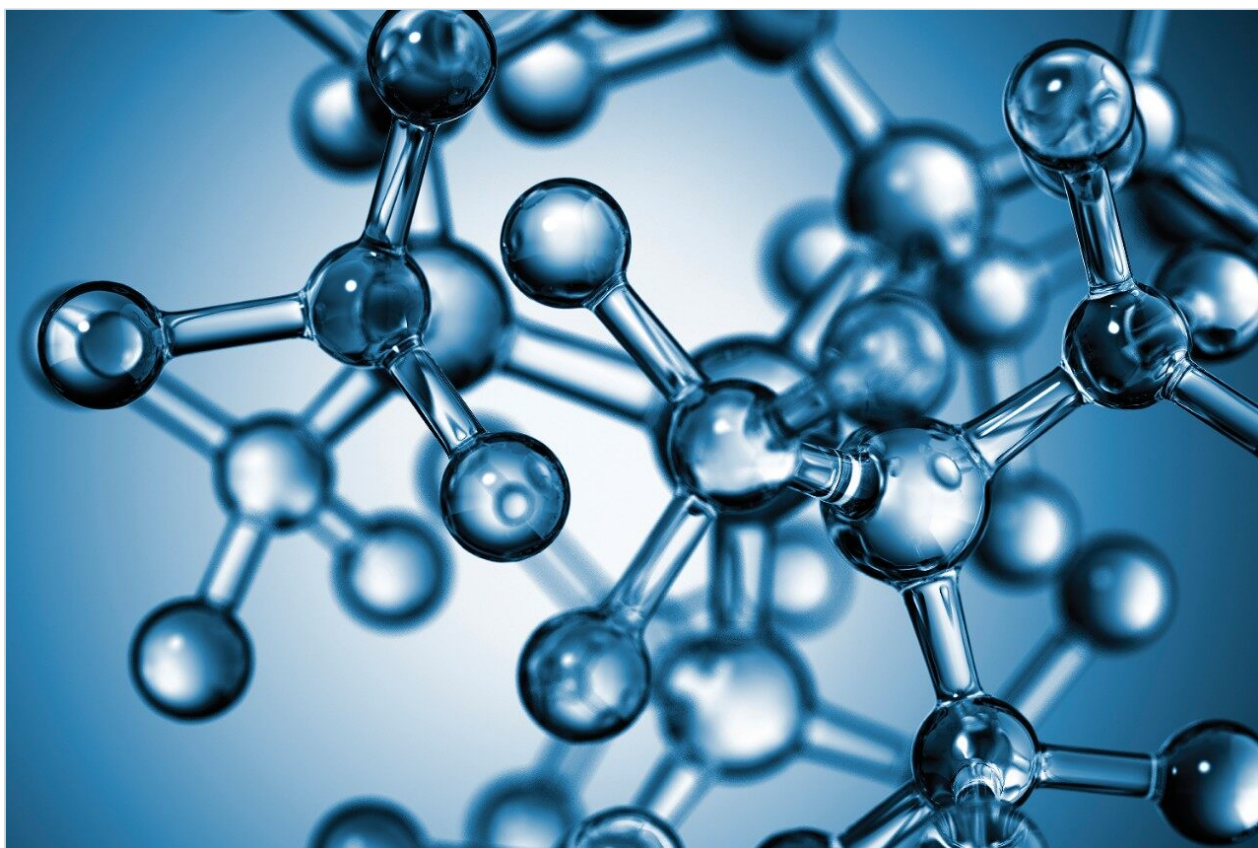


## Phenone Mixture

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Waters Corporation



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

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### Abstract

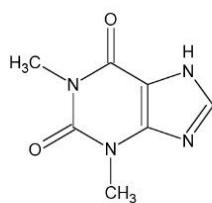
This application brief demonstrates analysis of phenone mixture using Sunfire C<sub>8</sub> and C<sub>18</sub> Columns.

