Supplimentary Material

Table S1. The cultivars used in this study and their country of origin.

Supplier	Origin	Year	Cultivar
1. Itesori	Italy	2014	Nocellara
2. Frantoio di Santa Tea	Italy (Firenze)	2015	Frantoio
3. Frantoio di santa Tea	Italy	2015	Leccino
4. Glacomo grassi	Italy	2015	Olivobianco
5. Pendolino	Italy	2015	Pendolino
6. Caravella finefood	Italy (Calabria)	2016	Carolea
7. Caravella finefood	Italy (Puglia)	2016	Ogliarola Bio
8. Caravella finefood	Italy (Puglia)	2016	Peranzana
9. Corona delle puglie	Italy	2016	Coratina
10. Frantoi cutrera	Italy	2016	Cerasuola
11. Frantoio di santa Tea	Italy (Firenze)	2016	Moraiolo
12. Glacomo grassi	Italy	2016	Leccio del Corno
13. La selvotta	Italy (Abruzzo)	2016	I-77
14. Mamma regina	Italy	2016	Tortiglione
15. Roi	Italy	2016	Taggiasca
16. Ursini	Italy	2016	Gentile di Chieti
17. Frantoi cutrera	Sicily	2015	Tonda Iblea
18. Frantoi cutrera	Sicily	2016	Nocellara Etnea
19. Frantoi cutrera	Sicily	2016	Moresca
20. Frantoi cutrera	Sicily	2016	Biancolilla
21. Frantoi cutrera	Sicily	2016	Nocellara del Belice
22. Frantoi cutrera	Sicily	2016	Tonda Iblea
23. Frantoi cutrera	Sicily	2016	Cerasuola
24. Arbequina	Spain	2016	Arbequina
25. Hojiblanca	Spain	2016	Hojiblanca
