Supplementary Material

Characterization of the Metabolic Profile of Olive Tissues (Roots, Stems and Leaves): Relationship with Cultivars' Resistance/Susceptibility to the Soil Fungus *Verticillium dahliae*

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Table S1. Analytical parameters of the LC-IT MS method.

Compound	Calibration curve	R^2	Dynamic linear range / mg l^{-1}	LOD[a] / µg l^{-1}	LOQ[a] / µg l^{-1}	*Intra*-day repeatability[b] (area RSD / %)	*Inter*-day repeatability[c] (area RSD / %)
Quinic acid	y = 6212.5 + 36428.1x y = 512246.7 + 17005.7x	0.9983 0.9948	LOQ – 18.7 18.7 – 150.0	24.4	81.3	0.33	0.49
Hydroxytyrosol	y = 8449.0 + 31061.1x	0.9976	LOQ – 52.0	47.3	157.6	7.08	10.62
Tyrosol	y = -583.7 + 10334.9x y = 107822.0 + 6833.5x	0.9997 0.9898	LOQ – 25.0 25.0 – 100.0	171.3	571.0	5.70	8.56
Rutin	y = -36097.3 + 169422.6x y = 1067657.8 + 107842.2x	0.9992 0.9911	LOQ – 12.0 12.0 – 96.0	28.4	94.6	5.23	7.85
Luteolin-7-*O*-glucoside	y = 56511.5 + 411020.5x y = 2348016.3 + 193405.8x	0.9966 0.9924	LOQ – 8.0 8.0 – 64.0	18.7	62.3	1.66	2.49
Verbascoside	y = 53328.5 + 111178.1x	0.9955	LOQ – 52	42.1	140.2	3.63	5.44
Oleuropein	y = 514056.1 + 183004.9x y = 10361638.0 + 48313.3x	0.9942 0.9954	LOQ – 62.5 62.5 – 500.0	25.4	84.6	2.25	3.37
Maslinic acid	y = 166450.8 + 197117.1x y = 2244039.3 + 54184.3x	0.9899 0.9933	LOQ – 12.5 12.5 – 100.0	14.9	49.5	3.59	5.38
Betulinic acid	y = 70030.7 + 930415.0x y = 1436593.5 + 396367.1x	0.9916 0.9902	LOQ – 2.5 2.5 – 10.0	2.0	6.7	1.36	2.05
Oleanolic acid	y = 251665.6 + 430573.6x y = 2409833.3 + 151759.4x	0.9913 0.9949	LOQ – 9.0 9.0 – 72.0	5.8	19.2	1.96	2.94

[a] Calculated as the concentration that generates a signal to noise ratio equal to 3 (LOD) and 10 (LOQ).
[b] RSD (relative standard deviation) of peak area for 6 injections of the quality control sample carried out within the same sequence.
[c] RSD of peak area for 20 injections of the quality control sample from different sequences carried out over 3 days.
Abbreviations: LOD, Limit of detection; LOQ, Limit of quantification.

Table S2. Quantitative results obtained by LC-IT MS. Data expressed as mg kg^{-1} of olive tissue (DW) ± standard deviation.

