



Black Spruce Picea mariana

Batch No. #CA-58605
 Organically Produced, Canada

Monoterpenes 71.55%

santene	3.51
bornylene	0.01
tricyclene	2.00
α thujene	0.18
α pinene	15.99
α fenchene	0.10
camphene	18.13
thuja-2,4(10)-diene	0.03
meta-cymene	0.06
β pinene	4.86
sabinene	0.16
myrcene	4.20
2-carene	0.01
α phellandrene	0.50
pseudolimonene	0.01
d3-carene	9.24
α terpinene	0.35
para cymene	0.25
limonene	3.43
β phellandrene	1.36
cis-β-ocimene	0.02
trans-β-ocimene	0.02
γ terpinene	0.32
meta-cymenene	0.02
isoterpinolene	0.08
terpinolene	1.19
para-cymenene	5.52

Aldehydes 0.36%

hexanal	0.01
nonanal	0.02
α campholenal	0.16
citranellal	0.16
mytenal	0.01

Ethers 0.62%

1,8 cineole	0.47
α pinene oxide	0.01
thymol methyl ether	0.13
caryophyllene oxide	0.01

Raw Material: Black Spruce
 INCI Name: Picea Mariana
 Production Method: Steam Dist., leaves
 Date of Analysis: February, 2018

Monoterpenols 2.96%

fenchone	0.02
γ campholenal	0.06
linalol	0.03
endo-fenchol	0.05
cis-para-Menth-2-en-1-ol	0.28
trans-pinocarveol	0.10
camphene hydrate	0.31
isoborneol	0.10
borneol	0.66
terpinen-4-ol	0.34
meta-cymen-8-ol	0.01
para-cymen-8-ol	0.03
trans-isocarveol	0.01
α terpineol	0.69
myrtenol	0.04
trans-carveol	0.02
cis-isocarveol	0.01
citronellol	0.13
geraniol	0.04
dodecanol	0.03

Ketones 0.49%

camphor	0.13
pinocamphone	0.02
pinocarvone	0.07
isopinocamphone	0.04
cryptone	0.02
verbeneone	0.05
carvone	0.02
piperitone	0.05
car-3-en-5-one	0.01
6-methyl-5-hepten-2-one	0.08

Esters 24.7%

3-methyl-3-butenyl isovalerate	0.17
methyl salicylate	0.02
trans-verbenyl acetate	0.05
isobornyl acetate	0.60
endo-fenchyl acetate	0.30
bornyl acetate	22.77
trans-linalool oxide acetate (pyr.)	0.08
trans-pinocarvyl acetate	0.14
myrtenyl acetate	0.02
terpinyl acetate analog	0.08
trans-carvyl acetate	0.04
exo-2-hydroxycineole acetate	0.05
α terpinyl acetate	0.07
citronellyl acetate	0.09
geranyl acetate	0.22

Sesquiterpenes 2.93%

α cubebene	0.03
longicyclene	0.02
α copaene	0.03
β elemene	0.06
longifolene	0.12
β caryophyllene	0.22
cis-muurolo-3,5-diene	0.02
trans-muurolo-3,5-diene	0.04
α humulene	0.05
cis-muurolo-4(15),5-diene	0.05
(E)-β farnesene	0.03
trans-cadina-1(6),4-diene	0.08
γ muuroloene	0.11
selina-4,11-diene	0.04
germacrene D	0.07
β selinene	0.02
trans-muurolo-4(15),5-diene	0.04
α selinene	0.03
(3Z, 6E)-α-farnesene	0.01
α muuroloene	0.24
γ cadinene	0.27
(Z)-γ-bisabolene	0.01
trans-calamenene	0.06
δ cadinene	1.04
trans-cadina-1,4-diene	0.04
α cadinene	0.06
(E)-α-bisabolene	0.13
β-calacorene	0.01

Sesquiterpenols 0.76%

endo-1-bourbonanol	0.02
(E) nerolidol	0.01
globulol	0.01
1-epi-cubenol	0.04
cubenol	0.02
τ muurolo	0.14
τ cadinol	0.16
α muurolo	0.04
α cadinol	0.28
trans-calamenen-10-ol	0.01
amorpho-4,9-dien-2-ol	0.03