26. Casas hualdo	Spain	2016	Picual
27. Pago de baldios san carlos	Spain	2016	Arbequina
28. Château d'estoublon	France	2015	Béruguette
29. Château d'estoublon	France	2015	Picholine
30. Château d'estoublon	France	2015	Grossane
31. Manianis	Greece	2016	Koroneiki
32. Moria ella	Greece	2016	Koroneiki
33. Sam Cremona	Malta	2013	Malti
34. Sam Cremona	Malta	2014	Bidni
35. Sam Cremona	Malta	2014	Bidni
36. Sam Cremona	Malta	2014	Malti
37. Parent Siggiewi Press	Malta	2014	Carolea
38. Sam Cremona	Malta	2015	Bajda
39. Sam Cremona	Malta	2015	Bidni
40. Sam Cremona	Malta	2015	Bidni
41. Sam Cremona	Malta	2015	Carolea

42. Sam Cremona	Malta	2015	Frantoio
43. Sam Cremona	Malta	2015	Malti
44. Sam Cremona	Malta	2015	Picholine
45. Parent Siggiewi Press	Malta	2015	Carolea
46. Parent Siggiewi Press	Malta	2015	Pendolino
47. Sam Cremona	Malta	2016	Bidni
48. Sam Cremona	Malta	2016	Bidni
49. Parent Siggiewi Press	Malta	2016	Carolea
50. Parent Siggiewi Press	Malta	2016	Frantoio
51. Sam Cremona	Malta	2016	Frantoio
52. Sam Cremona	Malta	2016	Frantoio
53. Sam Cremona	Malta	2016	Pendolino
54. Sam Cremona	Malta	2016	Picholine

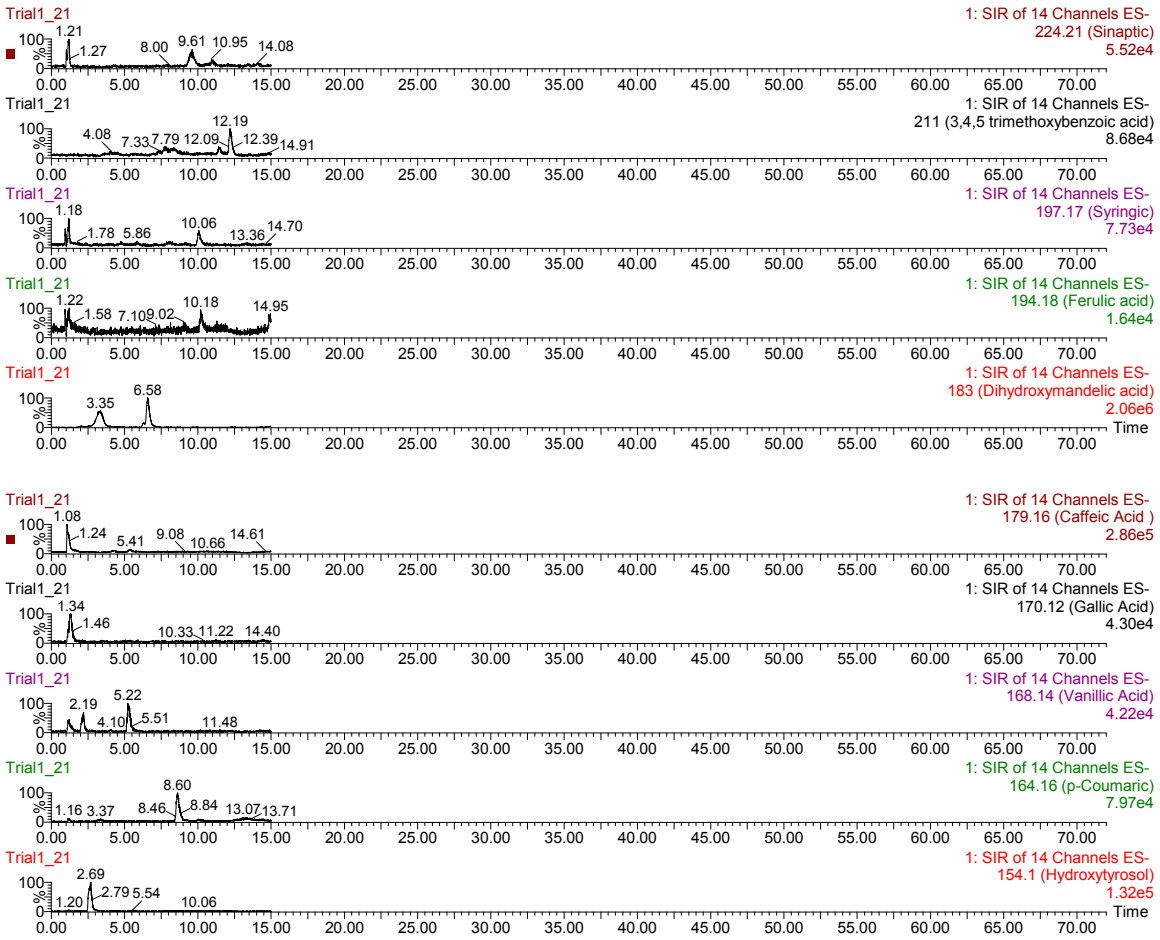
Table S2. MRM method development for the most common minor compounds present in EVOO.

