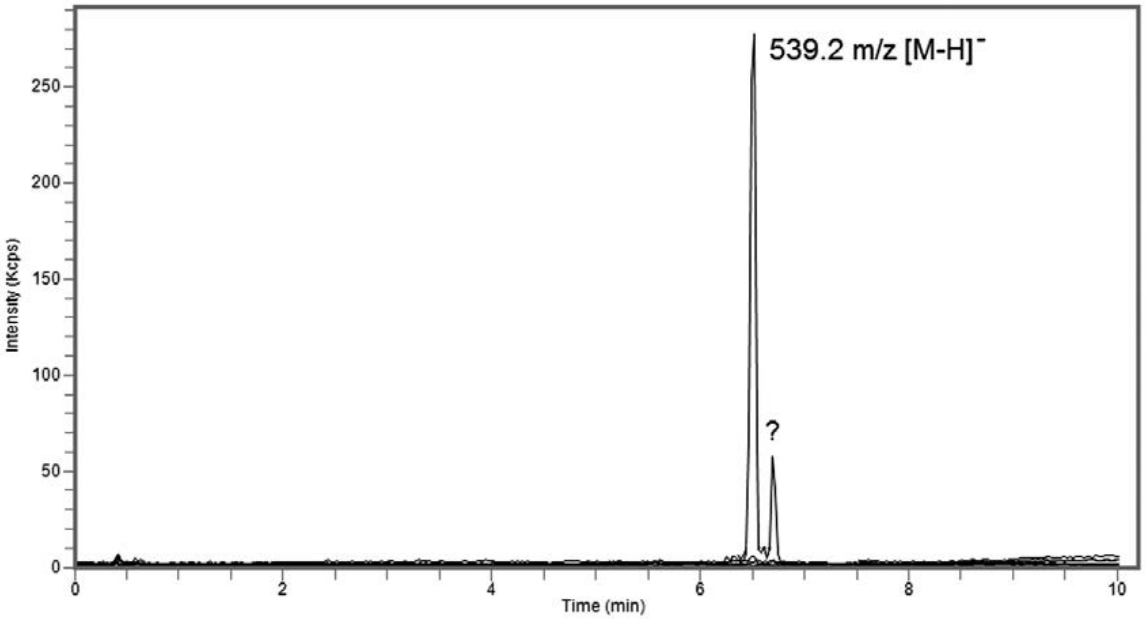
Oleuropein in Olive Leaves Extract Analyzed with LCMS – AppNote

High Efficiency Using a near-UHPLC Column for Oleuropein

In this Application Note, the Analyte Peak is symmetrical and well Retained while the results were very reproducible *(%RSD = 0.06 for Retention Times).* This Method can be used to analyze and evaluate the extraction of Olive Leaves.

According to the literature, Olive Leave Extracts should contain the following compounds: Oleuropein, Hydroxytyrosol, Verbascoside, Apigenin, Luteolin-7-O-Glucoside, and Tyrosol [1].



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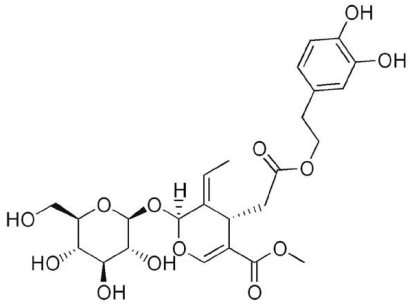

Oleuropein

Peak:

Oleuropein 539.2 m/z [M-H]–

Method Conditions

Column: Cogent Bidentate C18 2.o, 2.2µm, 120Å
Catalog No.: 40218-05P-2
Dimensions: 2.1 x 50mm
Mobile Phase:

A: DI Water with 0.1% Formic Acid (v/v)
B: Acetonitrile with 0.1% Formic Acid (v/v)

Gradient:

Time *(minutes)*	%B
0	5
3	15
4	15
6	30
7	30
11	95
14	95

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15	5

Post Time: 3 minutes
Injection vol.: 1µL
Flow rate: 0.3mL / minutes
Detection: ESI – NEG – PerkinElmer Flexar SQ 300 Mass Spectrometer
Sample Preparation: Commercial Olive Leaves Extract was dissolved in DI Water at a concentration 10ppm.
t_0: 0.6 minutes

Note: Olive Leaves are food byproducts (after pruning of Olive Trees) which are full of bioactive compounds. These compounds are potent polyphenols, which show antibacterial, antiviral, anti-cancer, anti-inflammatory, and antioxidant activities. Different extraction procedures are used for selective extraction of polyphenols from olive leaves. An analytical method to monitor and evaluate the resulting extract is needed.

[1] J.E. Hayes, P. Allen, N. Brunton, M.N. O'Grady, and J.P. Kerry, Food Chemistry, 126, (2011) 948–955.

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Attachment

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