Phenols 0.04%

ortho-cymene	0.02
toluene	0.02

Date: February 14, 2018

CERTIFICATE OF ANALYSIS - GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 18A31-NG7-1-CC

Customer identification: HE Picea Mariana - B-PIMACAN01 SA1

Type: Essential oil

Source : *Picea mariana*

Customer: Nature's Gift

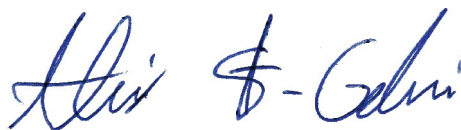
ANALYSIS

Method: PC-PA-014-17JI 9 - 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: February 06, 2018

Checked and approved by:



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

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This report is digitally signed, it is only considered valid if the digital signature is intact.

PHYSICOCHEMICAL DATA

Physical aspect: Clear liquid

Refractive index: 1.4695 ± 0.0003 (20 °C)

CONCLUSION

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

ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
Acetone	tr	0.01	Aliphatic ketone
2-Methylfuran	0.01		Furan
Isovaleral	tr	tr	Aliphatic aldehyde
2-Methylbutyral	tr	tr	Aliphatic aldehyde
Toluene	0.02	0.02	Simple phenolic
Hexanal	0.01	0.01	Aliphatic aldehyde
Unknown	tr	tr	Alkene
(3Z)-Hexenol	0.01	tr	Aliphatic alcohol
Hexanol	tr	0.01*	Aliphatic alcohol
Santene	3.51	3.49*	Monoterpene
Styrene	tr	tr	Simple phenolic
2-Heptanone	tr	tr	Aliphatic ketone
Unknown	0.07	0.25*	Normoterpene
Bornylene	0.01	[3.49]*	Monoterpene
Tricyclene	2.00	2.01	Monoterpene
α -Thujene	0.18	[0.25]*	Monoterpene
α -Pinene	15.99	15.85	Aliphatic alcohol
α -Fenchene	18.33*	0.10	Monoterpene
Camphene	[18.33]*	18.13	Monoterpene
Thuja-2,4(10)-diene	0.03	0.16*	Monoterpene
meta-Cymene	0.06	4.24*	Monoterpene
β -Pinene	5.03*	4.86	Monoterpene
Sabinene	[5.03]*	[0.16]*	Monoterpene
2-Pentylfuran	0.01*	0.01	Furan
6-Methyl-5-hepten-2-one	[0.01]*	0.08	Aliphatic ketone
Myrcene	4.20	[4.24]*	Monoterpene
2-Carene	0.01	0.01	Monoterpene
α -Phellandrene	0.53*	0.50	Monoterpene
Pseudolimonene	[0.53]*	0.01	Monoterpene
Δ 3-Carene	9.31*	9.24	Monoterpene
(3Z)-Hexenyl acetate	[9.31]*	0.04*	Aliphatic ester
α -Terpinene	0.35	0.35	Monoterpene
ortho-Cymene	0.02	0.25*	Simple phenolic
para-Cymene	5.52	[0.25]*	Monoterpene
Limonene	[5.52]*	3.43	Monoterpene
β -Phellandrene	[5.52]*	1.36	Monoterpene
1,8-Cineole	[5.52]*	0.47	Monoterpenic ether
(Z)- β -Ocimene	0.02	0.02	Monoterpene
(E)- β -Ocimene	0.02	0.02	Monoterpene
γ -Terpinene	0.32	0.32	Monoterpene
Unknown	0.04	[0.04]*	Oxygenated monoterpene
Unknown	0.01		Unknown
meta-Cymenene	0.02	0.02	Monoterpene
Fenchone	0.02	0.02	Aliphatic alcohol
Isoterpinolene	0.08	1.19*	Monoterpene
Terpinolene	1.38*	[1.19]*	Monoterpene
para-Cymenene	[1.38]*	0.13	Monoterpene
γ -Campholenal	[1.38]*		Aliphatic alcohol

