

Date : October 07, 2019

CERTIFICATE OF ANALYSIS – GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 19I30-PTH02-1-SCC

Customer identification : Cistus - Spain - CE810098R

Type : Essential oil

Source : *Cistus ladaniferus*

Customer : Plant Therapy

ANALYSIS

Method: PC-PA-014 - Analysis of the composition of an essential oil, or other volatile liquid, by FAST GC-FID (in French); identifications validated by GC-MS.

Analyst : Sylvain Mercier, M. Sc., Chimiste

Analysis date : October 02, 2019

Checked and approved by :

Alexis St-Gelais, M. Sc., chimiste 2013-174

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PHYSICOCHEMICAL DATA

Physical aspect: Yellow liquid

Refractive index: 1.4814 ± 0.0003 (20 °C)

CONCLUSION

No adulterant, contaminant or diluent has been detected using this method.

ANALYSIS SUMMARY – CONSOLIDATED CONTENTS

New readers of similar reports are encouraged to read table footnotes at least once.

Identification	%	Classe
2-Methylfuran	0.01	Furan
(E)-2-Methyl-1,3-pentadiene	0.02	Alkene
Isovaleral	tr	Aliphatic aldehyde
(4E)-2-Methyl-1,4-hexadiene	tr	Alkene
2-Ethylfuran	0.01	Furan
Unknown	0.02	Unknown
5,5-Dimethyl-1,3-hexadiene	0.26	Alkene
Cyclohexadiene isomer?	0.05	Alkene
Toluene	0.10	Simple phenolic
Unknown	0.01	Unknown
Hexanal	0.02	Aliphatic aldehyde
Octane	0.02	Alkane
Unknown	0.03	Unknown
Unknown	0.07	Alkene
(E)-1,6-Dimethylhepta-1,3,5-triene	0.01	Alkene
Unknown	tr	Unknown
(Z)-Salvene	0.03	Normonoterpene
Unknown	0.02	Unknown
1,2,4,4-Tetramethylcyclopentene?	0.56	Alkene
para-Xylene	0.02	Simple phenolic
Hexanol	0.02	Aliphatic alcohol
Unknown	0.05	Unknown
Styrene	0.07	Simple phenolic
Heptanal	0.01	Aliphatic aldehyde
Unknown	tr	Unknown
Unknown	0.07	Unknown
Tricyclene	0.66	Monoterpene
Unknown	0.06	Unknown
α -Thujene	0.14	Monoterpene
α -Pinene	34.24	Monoterpene
α -Fenchene	0.01	Monoterpene
Camphene	3.72	Monoterpene
Thuja-2,4(10)-diene	1.53	Monoterpene
Benzaldehyde	0.07	Simple phenolic
6-Methyl-2-hepten-4-one?	0.06	Aliphatic ketone
Sabinene	0.17	Monoterpene
β -Pinene	0.35	Monoterpene
Geranic oxide	0.02	Monoterpenic ether
6-Methyl-5-hepten-2-one	0.04	Aliphatic ketone
Menthatriene isomer 0	0.32	Monoterpene
Unknown	0.16	Unknown
Myrcene	0.05	Monoterpene
α -Phellandrene	0.17	Monoterpene
Pseudolimonene	0.05	Monoterpene
Menthatriene isomer I	0.53	Monoterpene
Δ^3 -Carene	0.05	Monoterpene
3,4-Dimethylstyrene	0.12	Simple phenolic

α-Terpinene	0.68	Monoterpene
para-Cymene	2.58	Monoterpene
Limonene	1.40	Monoterpene
β-Phellandrene	0.27	Monoterpene
1,8-Cineole	0.09	Monoterpenic ether
2,2,6-Trimethylcyclohexanone	2.50	Aliphatic ketone
Cymene analog	0.05	Monoterpene
Unknown	0.15	Unknown
Unknown	0.04	Unknown
Unknown	0.04	Unknown
Unknown	0.19	Unknown
γ-Terpinene	1.04	Monoterpene
Unknown	0.32	Oxygenated monoterpene
Unknown	0.11	Unknown
Unknown	0.07	Unknown
Camphenilone	0.06	Normonoterpenic ketone
<i>trans</i> -Linalool oxide (fur.)	0.04	Monoterpenic alcohol
para-Cymenene	1.34	Monoterpene
Terpinolene	0.40	Monoterpene
Unknown	0.10	Unknown
Linalool	0.22	Monoterpenic alcohol
Unknown	0.32	Unknown
Nonanal	0.20	Aliphatic aldehyde
<i>cis</i> -Rose oxide	0.14	Monoterpenic ether
endo-Fenchol	0.07	Monoterpenic alcohol
Unknown	0.06	Oxygenated monoterpene
α-Campholenal	1.23	Monoterpenic aldehyde
<i>trans</i> -Rose oxide	0.06	Monoterpenic ether
Unknown	0.15	Unknown
Cosmene?	0.04	Monoterpene
<i>trans</i> -Pinocarveol	1.30	Monoterpenic alcohol
Camphor	0.17	Monoterpenic ketone
3-Nonen-2-one	0.07	Aliphatic ketone
meta-Mentha-4,6-dien-8-ol	0.45	Monoterpenic alcohol
(<i>E</i>)-Tagetone	0.46	Monoterpenic ketone
Nerol oxide	0.06	Aliphatic ether
Unknown	0.02	Oxygenated monoterpene
Pinocamphone	0.29	Monoterpenic ketone
Pinocarvone	0.38	Monoterpenic ketone
(<i>Z</i>)-Tagetone	0.15	Monoterpenic ketone
Unknown	0.11	Oxygenated monoterpene
Borneol	0.79	Monoterpenic alcohol
Unknown	0.48	Unknown
Isopinocamphone	0.71	Monoterpenic ketone
Terpinen-4-ol	0.79	Monoterpenic alcohol
Unknown	0.07	Oxygenated monoterpene
<i>trans</i> -para-Mentha-1(7),8-dien-2-ol	0.03	Monoterpenic alcohol
para-Cymen-8-ol	0.11	Monoterpenic alcohol
α-Terpineol	0.12	Monoterpenic alcohol
Myrtenal	0.63	Monoterpenic aldehyde
Myrtenol	0.48	Monoterpenic alcohol
Verbenone	0.47	Monoterpenic ketone