a) Leaves	***Arbequina***	***Empeltre***	***Frantoio***	***Hojiblanca***	***Jabali***	***Koroneiki***	***Leccino***	***Mastoidis***	***Menya***	***Picual***
Aldehydic form of decarboxymethyl elenolic acid glucoside	771±156^{ab}	741±132^{ab}	240±77^{a}	1095±670^{abc}	1891±374^{c}	957±558^{abc}	648±133^{ab}	438±35^{ab}	1274±411^{bc}	1239±287^{abc}
Apigenin-7-O-glucoside	138±21^{a}	193±34^{a}	234±80^{a}	250±198^{a}	422±82^{a}	80±43^{a}	1025±364^{b}	236±23^{a}	353±109^{a}	246±81^{a}
Apigenin-O-rutinoside	436±61^{ab}	404±50^{ab}	270±76^{ab}	411±196^{ab}	564±165^{bc}	142±51^{a}	854±251^{c}	288±39^{ab}	445±113^{ab}	328±58^{ab}
Betulinic acid	113±33^{ab}	234±19^{b}	165±25^{ab}	151±77^{ab}	149±57^{ab}	118±57^{ab}	181±49^{ab}	197±20^{ab}	96±31^{a}	137±56^{ab}
Chrysoeriol-O-glucoside	82±20^{a}	209±54^{a}	205±85^{a}	81±59^{a}	173±30^{a}	129±85^{a}	117±51^{a}	167±17^{a}	65±9^{a}	103±35^{a}
Demethyl oleuropein	510±182^{a}	1053±69^{ab}	826±329^{ab}	445±270^{a}	2021±1240^{b}	591±217^{a}	316±127^{a}	598±101^{a}	329±201^{a}	587±472^{a}
Diosmin	222±84^{a}	682±195^{b}	114±34^{a}	127±127^{a}	308±105^{a}	231±123^{a}	147±83^{a}	259±79^{a}	57±21^{a}	133±50^{a}
Elenolic acid glucoside (isomer 1)	506±67 ^{a}	358±30^{a}	334±127^{a}	297±112^{a}	510±120^{a}	464±306^{a}	398±157^{a}	680±111^{a}	596±147^{a}	314±48^{a}
Elenolic acid glucoside (isomer 2)	227±9^{a}	303±71^{a}	158±54^{a}	338±191^{a}	609±49^{abc}	904±478^{bc}	281±68^{a}	1035±182^{c}	381±103^{ab}	485±176^{ab}
Gallocatechin	46±13^{a}	48±6^{ab}	30±9^{a}	59±19^{ab}	29±7^{a}	40±16^{a}	37±5^{a}	51±6^{ab}	59±9^{ab}	80±14^{b}
Hydroxytyrosol	577±107^{ab}	725±38^{ab}	726±243^{ab}	354±123^{a}	714±61^{ab}	585±304^{ab}	786±134^{ab}	880±54^{b}	479±132^{ab}	492±156^{ab}
Hydroxytyrosol glucoside	1241±141^{ab}	1347±254^{ab}	450±102^{a}	649±509^{ab}	3678±1037^{c}	2872±2071^{bc}	1760±563^{abc}	2845±114^{bc}	1209±434^{ab}	811±187^{ab}
Ligstroside	3991±728^{ab}	8608±1434^{c}	2085±808^{a}	2136±368^{a}	3320±920^{ab}	3393±2351^{ab}	3732±1531^{ab}	6372±1012^{bc}	3507±1139^{ab}	2292±959^{a}
Lucidumoside C	89±16^{a}	100±14^{a}	177±57^{abc}	88±37^{a}	212±92^{abc}	116±54^{ab}	110±38^{a}	264±62^{c}	253±14^{bc}	107±41^{a}
Luteolin-7-O-glucoside (isomer 1)	1263±353^{ab}	1726±427^{ab}	1430±677^{ab}	720±660^{a}	2674±432^{b}	1175±899^{ab}	768±414^{a}	1347±128^{ab}	586±464^{a}	1265±498^{ab}
Luteolin-O-glucoside (isomer 2)	403±145^{a}	530±175^{a}	375±181^{a}	411±356^{a}	508±71^{a}	454±343^{a}	129±61^{a}	447±34^{a}	183±35^{a}	450±197^{a}
Luteolin-O-glucoside (isomer 3)	86±17^{ab}	144±45^{ab}	59±18^{a}	62±45^{a}	94±26^{ab}	145±87^{ab}	39±18^{a}	189±23^{b}	83±23^{ab}	111±38^{ab}
