Date : May 27, 2019

Certificate of Analysis – GC Profiling

Sample identification

Internal code : 19E21-PTH10-1-SCC
Customer identification : Blue Yarrow Org - Bulgaria - Y5010287R
Type : Essential oil
Source : *Achillea millefolium*
Customer : Plant Therapy

Analysis

Method: PC-PA-014-17J19 - 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 : May 23, 2019

Checked and approved by :

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

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PHYSICOCHEMICAL DATA

Physical aspect: Dark blue liquid
Refractive index: 1.4958 ± 0.0003 (20 °C)

CONCLUSION

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

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ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
Isovaleral	tr	0.01	Aliphatic aldehyde
2-Methylbutyral	tr	tr	Aliphatic aldehyde
2-Ethylfuran	0.01	0.01	Furan
Octene	0.03	0.02	Alkene
Hexanal	0.01	0.01	Aliphatic aldehyde
Octane	0.01	0.02	Alkane
5,5-Dimethyl-2-ethyl-1,3-cyclopentadiene?	tr	tr	Normonoterpene
(3*Z*)-Hexenol	0.01	0.01	Aliphatic alcohol
Hexanol	0.01	0.01	Aliphatic alcohol
Nonene	0.01	0.01	Alkene
Santolinatriene	0.20	0.19	Monoterpene
Hashishene	0.01	2.16*	Monoterpene
Tricyclene	0.02	0.01	Monoterpene
α-Thujene	0.42	0.41	Monoterpene
α-Pinene	2.25*	[2.16]*	Monoterpene
Artemisiatriene	[2.25]*	0.01	Monoterpene
Unknown	0.02	0.03	Simple phenolic
Unknown	0.02	0.02	Monoterpene
α-Fenchene	0.20*	tr	Monoterpene
Camphene	[0.20]*	0.18	Monoterpene
Thuja-2,4(10)-diene	0.02	19.82*	Monoterpene
6-Methyl-2-heptanone	0.01	0.12*	Aliphatic ketone
Benzaldehyde	0.01	0.01	Simple phenolic
Sabinene	34.23*	[19.82]*	Monoterpene
β-Pinene	[34.23]*	13.34	Monoterpene
Octen-3-ol	0.02	[0.04]	Aliphatic alcohol
6-Methyl-5-hepten-2-one	0.04	0.04	Aliphatic ketone
Dehydro-1,8-cineole	0.01	0.01	Monoterpenic ether
Myrcene	0.63*	0.54	Monoterpene
2-Pentylfuran	[0.63]*	0.04	Furan
Unknown	0.02*	0.02	Monoterpene
Yomogi alcohol isomer	[0.02]*		Monoterpenic alcohol
α-Phellandrene	0.24*	0.04	Monoterpene
Pseudolimonene	[0.24]*	0.01	Monoterpene
Yomogi alcohol	[0.24]*	0.18	Monoterpenic alcohol
Octanal	[0.24]*	0.02	Aliphatic aldehyde
Δ3-Carene	0.01	0.01	Monoterpene
α-Terpinene	0.52	0.49	Monoterpene
para-Cymene	0.33	0.32	Monoterpene
Limonene	3.59	0.57	Monoterpene
β-Phellandrene	[3.59]*	3.00*	Monoterpene
1,8-Cineole	[3.59]*	[3.00]*	Monoterpenic ether
Unknown	0.13*	0.02	Unknown
(*Z*)-β-Ocimene	[0.13]*	[0.12]*	Monoterpene
(*E*)-β-Ocimene	0.41	0.42	Monoterpene
γ-Terpinene	0.83	0.82	Monoterpene
Artemisia ketone	4.88	4.86	Monoterpenic alcohol