Unknown	0.17	Unknown
Unknown	0.04	Unknown
β -Cyclocitral?	0.10	Monoterpenic aldehyde
<i>trans</i> -Carveol	0.22	Monoterpenic alcohol
Bornyl formate	0.03	Monoterpenic ester
(<i>Z</i>)-Ocimenone	0.03	Monoterpenic ketone
<i>cis</i> -Carveol	0.09	Monoterpenic alcohol
Unknown	0.55	Unknown
Unknown	0.19	Unknown
Carvone	0.21	Monoterpenic ketone
Carvotanacetone	0.08	Monoterpenic ketone
Unknown	0.10	Unknown
Linalyl acetate	0.22	Monoterpenic ester
Geraniol	0.12	Monoterpenic alcohol
Phellandral	0.03	Monoterpenic aldehyde
Unknown	0.14	Unknown
Unknown	0.04	Unknown
Isobornyl acetate	0.02	Monoterpenic ester
Bornyl acetate	2.15	Monoterpenic ester
Unknown	0.08	Unknown
<i>trans</i> -Pinocarvyl acetate	0.10	Monoterpenic ester
Thymol	0.09	Monoterpenic alcohol
<i>cis</i> -Pinocarvyl acetate	0.11	Monoterpenic alcohol
Carvacrol	0.12	Monoterpenic alcohol
Myrtenyl acetate	0.23	Monoterpenic ester
neo-Verbanyl acetate	0.37*	Monoterpenic ester
Unknown	[0.37]*	Terpenic aldehyde
<i>trans</i> -Carvyl acetate	0.05	Monoterpenic ester
Ethyl hydrocinnamate	0.05	Phenylpropanoid ester
α -Cubebene	0.19	Sesquiterpene
Eugenol	0.08	Phenylpropanoid
Cyclosativene I	0.13	Sesquiterpene
Cyclosativene II	0.39	Sesquiterpene
α -Copaene	0.36*	Sesquiterpene
7-Cubebene	[0.36]*	Sesquiterpene
α -Ionol	0.18	Ionone or analog
β -Bourbonene	0.06	Sesquiterpene
Unknown	0.03	Unknown
Sativene	0.05	Sesquiterpene
Ylanga-2,4(15)-diene?	0.08	Sesquiterpene
α -Gurjunene	0.04	Sesquiterpene
Dihydro- α -ionone	0.04	Ionone or analog
β -Caryophyllene	0.15	Sesquiterpene
Aromadendrene	0.40	Sesquiterpene
Unknown	0.08	Sesquiterpene
α -Humulene	0.04	Sesquiterpene
allo-Aromadendrene	0.50	Sesquiterpene
<i>trans</i> -Cadina-1(6),4-diene	0.12	Sesquiterpene
γ -Murolene	0.08	Sesquiterpene
Germacrene D	0.05	Sesquiterpene
β -Selinene	0.09	Sesquiterpene
allo-Aromadendr-9-ene	0.37	Sesquiterpene