Maslinic acid	1274±254^{a}	4768±186^{c}	3368±288^{bc}	2039±984^{ab}	3292±925^{bc}	2047±892^{ab}	2342±784^{ab}	3430±26^{bc}	1580±539^{ab}	2559±908^{ab}
Neonuzhenide/oleuropein glucoside (isomer 1)	48±19^{a}	58±5^{a}	29±10^{a}	72±51^{a}	174±83^{a}	177±148^{a}	180±112^{a}	62±11^{a}	615±405^{a}	57±19^{a}
Neonuzhenide/oleuropein glucoside (isomer 3)	416±56^{ab}	501±29^{ab}	228±84^{a}	272±178^{a}	686±122^{bc}	438±240^{ab}	489±159^{ab}	899±88^{c}	407±152^{ab}	393±114^{ab}
Neonuzhenide/oleuropein glucoside (isomer 4)	163±44^{a}	157±15^{a}	520±204^{b}	191±83^{a}	106±21^{a}	75±35^{a}	257±100^{ab}	242±26^{a}	214±120^{a}	245±113^{a}
Oleanolic acid	10152±2241^{a}	15255±632^{a}	15670±1969^{a}	13431±5751^{a}	11844±2796^{a}	10749±4897^{a}	15636±3204^{a}	14196±504^{a}	12239±3635^{a}	14957±3449^{a}
Oleoside/secologanoside (isomer 1)	626±95^{abc}	1095±135^{d}	382±108^{a}	566±151^{abc}	682±55^{abc}	625±179^{abc}	673±55^{abc}	893±52^{cd}	818±198^{bcd}	523±138^{ab}
Oleoside/secologanoside (isomer 2)	1666±402^{ab}	3515±316^{c}	1005±360^{a}	1465±781^{ab}	2347±313^{abc}	1502±702^{ab}	1990±229^{ab}	1551±28^{ab}	2580±942^{bc}	1541±101^{ab}
Oleuropein	49364±4286^{abc}	70692±5619^{bc}	28663±12486^{a}	31231±10647^{a}	40919±6365^{ab}	42112±21892^{ab}	46581±7692^{abc}	74453±5306^{c}	50140±13178^{abc}	29239±9434^{a}
Oleuropein aglycone (isomer 1)	203±83^{a}	640±160^{b}	263±41^{a}	124±47^{a}	124±71^{a}	101±61^{a}	190±86^{a}	572±205^{b}	74±12^{a}	164±86^{a}
Oleuropein aglycone (isomer 2)	95±12^{ab}	391±59^{d}	325±50^{cd}	130±62^{abc}	78±32^{a}	99±59^{ab}	280±132^{bcd}	317±123^{cd}	71±20^{a}	104±9^{ab}
Oleuroside	2147±277^{bc}	2567±106^{c}	999±477^{a}	1102±426^{ab}	1928±214^{abc}	1093±561^{ab}	1666±476^{abc}	4349±403^{d}	1469±458^{abc}	1309±327^{ab}
Quinic acid	5802±590^{abc}	7815±328^{c}	6357±1190^{abc}	4992±1146^{ab}	5916±463^{abc}	5826±1589^{abc}	7229±1019^{bc}	5549±350^{abc}	4769±251^{ab}	4439±574^{a}
Rutin	287±132^{a}	578±159^{a}	166±25^{a}	145±130^{a}	461±144^{a}	493±368^{a}	142±52^{a}	368±60^{a}	188±70^{a}	240±162^{a}
Unknown 1	120±60^{a}	42±14^{a}	29±7^{a}	56±10^{a}	107±46^{a}	260±242^{a}	81±58^{a}	265±43^{a}	113±51^{a}	24±15^{a}
Unknown 2	423±39^{ab}	258±47^{a}	440±59^{ab}	488±127^{b}	402±64^{ab}	409±99^{ab}	351±70^{ab}	461±80^{ab}	545±66^{b}	458±80^{ab}
Unknown 5	763±155^{ab}	958±39^{b}	813±218^{ab}	588±248^{ab}	386±97^{a}	546±200^{ab}	935±279^{b}	823±46^{ab}	585±170^{ab}	569±190^{ab}
Verbascoside	2638±1403^{a}	12863±4150^{b}	1204±221^{a}	3506±3379^{a}	3025±853^{a}	3676±2519^{a}	4118±1928^{a}	2137±1623^{a}	706±316^{a}	2216±1177^{a}