cis-Sabinene hydrate	0.14	0.15*	Monoterpenic alcohol
Artemisia alcohol	0.43	[0.81]*	Monoterpenic alcohol
Terpinolene	[0.43]*	0.24	Monoterpene
para-Cymenene	[0.43]*	0.02	Monoterpene
trans-Sabinene hydrate	0.08	0.08	Monoterpenic alcohol
Linalool	0.18	0.19	Monoterpenic alcohol
Nonanal	0.11	0.08	Aliphatic aldehyde
Isoamyl isovalerate	0.01	0.01	Aliphatic ester
Unknown	0.02	0.04*	Oxygenated monoterpene
endo-Fenchol	0.02	10.18*	Monoterpenic alcohol
cis-para-Menth-2-en-1-ol	0.06	0.14	Monoterpenic alcohol
Unknown	0.01	0.11*	Unknown
trans-Chrysanthenol	0.02		Monoterpenic alcohol
trans-Pinocarveol	0.09	0.10	Monoterpenic alcohol
Camphor	0.33	0.29	Monoterpenic ketone
trans-para-Menth-2-en-1-ol	0.02	0.05	Monoterpenic alcohol
Unknown	0.01	[0.04]*	Unknown
Menthone	0.01	0.01	Monoterpenic ketone
Isoborneol	0.07	0.07*	Monoterpenic alcohol
Nerol oxide	[0.07]	0.01	Aliphatic ether
Pinocarvone	0.13	0.13	Monoterpenic ketone
cis-Chrysanthenol	0.10*	0.03	Monoterpenic alcohol
Borneol	[0.10]*	9.86*	Monoterpenic alcohol
Unknown	0.27	0.81*	Unknown
Artemisyl acetate	0.19	0.22	Monoterpenic ester
Terpinen-4-ol	2.25	2.29	Monoterpenic alcohol
para-Cymen-8-ol	0.01	0.01	Monoterpenic alcohol
Unknown	0.40	0.12	Unknown
Myrtenal	[0.40]*	0.09	Monoterpenic aldehyde
α-Terpineol	[0.40]*	[9.86]*	Monoterpenic alcohol
Myrtenol	0.07	0.07	Monoterpenic alcohol
Safranal	0.02	0.72*	Monoterpenic aldehyde
Unknown	0.04	0.03	Unknown
trans-Piperitol	0.03	0.05	Monoterpenic alcohol
trans-Carveol	0.01	0.02	Monoterpenic alcohol
Bornyl formate	0.03	0.02	Monoterpenic ester
Nerol	0.02	0.01	Monoterpenic alcohol
Cuminal	0.09*	0.55	Monoterpenic aldehyde
trans-Chrysanthenyl acetate	[0.09]*	0.02	Monoterpenic ester
Neral	0.03	0.02	Monoterpenic aldehyde
Piperitone	0.01	0.05	Monoterpenic ketone
α-Ionene	0.01	[0.15]*	Terpene derivative
Linalyl acetate	0.10	0.11*	Monoterpenic ester
Chavicol	0.01	0.01	Phenylpropanoid
Unknown	0.08	[0.81]*	Unknown
4-Thujen-2α-yl acetate	0.69	[0.72]*	Monoterpenic ester
Bornyl acetate	0.36	0.36	Monoterpenic ester
trans-Chrysanthemyl acetate	0.21	0.22	Monoterpenic ester
Lavandulyl acetate	0.38*	0.27	Monoterpenic ester
trans-Pinocarvyl acetate	[0.38]*	0.05	Monoterpenic ester
Isoascaridole	0.11*	0.02	Monoterpenic ether
Unknown	[0.11]*		Oxygenated monoterpene

Thymol	[0.11]*	0.03	Monoterpenic alcohol
(2*E*,4*E*)-Decadienal	0.02	0.02	Aliphatic aldehyde
1,4-para-Menthadien-7-ol	0.03	0.03	Monoterpenic alcohol
trans-Carvyl acetate	0.05*	0.05	Monoterpenic ester
Bicycloelemene	[0.05]*	0.02*	Sesquiterpene
α-Terpinyl acetate	0.08	0.44*	Monoterpenic ester
Cyclosativene I	0.01	0.01	Sesquiterpene
Neryl acetate	0.02	0.03	Monoterpenic ester
α-Ylangene	0.01	[0.02]*	Sesquiterpene
α-Copaene	0.09	[0.11]*	Sesquiterpene
cis-β-Elemene	0.67*	0.03	Sesquiterpene
β-Bourbonene	[0.67]*	[0.81]*	Sesquiterpene
Lavandulyl propionate	0.05		Monoterpenic ester
Geranyl acetate	0.04	0.03	Monoterpenic ester
Dehydroionene analog	0.03		Terpene derivative
β-Elemene	0.05	[10.18]*	Sesquiterpene
(*Z*)-Jasmone	0.02	0.02	Jasmonate
α-Gurjunene	0.04*	0.02	Sesquiterpene
Isocaryophyllene	[0.04]*	[0.11]*	Sesquiterpene
β-Caryophyllene	10.26	[10.18]*	Sesquiterpene
β-Copaene	0.17	0.11	Sesquiterpene
trans-α-Bergamotene	0.07	[10.18]*	Sesquiterpene
Sesquisabinene A	0.29*	0.31	Sesquiterpene
α-Himachalene	[0.29]*	0.08	Sesquiterpene
α-Humulene	1.34	1.37	Sesquiterpene
allo-Aromadendrene	0.02	0.02	Sesquiterpene
(*E*)-β-Farnesene	0.35*	0.30	Sesquiterpene
cis-Muurola-4(15),5-diene	[0.35]*	[0.07]*	Sesquiterpene
trans-Cadina-1(6),4-diene	0.05	0.03	Sesquiterpene
Germacrene D	9.54*	[9.86]*	Sesquiterpene
γ-Muurolene	[9.54]*	0.32	Sesquiterpene
γ-Curcumene	[9.54]*	[0.44]*	Sesquiterpene
β-Selinene	0.25*	0.13	Sesquiterpene
ar-Curcumene	[0.25]*	0.03	Sesquiterpene
(*E*)-β-Ionone	[0.25]*	0.04	Ionone or analog
Bicyclogermacrene	0.47	1.28	Sesquiterpene
α-Muurolene	0.75	[1.28]	Sesquiterpene
(3*Z*,6*E*)-α-Farnesene	0.14	0.12	Sesquiterpene
Lavandulyl isovalerate	0.30*	[0.55]*	Monoterpenic ester
β-Bisabolene	[0.30]*	0.04	Sesquiterpene
γ-Cadinene	[0.30]*	0.30*	Sesquiterpene
Cubebol	[0.30]*	0.01	Sesquiterpenic alcohol
Sesquicineole	0.04	0.02	Sesquiterpenic ether
δ-Cadinene	0.21*	[0.30]*	Sesquiterpene
trans-Calamenene	[0.21]*	0.01	Sesquiterpene
β-Sesquiphellandrene	0.45	[0.55]*	Sesquiterpene
trans-Cadina-1,4-diene	0.03	[0.55]*	Sesquiterpene
α-Cadinene	0.02	0.02	Sesquiterpene
Isocaryophyllene epoxide B	0.10	0.10	Sesquiterpenic ether
Palustrol	0.02	0.02	Sesquiterpenic alcohol
(*E*)-Nerolidol	0.41	0.41	Sesquiterpenic alcohol
Spathulenol	0.10	0.12	Sesquiterpenic alcohol