α-Pinene oxide	0.01	[0.01]*	Monoterpenic ether
2-Nonanone	tr	tr	Aliphatic ketone
Unknown	0.29*		Unknown
Perillene	[0.29]*	tr	Monoterpenic ether
Linalool	0.03	0.02	Monoterpenic alcohol
Nonanal	0.02	0.01	Aliphatic aldehyde
Unknown	tr	0.32*	Monoterpenic alcohol
endo-Fenchol	0.05	22.77*	Monoterpenic alcohol
3-Methyl-3-butenyl isovalerate	0.17	0.02	Aliphatic ester
cis-para-Menth-2-en-1-ol	[0.17]*	0.28	Monoterpenic alcohol
α-Campholenal	[0.17]*	0.16*	Monoterpenic aldehyde
trans-Pinocarveol	0.10	0.19*	Monoterpenic alcohol
Camphor	0.13	0.10*	Monoterpenic ketone
Camphene hydrate	0.31	[0.32]*	Monoterpenic alcohol
Isoborneol	0.16*	0.10	Monoterpenic alcohol
Citronellal	[0.16]*	[0.16]*	Monoterpenic aldehyde
Pinocamphone	0.02	[0.10]*	Monoterpenic ketone
Pinocarvone	0.07	0.13*	Monoterpenic ketone
Borneol	0.66	1.38*	Monoterpenic alcohol
Unknown	0.04	0.06	Unknown
Isopinocamphone	0.04	0.04	Monoterpenic ketone
Terpinen-4-ol	0.34	0.34	Monoterpenic alcohol
meta-Cymen-8-ol	0.01	0.03*	Monoterpenic alcohol
Cryptone	0.02	[0.19]*	Normonoterpenic ketone
para-Cymen-8-ol	0.06*	[0.03]*	Monoterpenic alcohol
trans-Isocarveol	[0.06]*	0.01	Monoterpenic alcohol
α-Terpineol	0.69	[1.38]*	Monoterpenic alcohol
Myrtenal	0.01	0.16	Monoterpenic aldehyde
Methyl salicylate	0.05*	0.02	Phenolic ester
Myrtenol	[0.05]*	0.04	Monoterpenic alcohol
Verbenone	0.05	[0.23]*	Monoterpenic ketone
Unknown	0.06	0.06	Unknown
endo-Fenchyl acetate	0.30	0.29	Aliphatic alcohol
trans-Carveol	0.02	0.04	Monoterpenic alcohol
cis-Isocarveol	0.01	0.02*	Monoterpenic alcohol
Thymol methyl ether	0.13*	0.33*	Monoterpenic ether
Citronellol	[0.13]*	0.13	Monoterpenic alcohol
Carvone	0.02	0.25*	Monoterpenic ketone
Piperitone	0.05	0.06*	Monoterpenic ketone
Geraniol	0.04	0.05	Monoterpenic alcohol
Geranial	0.01	0.02	Monoterpenic aldehyde
Unknown	0.03		Unknown
trans-Verbenyl acetate	23.42*	0.05*	Monoterpenic ester
Isobornyl acetate	[23.42]*	0.60	Monoterpenic ester
Bornyl acetate	[23.42]*	[22.77]*	Monoterpenic ester
trans-Linalool oxide acetate (pyr.)	[23.42]*	0.08*	Monoterpenic ester
Unknown	0.14	0.14	Monoterpenic ester
trans-Pinocarvyl acetate	0.14	0.13	Monoterpenic ester
Car-3-en-5-one	0.01	0.01	Monoterpenic ketone
Myrtenyl acetate	0.02	0.02	Monoterpenic ester
Terpinyl acetate analog	0.08	0.23	Monoterpenic ester
trans-Carvyl acetate	0.04	0.03	Monoterpenic ester