α-Selinene	0.03	Sesquiterpene
Viridiflorene	2.46	Sesquiterpene
1,1,6,8-Tetramethyl-1,2-dihydronaphthalene?	0.33	Norsesquiterpene
1,1,5,6-Tetramethyl-1,2,3,4-tetrahydronaphthalene?	0.32	Norsesquiterpene
γ-Cadinene	0.11	Sesquiterpene
δ-Cadinene	0.51	Sesquiterpene
trans-Cadina-1,4-diene	0.07	Sesquiterpene
α-Calacorene	0.29	Sesquiterpene
Isocaryophyllene epoxide B	0.06	Sesquiterpenic ether
Unknown	0.02	Oxygenated sesquiterpene
Palustrol	0.23	Sesquiterpenic alcohol
Spathulenol	0.12	Sesquiterpenic alcohol
Unknown	0.13	Oxygenated sesquiterpene
Viridiflorol	2.38	Sesquiterpenic alcohol
Cubeban-11-ol	0.73	Sesquiterpenic alcohol
Ledol	0.74	Sesquiterpenic alcohol
Copaborneol	0.56	Sesquiterpenic alcohol
Unknown	0.01	Oxygenated sesquiterpene
1-epi-Cubenol	0.16	Sesquiterpenic alcohol
τ-Cadinol	0.03	Sesquiterpenic alcohol
τ-Muurolol	0.05	Sesquiterpenic alcohol
α-Muurolol	0.13	Sesquiterpenic alcohol
Unknown	0.02	Oxygenated sesquiterpene
Unknown	0.06	Unknown
Cadalene	0.26	Sesquiterpene
Unknown	0.18	Unknown
Unknown	0.08	Unknown
Ambroxan	0.17	Terpenic ether
Benzyl benzoate	0.09	Phenolic ester
14-nor-13,16-Dihydrosclarene? [5-Isopentyl-1,1,4α-trimethyl-6-methylenedecahydronaphthalene]	0.17	Norditerpene
Neophytadiene	0.19	Diterpene
Sclareoloxide	0.06	Terpenic ether
Unknown	0.48	Unknown
Geranyl-para-cymene	0.05	Diterpene
Unknown	0.15	Unknown
Tricosane	0.29	Alkane
Tetracosane	0.01	Alkane
Unknown	0.05	Unknown
Pentacosane	0.03	Alkane
Heptacosane	0.13	Alkane
Consolidated total	87.28%	

*: Individual compounds concentration could not be found due to overlapping coelutions on columns considered
[xx]: Duplicate percentage due to coelutions, not taken into account in the consolidated total
tr: The compound has been detected below 0.005% of total signal.

