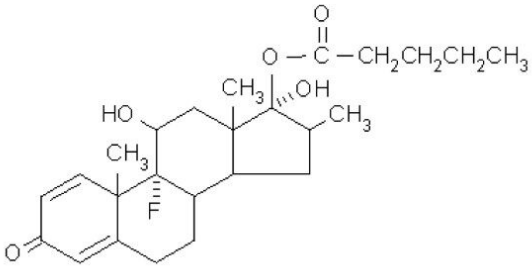
Prednisolone



Dexamethasone



Prednisolone 21-acetate



Betamethasone 17-valerate

Experimental

Conditions

Column:	SunFire C_8 4.6 x 150 mm, 5 µm
Part number:	186002737

Mobile phase A:	Water
Mobile phase B:	Acetonitrile
Flow rate:	1 mL/min
Injection volume:	10 µL
Sample concentration:	20 µg/mL in water; 1 mg/mL stock solution prepared in acetonitrile
Temperature:	30 °C
Detection:	UV @ 254 nm
Instrument:	Alliance 2695 with 2996 PDA

Isocratic Gradient

Time (min)	Profile	
	%A	%B
0.0	50	50
12.0	50	50

Compounds

Column:	SunFire C_8 4.6 x 100 mm, 3.5 µm
Part number:	186002731
Mobile phase A:	Water

Mobile phase B:	Acetonitrile
Flow rate:	1 mL/min
Injection volume:	10 µL
Sample concentration:	20 µg/mL in water; 1 mg/mL stock solution prepared in acetonitrile
Temperature:	30 °C
Detection:	UV @ 254 nm
Instrument:	Alliance 2695 with 2996 PDA

Isocratic Gradient

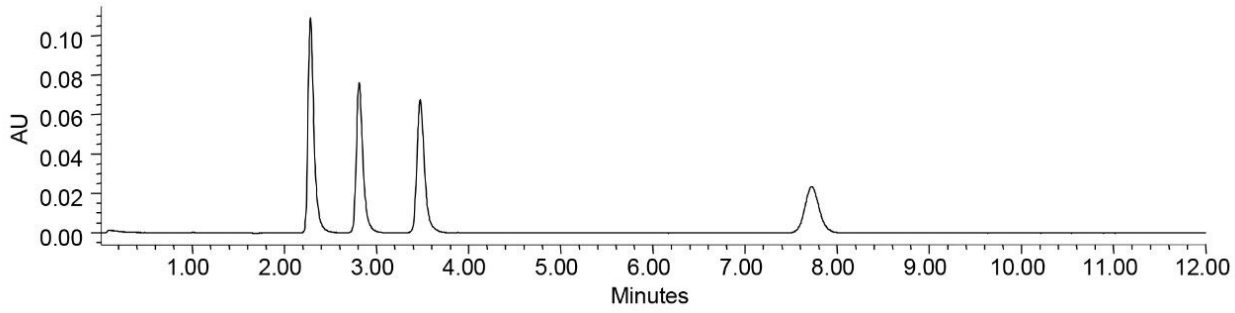
Time (min)	Profile	
	%A	%B
0.0	50	50
12.0	50	50

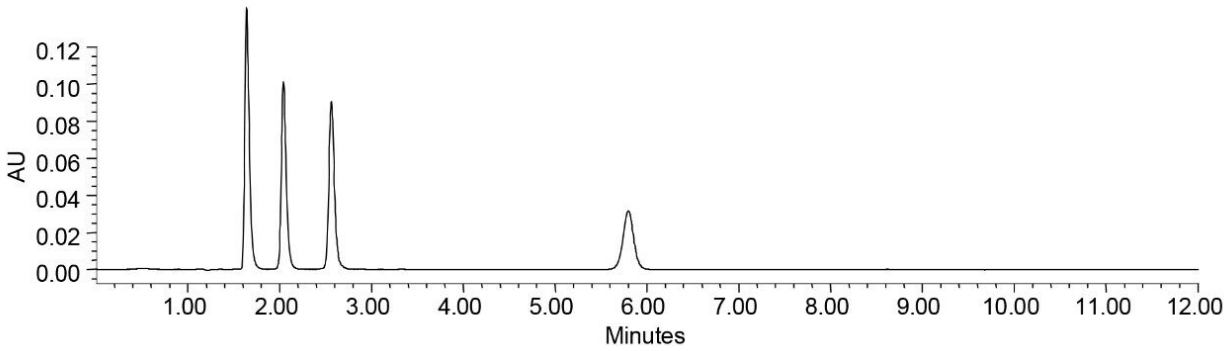
Results and Discussion

Compounds	USP Tailing
Prednisolone	1.46
Dexamethasone	1.34

Compounds	USP Tailing
Prednisolone 21-acetate	1.32
Betamethasone 17-valerate	1.1

Compounds	USP Tailing
Prednisolone	1.41
Dexamethasone	1.31
Prednisolone 21-acetate	1.22
Betamethasone 17-valerate	1





Featured Products

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

WA41890, May 2005

© 2021 Waters Corporation. All Rights Reserved.