

Date : April 30, 2020

CERTIFICATE OF ANALYSIS – GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 20D21-PTH32

Customer identification : Yarrow Organic - Bulgaria - Y5010397R

Type : Essential oil

Source : *Achillea millefolium*

Customer : Plant Therapy

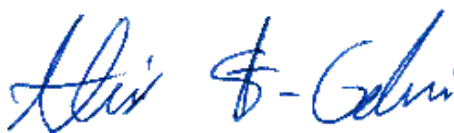
ANALYSIS

Method: PC-MAT-007 - Analysis of the composition of an essential oil or other volatile liquide by FAST GC-FID (in French); identifications validated by GC-MS.

Analyst : Sylvain Mercier, M. Sc., Chimiste

Analysis date : April 28, 2020

Checked and approved by :



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

Notes: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia. This report is digitally signed, it is only considered valid if the digital signature is intact. The results only describe the samples that were submitted to the assays.

PHYSICOCHEMICAL DATA

Physical aspect: Dark blue liquid

Refractive index: 1.4930 ± 0.0003 (20 °C; method PC-MAT-016)

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
Isovaleral	tr	Aliphatic aldehyde
2-Methylbutyral	tr	Aliphatic aldehyde
2-Ethylfuran	0.01	Furan
Toluene	tr	Simple phenolic
Octene	0.03	Alkene
5,5-Dimethyl-2-ethyl-1,3-cyclopentadiene?	tr	Normonoterpene
(3Z)-Hexenol	0.01	Aliphatic alcohol
Unknown	0.01	Unknown
Unknown	0.01	Unknown
Nonene	0.01	Alkene
Heptanal	tr	Aliphatic aldehyde
Santolinatriene	0.19	Monoterpene
Hashishene	0.01	Monoterpene
Tricyclene	0.02	Monoterpene
α -Thujene	0.44	Monoterpene
Artemisiatriene	0.01	Monoterpene
α -Pinene	2.20	Monoterpene
Unknown	0.02	Simple phenolic
Unknown	0.02	Monoterpene
Camphene	0.21	Monoterpene
α -Fenchene	0.01	Monoterpene
Thuja-2,4(10)-diene	0.02	Monoterpene
β -Pinene	13.44	Monoterpene
Sabinene	19.04	Monoterpene
Octen-3-ol	0.02	Aliphatic alcohol
6-Methyl-5-hepten-2-one	0.04	Aliphatic ketone
2-Pentylfuran	0.01	Furan
Myrcene	0.62	Monoterpene
Unknown	0.02	Monoterpene
α -Phellandrene	0.06	Monoterpene
Octanal	0.01	Aliphatic aldehyde
Pseudolimonene	tr	Monoterpene
Yomogi alcohol	0.18	Monoterpenic alcohol
Δ^3 -Carene	0.01	Monoterpene
α -Terpinene	0.68	Monoterpene
para-Cymene	0.41	Monoterpene
Limonene	0.73	Monoterpene
1,8-Cineole	2.58	Monoterpenic ether
β -Phellandrene	0.19	Monoterpene
(Z)- β -Ocimene	0.11	Monoterpene
Unknown	0.01	Unknown
(E)- β -Ocimene	0.46	Monoterpene
γ -Terpinene	1.15	Monoterpene
Artemisia ketone	4.64	Monoterpenic ketone
cis-Sabinene hydrate	0.06	Monoterpenic alcohol
Terpinolene	0.31	Monoterpene
Artemisia alcohol	0.14	Monoterpenic alcohol