Lower case letters indicate Tukey's post hoc test differences ($p<0.05$) among different cultivars. Means with a common letter are not significantly different ($p>0.05$)

Table S2. Quantitative results obtained by LC-IT MS. Data expressed as mg kg^{-1} of olive tissue (DW) ± standard deviation *(cont.).*

b) Stems	***Arbequina***	***Empeltre***	***Frantoio***	***Hojiblanca***	***Jabali***	***Koroneiki***	***Leccino***	***Mastoidis***	***Menya***	***Picual***
11-Hydroxyiridodial glucoside pentaacetate	15±3^{a}	81±23^{bcd}	36±4^{ab}	27±4^{ab}	18±5^{a}	94±20^{cd}	105±47^{d}	7±1^{a}	51±17^{abc}	22±8^{a}
Acetoxipinoresinol	112±26^{bcd}	143±57^{d}	70±27^{abc}	96±17^{abcd}	44±8^{ab}	50±8^{abc}	57±4^{abc}	69±14^{abc}	116±25^{cd}	31±6^{a}
Acetoxypinoresinol glucoside	1052±133^{bc}	1172±189^{cd}	613±118^{ab}	996±179^{abc}	779±207^{abc}	1102±131^{bcd}	637±24^{ab}	1268±85^{cd}	1588±365^{d}	494±80^{a}
Aldehydic form of decarboxymethyl elenolic acid glucoside	286±9^{a}	397±11^{ab}	220±54^{a}	678±66^{c}	1114±236^{d}	747±11^{c}	168±30^{a}	245±18^{a}	294±36^{a}	640±126^{bc}
Betulinic acid	76±18^{ab}	128±15^{abc}	176±52^{cd}	133±28^{bc}	211±29^{d}	222±19^{d}	58±16^{a}	184±10^{cd}	118±23^{abc}	81±15^{ab}
Cyanidin-O-glucoside	18±3^{a}	23±6^{a}	16±3^{a}	101±15^{b}	88±33^{b}	13±1^{a}	92±38^{b}	16±1^{a}	6±2^{a}	76±6^{b}
Cycloolivil	80±7^{ab}	137±21^{ab}	273±171^{ab}	74±16^{a}	101±4^{ab}	108±9^{ab}	296±148^{b}	81±19^{ab}	173±61^{ab}	87±13^{ab}
Demethyl oleuropein	42±10^{abc}	128±38^{d}	76±23^{abcd}	32±9^{ab}	96±17^{cd}	70±15^{abcd}	93±40^{bcd}	37±5^{abc}	87±13^{abcd}	28±4^{a}
Dihydrokaempferol	163±10^{bc}	116±21^{b}	60±3^{a}	278±27^{e}	200±23^{cd}	59±7^{a}	188±31^{cd}	45±7^{a}	31±5^{a}	229±12^{de}
Dihydroquercetin 3-O-glucoside	62±12^{ab}	43±4^{ab}	84±32^{abc}	20±4^{a}	142±43^{cd}	103±3^{bcd}	177±56^{d}	76±4^{abc}	51±7^{ab}	76±21^{abc}
Elenolic acid glucoside (isomer 1)	308±22^{a}	555±74^{b}	328±55^{a}	383±20^{ab}	558±15^{b}	419±42^{ab}	427±143^{ab}	397±36^{ab}	481±93^{ab}	345±30^{a}
Elenolic acid glucoside (isomer 2)	81±11^{a}	182±48^{abc}	71±26^{a}	92±21^{ab}	278±31^{cde}	237±36^{bcd}	402±125^{e}	352±53^{de}	315±53^{cde}	196±33^{abc}
Hydroxy oleuropein	126±42^{ab}	146±33^{ab}	94±42^{a}	158±31^{ab}	148±28^{ab}	133±67^{ab}	80±30^{a}	174±40^{ab}	221±62^{b}	119±18^{ab}
Hydroxypinoresinol glucoside	105±11^{a}	125±34^{a}	90±18^{a}	146±11^{a}	66±10^{a}	77±4^{a}	356±110^{b}	148±18^{a}	106±27^{a}	368±28^{b}
Hydroxytyrosol glucoside	1273±222^{bc}	1472±278^{c}	767±32^{ab}	373±126^{a}	1545±428^{c}	1610±379^{c}	1301±162^{bc}	1350±94^{bc}	954±138^{abc}	1010±47^{abc}
Ligstroside	957±169^{a}	2885±388^{bc}	1345±151^{abc}	1402±32^{abc}	1623±509^{abc}	1311±343^{ab}	2916±1403^{c}	1905±431^{abc}	1599±127^{abc}	2145±464^{abc}
Lucidumoside C	242±117^{abc}	200±33^{ab}	108±54^{a}	247±30^{abc}	216±74^{ab}	246±143^{abc}	103±33^{a}	357±105^{bc}	485±123^{c}	147±37^{ab}
Luteolin-7-O-glucoside (isomer 1)	36±16^{a}	12±1^{a}	51±36^{ab}	21±14^{a}	97±35^{b}	32±0^{a}	10±5^{a}	5±3^{a}	11±2^{a}	53±27^{ab}
Luteolin-O-glucoside (isomer 2)	7±2^{a}	7±4^{a}	40±35^{a}	32±8^{a}	102±16^{b}	2±1^{a}	5±2^{a}	n.d	4±0^{a}	20±3^{a}
Luteolin-O-glucoside (isomer 3)	14±6^{ab}	8±1^{ab}	23±10^{b}	8±6^{ab}	21±3^{b}	11±2^{ab}	4±1^{a}	n.d	9±1^{ab}	20±10^{b}