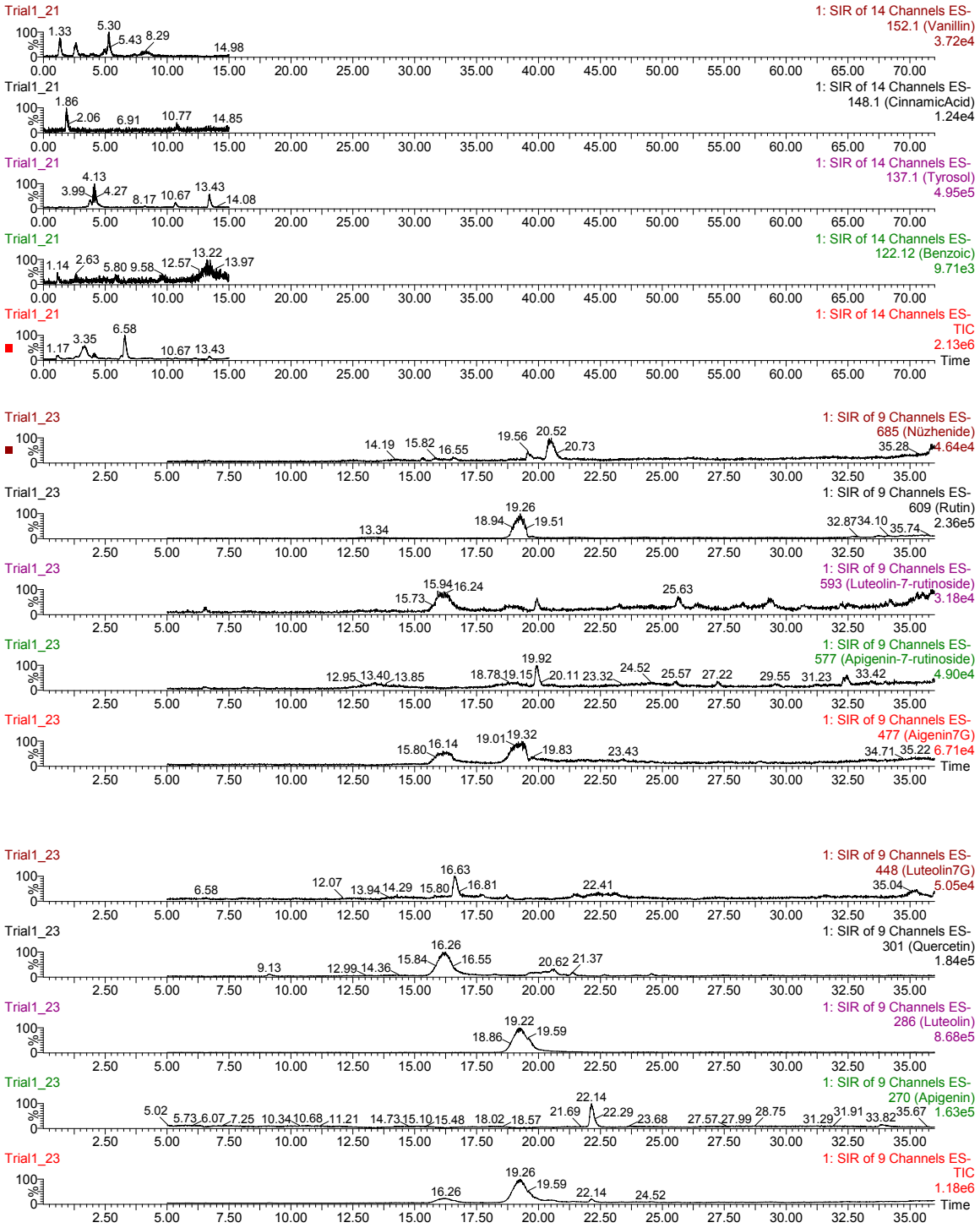
Compound	Formula/Mass	Parent m/z	Cone Voltage	Daughters	Collision Energy
tyrosol	136.1	136.94	56	64.98	24
		136.94	56	91.01	30
		136.94	56	81.06	18
		136.94	56	39.03	40
Cinnamic acid	146	146.97	100	91.01	16
		146.97	100	119.06	14
vanillin	150	150.97	44	91.06	20
		150.97	44	95.03	16
		150.97	44	76.95	18
		150.97	44	123.06	10
Hydroxytyrosol	152.2	152.98	98	125.01	10
		152.98	98	123.25	8
		152.98	98	82.99	18
vanillic acid	166	166.97	96	70.97	18
		166.97	96	136.60	10
		166.97	96	137.63	12
		166.97	96	82.93	16
caffeic acid	178	178.97	96	82.95	14
		178.97	96	147.04	12

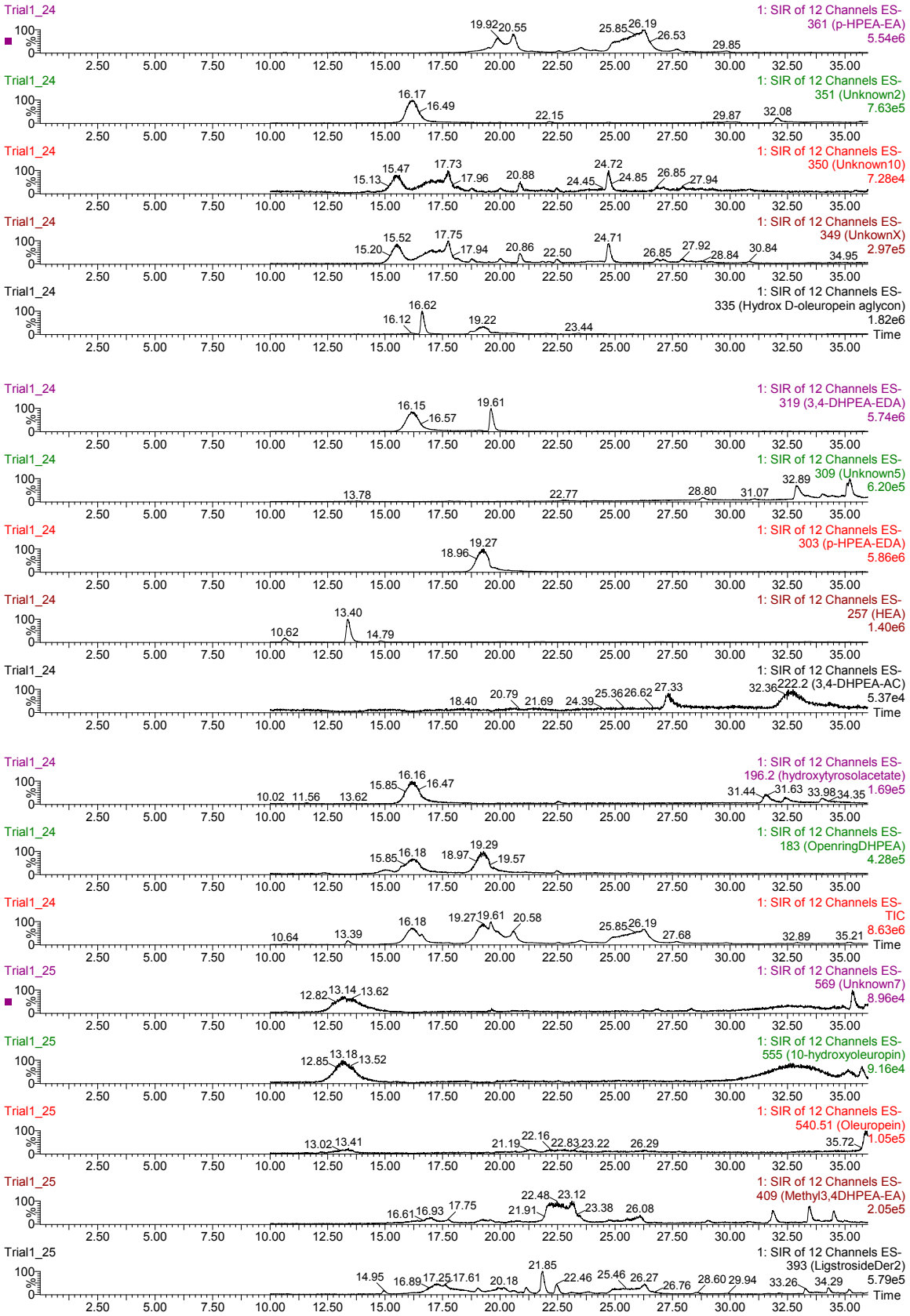
Methyl gallic acid	182.2	182.98	96	153.38	8
		182.98	96	124.96	14
Ligstroside derivatives stable fragment	256	257.03	24	225.07	6
		257.03	24	165.03	12
		257.03	24	38.57	16
Luteolin	284	285.10	34	253.08	6
3,4-DHPEA-EDA	318	319.16	100	287.03	12
		319.16	100	23.02	24
Oxidized product Dialdehydic Form of Oleuropein Aglycone	334	335.16	36	137.05	20
		335.16	36	91.06	40
		335.16	36	303.10	6
		335.16	36	23.02	22
		335.16	36	119.03	36
Oxidized product Aldehydic Form of Oleuropein Aglycone	364	365.10	54	365.14	28
		365.10	54	23.02	32
		365.10	54	203.05	24
		365.10	54	185.03	22
		365.10	54	199.02	22