Nonen-3-ol	0.01	Aliphatic alcohol
para-Cymenene	0.02	Monoterpene
<i>trans</i> -Sabinene hydrate	0.04	Monoterpenic alcohol
Linalool	0.44	Monoterpenic alcohol
Nonanal	0.22	Aliphatic aldehyde
2-Methylbutyl 2-methylbutyrate	0.03	Aliphatic ester
Isoamyl isovalerate	0.02	Aliphatic ester
endo-Fenchol	0.03	Monoterpenic alcohol
<i>cis</i> -para-Menth-2-en-1-ol	0.04	Monoterpenic alcohol
Chrysanthenone	0.03	Monoterpenic ketone
Unknown	0.02	Unknown
<i>trans</i> -Pinocarveol	0.07	Monoterpenic alcohol
<i>trans</i> -para-Menth-2-en-1-ol	0.09	Monoterpenic alcohol
Camphor	0.24	Monoterpenic ketone
Unknown	0.01	Unknown
Isoborneol	0.03	Monoterpenic alcohol
Pinocavone	0.14	Monoterpenic ketone
<i>cis</i> -Chrysanthenol	0.12	Monoterpenic alcohol
Unknown	0.01	Unknown
Borneol	0.20	Monoterpenic alcohol
Lavandulol	0.16	Monoterpenic alcohol
Artemisyl acetate	0.02	Monoterpenic ester
Terpinen-4-ol	2.30	Monoterpenic alcohol
Menthol	0.10	Monoterpenic alcohol
Thuj-3-en-10-al	0.01	Monoterpenic aldehyde
para-Cymen-8-ol	0.02	Monoterpenic alcohol
α -Terpineol	0.26	Monoterpenic alcohol
Myrtenal	0.14	Monoterpenic aldehyde
Myrtenol	0.04	Monoterpenic alcohol
Safranal	0.04	Monoterpenic aldehyde
<i>trans</i> -Piperitol	0.03	Monoterpenic alcohol
Unknown	0.03	Unknown
Decanal	0.03	Aliphatic aldehyde
Fragranol	0.01	Monoterpenic alcohol
<i>trans</i> -Carveol	0.01	Monoterpenic alcohol
Bornyl formate	0.04	Monoterpenic ester
Nerol	0.01	Monoterpenic alcohol
Cuminal	0.04	Monoterpenic aldehyde
<i>trans</i> -Chrysanthenyl acetate	0.03	Monoterpenic ester
Neral	0.01	Monoterpenic aldehyde
Piperitone	0.02	Monoterpenic ketone
Geraniol	0.04	Monoterpenic alcohol
Linalyl acetate	0.11	Monoterpenic ester
α -Ionene	0.02	Terpene derivative
Chavicol	0.02	Phenylpropanoid
4-Thujen-2 α -yl acetate	0.69	Monoterpenic ester
Bornyl acetate	0.42	Monoterpenic ester
<i>trans</i> -Chrysanthemyl acetate	0.27	Monoterpenic ester
Lavandulyl acetate	0.43	Monoterpenic ester
<i>trans</i> -Pinocarvyl acetate	0.07	Monoterpenic ester
Isoascaridole	0.02	Monoterpenic ether
Thymol	0.06	Monoterpenic alcohol

(2E,4E)-Decadienal	0.04	Aliphatic aldehyde
1,4-para-Menthadien-7-ol	0.03	Monoterpenic alcohol
<i>trans</i> -Carvyl acetate	0.04	Monoterpenic ester
Bicycloelemene	0.03	Sesquiterpene
α -Terpinyl acetate	0.09	Monoterpenic ester
Unknown	0.02	Monoterpenic ester
Cyclosativene I	0.04	Sesquiterpene
Neryl acetate	0.06	Monoterpenic ester
Unknown	0.02	Unknown
α -Copaene	0.10	Sesquiterpene
Lavandulyl propionate	0.03	Monoterpenic ester
β -Bourbonene	0.66	Sesquiterpene
1,5-diepi- β -Bourbonene	0.06	Sesquiterpene
<i>cis</i> - β -Elemene	0.01	Sesquiterpene
Geranyl acetate	0.08	Monoterpenic ester
Dehydroionene analog	0.02	Terpene derivative
β -Elemene	0.07	Sesquiterpene
(Z)-Jasmone	0.04	Jasmonate
Isocaryophyllene	0.12	Sesquiterpene
α -Gurjunene	0.14	Sesquiterpene
β -Caryophyllene	11.23	Sesquiterpene
β -Copaene	0.28	Sesquiterpene
<i>trans</i> - α -Bergamotene	0.14	Sesquiterpene
Isogermacrene D	0.11	Sesquiterpene
Sesquisabinene A	0.23	Sesquiterpene
α -Himachalene	0.01	Sesquiterpene
α -Humulene	1.47	Sesquiterpene
allo-Aromadendrene	0.04	Sesquiterpene
(E)- β -Farnesene	0.48	Sesquiterpene
<i>trans</i> -Cadina-1(6),4-diene	0.02	Sesquiterpene
γ -Curcumene	0.31	Sesquiterpene
γ -Muurolene	0.19	Sesquiterpene
Germacrene D	10.14	Sesquiterpene
α -Curcumene	0.20	Sesquiterpene
β -Selinene	0.05	Sesquiterpene
Bicyclogermacrene	0.42	Sesquiterpene
α -Selinene	0.09	Sesquiterpene
α -Zingiberene	0.80	Sesquiterpene
α -Muurolene	0.09	Sesquiterpene
(3Z,6E)- α -Farnesene	0.08	Sesquiterpene
(3E,6E)- α -Farnesene	0.19	Sesquiterpene
β -Bisabolene	0.05	Sesquiterpene
γ -Cadinene	0.13	Sesquiterpene
Cubebol	0.03	Sesquiterpenic alcohol
Matricaria ester isomer II	0.05	Polyene ester
δ -Cadinene	0.36	Sesquiterpene
<i>trans</i> -Calamenene	0.01	Sesquiterpene
β -Sesquiphellandrene	0.31	Sesquiterpene
<i>trans</i> -Cadina-1,4-diene	0.05	Sesquiterpene
α -Cadinene	0.04	Sesquiterpene
Isocaryophyllene epoxide B	0.12	Sesquiterpenic ether
Palustrol	0.04	Sesquiterpenic alcohol