Maslinic acid	488±69^{ab}	1041±121^{bc}	984±499^{abc}	710±153^{ab}	1385±349^{c}	680±184^{ab}	351±101^{a}	497±104^{ab}	364±65^{a}	772±162^{abc}
Metoxypinoresinol glucoside	137±13^{bc}	114±1^{abc}	135±7^{bc}	89±17^{a}	133±28^{bc}	130±17^{abc}	106±13^{ab}	150±8^{c}	119±20^{abc}	108±4^{abc}
Neonuzhenide/oleuropein glucoside (is 1)	144±53^{ab}	239±121^{ab}	161±39^{ab}	122±29^{ab}	210±76^{ab}	208±61^{ab}	375±205^{b}	42±5^{a}	230±81^{ab}	208±84^{ab}
Neonuzhenide/oleuropein glucoside (is 2)	228±42^{cd}	231±24^{cd}	93±44^{a}	114±21^{ab}	310±70^{de}	357±21^{e}	179±16^{abc}	356±29^{e}	202±23^{bc}	167±16^{abc}
Neonuzhenide/oleuropein glucoside (is 4)	48±10^{a}	99±32^{bcd}	88±25^{abcd}	97±25^{bcd}	69±9^{abc}	53±5^{ab}	128±16^{d}	107±4^{cd}	40±5^{a}	56±8^{ab}
Oleanolic acid	2438±437^{ab}	2790±349^{ab}	3775±1693^{b}	2709±1003^{ab}	1586±674^{a}	2713±684^{ab}	1064±298^{a}	1913±280^{ab}	1015±102^{a}	2542±561^{ab}
Oleoside/secologanoside (isomer 1)	203±17^{a}	402±34^{d}	186±37^{a}	278±15^{abc}	310±28^{bcd}	377±28^{cd}	277±52^{abc}	231±14^{ab}	254±59^{ab}	260±36^{ab}
Oleoside/secologanoside (isomer 2)	851±57^{ab}	1566±100^{cd}	855±97^{ab}	1121±85^{b}	1702±168^{d}	1193±138^{bc}	1027±203^{ab}	623±29^{a}	1211±294^{bc}	1153±66^{bc}
Oleuropein	14793±2356^{a}	34335±2802^{e}	21077±1819^{abc}	17190±2044^{ab}	24208±1113^{bcd}	26303±1532^{cde}	17590±5557^{ab}	30795±2207^{de}	19813±4649^{abc}	18180±1040^{abc}
Oleuropein aglycone (isomer 1)	27±8^{a}	125±36^{a}	109±88^{a}	56±19^{a}	107±27^{a}	101±12^{a}	68±27^{a}	67±14^{a}	16±6^{a}	36±17^{a}
Oleuropein aglycone (isomer 2)	26±5^{a}	161±41^{abc}	89±77^{ab}	91±9^{ab}	172±54^{bc}	145±34^{ab}	286±108^{c}	153±5^{abc}	26±16^{a}	32±9^{ab}
Oleuroside	351±21^{ab}	884±23^{f}	308±57^{ab}	528±17^{cd}	714±83^{e}	430±11^{bc}	410±78^{bc}	900±48^{f}	266±61^{a}	583±23^{de}
Phenylethyl primeveroside	49±7^{d}	48±4^{cd}	27±11^{ab}	42±3^{bcd}	27±7^{ab}	58±8^{d}	23±3^{a}	54±7^{d}	30±4^{abc}	17±2^{a}
Quercetin-O-glucoside (isomer 1)	37±8^{ab}	27±2^{ab}	45±27^{ab}	22±9^{a}	142±31^{c}	63±6^{b}	41±5^{ab}	22±2^{a}	22±1^{a}	31±8^{ab}
Quercetin-O-glucoside (isomer 2)	35±3^{a}	17±5^{a}	31±24^{a}	26±3^{a}	96±56^{b}	16±5^{a}	8±3^{a}	9±5^{a}	16±3^{a}	16±6^{a}
Quercetin-O-glucoside (isomer 3)	39±6^{a}	18±4^{a}	40±16^{a}	32±3^{a}	102±37^{b}	30±4^{a}	30±9^{a}	10±4^{a}	22±4^{a}	30±7^{a}
Quinic acid	1792±175^{ab}	2710±112^{b}	2300±831^{ab}	2463±471^{ab}	2095±380^{ab}	1490±103^{a}	1761±89^{ab}	1844±206^{ab}	1469±174^{a}	1862±266^{ab}
Rutin	91±34^{ab}	88±9^{ab}	111±68^{ab}	34±7^{a}	157±33^{b}	99±19^{ab}	54±6^{a}	33±6^{a}	47±5^{a}	34±8^{a}
Taxifolin	186±13^{cde}	151±16^{bcd}	199±12^{de}	31±8^{a}	120±26^{bc}	228±42^{ef}	285±45^{f}	145±11^{bcd}	118±19^{bc}	115±17^{b}
Unknown 1	34±5^{a}	85±35^{ab}	41±35^{a}	157±44^{bc}	101±64^{ab}	251±32^{c}	107±19^{ab}	111±22^{ab}	42±15^{a}	60±47^{ab}
Unknown 2	260±3^{a}	194±20^{a}	202±18^{a}	257±13^{a}	261±61^{a}	240±28^{a}	188±32^{a}	253±16^{a}	221±6^{a}	249±16^{a}
Unknown 4	n.d	43±15^{b}	184±14^{c}	n.d	n.d	n.d	176±37^{c}	n.d	14±0^{a}	n.d
Unknown 5	149±31^{ab}	139±18^{ab}	191±119^{b}	104±33^{ab}	112±23^{ab}	120±43^{ab}	106±36^{ab}	62±9^{ab}	56±11^{a}	151±26^{ab}
Verbascoside	319±89^{a}	1196±205^{ab}	1118±547^{ab}	499±146^{a}	883±429^{a}	521±165^{a}	1941±739^{b}	234±58^{a}	661±189^{a}	508±79^{a}

