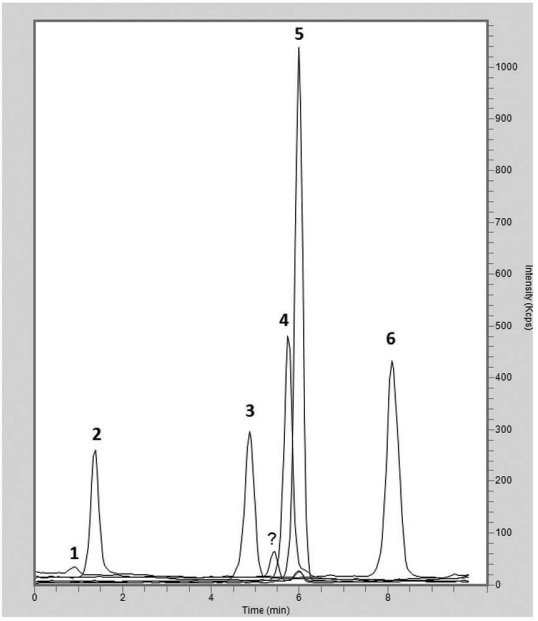
Phenolic Compound Determination with LC-MS - AppNote

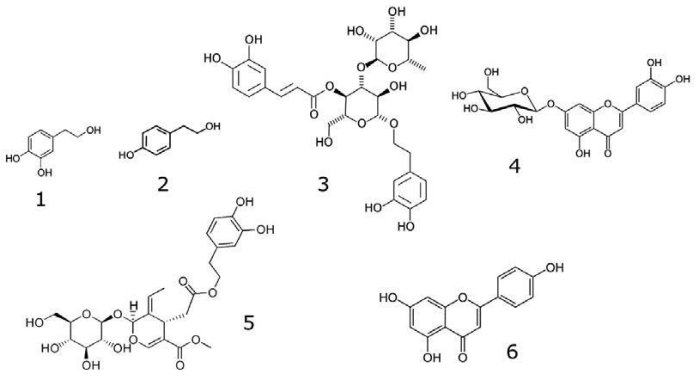
Phenolic Compounds in Olive Leaves Extract

Click *HERE* for Column Ordering Information.

A commercial Olive Extract was analyzed using the Cogent Phenyl Hydride Column. Only one Oleuropein Peak was detected and it was Symmetrical and well Retained. The results were reproducible (%RSD = 0.2 for Retention Times).

According to the literature [1] the extract from Olive leaves should contain additional compounds. To confirm that the extract doesn't contain these compounds, spiked Olive leaves extract was analyzed. All these reported, Phenolic compounds were detected and Separated.





Peaks:

1. Hydroxytyrosol m/z 177 [M + Na]+
2. Tyrosol m/z 161 [M + Na]+

3. Verbascoside m/z 647 [M + Na]+

4. Luteolin-7-O-glucoside m/z 449 [M + H]+

5. Oleuropein m/z 563 [M + Na]+

6. Apigenin m/z 449 [M + H]+

Not present: Peonidin 3-O-glucoside 463 m/z [M+]

Method Conditions

Column: Cogent Phenyl Hydride™, 4 µm, 100 Å
Catalog No.: 69020-05P-2
Dimensions: 2.1 x 50 mm

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

Gradient:

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

Post Time: 3 minutes
Injection vol.: 1 µL
Flow rate: 0.4 mL / minute
Detection: ESI – NEG - Perkin Elmer, Flexar SQ 300 Mass Spectrometer

Sample Preparation: Commercial Olive leaves extract was dissolved in DI Water and spiked at a concentration of 25 ppm.

t_0 : 0.4 minutes

[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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