(E)-Nerolidol	0.45	Sesquiterpenic alcohol
Spathulenol	0.09	Sesquiterpenic alcohol
Caryophyllene oxide	1.73	Sesquiterpenic ether
Caryophyllene oxide isomer	0.08	Sesquiterpenic ether
Unknown	0.02	Oxygenated sesquiterpene
Unknown	0.07	Oxygenated sesquiterpene
Viridiflorol	0.02	Sesquiterpenic alcohol
Salvia-4(14)-en-1-one	0.05	Aliphatic alcohol
Humulene epoxide II	0.09	Sesquiterpenic ether
Copaborneol	0.05	Sesquiterpenic alcohol
Junenol	0.07	Sesquiterpenic alcohol
10-epi- γ -Eudesmol	0.04	Sesquiterpenic alcohol
Caryophylladienol I	0.02	Sesquiterpenic alcohol
<i>cis</i> -Cadin-4-en-7-ol	0.04	Sesquiterpenic alcohol
Caryophylladienol II	0.10	Sesquiterpenic alcohol
τ -Cadinol	0.05	Sesquiterpenic alcohol
τ -Muurolol	0.02	Sesquiterpenic alcohol
β -Eudesmol	0.28	Sesquiterpenic alcohol
Unknown	0.05	Sesquiterpenic alcohol
α -Eudesmol	0.04	Sesquiterpenic alcohol
α -Cadinol	0.12	Sesquiterpenic alcohol
Unknown	0.36	Oxygenated sesquiterpene
Eudesma-4(15),7-dien-1 β -ol	0.04	Sesquiterpenic alcohol
Germacra-4(15),5,10(14)-trien-1 α -ol	0.05	Sesquiterpenic alcohol
α -Bisabolol	0.02	Sesquiterpenic alcohol
Unknown	0.10	Oxygenated sesquiterpene
Chamazulene	7.34	Azulene
Unknown	0.02	Oxygenated sesquiterpene
Unknown	0.01	Oxygenated sesquiterpene
Unknown	0.06	Unknown
Phytone	0.14	Terpenic ketone
Phytol	0.06	Diterpenic alcohol
<i>trans</i> -Geranylgeraniol	0.01	Diterpenic alcohol
Unknown	0.09	Unknown
Tricosane	0.04	Alkane
Tetracosane	0.01	Alkane
Pentacosane	0.04	Alkane
Consolidated total	96.79%	