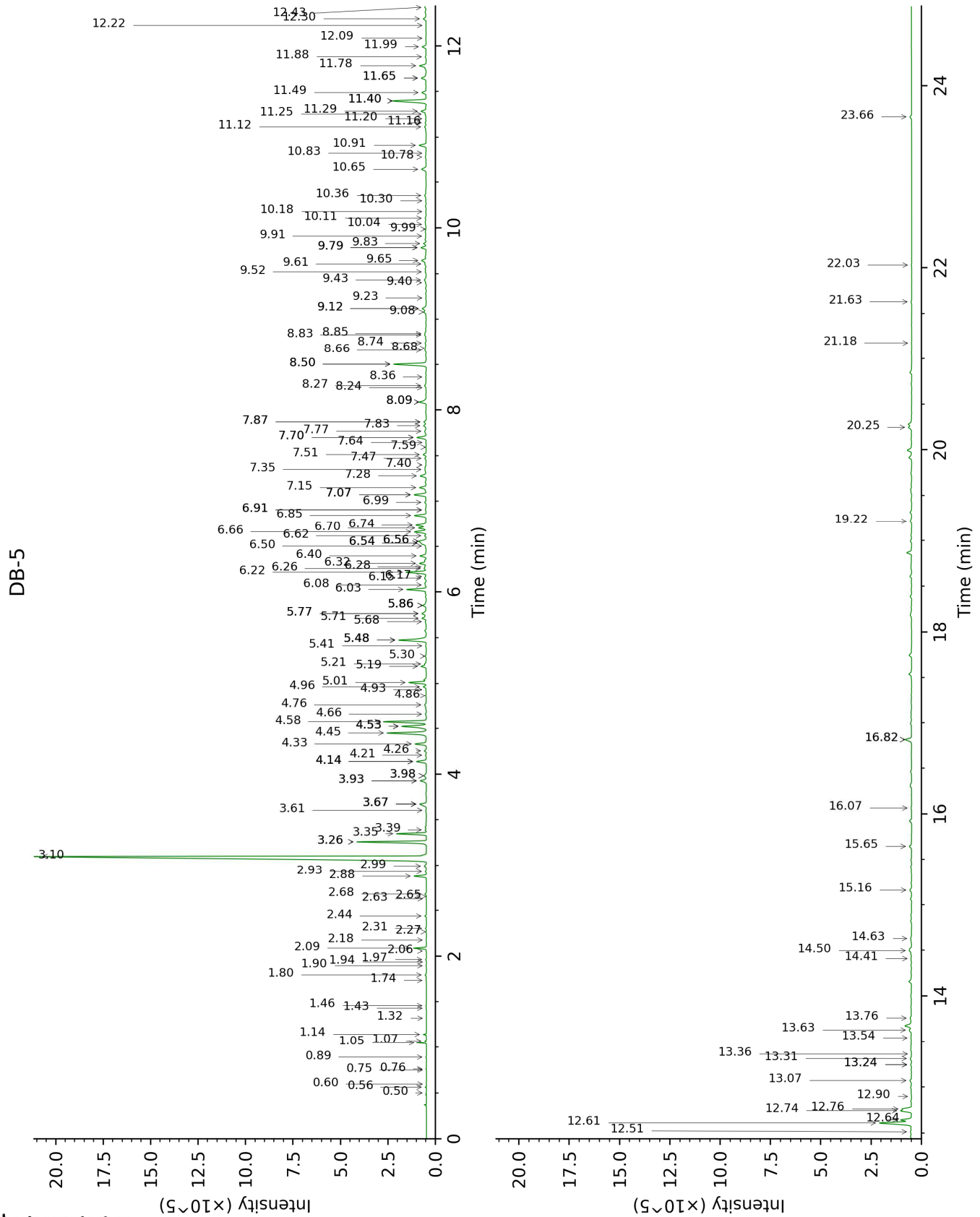
Note: no correction factor was applied

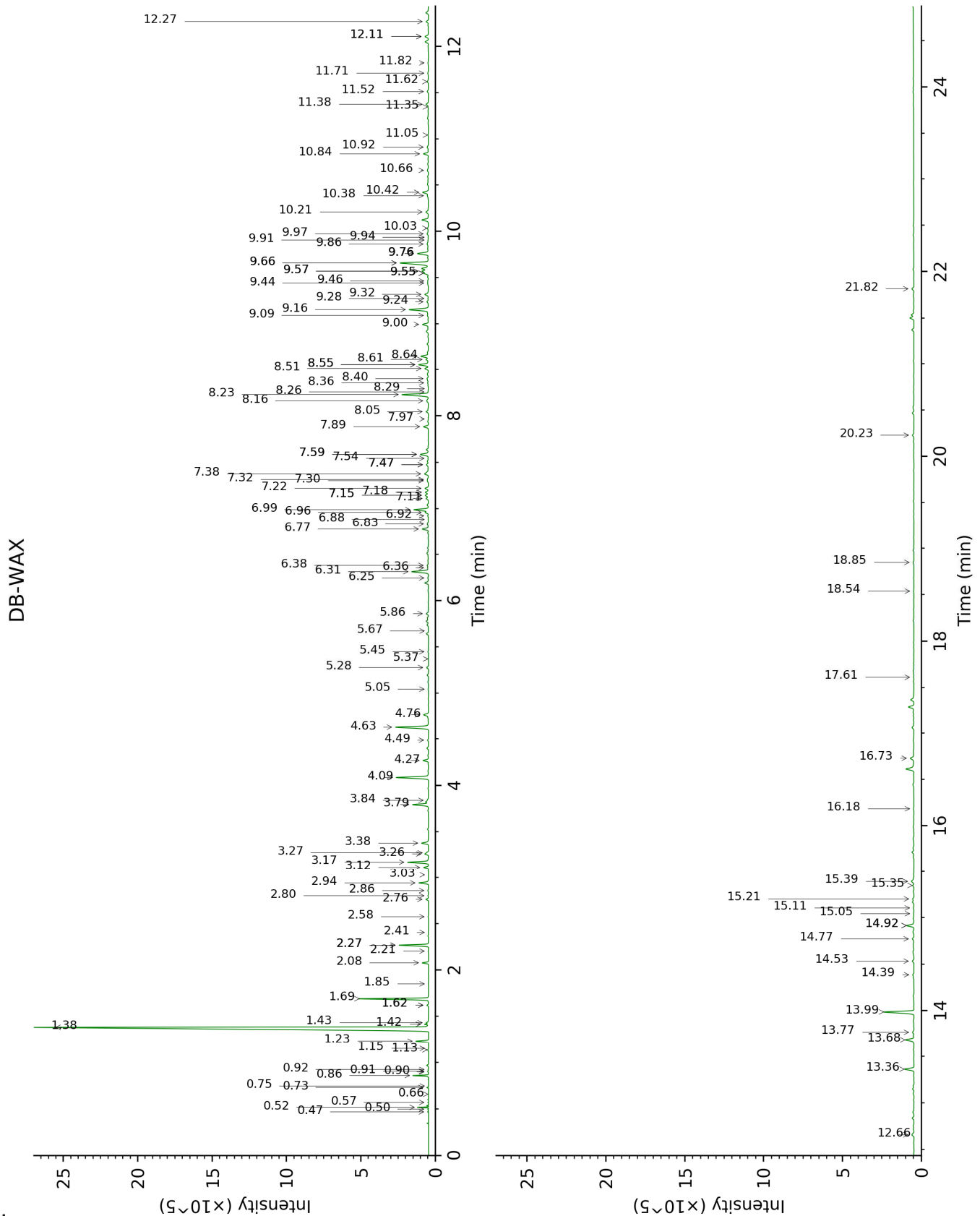
About "consolidated" data: The table above presents the breakdown of the sample volatile constituents after applying an algorithm to collapse data acquired from the multi-columns system of PhytoChemia into a single set of consolidated contents. In case of discrepancies between columns, the algorithm is set to prioritize data from the most standard DB-5 column, and smallest values so as to avoid

overestimating individual content. This process is semi-automatic. Advanced users are invited to consult the "Full analysis data" table after the chromatograms in this report to access the full untreated data and perform their own calculations if needed.

