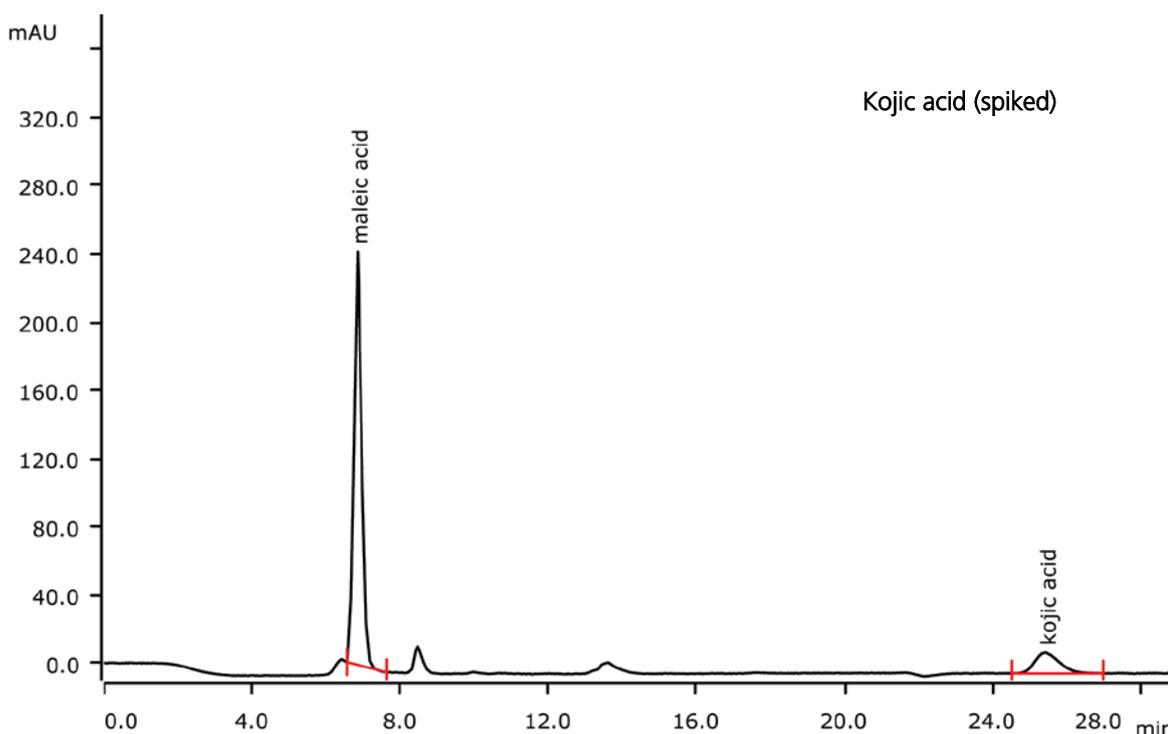


# Maleic and kojic acid in starch applying UV/VIS detection after ion-exclusion chromatography



Maleic acid findings in Asian food caused the recall of a lot of starch-containing food products in Asia. Long-term consumption of maleic acid can cause kidney problems. The cyclic kojic acid, on the other hand, is approved as an additive in food and cosmetics to preserve or to bleach, respectively. In this work, both acids are determined in a single analysis.

## Results

Organic acid	Concentration	RSD [%] n = 7	Recovery [%]
Maleic acid	0.859 mg/g	0.7	-
Kojic acid	n.d.	-	-
Kojic acid (3.0 mg/L spiked)	2.95 mg/L	-	98

## Sample

Starch

## Sample preparation

Extraction of 0.1 g of sample in 50 mL of ultrapure water. An aliquot is diluted 1 : 1 with 50% acetonitrile, centrifuged, filtered (0.2 µm) and injected over an RP cartridge.

## Columns

Metrosep Organic Acids - 250/7.8	6.1005.200
Metrosep RP 2 Guard/3.5	6.1011.120

## Solutions

Eluent	0.125 mmol/L sulfuric acid 15% acetonitrile
--------	--

## Analysis

UV/VIS detection
------------------

## Instrumentation

930 Compact IC Flex Oven/Deg	2.930.2160
944 Professional UV/VIS Detector Vario	2.944.0010
863 Compact IC Autosampler	2.863.0010

## Parameters

Flow rate	0.5 mL/min
Injection volume	20 µL
P <sub>max</sub>	7 MPa
Recording time	29 min
Column temperature	35 °C
Wave length	216 nm
Bandwidth	5 nm
Measuring duration	300 ms