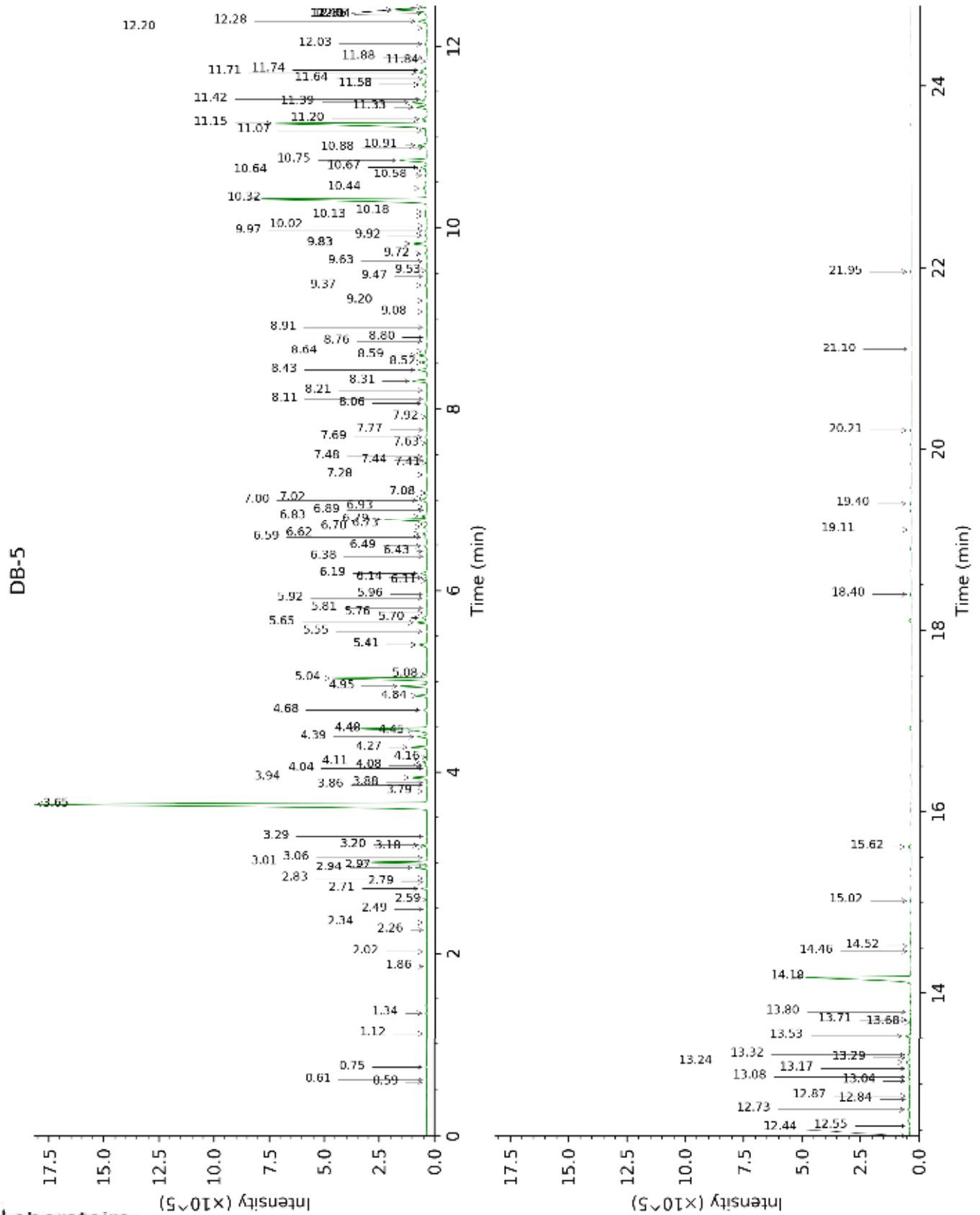
tr: The compound has been detected below 0.005% of total signal.