Hydroxypinoresinol	374.1	375.13	36	343.15	18
		375.13	36	38.96	18
		375.13	36	23.02	26
		375.13	36	221.07	22
Dialdehydic Form of Ligstroside Aglycone	302.1	303.07	76	38.96	18
		303.07	76	23.02	16
		303.07	76	270.99	10
Oleoside	388	389.16	44	357.18	20
		389.16	44	23.02	26
		389.16	44	38.95	16
		389.16	44	173.07	26

Aldehydic Form of Oleuropein Aglycone	379	379.27	42	23.02	20
		379.27	42	137.04	14
		379.27	42	38.76	32
Apigenin Glycoside	430	431.16	60	22.96	28
		431.16	60	399.13	18
Luteolin Glycoside	446	447.16	52	23.02	28
		447.16	52	415.14	26
		447.16	52	38.90	16
		447.16	52	173.07	30
		447.16	52	2.40	36
Oleuropein	538	539.22	14	297.13	14
		539.22	14	265.08	10
10-hydroxy Oleuropein	554	555.22	64	22.96	42
		555.22	64	38.95	32
Unk Verbascoside	622	623.22	38	287.06	30
		623.22	38	303.05	20
Pinoresinol	359	359.07	46	327.15	18
		359.07	46	23.02	24
		359.07	46	207.09	22
		359.07	46	143.03	22
		359.07	46	221.08	22
Hydroxy pinoresinol	373	373.14	50	23.02	22
		373.14	50	221.11	24
		373.14	50	341.10	14
		373.14	50	207.13	20
		373.14	50	143.02	20
Ferulic Acid	192	193.03	28	22.96	12
		193.03	28	91.00	26
1-acetoxy-pinoresinol	416	417.10	52	385.13	20

		417.10	52	22.96	28
		417.10	52	265.08	26
		417.10	52	143.02	24
		417.10	52	121.10	34
methyl ligstoside aglycon	374	375.16	44	343.18	18