Caryophyllene oxide	2.03*	1.88	Sesquiterpenic ether
Caryophyllene oxide isomer	[2.03]*	0.11	Sesquiterpenic ether
Salvial-4(14)-en-1-one	0.10*	0.05	Aliphatic alcohol
Viridiflorol	[0.10]*	0.01	Sesquiterpenic alcohol
Ledol	0.02	0.02	Sesquiterpenic alcohol
Humulene epoxide II	0.14*	0.10*	Sesquiterpenic ether
Copaborneol	[0.14]*	0.06	Sesquiterpenic alcohol
Junenol	0.06	0.10	Sesquiterpenic alcohol
cis-Cadin-4-en-7-ol	0.09*	0.05	Sesquiterpenic alcohol
1,10-diepi-Cubenol	[0.09]*	[0.10]*	Sesquiterpenic alcohol
Caryophylladienol I	0.08	0.13*	Sesquiterpenic alcohol
Caryophylladienol II	0.09	[0.13]*	Sesquiterpenic alcohol
τ-Muurolol	0.11*	0.08	Sesquiterpenic alcohol
τ-Cadinol	[0.11]*	0.04	Sesquiterpenic alcohol
β-Eudesmol	0.40	0.41	Sesquiterpenic alcohol
α-Eudesmol	0.12*	0.03	Sesquiterpenic alcohol
Unknown	[0.12]*	0.04	Sesquiterpenic alcohol
α-Cadinol	0.11	0.11	Sesquiterpenic alcohol
Unknown	0.38*	0.31	Oxygenated sesquiterpene
(3*Z*)-Caryophylla-3,8(13)-dien-5β-ol	[0.38]*	0.12	Sesquiterpenic alcohol
Eudesma-4(15),7-dien-1β-ol	0.08		Sesquiterpenic alcohol
α-Bisabolol	0.08*	0.05	Sesquiterpenic alcohol
Germacra-4(15),5,10(14)-trien-1α-ol	[0.08]*	[0.13]*	Sesquiterpenic alcohol
Pentadecanal	0.01	0.02	Aliphatic aldehyde
Chamazulene	9.62	9.91	Azulene
Unknown	0.03	0.02	Oxygenated sesquiterpene
Unknown	0.06	0.09	Unknown
Phytone	0.12	0.16*	Terpenic ketone
Heneicosane	0.01	[0.16]*	Alkane
trans-Geranylgeraniol	0.03		Diterpenic alcohol
Unknown	0.10		Unknown
Tricosane	0.05	0.09	Alkane
Tetracosane	0.01	0.02	Alkane
Pentacosane	0.05	0.06	Alkane
Total identified	**96.00%**	**95.07%**	

*: Two or more compounds are coeluting on this column
[xx]: Duplicate percentage due to coelutions, not taken account in the identified total
tr: The compound has been detected below 0.005% of total signal.