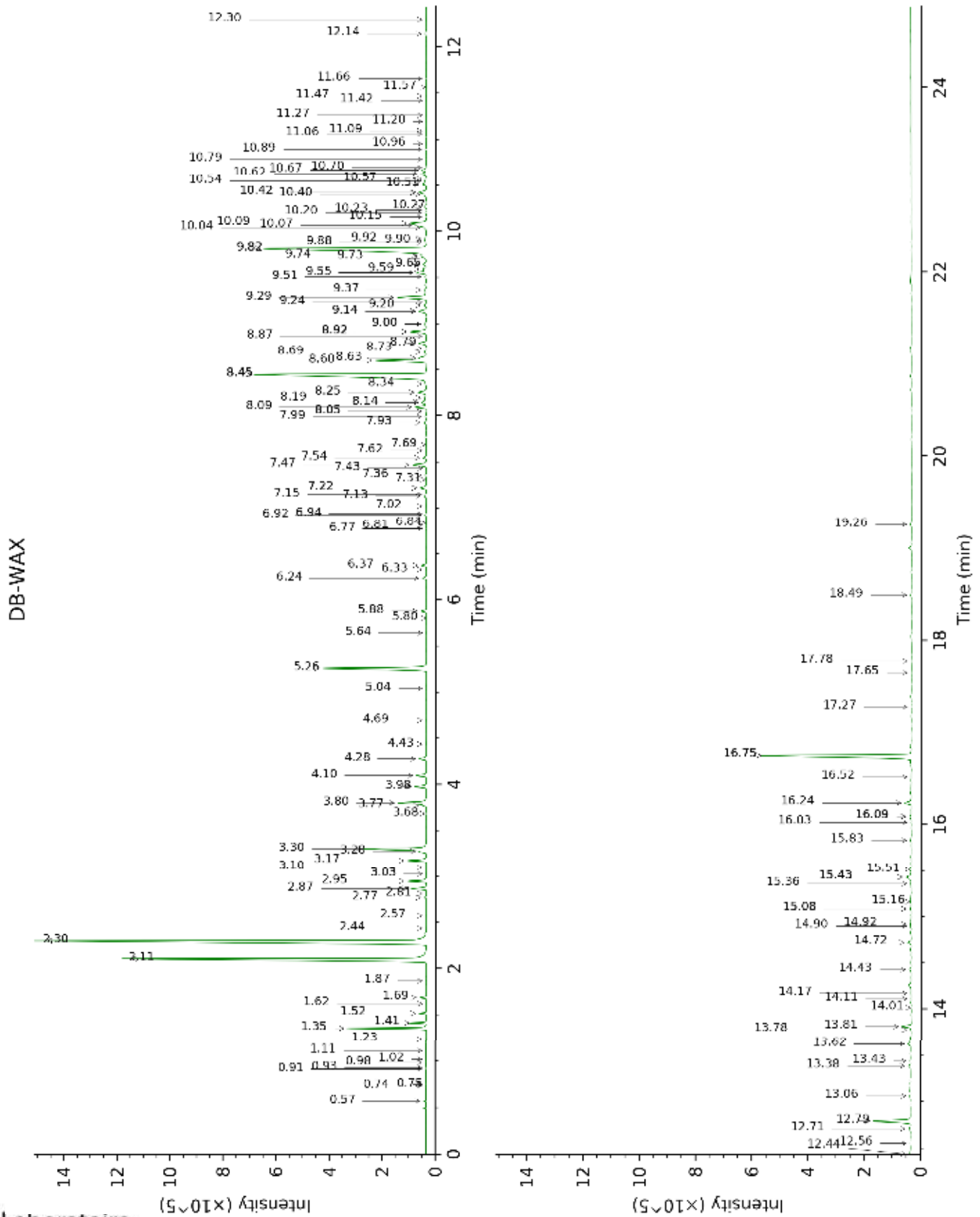
Note: no correction factor was applied

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	%
Isovaleral	0.59	640	tr	0.75	886	tr
2-Methylbutyral	0.61	652	tr	0.74	883	tr
2-Ethylfuran	0.75	708	0.01	0.91	920	0.01
Toluene	1.12	762	tr	1.41*†	999	[2.64]
Octene	1.34	794	0.03	0.57	822	0.03
5,5-Dimethyl-2-ethyl-1,3-cyclopentadiene?	1.86	841	tr	1.02	937	tr
(3Z)-Hexenol	2.02	855	0.01	5.80	1349	0.01
Unknown [m/z 79, 78 (45), 91 (28), 77 (28), 41 (13), 80 (12), 107 (11)... 122 (1)]	2.26	874	0.01	1.11	952	tr
Unknown [m/z 81, 79 (20), 80 (12), 82 (9)... 124 (7)]	2.34	881	0.01	0.98	931	0.01
Nonene	2.49	893	0.01	0.93	922	0.01
Heptanal	2.59	902	tr	3.10	1152	tr
Santolinatriene	2.71	910	0.19	1.52	1010	0.19
Hashishene	2.78	915	0.01	1.35*†	992	2.64
Tricyclene	2.83	918	0.02	1.23	972	0.01
α-Thujene	2.94	925	0.44	1.41*†	999	[2.64]
Artemisiatriene	2.97	927	0.01	1.87	1044	0.02
α-Pinene	3.01	930	2.20	1.35*†	992	[2.64]
Unknown [m/z 122, 121 (36), 107 (33), 79 (27), 93 (25), 77 (25), 43 (20)]	3.06	933	0.02	3.80*	1206	1.23
Unknown [m/z 91, 92 (47), 65 (11)... 134 (1)]	3.18	941	0.02	2.44	1100	0.02
Camphene	3.20*	942	0.22	1.69	1027	0.21
α-Fenchene	3.20*	942	[0.22]	1.62	1020	0.01
Thuja-2,4(10)-diene	3.29	949	0.02	2.30*	1088	19.14
β-Pinene	3.65*	972	32.48	2.11	1068	13.44
Sabinene	3.65*	972	[32.48]	2.30*	1088	[19.14]
Octen-3-ol	3.79	982	0.02	6.77	1419	0.02
6-Methyl-5-hepten-2-one	3.86	986	0.04	5.04	1297	0.02
2-Pentylfuran	3.88	988	0.01	3.68	1198	0.06
Myrcene	3.94	991	0.62	2.87	1133	0.56
Unknown [m/z 93, 91 (46), 80 (44), 79 (42), 77 (33), 92 (20)... 136 (4)]	4.04	998	0.02	3.03	1146	0.02
α-Phellandrene	4.08*	1000	0.07	2.77	1126	0.06
Octanal	4.08*	1000	[0.07]	4.43*	1252	0.03
Pseudolimonene	4.08*	1000	[0.07]	2.81	1129	tr

