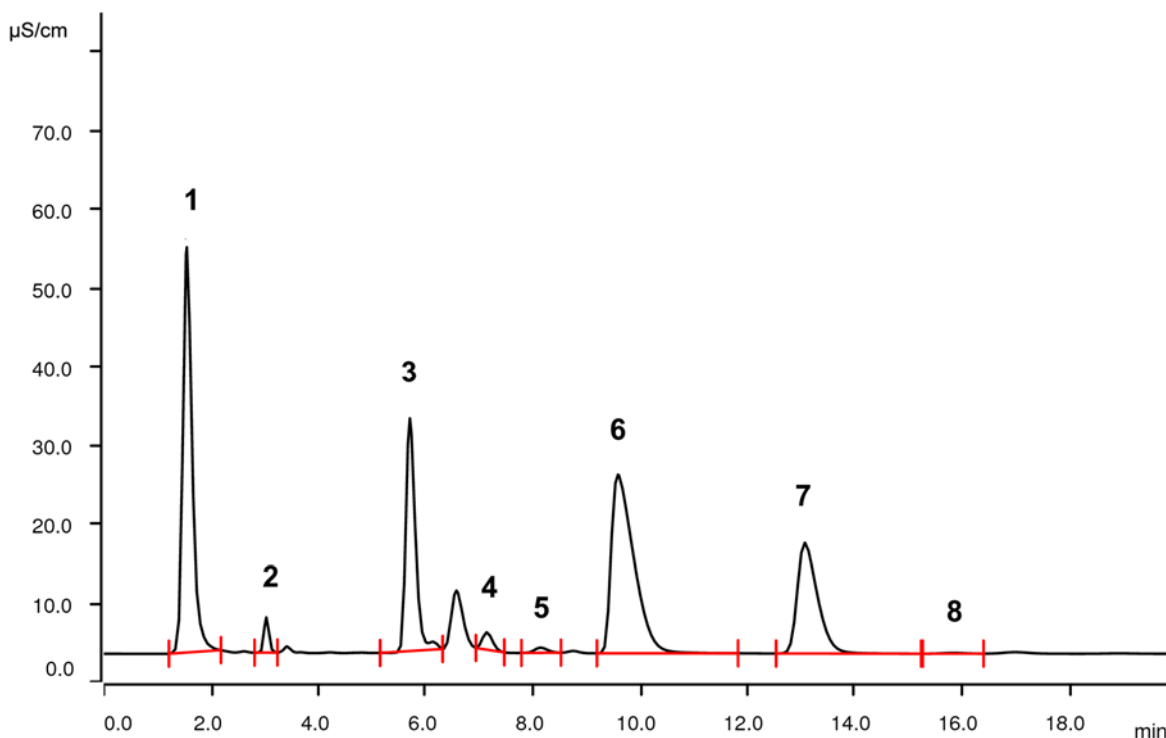


# Inorganic and organic anions in wine applying Inline Ultrafiltration



Product consistency and quality is of utmost importance to winemakers. This wine analysis evaluates nutrients and other ionic ingredients, which could potentially have deleterious effects on efficiency and production during the fermentation process. Inorganic and organic anions as acetate, chloride, phosphate, malate, sulfite, tartrate, sulfate, and oxalate are separated and quantified on a Metrosep A Supp 10 - 100/4.0 applying Inline Ultrafiltration and conductivity detection .

## Results

Anion	Conc. [mg/L]	RSD [%, n = 3]	Anion	Conc. [mg/L]	RSD [%, n = 3]
1 Acetate	n.q.	-	5 Sulfite	28.8	0.44
2 Chloride	21.5	0.04	6 Tartrate	1534.2	0.56
3 Phosphate	818.0	0.10	7 Sulfate	366.7	0.01
4 Malate	105.3	0.19	8 Oxalate	< 10	-

## Sample

White wine

## Sample preparation

Dilution 1:10 with ultrapure water. Injection after Metrohm Inline Ultrafiltration. Capped vials are used to minimize sulfite oxidation. Alternatively dilution with 2% isopropanol may be applied.

## Columns

Metrosep A Supp 10 - 100/4.0	6.1020.410
Metrosep A Supp 10 Guard/4.0	6.1020.500

## Solutions

Eluent	5.0 mmol/L sodium carbonate 5.0 mmol/L sodium hydrogen carbonate 5 µmol/L perchloric acid
Suppressor regenerant	500 mmol/L sulfuric acid
Rinsing solution	STREAM

## Parameters

Flow rate	1.0 mL/min
Injection volume	20 µL
P <sub>max</sub>	25 MPa
Recording time	20 min
Column temperature	35 °C

## Analysis

Conductivity detection after sequential suppression

## Instrumentation

940 Professional IC Vario ONE/SeS	2.940.1400
IC Conductivity Detector	2.850.9010
858 Professional Sample Processor	2.858.0020
800 Dosino (MSM regeneration)	2.800.0010
IC equipment: Dosino Regeneration	6.5330.190
IC equipment: Inline Ultrafiltration	6.5330.110
MSM Rotor A	6.2832.000
Adapter sleeve for Suppressor Vario	6.2842.020