Note: no correction factor was applied

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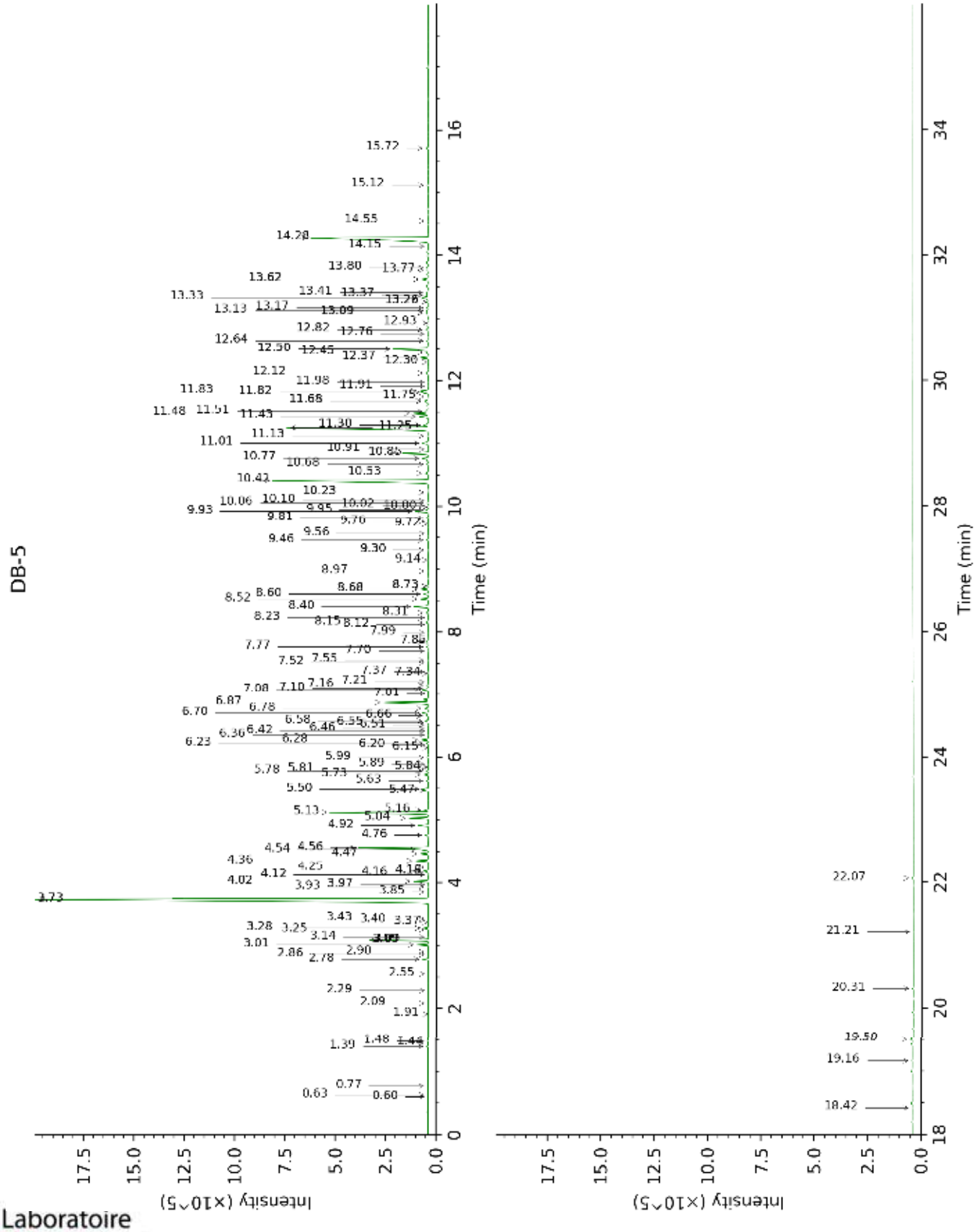