		375.16	44	22.96	26
		375.16	44	38.95	18
		375.16	44	375.08	28
Decarboxylated Dialdehydic form of Oleuropein Aglycone	318	319.16	100	22.96	20
		319.16	100	287.02	16




Trial1_21
1: SIR of 14 Channels ES-
152.1 (Vanillin)
3.72e4
1.33
5.30
5.43
8.29
14.98
Trial1_21
1: SIR of 14 Channels ES-
148.1 (CinnamicAcid)
1.24e4
1.86
2.06
6.91
10.77
14.85
Trial1_21
1: SIR of 14 Channels ES-
137.1 (Tyrosol)
4.95e5
3.99
4.13
4.27
8.17
10.67
13.43
14.08
Trial1_21
1: SIR of 14 Channels ES-
122.12 (Benzoic)
9.71e3
1.14
2.63
5.80
9.58
12.57
13.22
13.97
Trial1_21
1: SIR of 14 Channels ES-
TIC
2.13e6
1.17
3.35
6.58
10.67
13.43
Time
Trial1_23
1: SIR of 9 Channels ES-
685 (Nüzhenide)
4.64e4
14.19
15.82
16.55
19.56
20.52
20.73
35.28
Trial1_23
1: SIR of 9 Channels ES-
609 (Rutin)
2.36e5
13.34
18.94
19.26
19.51
32.87
34.10
35.74
Trial1_23
1: SIR of 9 Channels ES-
593 (Luteolin-7-rutinoside)
3.18e4
15.73
15.94
16.24
25.63
Trial1_23
1: SIR of 9 Channels ES-
577 (Apigenin-7-rutinoside)
4.90e4
12.95
13.40
13.85
18.78
19.15
19.92
20.11
23.32
24.52
25.57
27.22
29.55
31.23
33.42
Trial1_23
1: SIR of 9 Channels ES-
477 (Aigenin7G)
6.71e4
15.80
16.14
19.01
19.32
19.83
23.43
34.71
35.22
Time
Trial1_23
1: SIR of 9 Channels ES-
448 (Luteolin7G)
5.05e4
6.58
12.07
13.94
14.29