Yomogi alcohol	4.11	1003	0.18	6.24	1380	0.19
Δ ³ -Carene	4.16	1006	0.01	2.57	1110	0.01
α-Terpinene	4.27	1013	0.68	2.95	1140	0.68
para-Cymene	4.39	1020	0.41	4.10	1228	0.42
Limonene	4.45†	1024	3.52	3.18	1158	0.73
1,8-Cineole	4.48*†	1026	[3.52]	3.30	1168	2.58
β-Phellandrene	4.48*†	1026	[3.52]	3.28	1166	0.19
(Z)-β-Ocimene	4.68*	1039	0.17	3.77	1204	0.11
Unknown [m/z 43, 55 (65), 41 (34), 67 (32), 107 (30), 122 (26)... 125 (10)]	4.68*	1039	[0.17]	5.64	1337	0.01
(E)-β-Ocimene	4.84	1048	0.46	3.98	1219	0.48
γ-Terpinene	4.95	1056	1.15	3.80*	1206	[1.23]
Artemisia ketone	5.04	1061	4.64	5.26	1310	4.68
cis-Sabinene hydrate	5.08	1064	0.06	6.92	1430	0.07
Terpinolene	5.41*	1084	0.44	4.28	1241	0.31
Artemisia alcohol	5.41*	1084	[0.44]	7.54	1476	0.14
Nonen-3-ol	5.41*	1084	[0.44]	8.05*	1515	0.05
para-Cymenene	5.41*	1084	[0.44]	6.33	1387	0.02
trans-Sabinene hydrate	5.55	1094	0.04	7.99	1510	0.07
Linalool	5.65	1100	0.44	8.09	1518	0.48
Nonanal	5.70*	1103	0.25	5.88	1354	0.22
2-Methylbutyl 2-methylbutyrate	5.70*	1103	[0.25]	4.43*	1252	[0.03]
Isoamyl isovalerate	5.76	1107	0.02	4.69	1272	0.02
endo-Fenchol	5.81	1110	0.03	8.34	1538	0.04
cis-para-Menth-2-en-1-ol	5.92	1117	0.04	8.14*	1522	0.30
Chrysanthenone	5.96	1120	0.03	7.22*	1452	0.30
Unknown [m/z 81, 41 (84), 69 (57), 79 (42), 80 (27), 135 (27), 91 (20), 53 (16)...]	6.11	1130	0.02	7.15	1447	0.03
trans-Pinocarveol	6.14	1132	0.07	9.20	1604	0.11
trans-para-Menth-2-en-1-ol	6.19*	1135	0.33	9.00*	1588	0.12
Camphor	6.19*	1135	[0.33]	7.22*	1452	[0.30]
Unknown [m/z 137, 67 (13), 95 (13), 81 (13)... 152 (6)]	6.38	1147	0.01	6.81	1422	0.03
Isoborneol	6.43	1150	0.03	9.37	1618	0.09
Pinocarvone	6.49	1154	0.14	7.93	1505	0.14
cis-Chrysanthenol	6.59	1161	0.12	10.42*†	1704	[0.51]
Unknown [m/z 109, 108 (48), 67 (41), 81 (40), 41 (28)...]	6.62*	1163	0.21	7.43	1468	0.01
Borneol	6.62*	1163	[0.21]	9.82*	1654	10.60
Lavandulol	6.70	1168	0.16	9.59	1636	0.19

Artemisyl acetate	6.73	1170	0.02	6.37	1390	0.21
Terpinen-4-ol	6.79†	1174	2.40	8.60	1557	2.30
Menthol	6.83†	1176	[2.40]	9.14*	1599	0.40
Thuj-3-en-10-al	6.89	1180	0.01	8.73	1568	0.05
para-Cymen-8-ol	6.93	1183	0.02	11.57	1801	0.02
α-Terpineol	7.00†	1188	0.41	9.82*	1654	[10.60]
Myrtenal	7.02†	1189	[0.41]	8.69	1564	0.14
Myrtenol	7.08*	1193	0.07	10.89	1744	0.04
Safranal	7.08*	1193	[0.07]	8.87	1578	0.04
trans-Piperitol	7.28*	1206	0.09	10.42*†	1704	[0.51]
Unknown [m/z 95, 93 (32), 121 (24), 79 (22), 91 (21), 105 (16)... 154 (2)]	7.28*	1206	[0.09]	10.96	1749	0.03
Decanal	7.28*	1206	[0.09]	7.31	1459	0.03
Fragranol	7.41	1215	0.01	11.06	1758	0.02
trans-Carveol	7.44	1217	0.01	11.42	1788	0.02
Bornyl formate	7.48	1220	0.04	8.05*	1515	[0.05]
Nerol	7.63	1230	0.01	11.09	1760	0.01
Cuminal	7.69*	1234	0.06	10.57	1716	0.04
trans-Chrysanthenyl acetate	7.69*	1234	[0.06]	7.69	1487	0.03
Neral	7.77	1240	0.01	9.51	1629	0.08
Piperitone	7.92	1250	0.02	9.92	1663	0.08
Geraniol	8.06*	1260	0.13	11.66	1809	0.04
Linalyl acetate	8.06*	1260	[0.13]	8.19	1526	0.11
α-Ionene	8.11	1263	0.02	6.84	1424	0.02
Chavicol	8.21	1270	0.02	16.52	2272	0.02
4-Thujen-2α-yl acetate	8.31	1277	0.69	8.92*	1582	0.81
Bornyl acetate	8.43	1285	0.42	8.25*	1531	0.44
trans-Chrysanthemyl acetate	8.52	1291	0.27	8.63	1560	0.27
Lavandulyl acetate	8.59	1297	0.43	8.79	1572	0.36
trans-Pinocarvyl acetate	8.64	1300	0.07	9.14*	1599	[0.40]
Isoascaridole	8.80	1306	0.02	11.47	1792	0.02
Thymol	8.76	1308	0.06	15.08*	2127	0.08
(2E,4E)-Decadienal	8.91	1314	0.04	11.26	1775	0.02
1,4-para-Menthadien-7-ol	9.08	1326	0.03	13.78	2000	0.02
trans-Carvyl acetate	9.20*	1334	0.07	10.23	1688	0.04
Bicycloelemene	9.20*	1334	[0.07]	7.02	1438	0.03
α-Terpinyl acetate	9.37	1346	0.09	9.73†	1647	0.40
Unknown [m/z 121, 93 (57), 43 (46), 79 (18), 136 (17)...]	9.47	1353	0.02			
Cyclosativene I	9.53	1358	0.04	6.94	1432	0.03
Neryl acetate	9.63	1365	0.06	10.20	1685	0.04
Unknown [m/z 85,	9.72*	1371	0.12	8.14*	1522	[0.30]