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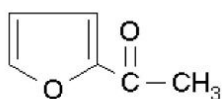
## Introduction

The compounds analysed in this study using Sunfire C<sub>18</sub> Columns are -

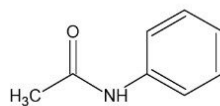
<b>Compounds</b>	<b>USP tailing</b>
1. Theophylline	1.31
2. 2-Acetylfuran	1.15
3. Acetanilide	1.16
4. Acetophenone	1.18
5. Propiophenone	1.14
6. Butyrophenone	1.13
7. Benzophenone	1.13
8. Valerophenone	1.15
9. Hexanophenone	1.06
10. Heptanophenone	1.10
11. Octanophenone	1.06



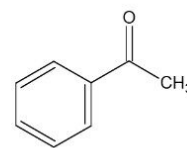
**Theophylline**



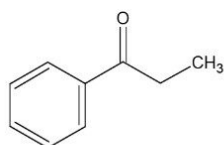
**2-Acetylfuran**



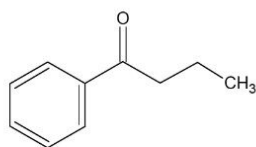
**Acetanilide**



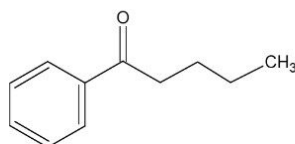
**Acetophenone**



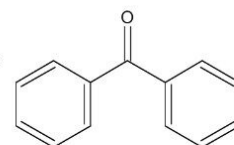
**Propiophenone**



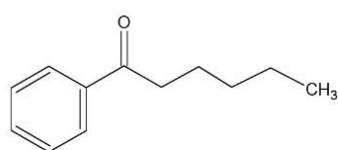
**Butyrophenone**



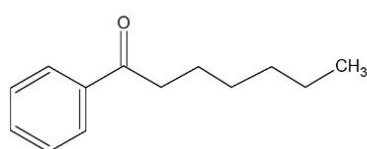
**Valerophenone**



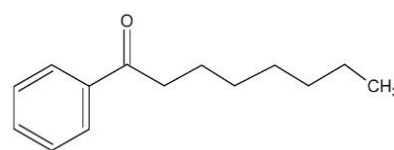
**Benzophenone**



**Hexanophenone**



**Heptanophenone**



**Octanophenone**

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*11 compound mixture of phenones separated in under 4 minutes with SunFire C<sub>18</sub> IS Column.*

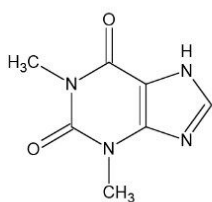
The compounds analysed in this study using Sunfire C<sub>8</sub> Columns are -

Compounds	USP tailing
1. Theophylline	1.17
2. 2-Acetylfuran	1.06
3. Acetanilide	1.07
4. Acetophenone	1.02
5. Propiophenone*	1.00
6. Butyrophenone*	0.87
7. Benzophenone*	0.99
8. Valerophenone*	1.02
9. Hexanophenone*	0.99
10. Heptanophenone*	0.93
11. Octanophenone*	1.03

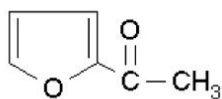
\*stock solution prepared in acetonitrile

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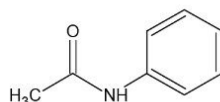
*\*: stock solution prepared in acetonitrile*



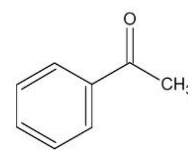
**Theophylline**



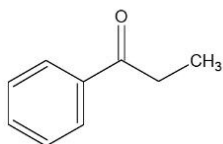
**2-Acetylfuran**



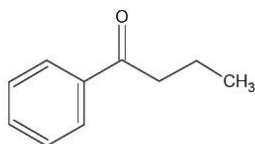
**Acetanilide**



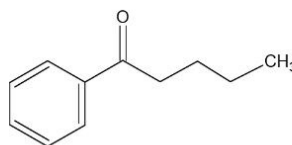
**Acetophenone**



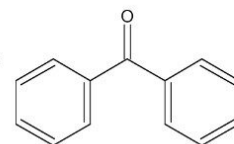
**Propiophenone**



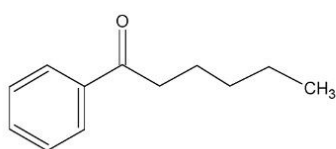
**Butyrophenone**



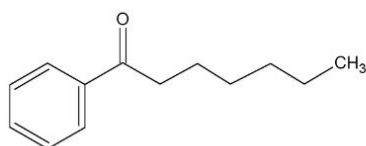
**Valerophenone**



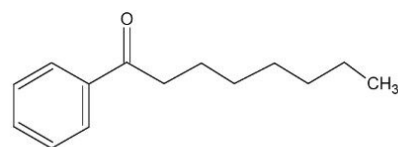
**Benzophenone**



**Hexanophenone**



**Heptanophenone**



**Octanophenone**

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*11 compound mixture of phenones separated in under 4 minutes with SunFire C<sub>8</sub> IS Column.*