Lower case letters indicate Tukey's post hoc test differences ($p<0.05$) among different cultivars. Means with a common letter are not significantly different ($p>0.05$); n.d: not detected

Table S2. Quantitative results obtained by LC-IT MS. Data expressed as mg kg^{-1} of olive tissue (DW) ± standard deviation *(cont.).*

c) Roots	Arbequina	Empeltre	Frantoio	Hojiblanca	Jabali	Koroneiki	Leccino	Mastoidis	Menya	Picual
11-Hydroxyiridodial glucoside pentaacetate	123±50^{ab}	278±31^{cd}	77±23^{ab}	151±13^{abc}	131±56^{abc}	345±19^{d}	188±113^{bc}	16±3^{a}	156±66^{abc}	82±42^{ab}
7-deoxyloganic acid	48±12^{a}	16±11^{a}	17±15^{a}	48±19^{a}	81±43^{a}	986±688^{c}	330±126^{b}	58±29^{a}	20±12^{a}	66±41^{a}
Acetoxipinoresinol	155±57^{b}	62±14^{ab}	149±46^{b}	154±78^{b}	147±49^{b}	57±22^{ab}	17±4^{a}	59±9^{ab}	141±22^{b}	51±12^{ab}
Acetoxypinoresinol glucoside	798±156^{bc}	455±116^{ab}	819±76^{bc}	670±95^{abc}	1001±415^{c}	618±32^{abc}	335±26^{a}	657±10^{abc}	803±130^{bc}	262±87^{a}
Betulinic acid	275±24^{c}	269±40^{bc}	244±27^{bc}	183±13^{abc}	112±13^{a}	174±67^{ab}	179±45^{abc}	179±9^{abc}	276±36^{c}	93±18^{a}
Cycloolivil glucoside (isomer 1)	421±79^{cd}	450±99^{d}	164±15^{a}	164±30^{a}	211±76^{ab}	411±44^{cd}	378±90^{bcd}	370±33^{bcd}	263±60^{abcd}	251±100^{abc}
Cycloolivil glucoside (isomer 2)	190±77^{ab}	426±38^{c}	354±97^{bc}	255±119^{abc}	117±45^{a}	104±7^{a}	142±27^{a}	258±59^{abc}	232±58^{abc}	210±71^{ab}
Elenolic acid glucoside (isomer 1)	286±91^{abc}	767±68^{d}	289±98^{abc}	172±25^{ab}	292±79^{abc}	442±75^{bc}	547±256^{cd}	420±32^{abc}	335±82^{abc}	128±37^{a}
Elenolic acid glucoside (isomer 2)	121±47^{abc}	284±31^{d}	83±22^{ab}	29±8^{a}	76±26^{a}	302±43^{d}	204±98^{bcd}	225±35^{cd}	118±30^{abc}	27±11^{a}
Hydroxy oleuropein	152±36^{a}	450±311^{a}	246±133^{a}	197±90^{a}	184±124^{a}	248±102^{a}	193±28^{a}	429±20^{a}	372±126^{a}	86±8^{a}
Hydroxypinoresinol glucoside	528±48^{bc}	472±32^{abc}	713±27^{de}	545±27^{bc}	347±124^{a}	738±49^{de}	818±52^{e}	603±24^{cd}	573±56^{bcd}	426±66^{ab}
Ligstroside	1502±234	4061±222	1778±268	877±155	1961±1026	3526±739	3111±1616	2542±180	2446±729	914±325
Lucidumoside C	270±89^{ab}	1045±823^{b}	426±259^{ab}	273±146^{ab}	313±277^{ab}	582±307^{ab}	438±92^{ab}	868±88^{ab}	688±255^{ab}	113±12^{a}
Maslinic acid	3082±777^{ab}	3000±774^{ab}	2181±436^{a}	2514±106^{ab}	2535±465^{ab}	2824±692^{ab}	3351±601^{ab}	2780±842^{ab}	3897±391^{b}	2497±170^{ab}
Metoxypinoresinol glucoside	87±6^{bc}	60±12^{ab}	101±15^{c}	97±13^{c}	72±22^{abc}	36±1^{a}	44±10^{a}	83±4^{bc}	45±3^{a}	89±20^{bc}
Neonuzhenide/oleuropein glucoside (isomer 1)	101±47^{abc}	195±52^{abc}	70±19^{ab}	26±9^{a}	101±49^{abc}	339±85^{c}	269±230^{bc}	113±13^{abc}	92±17^{ab}	34±13^{ab}
Neonuzhenide/oleuropein glucoside (isomer 2)	90±35^{ab}	156±12^{bc}	70±30^{ab}	31±9^{a}	138±59^{ab}	394±57^{d}	170±55^{bc}	260±36^{c}	117±19^{ab}	42±9^{a}
Neonuzhenide/oleuropein glucoside (isomer 4)	15±2^{a}	35±1^{cd}	16±2^{ab}	7±1^{a}	13±4^{a}	39±5^{d}	26±5^{bc}	34±5^{cd}	16±3^{ab}	8±3^{a}
Oleanolic acid	53±11^{a}	43±11^{a}	45±4^{a}	38±4^{a}	30±6^{a}	43±10^{a}	49±15^{a}	38±6^{a}	36±5^{a}	34±4^{a}
Oleoside/secologanoside (isomer 1)	69±15^{ab}	204±15^{e}	61±12^{a}	64±13^{a}	70±13^{abc}	147±26^{de}	130±50^{cd}	125±7^{bcd}	57±9^{a}	38±5^{a}
Oleoside/secologanoside (isomer 2)	267±44^{abc}	323±60^{bc}	244±24^{abc}	366±99^{c}	388±98^{c}	164±37^{ab}	300±24^{abc}	165±7^{ab}	139±29^{a}	227±70^{abc}
Oleuropein	17093±6267^{ab}	37381±5024^{d}	13510±1354^{ab}	6736±898^{a}	11165±4890^{a}	33302±2467^{cd}	24029±8228^{bc}	33049±1922^{cd}	13790±4379^{ab}	6545±2577^{a}
Quinic acid	252±14^{a}	295±50^{a}	356±239^{a}	383±65^{a}	377±73^{a}	245±85^{a}	288±36^{a}	239±5^{a}	370±125^{a}	311±87^{a}
Unknown 1	133±63^{ab}	266±77^{bcd}	124±68^{ab}	81±23^{a}	203±89^{abc}	423±84^{d}	241±68^{abc}	341±11^{cd}	94±31^{ab}	66±36^{a}
Unknown 2	141±25^{ab}	162±17^{b}	135±7^{ab}	123±20^{ab}	103±26^{a}	103±16^{a}	117±9^{ab}	142±14^{ab}	144±3^{ab}	116±29^{ab}
Unknown 3	57±38^{ab}	185±21^{c}	33±14^{a}	18±2^{a}	38±8^{ab}	131±31^{bc}	108±55^{abc}	185±63^{c}	40±10^{ab}	16±8^{a}
Verbascoside	6055±1827^{a}	2778±715^{a}	5655±643^{a}	9359±5461^{a}	8883±4473^{a}	8887±2296^{a}	9913±1546^{a}	4799±1477^{a}	4990±783^{a}	8695±3120^{a}
Isoverbascoside	693±89^{ab}	366±79^{a}	1185±72^{ab}	1237±716^{ab}	1150±306^{ab}	711±19^{ab}	924±68^{ab}	760±52^{ab}	724±157^{ab}	1442±681^{b}