57 (32), 169 (14), 41 (10), 86 (6)...]						
α -Copaene	9.72*	1371	[0.12]	7.13	1446	0.10
Lavandulyl propionate	9.83*	1378	0.77			
β -Bourbonene	9.83*	1378	[0.77]	7.47	1471	0.66
1,5-diepi- β -Bourbonene	9.83*	1378	[0.77]	7.36	1462	0.06
<i>cis</i> - β -Elemene	9.83*	1378	[0.77]	8.25*	1531	[0.44]
Geranyl acetate	9.92*	1385	0.10	10.54	1714	0.08
Dehydroionene analog	9.92*	1385	[0.10]			
β -Elemene	9.97	1388	0.07	8.45*	1546	11.19
(<i>Z</i>)-Jasmone	10.02	1392	0.04	12.44	1878	0.06
Isocaryophyllene	10.13	1400	0.12	8.14*	1522	[0.30]
α -Gurjunene	10.18	1403	0.14	7.62	1482	0.02
β -Caryophyllene	10.32	1414	11.23	8.45*	1546	[11.19]
β -Copaene	10.44	1422	0.28	8.45*	1546	[11.19]
<i>trans</i> - α -Bergamotene	10.58	1433	0.14	8.45*	1546	[11.19]
Isogermacrene D	10.64	1438	0.11	8.92*	1582	[0.81]
Sesquisabinene A	10.67*	1440	0.32	9.14*	1599	[0.40]
α -Himachalene	10.67*	1440	[0.32]	8.92*	1582	[0.81]
α -Humulene	10.75	1446	1.47	9.29	1611	1.43
allo-Aromadendrene	10.88	1456	0.04	9.00*	1588	[0.12]
(<i>E</i>)- β -Farnesene	10.91	1458	0.48	9.56	1633	0.43
<i>trans</i> -Cadina-1(6),4-diene	11.08†	1470	10.36	9.24	1607	0.02
γ -Curcumene	11.16*†	1476	[10.36]	9.74†	1648	[0.40]
γ -Muurolene	11.16*†	1476	[10.36]	9.65	1640	0.19
Germacrene D	11.16*†	1476	[10.36]	9.82*	1654	[10.60]
ar-Curcumene	11.20*	1480	0.26	10.67	1724	0.20
β -Selinene	11.20*	1480	[0.26]	9.88	1659	0.05
Bicyclogermacrene	11.33*	1489	0.56	10.07	1674	0.42
α -Selinene	11.33*	1489	[0.56]	9.90	1661	0.09
α -Zingiberene	11.39	1493	0.80	10.09	1676	0.80
α -Muurolene	11.42*	1496	0.16	10.04	1672	0.09
(3 <i>Z</i> ,6 <i>E</i>)- α -Farnesene	11.42*	1496	[0.16]	10.27	1691	0.08
(3 <i>E</i> ,6 <i>E</i>)- α -Farnesene	11.58*	1508	0.39	10.51	1711	0.19
β -Bisabolene	11.58*	1508	[0.39]	10.15	1682	0.05
γ -Cadinene	11.58*	1508	[0.39]	10.40†	1702	0.51
Cubebol	11.58*	1508	[0.39]	12.56	1888	0.03
Matricaria ester isomer II	11.64	1513	0.05			
δ -Cadinene	11.72*	1519	0.37	10.42*†	1704	[0.51]
<i>trans</i> -Calamenene	11.72*	1519	[0.37]	11.20	1769	0.01
β -Sesquiphellandrene	11.74	1521	0.31	10.62	1721	0.28
<i>trans</i> -Cadina-1,4-diene	11.84	1528	0.05	10.70	1727	0.05
α -Cadinene	11.88	1532	0.04	10.79	1734	0.03