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## Experimental

### Conditions

Column:	SunFire C <sub>18</sub> 4.6 x 20 mm IS, 3.5 μm
Part number:	186002549
Mobile phase A:	0.1% HCOOH in Water
Mobile phase B:	0.1% HCOOH in ACN
Flow rate:	3.0 mL/min

Injection volume: 10  $\mu$ L

Sample concentration: 10  $\mu$ g/mL in water

Temperature: 30  $^{\circ}$ C

Detection: UV @ 254 nm

Instrument: Alliance 2695 with 2996 PDA

## Gradient

Time (min)	Profile	
	%A	%B
0.0	100	0
4.0	0	100

## Conditions

Column: SunFire C<sub>8</sub> 4.6 x 20 mm IS, 3.5  $\mu$ m

Part number: 186002699

Mobile phase A: Water

Mobile phase B: Acetonitrile

Mobile phase C: 1% HCOOH in Water

Flow rate: 3.0 mL/min

Injection volume: 10  $\mu$ L

Sample concentration: 10 µg/mL in water

Temperature: 30 °C

Detection: UV @ 254 nm

Instrument: Alliance 2695 with 2996 PDA

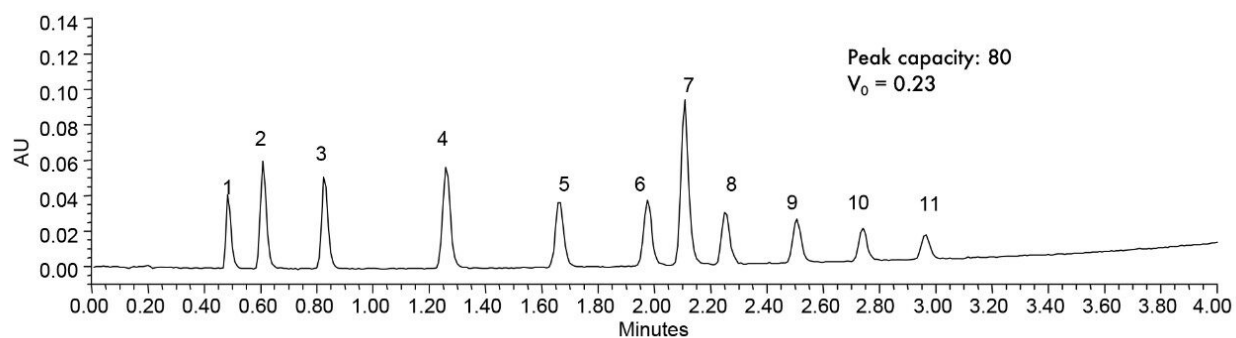
## Gradient

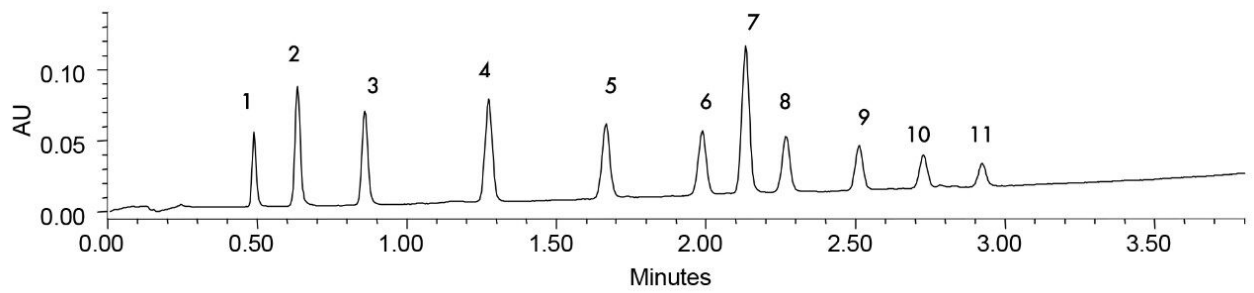
Time (min)	Profile		
	%A	%B	%C
0.0	90	0	10
4.0	0	90	10

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## Results and Discussion

Compound mixture of phenones separated in under 4 minutes with SunFire *IS* Column.





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## Featured Products

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

WA41897, August 2005