exo-2-Hydroxycineole acetate	0.05	0.08*	Monoterpenic ester
Unknown	0.02		Unknown
α -Cubebene	0.07*	0.03	Sesquiterpene
α -Terpinyl acetate	[0.07]*	0.08	Monoterpenic ester
Citronellyl acetate	0.09	0.09	Monoterpenic ester
Longicyclene	0.02	0.02	Sesquiterpene
Unknown	0.03	[0.08]*	Oxygenated monoterpene
α -Copaene	0.03	0.02	Sesquiterpene
β -Bourbonene	tr	0.01	Sesquiterpene
Geranyl acetate	0.22	0.21	Monoterpenic ester
β -Elemene	0.06	[0.33]*	Sesquiterpene
Longifolene	0.12	[0.13]*	Sesquiterpene
β -Caryophyllene	0.22	[0.33]*	Sesquiterpene
<i>cis</i> -Muurolo-3,5-diene	0.02	0.03	Sesquiterpene
<i>trans</i> -Muurolo-3,5-diene	0.04	[0.08]*	Sesquiterpene
α -Humulene	0.05	0.06	Sesquiterpene
<i>cis</i> -Muurolo-4(15),5-diene	0.09*	[0.05]*	Sesquiterpene
Unknown	[0.09]*	0.03	Unknown
(<i>E</i>)- β -Farnesene	[0.09]*	0.03	Sesquiterpene
<i>trans</i> -Cadina-1(6),4-diene	0.08	[0.19]*	Sesquiterpene
γ -Muurolo-ene	0.11*	[0.23]*	Sesquiterpene
Selina-4,11-diene	[0.11]*	0.04	Sesquiterpene
Germacrene D	0.07	0.08	Sesquiterpene
Dodecanol	0.03	0.04	Aliphatic alcohol
β -Selinene	0.02	0.05*	Sesquiterpene
<i>trans</i> -Muurolo-4(15),5-diene	0.04	[0.05]*	Sesquiterpene
α -Selinene	0.03	0.01	Sesquiterpene
(3 <i>Z</i> ,6 <i>E</i>)- α -Farnesene	0.24*	0.01	Sesquiterpene
α -Muurolo-ene	[0.24]*	[0.25]*	Sesquiterpene
γ -Cadinene	0.27	0.26	Sesquiterpene
(<i>Z</i>)- γ -Bisabolene	0.01	[0.06]*	Sesquiterpene
endo-1-Bourbonanol	0.02		Sesquiterpenic alcohol
<i>trans</i> -Calamenene	1.10*	0.06	Sesquiterpene
δ -Cadinene	[1.10]*	1.04*	Sesquiterpene
Zonarene	tr	[1.04]*	Sesquiterpene
<i>trans</i> -Cadina-1,4-diene	0.04	0.04	Sesquiterpene
α -Cadinene	0.06	0.17*	Sesquiterpene
(<i>E</i>)- α -Bisabolene	0.13	[0.17]*	Sesquiterpene
β -Calacorene	0.01*	0.01	Sesquiterpene
(<i>E</i>)-Nerolidol	[0.01]*	0.01	Sesquiterpenic alcohol
Caryophyllene oxide	0.01	0.01	Sesquiterpenic ether
Globulol	0.01	0.01	Sesquiterpenic alcohol
Unknown	0.03	0.02	Unknown
1-epi-Cubenol	0.04	0.04	Sesquiterpenic alcohol
Cubenol	0.31*	0.02	Sesquiterpenic alcohol
τ -Muurolo-ol	[0.31]*	0.14	Sesquiterpenic alcohol
τ -Cadinol	[0.31]*	0.16	Sesquiterpenic alcohol
α -Muurolo-ol	0.04	0.05	Sesquiterpenic alcohol
α -Cadinol	0.28	0.29	Sesquiterpenic alcohol
<i>cis</i> -Calamenen-10-ol	tr	tr	Sesquiterpenic alcohol
<i>trans</i> -Calamenen-10-ol	0.01	0.01	Sesquiterpenic alcohol
(1,8 <i>Z</i> ,11 <i>Z</i> ,14 <i>Z</i>)-Heptadecatetraene	0.02	[0.02]*	Alkene

(8Z)-Heptadecene	0.01	[1.04]*	Alkene
Amorpha-4,9-dien-2-ol	0.03	0.03	Sesquiterpenic alcohol
(5Z)-Tetradecen-14-olide?	0.02		Aliphatic lactone
Unknown	0.05	0.05	Oxygenated sesquiterpene
Manool	0.01	0.01	Diterpenic alcohol
(Z)-Abienol	0.03	0.02	Diterpenic alcohol
Unknown		0.03	Oxygenated monoterpene
Unknown		0.03	Unknown
Total identified	98.77%	98.31%	