Lower case letters indicate Tukey's post hoc test differences ($p<0.05$) among different cultivars. Means with a common letter are not significantly different ($p>0.05$)

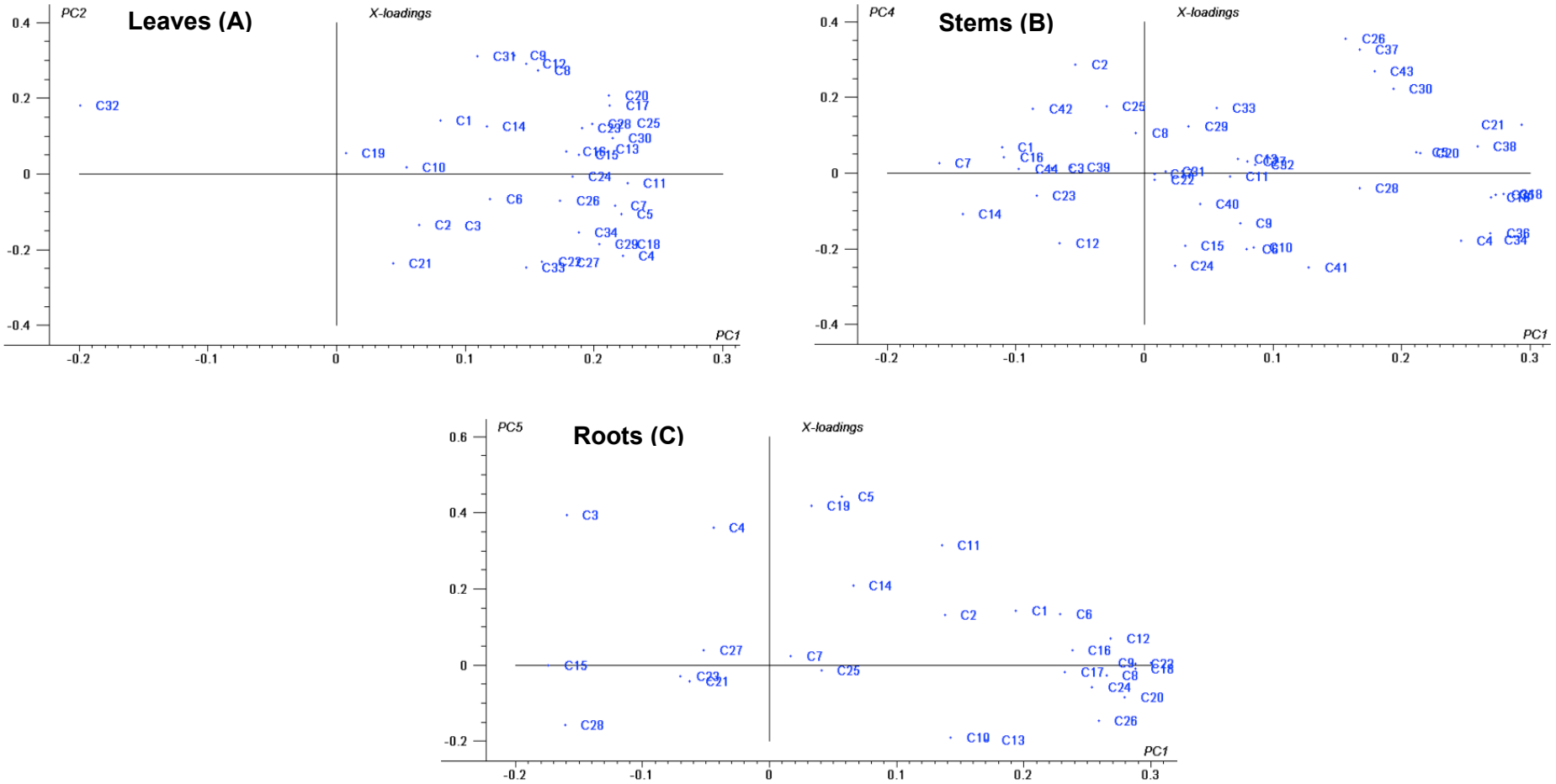

Figure S1. Principal component analysis (PCA) loadings plots representing the two principal components (PCs) providing the best samples' grouping for each olive tissue: leaves (A), stems (B) and roots (C). *Compound numbers at the end of the document.