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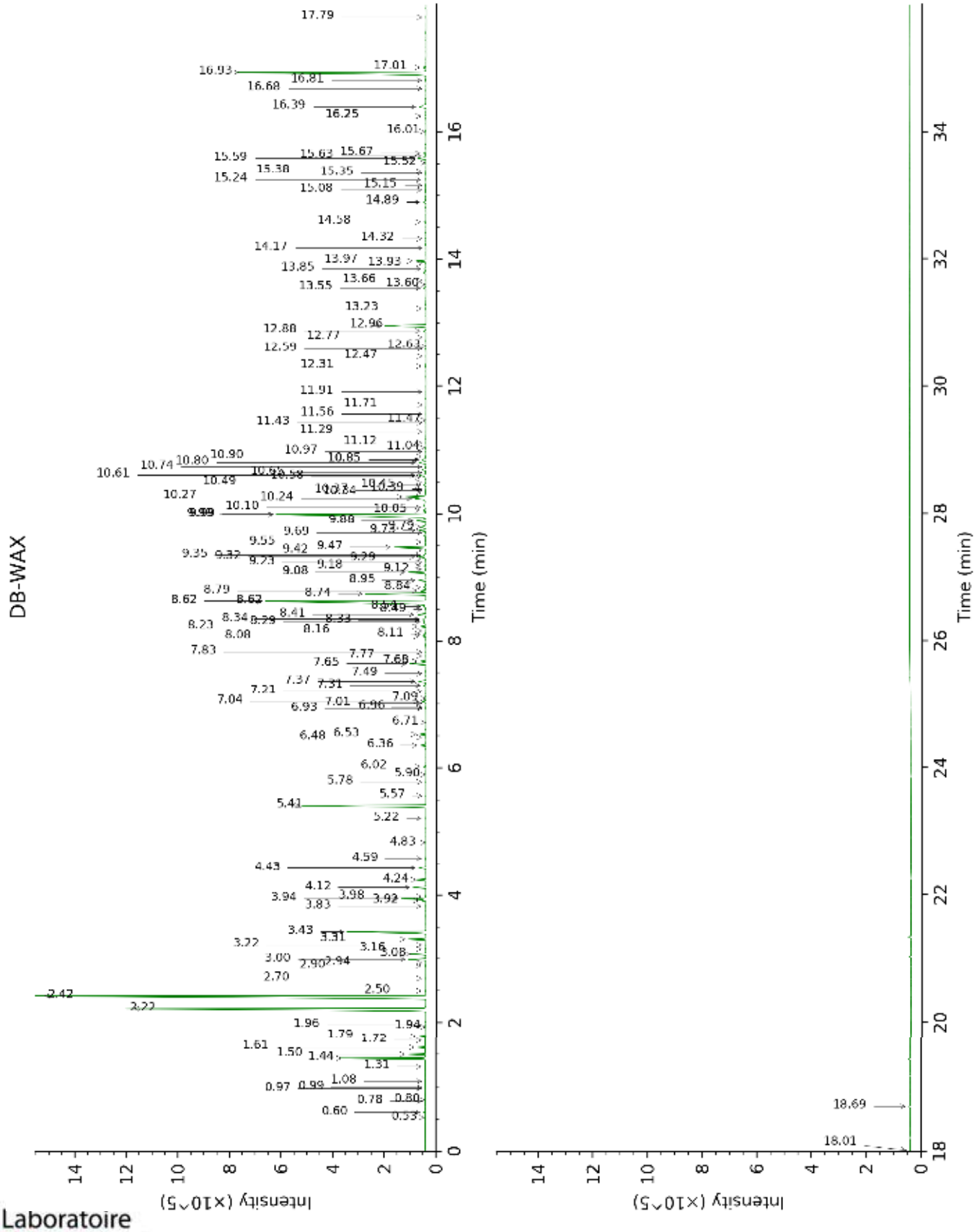

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FULL ANALYSIS DATA

Identification	Column DB-5			Column DB-WAX		
	R.T	R.I	%	R.T	R.I	%
Isovaleral	0.60	641	tr	0.80	885	0.01
2-Methylbutyral	0.63	652	tr	0.78	878	tr
2-Ethylfuran	0.77	705	0.01	0.99	921	0.01
Octene	1.39	793	0.03	0.60	818	0.02
Hexanal	1.44	800	0.01	1.94	1040	0.01
Octane	1.48	805	0.01	0.53	785	0.02
5,5-Dimethyl-2-ethyl-1,3-cyclopentadiene?	1.91	840	tr	1.08	935	tr
(3*Z*)-Hexenol	2.09	855	0.01	5.90	1343	0.01
Hexanol	2.29	871	0.01	5.57	1319	0.01
Nonene	2.55	893	0.01	0.97	918	0.01
Santolinatriene	2.78	910	0.20	1.61	1009	0.19
Hashishene	2.86	915	0.01	1.44*	991	2.16
Tricyclene	2.90	918	0.02	1.31	971	0.01
α-Thujene	3.01	925	0.42	1.50	998	0.41
α-Pinene	3.09*	930	2.25	1.44*	991	[2.16]
Artemisiatriene	3.09*	930	[2.25]	1.96	1042	0.01
Unknown [m/z 122, 121 (36), 107 (33), 79 (27), 93 (25), 77 (25), 43 (20)]	3.14	933	0.02	3.98	1206	0.03
Unknown [m/z 91, 92 (47), 65 (11)... 134 (1)]	3.25	941	0.02	2.50	1094	0.02
α-Fenchene	3.28*	942	0.20	1.72	1019	tr
Camphene	3.28*	942	[0.20]	1.79	1026	0.18
Thuja-2,4(10)-diene	3.37	949	0.02	2.42*	1087	19.82
6-Methyl-2-heptanone	3.40	951	0.01	3.92*	1202	0.12
Benzaldehyde	3.43	953	0.01	7.49	1459	0.01
Sabinene	3.73*	973	34.23	2.42*	1087	[19.82]
β-Pinene	3.73*	973	[34.23]	2.22	1068	13.34
Octen-3-ol	3.85	980	0.02	6.96†	1419	[0.04]
6-Methyl-5-hepten-2-one	3.93	986	0.04	5.22	1294	0.04
Dehydro-1,8-cineole	3.97	988	0.01	3.22	1149	0.01
Myrcene	4.02*	992	0.63	3.00	1132	0.54
2-Pentylfuran	4.02*	992	[0.63]	3.82	1195	0.04
Unknown [m/z 93, 91 (46), 80 (44), 79 (42), 77 (33), 92 (20)... 136 (4)]	4.12*	998	0.02	3.16	1144	0.02
Yomogi alcohol isomer	4.12*	998	[0.02]			
α-Phellandrene	4.16*†	1001	0.24	2.90	1124	0.04
Pseudolimonene	4.16*†	1001	[0.24]	2.94	1128	0.01