Unknowns: Unknown compounds' mass spectral data is presented in the "Full analysis data" table. The occurrence of unknown compounds is to be expected in many samples, and does not denote particular problems unless noted otherwise in the conclusion.

This page was intentionally left blank. The following pages present the complete data of the analysis.





FULL ANALYSIS DATA

Identification	Column DB-5			Column DB-WAX		
	R.T	R.I	%	R.T	R.I	%
2-Methylfuran	0.50	594	0.01	0.66	856	tr
(E)-2-Methyl-1,3-pentadiene	0.56	629	0.02	0.47	765	0.02
Isovaleral	0.60	641	tr	0.75	888	0.01
(4E)-2-Methyl-1,4-hexadiene	0.75	698	tr			
2-Ethylfuran	0.76	702	0.01	0.90	920	0.01
Unknown [m/z 93, 91 (70), 77 (48), 108 (42)]	0.89	726	0.02	0.57	824	0.02
5,5-Dimethyl-1,3-hexadiene	1.05	747	0.26	0.52	806	0.27
Cyclohexadiene isomer?	1.07	750	0.05			
Toluene	1.14	760	0.10	1.43†	1004	[0.32]
Unknown [m/z 97, 55 (73), 43 (44), 85 (18), 67 (16), 41 (15)...]	1.32	784	0.01	1.15	961	0.01
Hexanal	1.43	799	0.02	1.85	1045	0.03
Octane	1.46	803	0.02	0.50	790	0.03
Unknown [m/z 107, 91 (58), 122 (35), 105 (20), 79 (16)...]	1.74	827	0.03			
Unknown [m/z 109, 67 (32), 81 (14), 41 (12), 124 (10)]	1.80	832	0.07	0.73	882	0.05
(E)-1,6-Dimethylhepta-1,3,5-triene	1.90	840	0.01	0.92	924	0.02
Unknown [m/z 107, 91 (67), 79 (34), 122 (32), 105 (26), 77 (16)...]	1.94	844	tr			
(Z)-Salvene	1.96	846	0.03	0.90	921	0.04
Unknown [m/z 109, 43 (28), 124 (28), 41 (14), 55 (11), 79 (9), 81 (8)...]	2.06	853	0.02	1.62*	1022	0.09
1,2,4,4-Tetramethylcyclopentene?	2.09	856	0.56	0.86	914	0.60
para-Xylene	2.18	863	0.02	2.41	1099	0.02
Hexanol	2.27	870	0.02	5.37	1320	0.02
Unknown [m/z 79, 78 (45), 91 (28), 77 (28), 41 (13), 80 (12), 107 (11)... 122 (1)]	2.31	874	0.05	1.13	958	0.04
Styrene	2.44	885	0.07	3.84	1209	0.08
Heptanal	2.63	900	0.01	3.03	1147	0.02
Unknown [m/z 43, 57 (88), 41 (56), 55 (38), 56 (34), 85 (32)...]	2.66	902	tr			
Unknown [m/z 82, 67 (88), 95 (72), 68 (53), 81 (48), 69 (47)...]	2.68	904	0.07			
Tricyclene	2.88	917	0.66	1.23	974	0.66
Unknown [m/z 71, 95 (70), 43 (57), 58 (34), 110 (34)...]	2.93	921	0.06			
α-Thujene	2.99	925	0.14	1.42†	1002	0.32
α-Pinene	3.10	932	34.24	1.38	998	35.26
α-Fenchene	3.26*	942	3.73	1.62*	1022	[0.09]
Camphene	3.26*	942	[3.73]	1.69	1029	3.72
Thuja-2,4(10)-diene	3.35	948	1.53	2.27*	1086	1.76
Benzaldehyde	3.39	951	0.07	7.32	1462	0.10
6-Methyl-2-hepten-4-one?	3.61	965	0.06			
Sabinene	3.67*	970	0.54	2.27*	1086	[1.76]
β-Pinene	3.67*	970	[0.54]	2.08	1067	0.35

