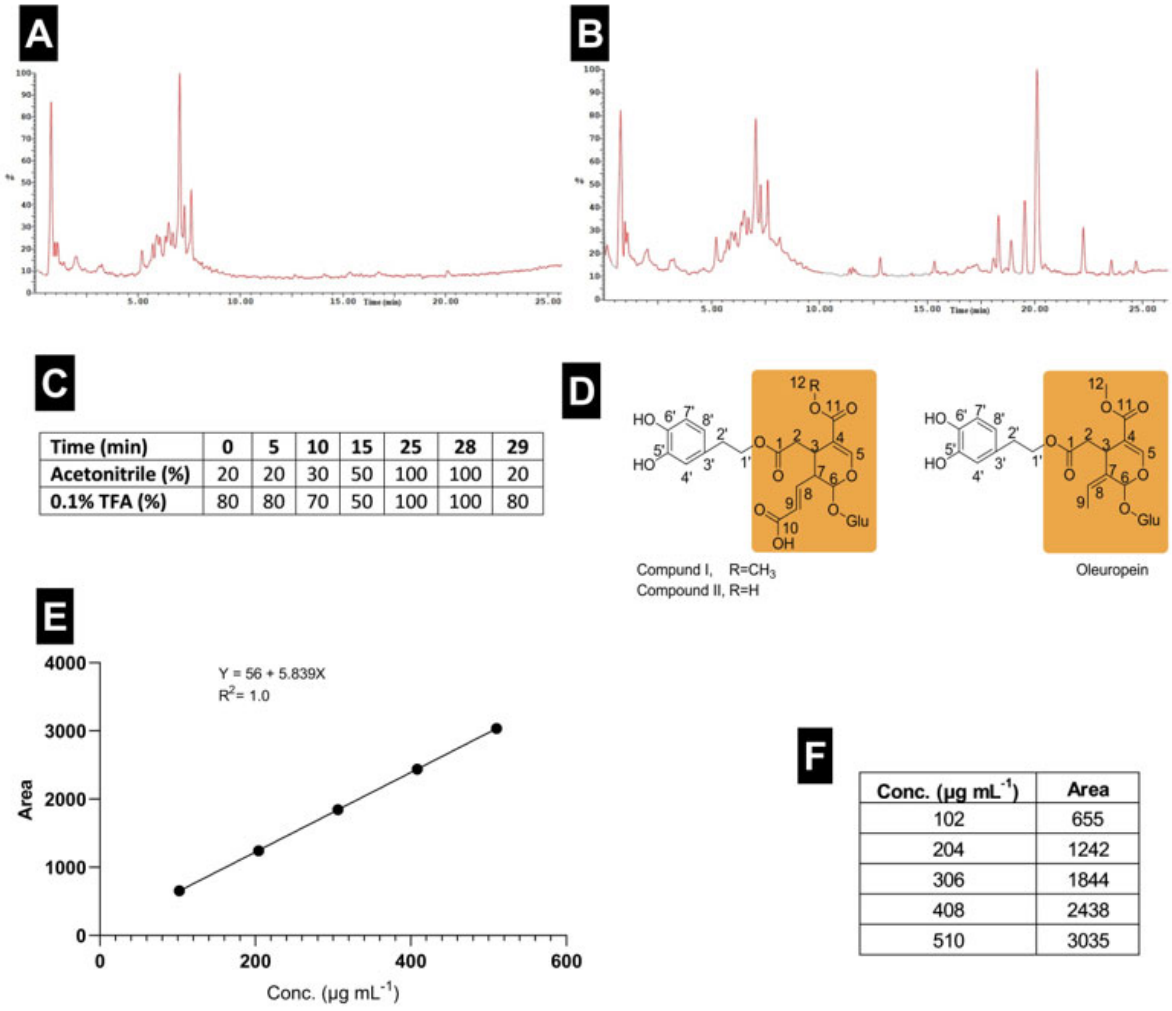
## Supplementary Materials




**Supplementary Figure S1.** HPLC analysis result of Olive leaf extract Sample of 0.546 g/100 mL was prepared Y= 5.8392X + 56. (**A**) UPLC-ESI-MS total ion chromatogram of olive leaf extract in ESI- mode. (**B**) UPLC-ESI-MS total ion chromatogram of olive leaf extract in ESI+ mode. (**C**) HPLC elution method for estimation of oleuropein. (**D**) Structures of oleuropein and isolated compounds (I and II). (**E**,**F**) Standard calibrating curve of oleuropein standard. Peak area= 6552 conc 1112.5 µg $mL^{-1}$, 1.1125 mg $mL^{-1}$, 111.25 mg/100 mL/0.546 g extract. Each 100 g contain 20.4 g **Oleuropein** (20.4 %).