15.80
16.63
16.81
22.41
35.04
Trial1_23
1: SIR of 9 Channels ES-
301 (Quercetin)
1.84e5
9.13
12.99
14.36
15.84
16.26
16.55
20.62
21.37
Trial1_23
1: SIR of 9 Channels ES-
286 (Luteolin)
8.68e5
18.86
19.22
19.59
Trial1_23
1: SIR of 9 Channels ES-
270 (Apigenin)
1.63e5
5.02
5.73
6.07
7.25
10.34
10.68
11.21
14.73
15.10
15.48
18.02
18.57
21.69
22.14
22.29
23.68
27.57
27.99
28.75
31.29
31.91
33.82
35.67
Trial1_23
1: SIR of 9 Channels ES-
TIC
1.18e6
16.26
19.26
19.59
22.14
24.52
Time
2.50
5.00
7.50
10.00
12.50
15.00
17.50
20.00
22.50
25.00
27.50
30.00
32.50
35.00


Trial1_24
1: SIR of 12 Channels ES-
361 (p-HPEA-EA)
5.54e6
19.92 20.55 25.85 26.19 26.53 29.85
Trial1_24
1: SIR of 12 Channels ES-
351 (Unknown2)
7.63e5
16.17 16.49 22.15 29.87 32.08
Trial1_24
1: SIR of 12 Channels ES-
350 (Unknown10)
7.28e4
15.13 15.47 17.73 17.96 20.88 24.45 24.72 24.85 26.85 27.94
Trial1_24
1: SIR of 12 Channels ES-
349 (UnkownX)
2.97e5
15.20 15.52 17.75 17.94 20.86 22.50 24.71 26.85 27.92 28.84 30.84 34.95
Trial1_24
1: SIR of 12 Channels ES-
335 (Hydrox D-oleuropein aglycon)
1.82e6
16.12 16.62 19.22 23.44
Time
Trial1_24
1: SIR of 12 Channels ES-
319 (3,4-DHPEA-EDA)
5.74e6
16.15 16.57 19.61
Trial1_24
1: SIR of 12 Channels ES-
309 (Unknown5)
6.20e5
13.78 22.77 28.80 31.07 32.89
