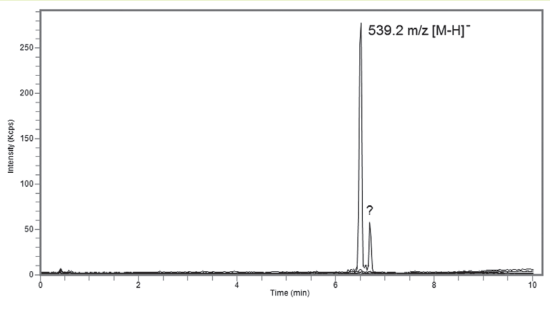
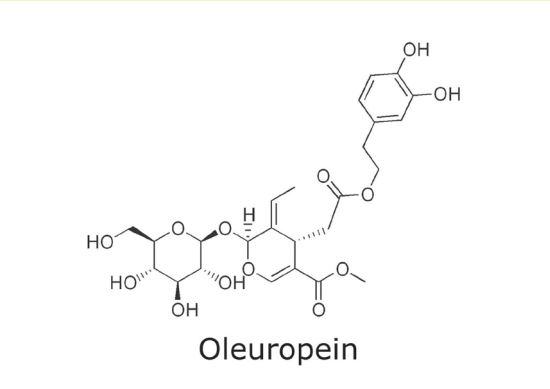
Oleuropein in Olive Leaves Extract

Higher efficiency using 2.ō™ stationary phase





Oleuropein

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.

Method Conditions

Column: **Cogent Bidentate C18 2.ō**, 2.2µm, 120Å

Catalog No.: 40218-05P-2

Dimensions: 2.1 x 50 mm

Mobile Phase: A: DI H_2O / 0.1% formic acid (v/v)
B: Acetonitrile / 0.1% formic acid (v/v)

Gradient:

time (min.)	%B
0	5
3	15
4	15
6	30
7	30
11	95
14	95
15	5

Post Time: 3 min

Injection vol.: 1µL

Flow rate: 0.3mL/min

Detection: ESI – NEG - PerkinElmer Flexar SQ 300 mass spectrometer

Sample: Commercial olive leaves extract was dissolved in DI H_2O at a concentration 10 ppm.

Peak: 1. Oleuropein – 539.2 m/z $[M-H]^-$

t_0: 0.6 min

Discussion

The analyte peak was symmetrical and well retained using the presented method. The results were reproducible (%RSD = 0.06 for retention times). The presented method can be used to 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].

[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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