Geranic oxide	3.67*	970	[0.54]	2.21	1079	0.02
6-Methyl-5-hepten-2-one	3.93*	986	0.44	5.05	1297	0.04
Menthatriene isomer 0	3.93*	986	[0.44]	3.12	1154	0.32
Unknown [m/z 105, 120 (47), 121 (45), 83 (28), 91 (27)...]	3.98*	990	0.22			
Myrcene	3.98*	990	[0.22]	2.86	1134	0.05
α-Phellandrene	4.14*	1000	0.65	2.76	1127	0.17
Pseudolimonene	4.14*	1000	[0.65]	2.80	1130	0.05
Menthatriene isomer I	4.14*	1000	[0.65]	3.38	1174	0.53
Δ3-Carene	4.21	1005	0.05	2.58	1112	0.04
3,4-Dimethylstyrene	4.26	1008	0.12			
α-Terpinene	4.33	1013	0.68	2.94	1140	0.65
para-Cymene	4.45	1020	2.58	4.09	1227	2.31
Limonene	4.52*	1025	1.70	3.17	1158	1.40
β-Phellandrene	4.52*	1025	[1.70]	3.26	1165	0.27
1,8-Cineole	4.52*	1025	[1.70]	3.27	1166	0.09
2,2,6-Trimethylcyclohexanone	4.58	1028	2.50	4.63	1266	2.51
Cymene analog	4.66	1033	0.05	4.49	1256	0.07
Unknown [m/z 82, 109 (94), 69 (61), 81 (60), 71 (55), 68 (49)...]	4.76	1040	0.15			
Unknown [m/z 43, 123 (78), 138 (43), 95 (32), 67 (18), 81 (16)...]	4.86	1046	0.04			
Unknown [m/z 70, 84 (97), 69 (89), 125 (59), 97 (89), 55 (57)...]	4.93	1051	0.04			
Unknown [m/z 82, 54 (22), 138 (16), 41 (11), 55 (6), 83 (6)...]	4.96	1053	0.19			
γ-Terpinene	5.01	1056	1.04	3.79	1206	1.16
Unknown [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	5.19	1067	0.32	4.76	1276	0.42
Unknown [m/z 92, 91 (95), 59 (10), 43 (10), 65 (7)...]	5.21	1068	0.11			
Unknown [m/z 95, 67 (99), 96 (96), 138 (84)]	5.30	1074	0.07	6.38	1394	0.12
Camphenilone	5.41	1081	0.06	6.36	1392	0.07
trans-Linalool oxide (fur.)	5.48*	1085	2.01	6.88	1430	0.04
para-Cymenene	5.48*	1085	[2.01]	6.31	1389	1.34
Terpinolene	5.48*	1085	[2.01]	4.27	1240	0.40
Unknown [m/z 80, 43 (85), 41 (82), 107 (75), 79 (73), 69 (68), 57 (65)...]	5.68	1098	0.10			
Linalool	5.72†	1100	0.74	8.05	1517	0.22
Unknown [m/z 69, 85 (74), 111 (70), 43 (69), 55 (62), 70 (38)...]	5.77*†	1104	[0.74]			
Nonanal	5.77*†	1104	[0.74]	5.86	1356	0.20
cis-Rose oxide	5.86*	1110	0.32	5.28	1314	0.14
endo-Fenchol	5.86*	1110	[0.32]	8.36	1541	0.07
Unknown [m/z 109, 81 (54), 91 (32), 79 (22)...]	5.86*	1110	[0.32]	6.25	1384	0.06
α-Campholenal	6.03	1121	1.23	6.99	1438	1.14
trans-Rose oxide	6.08	1124	0.06	5.45	1326	0.05
Unknown [m/z 91, 92 (86), 109 (32), 43 (31), 108 (23), 107 (21)...]	6.15	1129	0.15			