Isocaryophyllene epoxide B	12.03	1543	0.12	12.14	1852	0.10
Palustrol	12.20	1557	0.04	12.30	1865	0.01
(E)-Nerolidol	12.28	1563	0.45	13.81	2004	0.43
Spathulenol	12.36	1570	0.09	14.43	2063	0.13
Caryophyllene oxide	12.40*	1573	1.86	12.79	1910	1.73
Caryophyllene oxide isomer	12.40*	1573	[1.86]	12.71	1902	0.08
Unknown [m/z 43, 149 (86), 133 (60), 93 (55), 81 (54)...]	12.40*	1573	[1.86]	13.43	1968	0.02
Unknown [m/z 109, 43 (95), 81 (81), 93 (76), 69 (75), 95 (74), 107 (71)... 204 (22), 220 (6)]	12.44	1575	0.07			
Viridiflorol	12.55*	1584	0.12	14.01	2023	0.02
Salvial-4(14)-en-1-one	12.55*	1584	[0.12]	13.06	1934	0.05
Humulene epoxide II	12.73*	1598	0.17	13.38	1964	0.09
Copaborneol	12.73*	1598	[0.17]	14.92	2110	0.05
Junenol	12.84	1607	0.07	13.62	1985	0.15
10-epi-γ-Eudesmol	12.87	1610	0.04	14.11	2032	0.03
Caryophylladienol I	13.04*	1623	0.08	16.03	2222	0.02
cis-Cadin-4-en-7-ol	13.04*	1623	[0.08]	14.17	2038	0.04
Caryophylladienol II	13.08	1627	0.10	16.09*	2228	0.12
τ-Cadinol	13.17*	1634	0.12	14.90	2108	0.05
τ-Murolol	13.17*	1634	[0.12]	15.08*	2127	[0.08]
β-Eudesmol	13.24	1640	0.28	15.43*	2161	0.30
Unknown cadinol analog II [m/z 95, 121 (73), 43 (57), 79 (43), 161 (43), 109 (40)... 204 (35), 222 (2)]	13.29*	1644	0.09	15.16	2134	0.05
α-Eudesmol	13.29*	1644	[0.09]	15.36	2154	0.04
α-Cadinol	13.32	1647	0.12	15.51	2169	0.11
Unknown [m/z 205, 93 (93), 43 (58), 79 (510), 91 (48), 119 (45)... 220 (3)]	13.53	1664	0.36	16.24	2244	0.36
Eudesma-4(15),7-dien-1β-ol	13.68	1677	0.04	16.09*	2228	[0.12]
Germacra-4(15),5,10(14)-trien-1α-ol	13.71*	1679	0.07	16.09*	2228	[0.12]
α-Bisabolol	13.71*	1679	[0.07]	15.43*	2161	[0.30]
Unknown [m/z 43, 108 (62), 93 (51), 41 (42), 109 (37), 69	13.80	1686	0.10	16.75*	2297	7.33

(36)...						
Chamazulene	14.18	1719	7.34	16.75*	2297	[7.33]
Unknown [m/z 107, 93 (54), 105 (54), 91 (53), 119 (53), 109 (39)...220 (13)]	14.46	1743	0.02	17.27	2353	0.01
Unknown [m/z 119, 93 (88), 91 (68), 79 (65), 43 (52), 107 (49)...220 (2)]	14.52	1748	0.01	17.78	2408	0.02
Unknown [m/z 43, 93 (82), 133 (63), 91 (59), 79 (51), 105 (49)...	15.02	1791	0.06	15.83	2202	0.07
Phytone	15.62	1846	0.14	14.72	2091	0.16
Phytol	18.40	2113	0.06	19.26	2575	0.06
<i>trans</i> -Geranylgeraniol	19.11	2187	0.01			
Unknown [m/z 95, 81 (69), 55 (50), 93 (43), 69 (39), 107 (39)...	19.40	2218	0.09			
Tricosane	20.21	2305	0.04	16.75*	2297	[7.33]
Tetracosane	21.10	2405	0.01	17.65	2394	0.01
Pentacosane	21.96	2506	0.04	18.49	2487	0.05
Total identified		95.94%			95.62%	
Total reported		96.79%			96.30%	

*: 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