Trial1_24
1: SIR of 12 Channels ES-
303 (p-HPEA-EDA)
5.86e6
18.96 19.27
Trial1_24
1: SIR of 12 Channels ES-
257 (HEA)
1.40e6
10.62 13.40 14.79
Trial1_24
1: SIR of 12 Channels ES-
222.2 (3,4-DHPEA-AC)
5.37e4
18.40 20.79 21.69 24.39 25.36 26.62 27.33 32.36
Time
Trial1_24
1: SIR of 12 Channels ES-
196.2 (hydroxytyrosolacetate)
1.69e5
10.02 11.56 13.62 15.85 16.16 16.47 31.44 31.63 33.98 34.35
Trial1_24
1: SIR of 12 Channels ES-
183 (OpenringDHPEA)
4.28e5
15.85 16.18 18.97 19.29 19.57
Trial1_24
1: SIR of 12 Channels ES-
TIC
8.63e6
10.64 13.39 16.18 19.27 19.61 20.58 25.85 26.19 27.68 32.89 35.21
Time
Trial1_25
1: SIR of 12 Channels ES-
569 (Unknown7)
8.96e4
12.82 13.14 13.62
Trial1_25
1: SIR of 12 Channels ES-
555 (10-hydroxyoleuropin)
9.16e4
12.85 13.18 13.52
Trial1_25
1: SIR of 12 Channels ES-
540.51 (Oleuropein)
1.05e5
13.02 13.41 21.19 22.16 22.83 23.22 26.29 35.72
Trial1_25
1: SIR of 12 Channels ES-
409 (Methyl3,4DHPEA-EA)
2.05e5
16.61 16.93 17.75 21.91 22.48 23.12 23.38 26.08
Trial1_25
1: SIR of 12 Channels ES-
393 (LigstrosideDer2)
5.79e5
14.95 16.89 17.25 17.61 20.18 21.85 22.46 25.46 26.27 26.76 28.60 29.94 33.26 34.29
Time

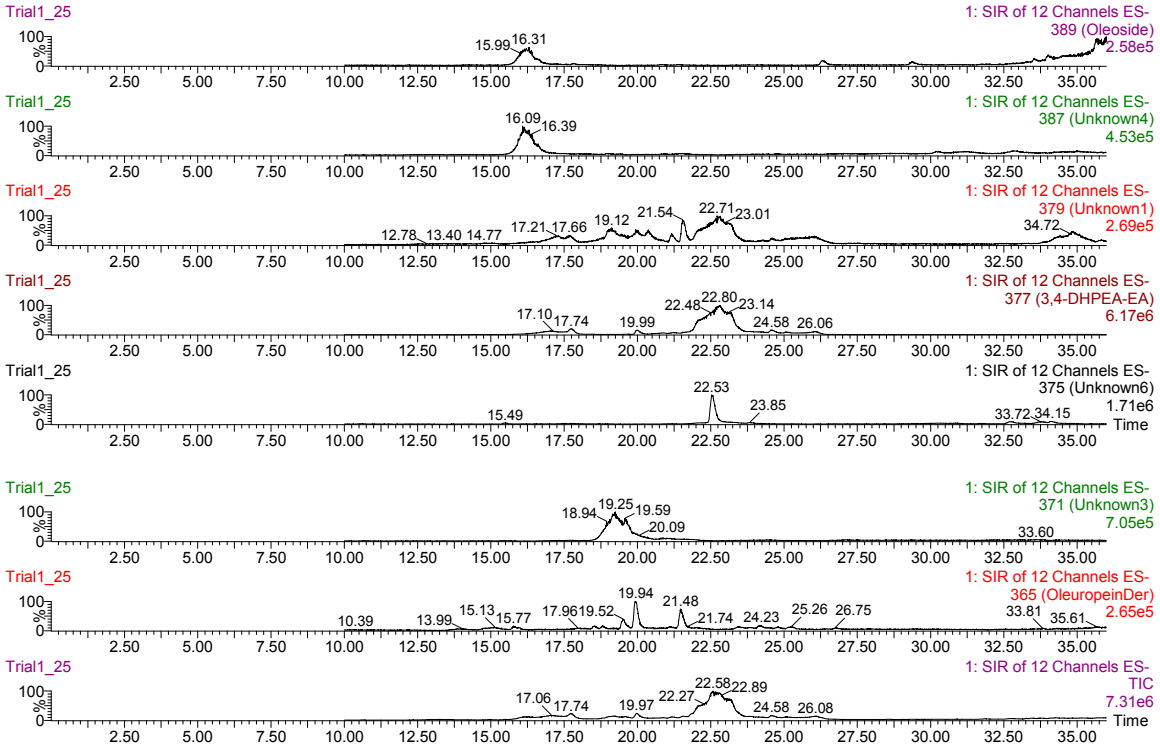


Figure S1. The recorded selected ions pertaining to different compounds.