Yomogi alcohol	4.18*†	1003	[0.24]	6.36	1375	0.18
Octanal	4.18*†	1003	[0.24]	4.59	1249	0.02
Δ3-Carene	4.25	1006	0.01	2.70	1109	0.01
α-Terpinene	4.36	1014	0.52	3.08	1138	0.49
para-Cymene	4.47	1021	0.33	4.24	1225	0.32
Limonene	4.54†	1025	3.59	3.31	1156	0.57
β-Phellandrene	4.56*†	1026	[3.59]	3.43*	1165	3.00
1,8-Cineole	4.56*†	1026	[3.59]	3.43*	1165	[3.00]
Unknown [m/z 43, 55 (65), 41 (34), 67 (32), 107 (30), 122 (26)... 125 (10)]	4.76*	1039	0.13	5.78	1335	0.02
(*Z*)-β-Ocimene	4.76*	1039	[0.13]	3.92*	1202	[0.12]
(*E*)-β-Ocimene	4.92	1049	0.41	4.12	1216	0.42
γ-Terpinene	5.04	1056	0.83	3.94	1204	0.82
Artemisia ketone	5.13	1062	4.88	5.41	1308	4.86
cis-Sabinene hydrate	5.16	1064	0.14	7.04*	1426	0.15
Artemisia alcohol	5.47†	1084	0.43	7.68*†	1473	[0.81]
Terpinolene	5.50*†	1086	[0.43]	4.43	1238	0.24
para-Cymenene	5.50*†	1086	[0.43]	6.48	1384	0.02
trans-Sabinene hydrate	5.63	1094	0.08	8.11	1505	0.08
Linalool	5.73	1100	0.18	8.23	1514	0.19
Nonanal	5.78	1104	0.11	6.02	1352	0.08
Isoamyl isovalerate	5.81	1106	0.01	4.83	1267	0.01
Unknown [m/z 81, 121 (95), 109 (71), 107 (60), 67 (56), 91 (53), 41 (49)... 152 (10)]	5.84	1108	0.02	6.93*†	1418	0.04
endo-Fenchol	5.90	1111	0.02	8.62*	1544	10.18
cis-para-Menth-2-en-1-ol	5.99	1118	0.06	8.30	1519	0.14
Unknown [m/z 81, 41 (84), 69 (57), 79 (42), 80 (27), 135 (27), 91 (20), 53 (16)...]	6.15	1128	0.01	7.31*	1445	0.11
trans-Chrysanthenol	6.20	1131	0.02			
trans-Pinocarveol	6.23	1133	0.09	9.34	1600	0.10
Camphor	6.28	1136	0.33	7.37	1449	0.29
trans-para-Menth-2-en-1-ol	6.36	1141	0.02	9.12	1582	0.05
Unknown [m/z 137, 67 (13), 95 (13), 81 (13)... 152 (6)]	6.42	1145	0.01	6.93*†	1418	[0.04]
Menthone	6.46	1148	0.01	6.72	1401	0.01
Isoborneol	6.51†	1152	0.07	9.55*	1616	0.07
Nerol oxide	6.55†	1154	[0.07]	7.02	1423	0.01
Pinocarvone	6.58	1156	0.13	8.08	1502	0.13

