

## Synthetic Corticosteroids

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Waters Corporation



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

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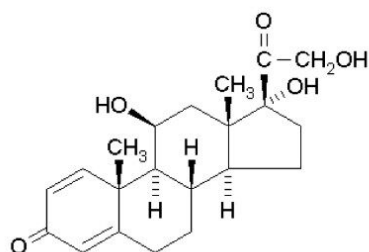
### Abstract

This application brief highlights the analysis of synthetic corticosteroids.

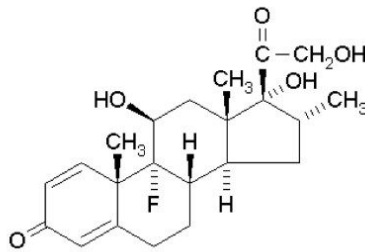
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## Introduction

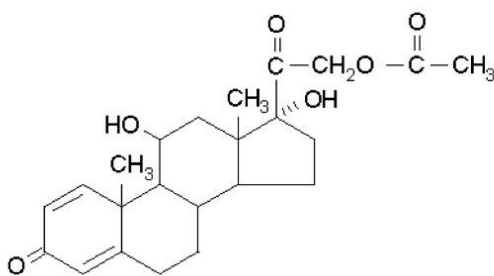
Corticosteroids have potent anti-inflammatory properties, and are used in a wide variety of inflammatory conditions such as arthritis, colitis, asthma, bronchitis, certain skin rashes, and allergic or inflammatory conditions of the nose and eyes.



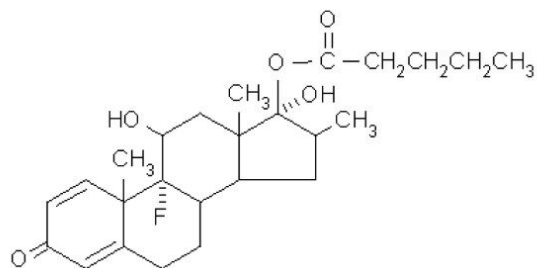
**Prednisolone**



**Dexamethasone**



**Prednisolone 21-acetate**



**Betamethasone 17-valerate**

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## Experimental

### Conditions

Column:	SunFire C <sub>8</sub> 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<sub>8</sub> 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

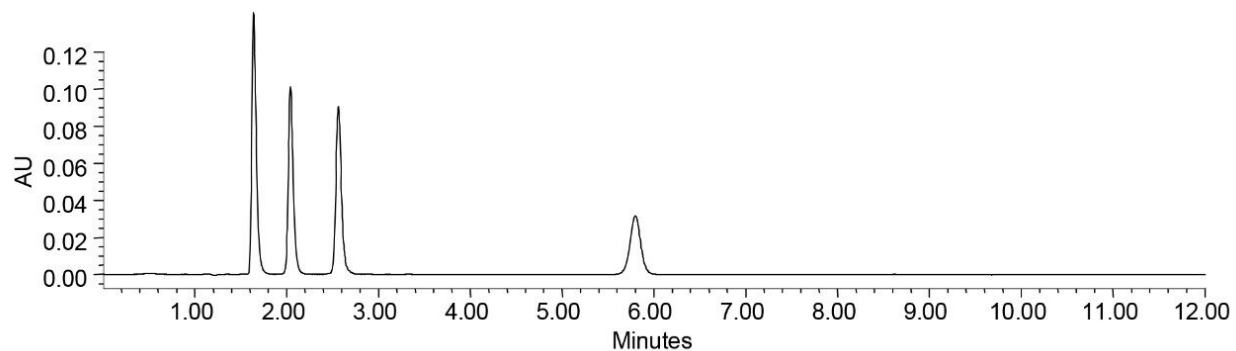
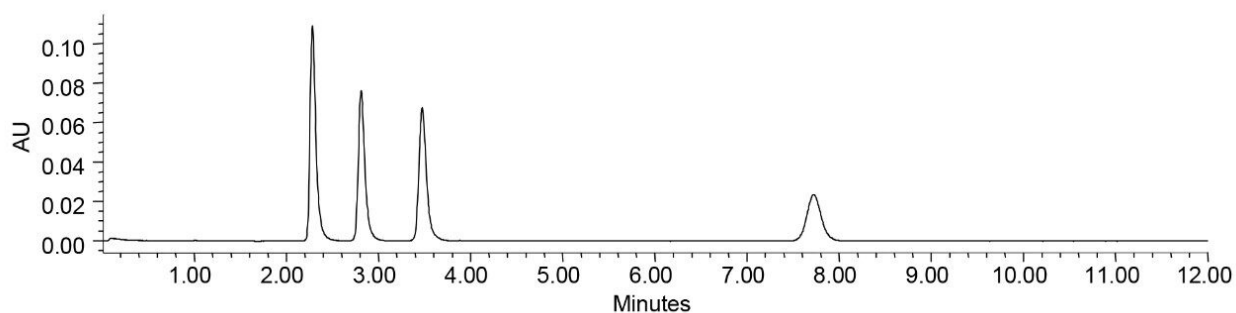
Time (min)	Profile	
	%A	%B
0.0	50	50
12.0	50	50

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## Results and Discussion

Compounds	USP Tailing
Prednisolone	1.46
Dexamethasone	1.34
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




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

WA41890, May 2005

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