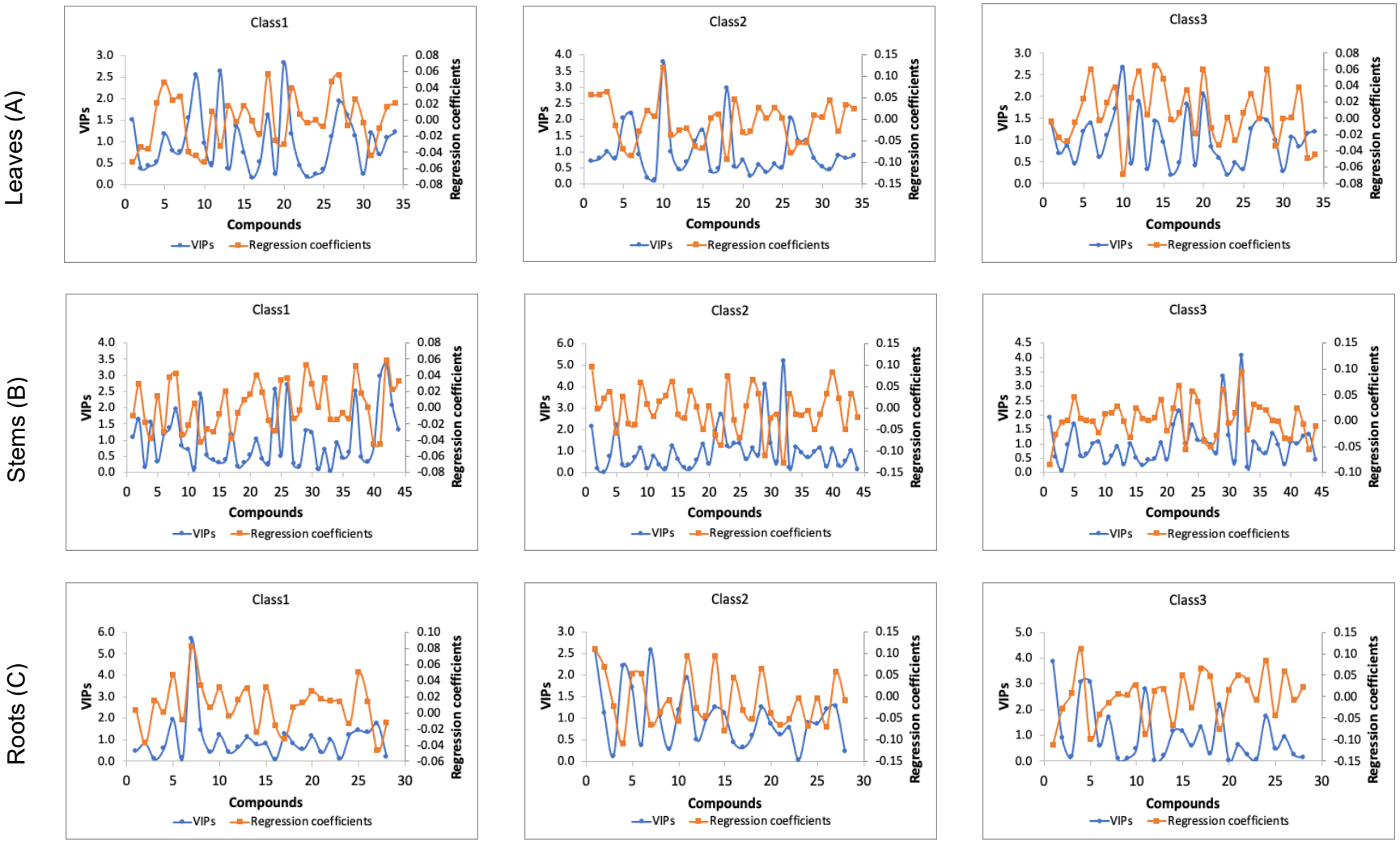

Figure S2. Representation of the regression coefficients and variable importance on the projection (VIP) values of each metabolite quantified in the three olive tissues under study: leaves (A), stems (B) and roots (C). Class 1: high resistant cultivars; class 2: resistant, moderately susceptible, and susceptible cultivars; class 3: extremely susceptible cultivars. *Compound numbers at the end of the document.

***Compound numbers in Figure S1 and S2.**

LEAVES

Code	Compound name (leaves)
C1	Aldehydic form of decarboxymethyl elenolic acid glucoside
C2	Apigenin 7-*O*-glucoside
C3	Apigenin *O*-rutinoside
C4	Betulinic acid
C5	Chrysoeriol O-glucoside
C6	Demethyl oleuropein
C7	Diosmin
C8	Elenolic acid glucoside (isomer 1)
C9	Elenolic acid glucoside (isomer 2)
C10	Gallocatechin
C11	Hydroxytyrosol
C12	Hydroxytyrosol glucoside
C13	Ligstroside
C14	Lucidumoside C
C15	Luteolin 7-*O*-glucoside (isomer 1)
C16	Luteolin *O*-glucoside (isomer 2)
C17	Luteolin *O*-glucoside (isomer 3)
C18	Maslinic acid
C19	Neonuzhenide/oleuropein glucoside (isomer 1)
C20	Neonuzhenide/oleuropein glucoside (isomer 3)
C21	Neonuzhenide/oleuropein glucoside (isomer 4)
C22	Oleanolic acid
C23	Oleoside
C24	Secologanoside
C25	Oleuropein
C26	Oleuropein aglycone (isomer 1)
C27	Oleuropein aglycone (isomer 2)
C28	Oleuroside
C29	Quinic acid
C30	Rutin
C31	Unknown 1
C32	Unknown 2
C33	Unknown 5
C34	Verbascoside

STEMS

Code	Compound name
C1	11-Hydroxyiridodial glucoside pentaacetate
C2	Acetoxipinoresinol
C3	Acetoxypinoresinol glucoside
C4	Aldehydic form of decarboxymethyl elenolic acid glucoside
C5	Betulinic acid
C6	Cyanidin *O*-glucoside
C7	Cycloolivil
C8	Demethyl oleuropein
C9	Dihydrokaempferol
C10	Dihydroquercetin 3-O-glucoside
C11	Elenolic acid glucoside (isomer 1)
C12	Elenolic acid glucoside (isomer 2)
C13	Hydroxy oleuropein
C14	Hydroxypinoresinol glucoside
C15	Hydroxytyrosol glucoside
C16	Ligstroside
C17	Lucidumoside C
C18	Luteolin 7-*O*-glucoside (isomer 1)
C19	Luteolin *O*-glucoside (isomer 2)
C20	Luteolin *O*-glucoside (isomer 3)
C21	Maslinic acid
C22	Metoxypinoresinol glucoside
C23	Neonuzhenide/oleuropein glucoside (isomer 1)
C24	Neonuzhenide/oleuropein glucoside (isomer 2)
C25	Neonuzhenide/oleuropein glucoside (isomer 4)
C26	Oleanolic acid
C27	Oleoside
C28	Secologanoside
C29	Oleuropein
C30	Oleuropein aglycone (isomer 1)
C31	Oleuropein aglycone (isomer 2)
C32	Oleuroside
C33	Phenylethyl primeveroside
C34	Quercetin *O*-glucoside (isomer 1)
C35	Quercetin *O*-glucoside (isomer 2)
C36	Quercetin *O*-glucoside (isomer 3)
C37	Quinic acid
C38	Rutin
C39	Taxifolin
C40	Unknown 1
C41	Unknown 2
C42	Unknown 4
C43	Unknown 5
C44	Verbascoside

ROOTS

Code	Compound name
C1	11-Hydroxyiridodial glucoside pentaacetate
C2	7-deoxyloganic acid
C3	Acetoxipinoresinol
C4	Acetoxypinoresinol glucoside
C5	Betulinic acid
C6	Cycloolivil glucoside (isomer 1)
C7	Cycloolivil glucoside (isomer 2)
C8	Elenolic acid glucoside (isomer 1)
C9	Elenolic acid glucoside (isomer 2)
C10	Hydroxy oleuropein
C11	Hydroxypinoresinol glucoside
C12	Ligstroside
C13	Lucidumoside C
C14	Maslinic acid
C15	Metoxypinoresinol glucoside
C16	Neonuzhenide/oleuropein glucoside (isomer 1)
C17	Neonuzhenide/oleuropein glucoside (isomer 2)
C18	Neonuzhenide/oleuropein glucoside (isomer 4)
C19	Oleanolic acid
C20	Oleoside
C21	Secologanoside
C22	Oleuropein
C23	Quinic acid
C24	Unknown 1
C25	Unknown 2
C26	Unknown 3
C27	Verbascoside
C28	Isoverbascoside