

An improved analysis of antioxidants in edible oils using a Thermo Scientific
Accucore Polar Premium HPLC column

Application #737

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General Information

Market: Food and Beverage

Matrix: N/A

Instrument type: HPLC

Description

AOAC Method 983.15 was developed to assay levels in finished food products. This method specifies a C18 column that provides suitable selectivity in many cases, but sometimes there can be matrix interferences. In this work the Thermo Scientific Accucore Polar Premium HPLC column, provides the speed, efficiency, and alternate selectivity to resolve propyl gallate from the unknown matrix peak.

Method Details

Instrument parameters

Instrument Parameter	Value
Run Time Length	14 min
Injection Volume	2 µL
Column Oven 1 Temp	30 °C
UV Wavelength 1	280 nm
Pump Eluent A	water + 0.5% acetic acid
Pump Eluent B	methanol / acetonitrile / acetic acid (50:50:0.5 v/v/v)

Gradient Details

Pump

Ret.Time [min]	Flow [ml/min]	%B [%]	%C [%]	%D [%]
0.000	0.800	25.0	0.0	0.0
5.000	0.800	100.0	0.0	0.0
10.000	0.800	100.0	0.0	0.0
10.001	0.800	25.0	0.0	0.0
14.000	0.800	25.0	0.0	0.0

Column Details

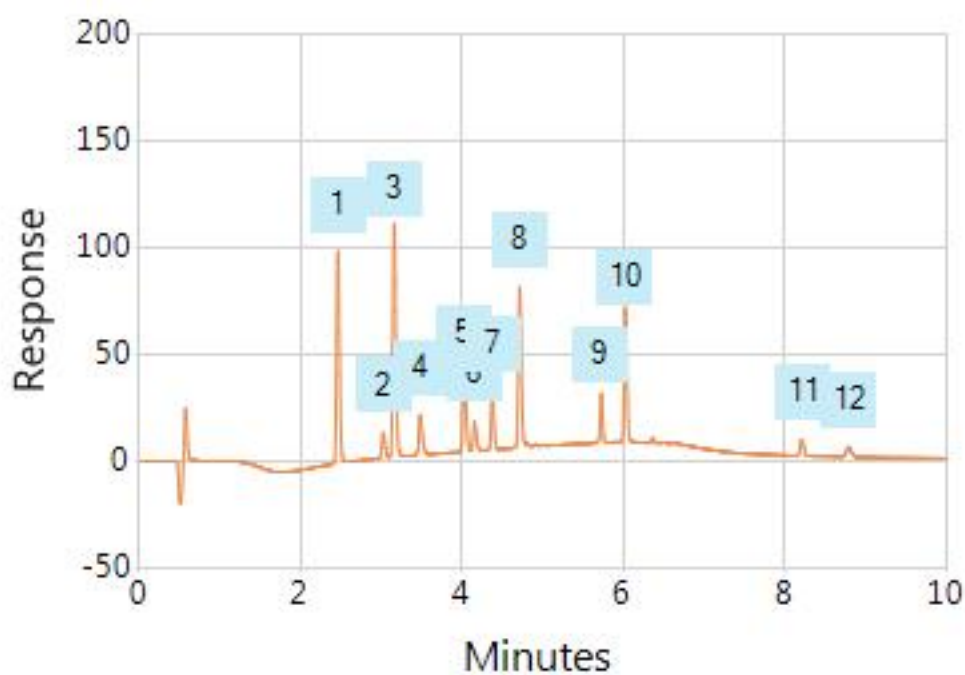
column_A	
Manufacturer	Thermo Scientific
Model	Accucore Polar Premium
Diameter	3 mm
Length	100 mm
Particle Size	2.6 μ m
Packing Material	Polar Embedded
Part Number	28026-103030
Url	http://www.thermoscientific.com/en/products/accucore-polar-premium-hplc-columns-2-6-mm-article-size.html

System information

Instrument Type	HPLC
Manufacturer	Thermo Scientific
Oven model	TCC-3200
UV Detector model	DAD-3000RS
Pump model	LPG-3400RS
Autosampler model	WPS-3000

Results

Channel UV_VIS_1



Component Number	Component Name	Compound Class	Retention Time (min)
1	Propyl Gallate	Antioxidant	2.47
2	Ethoxyquin	Antioxidant	3.03
3	THBP	Antioxidant	3.16
4	TBHQ	Antioxidant	3.49
5	NDGA	Antioxidant	4.03
6	Ionox-100	Antioxidant	4.16
7	BHA	Antioxidant	4.38
8	Octyl Gallate	Antioxidant	4.72
9	BHT	Antioxidant	5.72
10	Lauryl Gallate	Antioxidant	6.02

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Component Number	Component Name	Compound Class	Retention Time (min)
11	Vitamin E Acetate	Vitamin	8.21
12	Vitamin E	Vitamin	8.79

Appendix

The application can be accessed at <http://appslab.thermoscientific.com/ViewApplication?ApplicationId=737>

Available Downloads

Filename	Size(bytes)
Antioxidants in edible oils using Accucore Polar Premium.pdf	208950

Related Information

No related information available.