



## 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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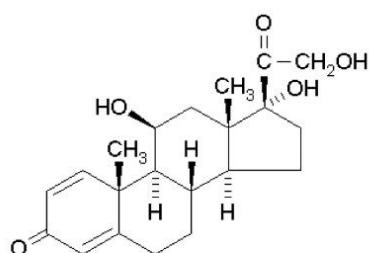
### Abstract

This application brief highlights the analysis of synthetic corticosteroids.

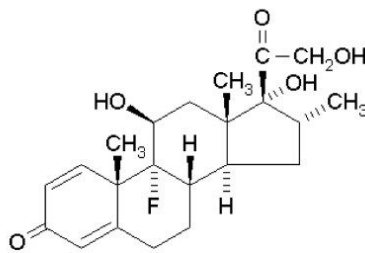
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## Introduction

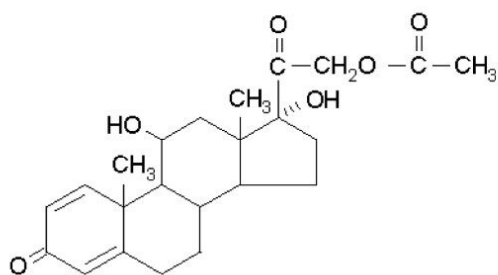
Corticosteroids have potent anti-inflammatory properties, and are used in a wide variety of inflammatory conditions such as arthritis, colitis, asthma, bronchitis, certain skin rashes, and allergic or inflammatory conditions of the nose and eyes.



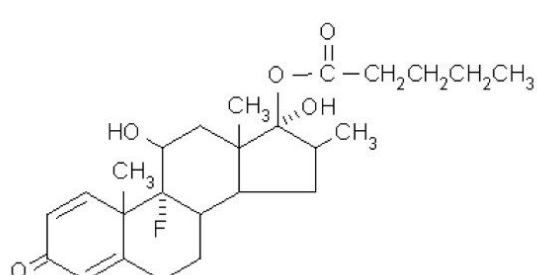
**Prednisolone**



**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  $\mu$ L

Sample concentration: 20  $\mu$ g/mL in water; 1 mg/mL stock solution prepared in acetonitrile

Temperature: 30  $^{\circ}$ 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  $\mu$ m

Part number: 186002731

Mobile phase A: Water

Mobile phase B:	Acetonitrile
Flow rate:	1 mL/min
Injection volume:	10 $\mu$ L
Sample concentration:	20 $\mu$ g/mL in water; 1 mg/mL stock solution prepared in acetonitrile
Temperature:	30 $^{\circ}$ 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

Compounds            USP Tailing

Prednisolone 21-  
acetate            1.32

Betamethasone     1.1  
17-valerate

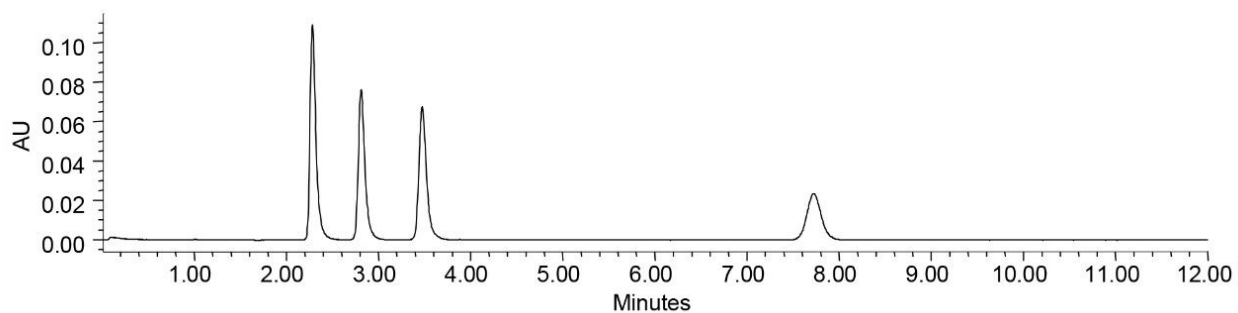
Compounds            USP Tailing

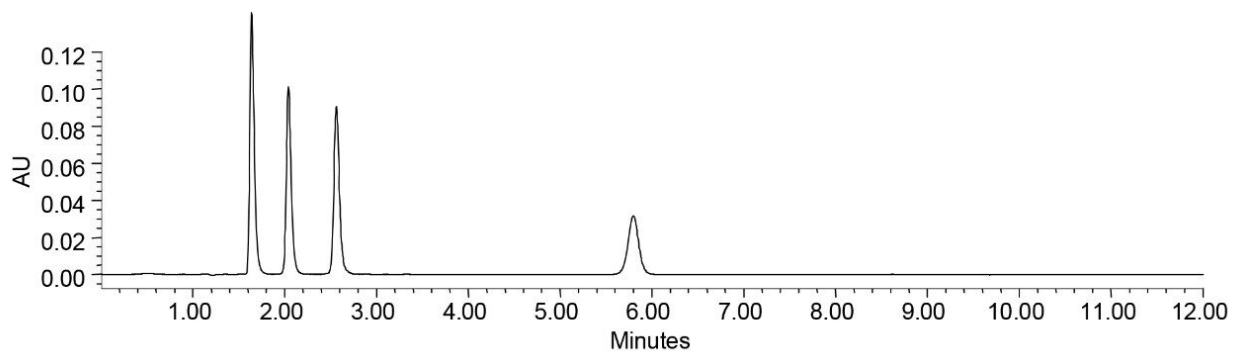
Prednisolone        1.41

Dexamethasone     1.31

Prednisolone 21-  
acetate            1.22

Betamethasone     1  
17-valerate





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

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