Cosmene?	6.17	1130	0.04			
<i>trans</i> -Pinocarveol	6.22	1133	1.30	9.16	1603	1.62
Camphor	6.26	1136	0.17	7.18†	1452	[0.74]
3-Nonen-2-one	6.28	1137	0.07	7.30	1461	0.10
meta-Mentha-4,6-dien-8-ol	6.32	1140	0.45	9.32	1616	0.35
(<i>E</i>)-Tagetone	6.40	1145	0.46	7.15*†	1450	[0.74]
Nerol oxide	6.50	1152	0.06	6.83	1426	0.13
Unknown [m/z 95, 81 (36), 93 (34), 53 (29), 136 (29)...]	6.54*	1154	0.30	5.67	1342	0.02
Pinocamphone	6.54*	1154	[0.30]	7.22	1455	0.29
Pinocarvone	6.56*	1156	0.69	7.89	1505	0.38
(<i>Z</i>)-Tagetone	6.56*	1156	[0.69]	7.48*	1474	0.21
Unknown [m/z 96, 95 (72), 67 (45), 41 (42), 55 (32), 70 (27)... 152 (t)]	6.62	1160	0.11	10.03	1673	0.10
Borneol	6.66	1162	0.79	9.76*	1651	0.96
Unknown [m/z 109, 108 (48), 67 (41), 81 (40), 41 (28)...]	6.70	1165	0.48	7.38	1467	0.45
Isopinocamphone	6.74	1167	0.71	7.59*	1482	0.71
Terpinen-4-ol	6.85	1175	0.79	8.55*†	1556	[1.08]
Unknown [m/z 119, 91 (84), 43 (42), 151 (29), 134 (26), 79 (26), 65 (23), 93 (20)... 166 (12)]	6.91*	1179	0.10			
<i>trans</i> -para-Mentha-1(7),8-dien-2-ol	6.91*	1179	[0.10]	11.35	1784	0.03
para-Cymen-8-ol	6.99	1184	0.11	11.52	1798	0.11
α-Terpineol	7.07*	1190	0.86	9.76*	1651	[0.96]
Myrtenal	7.07*	1190	[0.86]	8.64	1563	0.63
Myrtenol	7.15	1195	0.48	10.84	1741	0.39
Verbenone	7.28	1203	0.47	9.57*†	1636	[1.50]
Unknown [m/z 95, 93 (32), 121 (24), 79 (22), 91 (21), 105 (16)... 154 (2)]	7.35	1208	0.17	10.92	1747	0.14
Unknown [m/z 83, 95 (64), 55 (43), 109 (39), 67 (29)... 152 (11)]	7.40	1211	0.04			
β-Cyclocitral?	7.47	1216	0.10	8.61	1560	0.20
<i>trans</i> -Carveol	7.51	1219	0.22	11.38	1786	0.25
Bornyl formate	7.59	1225	0.03	7.97	1511	0.02
(<i>Z</i>)-Ocimenone	7.64	1228	0.03	9.66*	1643	2.55
<i>cis</i> -Carveol	7.70*	1232	0.64	11.71	1815	0.09
Unknown [m/z 43, 84 (82), 91 (65), 69 (60), 154 (45)...]	7.70*	1232	[0.64]			
Unknown [m/z 69, 41 (67), 82 (29), 110 (24), 68 (22), 109 (20)...]	7.77	1237	0.19			
Carvone	7.83	1241	0.21	9.97	1669	0.16
Carvotanacetone	7.87*	1244	0.18	9.46	1628	0.08
Unknown [m/z 122, 109 (54), 135 (53), 192 (36), 121 (26), 110 (25)...]	7.87*	1244	[0.18]			
Linalyl acetate	8.09*	1259	0.57	8.16	1526	0.22
Geraniol	8.09*	1259	[0.57]	11.62	1807	0.12
Phellandral	8.24	1269	0.03	9.94	1666	0.03
Unknown [m/z 109, 43 (83), 95 (70), 110 (70), 99 (53), 119 (48)...]	8.27	1270	0.14			
Unknown [m/z 192, 93 (97), 177	8.36	1276	0.04			

(57), 121 (57), 91 (48), 136 (48)...						
Isobornyl acetate	8.50*	1286	2.17	8.30	1536	0.02
Bornyl acetate	8.50*	1286	[2.17]	8.23	1531	2.15
Unknown [m/z 43, 93 (46), 107 (35), 83 (32), 121 (20), 122 (19)...	8.66†	1296	0.18			
<i>trans</i> -Pinocarvyl acetate	8.68†	1297	[0.18]	9.09	1598	0.10
Thymol	8.74	1301	0.09	15.11	2131	0.06
<i>cis</i> -Pinocarvyl acetate	8.83	1307	0.11	9.44	1626	0.11
Carvacrol	8.84	1308	0.12	15.35	2155	0.10
Myrtenyl acetate	9.08	1325	0.23	9.55*†	1634	1.50
neo-Verbanyl acetate	9.12*	1327	0.37			
Unknown [m/z 121, 93 (77), 79 (43), 91 (43), 145 (35)... 178 (8)]	9.12*	1327	[0.37]			
<i>trans</i> -Carvyl acetate	9.24	1336	0.05	10.21	1688	0.25
Ethyl hydrocinnamate	9.40	1347	0.05	11.82	1825	0.09
α -Cubebene	9.43	1349	0.19	6.77	1422	0.50
Eugenol	9.52	1355	0.08	14.77	2098	0.17
Cyclosativene I	9.61	1362	0.13	6.92	1433	0.06
Cyclosativene II	9.65	1364	0.39	6.96	1436	0.24
α -Copaene	9.79*	1374	0.36	7.15*†	1450	[0.74]
7-Cubebene	9.79*	1374	[0.36]	7.11†	1447	0.74
α -Ionol	9.83	1377	0.18			
β -Bourbonene	9.91	1383	0.06	7.48*	1474	[0.21]
Unknown [m/z 119, 91 (24), 120 (17), 118 (10), 92 (8), 41 (7), 105 (6)...	9.99	1388	0.03	8.26	1533	0.03
Sativene	10.04	1392	0.05	7.54	1479	0.04
Ylanga-2,4(15)-diene?	10.11	1396	0.08	8.51†	1553	1.08
α -Gurjunene	10.18	1402	0.04	7.59*	1482	[0.71]
Dihydro- α -ionone	10.30	1410	0.04	11.05	1758	0.05
β -Caryophyllene	10.36	1414	0.15	8.40	1544	0.13
Aromadendrene	10.65	1436	0.40	8.55*†	1556	[1.08]
Unknown [m/z 161, 120 (82), 105 (61), 91 (39), 119 (36), 81 (32), 93 (32), 79 (25), 41 (22) ...204 (14)]	10.78	1446	0.08			
α -Humulene	10.83	1449	0.04	9.28	1612	0.04
allo-Aromadendrene	10.91	1455	0.50	9.00	1590	0.50
<i>trans</i> -Cadina-1(6),4-diene	11.12	1470	0.12	9.24	1609	0.15
γ -Murolene	11.16	1474	0.08	9.57*†	1636	[1.50]
Germacrene D	11.20	1477	0.05	9.76*	1651	[0.96]
β -Selinene	11.25	1481	0.09	9.86	1660	0.19
allo-Aromadendr-9-ene	11.29	1483	0.37	9.55*†	1634	[1.50]
α -Selinene	11.40*	1491	2.49	9.91	1663	0.03
Viridiflorene	11.40*	1491	[2.49]	9.66*	1643	[2.55]
1,1,6,8-Tetramethyl-1,2-dihydronaphthalene?	11.49	1498	0.33			
1,1,5,6-Tetramethyl-1,2,3,4-tetrahydronaphthalene?	11.65*	1510	0.43			
γ -Cadinene	11.65*	1510	[0.43]	10.38	1702	0.11
δ -Cadinene	11.78	1520	0.51	10.42	1705	0.52
<i>trans</i> -Cadina-1,4-diene	11.88	1528	0.07	10.66	1726	0.13
α -Calacorene	11.99	1537	0.29	12.11*	1850	0.31