cis-Chrysanthenol	6.66*	1162	0.10	10.65	1705	0.03
Borneol	6.66*	1162	[0.10]	9.99*	1652	9.86
Unknown [m/z 109, 108 (48), 67 (41), 81 (40), 41 (28)...]	6.70	1164	0.27	7.65*†	1470	0.81
Artemisyl acetate	6.78	1169	0.19	6.53	1388	0.22
Terpinen-4-ol	6.87	1175	2.25	8.74	1553	2.29
para-Cymen-8-ol	7.01	1184	0.01	11.70	1795	0.01
Unknown [m/z 83, 55 (24), 41 (8), 84 (6), 69 (5)... 152 (1)]	7.08†	1189	0.40	8.34	1523	0.12
Myrtenal	7.10*†	1190	[0.40]	8.84	1561	0.09
α-Terpineol	7.10*†	1190	[0.40]	9.99*	1652	[9.86]
Myrtenol	7.16	1194	0.07	11.04	1738	0.07
Safranal	7.21	1197	0.02	9.08*	1579	0.72
Unknown [m/z 95, 93 (32), 121 (24), 79 (22), 91 (21), 105 (16)... 154 (2)]	7.34	1206	0.04	11.12	1745	0.03
trans-Piperitol	7.37	1208	0.03	10.58	1700	0.05
trans-Carveol	7.52	1218	0.01	11.56	1782	0.02
Bornyl formate	7.55	1221	0.03	8.16	1508	0.02
Nerol	7.70	1231	0.02	11.29	1759	0.01
Cuminal	7.77*	1236	0.09	10.80†	1718	0.55
trans-Chrysanthenyl acetate	7.77*	1236	[0.09]	7.83	1483	0.02
Neral	7.85	1242	0.03	9.69	1628	0.02
Piperitone	7.99	1251	0.01	10.10	1661	0.05
α-Ionene	8.12	1260	0.01	7.04*	1426	[0.15]
Linalyl acetate	8.15	1262	0.10	8.33*	1521	0.11
Chavicol	8.23	1268	0.01	16.68	2268	0.01
Unknown [m/z 93, 192 (98), 121 (65), 177 (64), 136 (54)]	8.31	1273	0.08	7.68*†	1473	[0.81]
4-Thujen-2α-yl acetate	8.40	1280	0.69	9.08*	1579	[0.72]
Bornyl acetate	8.52	1288	0.36	8.41	1528	0.36
trans-Chrysanthemyl acetate	8.60	1294	0.21	8.78	1557	0.22
Lavandulyl acetate	8.68*	1300	0.38	8.95	1569	0.27
trans-Pinocarvyl acetate	8.68*	1300	[0.38]	9.29	1596	0.05
Isoascaridole	8.73*†	1303	0.11	11.91	1812	0.02
Unknown [m/z 109, 43 (84), 134 (43), 41 (28), 151 (26), 91 (24)...]	8.73*†	1303	[0.11]			
Thymol	8.73*†	1303	[0.11]	15.35	2132	0.03
(2*E*,4*E*)-Decadienal	8.97	1313	0.02	11.42	1771	0.02
1,4-para-	9.14	1326	0.03	13.93	1994	0.03

Menthadien-7-ol						
trans-Carvyl acetate	9.30*	1337	0.05	10.39	1684	0.05
Bicycloelemene	9.30*	1337	[0.05]	7.20*	1438	0.02
α-Terpinyl acetate	9.46	1348	0.08	9.88*	1643	0.44
Cyclosativene I	9.56	1356	0.01	7.09	1429	0.01
Neryl acetate	9.72	1367	0.02	10.37	1682	0.03
α-Ylangene	9.76	1370	0.01	7.20*	1438	[0.02]
α-Copaene	9.82	1373	0.09	7.31*	1445	[0.11]
cis-β-Elemene	9.93*	1381	0.67	8.49	1534	0.03
β-Bourbonene	9.93*	1381	[0.67]	7.65*†	1470	[0.81]
Lavandulyl propionate	9.95	1383	0.05			
Geranyl acetate	10.00	1386	0.04	10.74	1713	0.03
Dehydroionene analog	10.02	1388	0.03			
β-Elemene	10.06	1391	0.05	8.62*	1544	[10.18]
(*Z*)-Jasmone	10.10	1393	0.02	12.63	1876	0.02
α-Gurjunene	10.23*	1403	0.04	7.77	1479	0.02
Isocaryophyllene	10.23*	1403	[0.04]	8.33*	1521	[0.11]
β-Caryophyllene	10.42	1417	10.26	8.62*	1544	[10.18]
β-Copaene	10.53	1425	0.17	8.54	1538	0.11
trans-α-Bergamotene	10.68	1436	0.07	8.62*	1544	[10.18]
Sesquisabinene A	10.77*	1443	0.29	9.32	1598	0.31
α-Himachalene	10.77*	1443	[0.29]	9.18	1587	0.08
α-Humulene	10.85	1449	1.34	9.47	1610	1.37
allo-Aromadendrene	10.91	1454	0.02	9.23	1591	0.02
(*E*)-β-Farnesene	11.01*	1461	0.35	9.73	1631	0.30
cis-Muurola-4(15),5-diene	11.01*	1461	[0.35]	9.55*	1616	[0.07]
trans-Cadina-1(6),4-diene	11.13	1470	0.05	9.42	1606	0.03
Germacrene D	11.25*	1479	9.54	9.99*	1652	[9.86]
γ-Muurolene	11.25*	1479	[9.54]	9.79	1636	0.32
γ-Curcumene	11.25*	1479	[9.54]	9.88*	1643	[0.44]
β-Selinene	11.30*	1482	0.25	10.06	1657	0.13
ar-Curcumene	11.30*	1482	[0.25]	10.90	1727	0.03
(*E*)-β-Ionone	11.30*	1482	[0.25]	12.59	1872	0.04
Bicyclogermacrene	11.43	1493	0.47	10.24†	1672	1.28
α-Muurolene	11.48	1496	0.75	10.27†	1674	[1.28]
(3*Z*,6*E*)-α-Farnesene	11.51	1499	0.14	10.45	1689	0.12
Lavandulyl isovalerate	11.68*	1511	0.30	10.85*†	1722	[0.55]
β-Bisabolene	11.68*	1511	[0.30]	10.34	1680	0.04
γ-Cadinene	11.68*	1511	[0.30]	10.60*	1702	0.30
Cubebol	11.68*	1511	[0.30]	12.77	1889	0.01
Sesquicineole	11.75	1517	0.04	10.49	1692	0.02
δ-Cadinene	11.82*	1522	0.21	10.60*	1702	[0.30]
trans-Calamenene	11.82*	1522	[0.21]	11.47	1774	0.01
β-Sesquiphellandrene	11.83	1524	0.45	10.85*†	1722	[0.55]

