

Nota de aplicación

## ACQUITY UPLC Analysis of Organic Acids

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Waters Corporation

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

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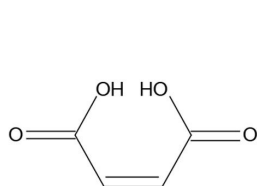
### Abstract

This application brief demonstrates the UPLC analysis of organic acids.

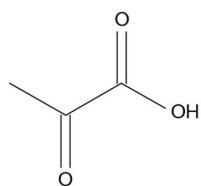
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### Introduction

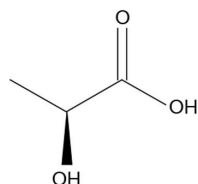
## Structures



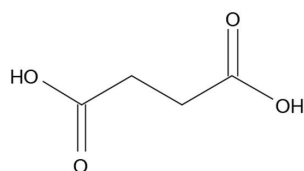
Maleic Acid



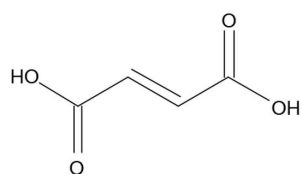
Pyruvic Acid



Lactic Acid



Succinic Acid



Fumaric Acid

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## Experimental

### UPLC Conditions

Column:	ACQUITY BEH Amide, 2.1 x 100 mm, 1.7 $\mu$ m
Part Number:	186004801
Mobile phase A:	50/50 MeCN/H <sub>2</sub> O with 10 mM CH <sub>3</sub> COONH <sub>4</sub> , pH 9.0
Mobile phase B:	95/5 MeCN/H <sub>2</sub> O with 10 mM CH <sub>3</sub> COONH <sub>4</sub> , pH 9.0
Gradient Flow Rate:	0.6 mL/min

Injection Volume: 5.0  $\mu$ L  
Column Temp: 50  $^{\circ}$ C  
Sample Temp: 5  $^{\circ}$ C  
Strong/Weak needle wash: 95/5 MeCN/H<sub>2</sub>O  
Seal wash: 10/90 MeOH/H<sub>2</sub>O  
Instrument: ACQUITY UPLC and TQD

### Gradient:

Time (min)	%A	%B
Initial	0.1	99.9
0.4	0.1	99.9
0.5	40.0	60.0
2.0	70.0	30.0
2.01	0.1	99.9
5.0	0.1	99.9

### MS Conditions

Instrument: ACQUITY TQD  
Ionization Mode: ES<sup>-</sup>

Capillary Voltage:	4.0 kV
Cone Voltage:	-25 V
Collision Energy:	10 eV
Extractor:	3 V
RF Lens:	0.1 V
Source Temp:	130 °C
Desolvation Temp:	350 °C
Desolvation Gas:	650 L/hr
Cone Gas:	0 L/hr
Collision Gas:	0.1 mL/min
MRM condition:	Pyruvic acid: 86.92 > 42.9 Lactic acid: 88.92 > 42.9 Succinic acid: 116.93 > 72.9 Maleic and Fumaric acid: 114.88 > 70.9

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## Results and Discussion

# COMPOUNDS

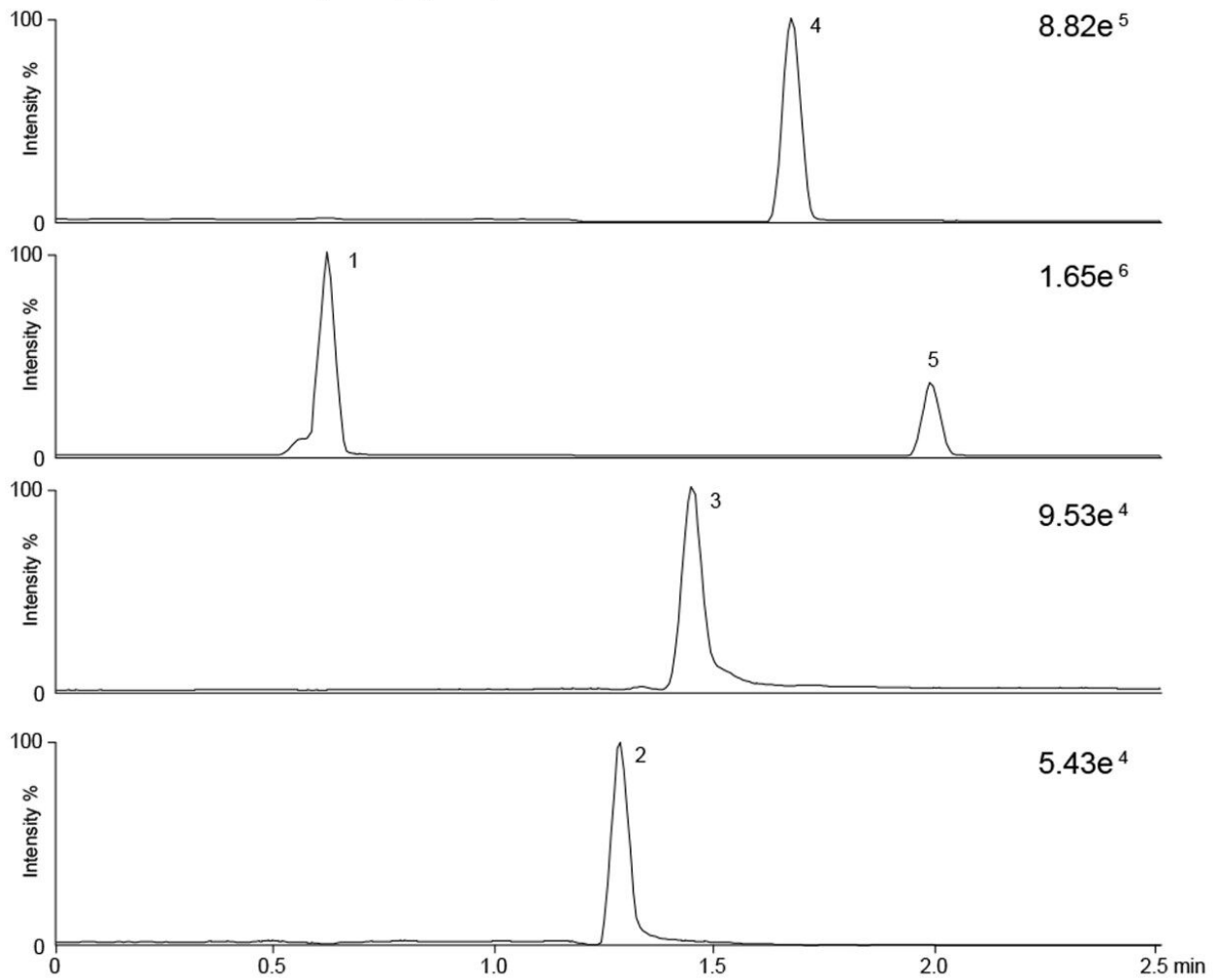
1. Maleic acid (1 ppm)

4. Succinic acid (50 ppm)

2. Pyruvic acid (50 ppm)

5. Fumaric acid (50 ppm)

3. Lactic acid (50 ppm)



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## Featured Products

[ACQUITY UPLC System <https://www.waters.com/514207>](https://www.waters.com/514207)

[Xevo TQD Triple Quadrupole Mass Spectrometry <https://www.waters.com/134608730>](https://www.waters.com/134608730)

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