**Supplementary Table S1.** Phytochemical profile of olive leaf extract by UPLC-ESI-MS/MS in negative and positive ion modes .

| NO. | Rt min | $[M-H]^-$ m/z | $[M+H]^+$ m/z | $MS^2$ Ions m/z | Identification |
|---|---|---|---|---|---|
| 1 | 0.77 | 195 | | 129, 99, 75 | Gluconic acid |
| 2 | 0.96 | 191 | | 111, 87, 85 | Citric acid |
| 3 | 1.25 | 153 | | 141, 109 | Protocatechuic |
| 4 | 2.60 | 305 | | 261, 243, 237, 219, 203, 191, 179,167, 165 ,139,137, 125, 111, 109, 97, 95, 81 | Gallocatechin |
| 5 | 3.24 | 593 | 595 | 447, 285, 133 | Vicenin II, Luteolin-O-rutinoside |
| 6 | 3.94 | 565 | | 403,371, 223, 181,165,139,127,121,119 113 101, 89 | Elenoic acid diglucoside |
| 7 | 4.50 | 163 | | 163, 117 | *p*-Coumaric acid |
| 8 | 4.63 | 609 | | 463, 301, 300, 179, 151 | Rutin |
| 9 | 4.76 | 403 | | 371, 359, 183, 165,151 121,119,115, 113,101 | Oleoside methyl ester |
| 10 | 5.20<br>5.22 | 403 | *427 | 371,223,181,165,139,127,121,119,113,101,89 | Elenolic acid hexoside |
| 11 | 5.72 | 525 | | 481, 389,209,195,183,165,121,119,113,89 | Demethyloleuropein |
| 12 | | 609 | | 447, 285 | Luteolin diglucoide |
| 13 | 5.91 | 555 | | 537, 403, 393, 323, 183 | Hydroxy-oleuropein |
| 14 | | | 579 | 271 | Apigenin-7-O-rutinoside |
| 15 | | | 595 | 287 | Cyanidin-3-rutinoside |
| 16 | 5.88 | 179 | | 135, 134, 89 | Caffeic acid |
| 17 | | 315 | | 153, 135, 123 | Hydroxytyrosol hexoside |
| 18 | 6.10 | 623 | | 461, 315, 179, 161 | Verbascoside |
| 19 | | 447 | | 301 | Quercitrin |
| 20 | | 153 | | 123, 109 | Hydroxytyrosol |
| 21 | 6.35 | 623 | | 461, 315, 179, 161 | Isoverbascoside |
| 22 | | 447 | | 285, 175, 133 | Luteolin hexoside I |
| 23 | 6.35<br>22.25 | 543<br>284* | | 197, 153 | Dihydro-oleuropein |
| 24 | 6.50 | 431 | 433 | 269, 268, 117 | Apigenin-7-O-glucoside |
| 25 | | 447 | | 285, 284, 197, 175, 133 | Luteolin hexoside II |
| 26 | 6.51 | 701 | | 377, 307, 175 | Neo-nuzhenide |
| 27 | 6.71 | 461 | 463 | 315, 297, 153, 135, 113 | Verbasoside |
| 28 | | 447 | | 285 | Luteolin hexoside III |
| 29 | 6.92 | 569 | | 539, 407, 377 | Compound II |
| 30 | 7.03<br>20.11 | 539<br>282** | | 403,377,371,327,307,275,223,179,165,149,139 | Oleuropein |
| 31 | 7.04 | 359 | | 197, 153, 135, 107 | 7-Deoxyloganic acid |
| 32 | | 137 | | 109, 108, 93, 92 | *p*-Hydroxybenzoic acid |
| 33 | 7.15 | 539 | | 377, 307, 275 | Oleuropein isomer |
| 34 | 7.26 | 137 | | 107 | Tyrosol |
| 35 | 7.28 | 539 | | 377, 307, 275 | Oleuroside |
| 36 | 7.61<br>11.54 | 523 | 547*<br>274** | 361, 291, 259, 223, 127, 101 | Ligustroside |
| 37 | 8.15 | 925 | | 893, 763, 745, 693, 539, 521, 377, 307 | Jaspolyoside |
| 38 | 8.85 | 375 | | 213, 169, 151, 125, 113, 107 | Loganic acid |
| 39 | 9.14 | 377 | | 275, 165, 149, 139, 127, 111, 95 | Oleuropein aglycone |
| 40 | 11.93 | 405 | | 377, 275 | Dimethyl oleuropein aglycone |
| 41 | 18.08 | | 425* | 425 | Secologanic acid |
| 42 | 18.31 | | 280** | - | Dehydro oleuropein |
| 43 | 18.90 | | 439* | 439 | Acetoxypinoresinol |

| | | | | |
|---|---|---|---|---|
| 44 | | 455 | 455 | Oleanoic acid |
| 45 | 23.35 | 607 | 607, 541 | Compound I |
| 46 | 24.68 | 413* | 413 | Oleoside |

* denotes for $[M+Na]^+$ adduct; ** denotes for $[M+H+Na]^+$ adduct.