trans-Cadina-1,4-diene	11.91	1530	0.03	10.85*†	1722	[0.55]
α-Cadinene	11.98	1535	0.02	10.97	1733	0.02
Isocaryophyllene epoxide B	12.12	1546	0.10	12.31	1848	0.10
Palustrol	12.30	1560	0.02	12.47	1862	0.02
(*E*)-Nerolidol	12.37	1566	0.41	13.97	1999	0.41
Spathulenol	12.45	1572	0.10	14.58	2057	0.12
Caryophyllene oxide	12.50*	1576	2.03	12.96	1906	1.88
Caryophyllene oxide isomer	12.50*	1576	[2.03]	12.88	1898	0.11
Salvial-4(14)-en-1-one	12.64*	1588	0.10	13.23	1930	0.05
Viridiflorol	12.64*	1588	[0.10]	14.17	2018	0.01
Ledol	12.76	1596	0.02	13.60	1964	0.02
Humulene epoxide II	12.82*	1602	0.14	13.55*	1960	0.10
Copaborneol	12.82*	1602	[0.14]	15.15	2113	0.06
Junenol	12.93	1610	0.06	13.85	1987	0.10
cis-Cadin-4-en-7-ol	13.09*	1624	0.09	14.32	2032	0.05
1,10-diepi-Cubenol	13.09*	1624	[0.09]	13.55*	1960	[0.10]
Caryophylladienol I	13.13	1626	0.08	16.25*	2223	0.13
Caryophylladienol II	13.17	1630	0.09	16.25*	2223	[0.13]
τ-Muurolol	13.26*	1638	0.11	15.24	2122	0.08
τ-Cadinol	13.26*	1638	[0.11]	15.08	2106	0.04
β-Eudesmol	13.33	1643	0.40	15.59	2156	0.41
α-Eudesmol	13.37*	1647	0.12	15.52	2149	0.03
Unknown cadinol analog II [m/z 95, 121 (73), 43 (57), 79 (43), 161 (43), 109)40)... 204 (35), 222 (2)]	13.37*	1647	[0.12]	15.38	2136	0.04
α-Cadinol	13.41	1650	0.11	15.67	2164	0.11
Unknown [m/z 205, 93 (93), 43 (58), 79 (510, 91 (48), 119 (45)... 220 (3)]	13.62*	1668	0.38	16.39	2238	0.31
(3*Z*)-Caryophylla-3,8(13)-dien-5β-ol	13.62*	1668	[0.38]	17.01	2302	0.12
Eudesma-4(15),7-dien-1β-ol	13.77	1680	0.08			
α-Bisabolol	13.80*	1682	0.08	15.63	2160	0.05
Germacra-4(15),5,10(14)-trien-1α-ol	13.80*	1682	[0.08]	16.25*	2223	[0.13]
Pentadecanal	14.15	1711	0.01	13.66	1970	0.02
Chamazulene	14.28	1723	9.62	16.93	2294	9.91
Unknown [m/z 119, 93 (88), 91 (68), 79 (65), 43 (52), 107	14.55	1746	0.03	18.01	2410	0.02

(49)...220 (2)]						
Unknown [m/z 43, 93 (82), 133 (63), 91 (59), 79 (51), 105 (49)...]	15.12	1795	0.06	16.01	2198	0.09
Phytone	15.72	1849	0.12	14.89*	2087	0.16
Heneicosane	18.42	2108	0.01	14.89*	2087	[0.16]
trans-Geranylgeraniol	19.16	2184	0.03			
Unknown [m/z 95, 81 (69), 55 (50), 93 (43), 69 (39), 107 (39)...]	19.50	2220	0.10			
Tricosane	20.31	2307	0.05	16.81	2281	0.09
Tetracosane	21.21	2407	0.01	17.79	2387	0.02
Pentacosane	22.07	2506	0.05	18.69	2486	0.06
Total identified		**96.00%**			**95.07%**	
Total reported		**96.96%**			**95.76%**	

*: Two or more compounds are coeluting on this column
[xx]: Duplicate percentage due to coelutions, not taken account in the identified 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