Isocaryophyllene epoxide B	12.08	1544	0.06	12.11*	1850	[0.31]
Unknown [m/z 43, 107 (66), 105 (58), 81 (58), 93 (57), 147 (55)... 220 (16)]	12.22	1555	0.02			
Palustrol	12.30	1561	0.23	12.27	1864	0.20
Spathulenol	12.42	1571	0.12	14.39	2060	0.11
Unknown [m/z 109, 43 (95), 81 (81), 93 (76), 69 (75), 95 (74), 107 (71)... 204 (22), 220 (6)]	12.51	1578	0.13			
Viridiflorol	12.61	1585	2.38	13.99	2022	2.34
Cubeban-11-ol	12.64	1588	0.73	13.68	1993	0.77
Ledol	12.74	1596	0.74	13.36	1963	0.76
Copaborneol	12.76	1597	0.56	14.92*	2112	0.63
Unknown [m/z 109, 123 (83), 108 (66), 93 (58), 43 (56), 91 (51), 107 (50)... 220 (7)]	12.90	1608	0.01			
1-epi-Cubenol	13.07	1622	0.16	13.77	2000	0.14
τ-Cadinol	13.24*	1636	0.08	14.92*	2112	[0.63]
τ-Muurolol	13.24*	1636	[0.08]	15.05	2125	0.05
α-Muurolol	13.31	1642	0.13	15.20	2141	0.12
Unknown [m/z 95, 121 (90), 81 (65), 91 (64), 93 (62), 43 (59)...220 (11)]	13.36	1646	0.02			
Unknown [m/z 161, 43 (71), 105 (45), 95 (44), 204 (41), 119 (41)...]	13.54	1661	0.06			
Cadalene	13.63	1668	0.26	15.39	2160	0.30
Unknown [m/z 55, 69 (96), 83 (91), 43 (91), 41 (74), 57 (68)...]	13.76	1679	0.18			
Unknown [m/z 82, 91 (64), 67 (57), 105 (510), 55 (26), 104 (21), 83 (17)... 250? (1)]	14.41	1734	0.08			
Ambroxan	14.50	1741	0.17	14.53	2074	0.15
Benzyl benzoate	14.63	1753	0.09	18.85	2532	0.10
14-nor-13,16-Dihydrosclarene? [5-Isopentyl-1,1,4α-trimethyl-6-methylenedecahydronaphthalene]	15.16	1799	0.17			
Neophytadiene	15.65	1843	0.19	12.66	1898	0.24
Sclareoloxide	16.07	1881	0.06			
Unknown [m/z 71, 69 (94), 57 (74), 83 (64), 97 (59)...]	16.82*	1951	0.52			
Geranyl-para-cymene	16.82*	1951	[0.52]	16.18	2240	0.05
Unknown [m/z 83, 55 (18), 217 (10), 200 (7), 84 (6)...]	19.22	2193	0.15	21.82	2896	0.18
Tricosane	20.25	2305	0.29	16.73	2297	0.37
Tetracosane	21.18	2411	0.01	17.61	2392	0.03
Unknown [m/z 69, 43 (97), 83 (87), 95 (82), 55 (77), 109 (76)...]	21.63	2465	0.05			
Pentacosane	22.03	2513	0.03	18.54	2496	0.04
Heptacosane	23.66	2718	0.13	20.23	2696	0.15
Total identified		84.29%			82.32%	
Total reported		87.96%			83.94%	

*: Two or more compounds are coeluting on this column

[xx]: Duplicate percentage due to coelutions, not taken into account in the consolidated total

†: Peaks apexes were resolved, but peaks overlapped and were summed for analysis

tr: The compound has been detected below 0.005% of total signal.

Note: no correction factor was applied

R.T.: Retention time (minutes)

R.I.: Retention index