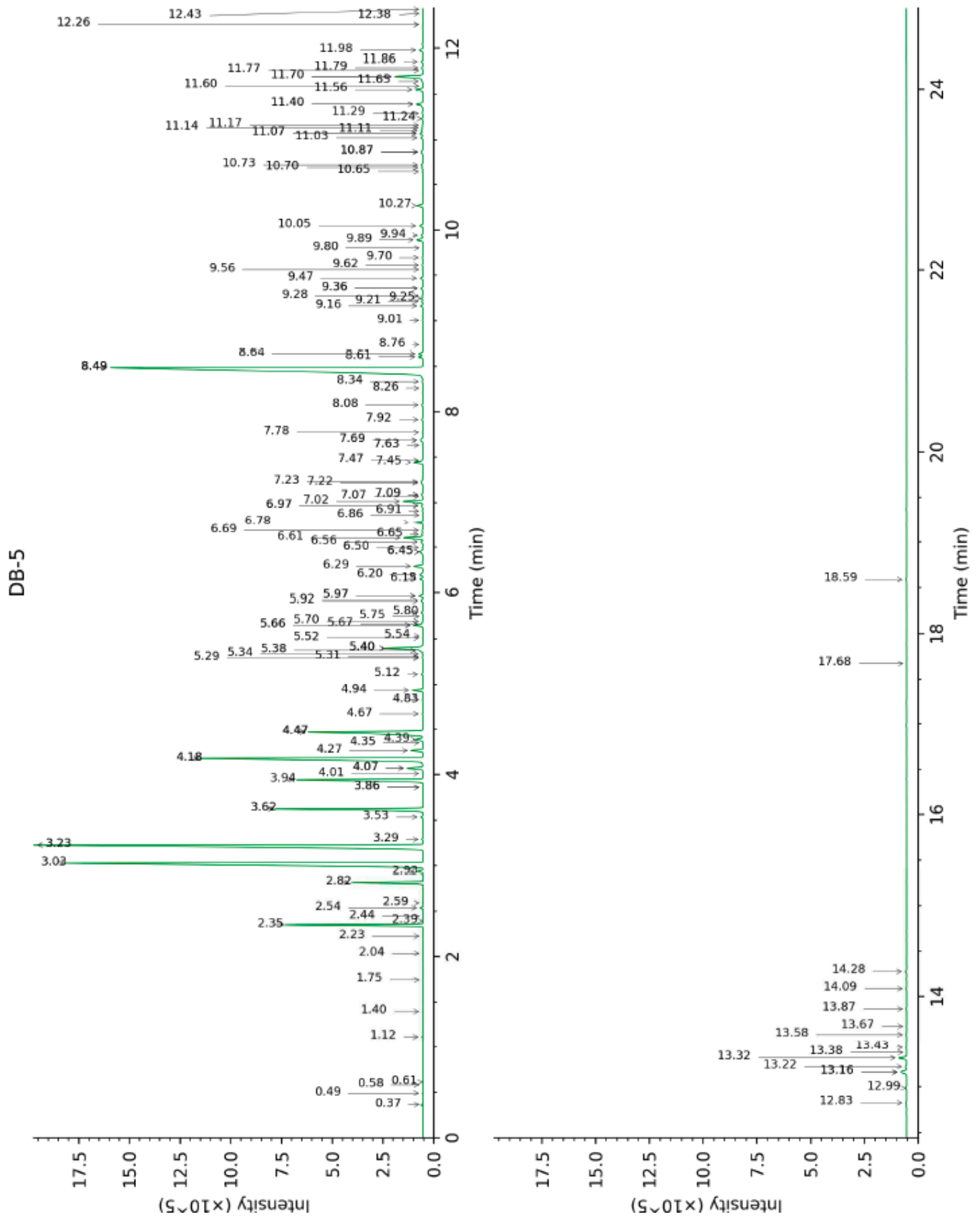
*: Two or more compounds are coeluting on this column

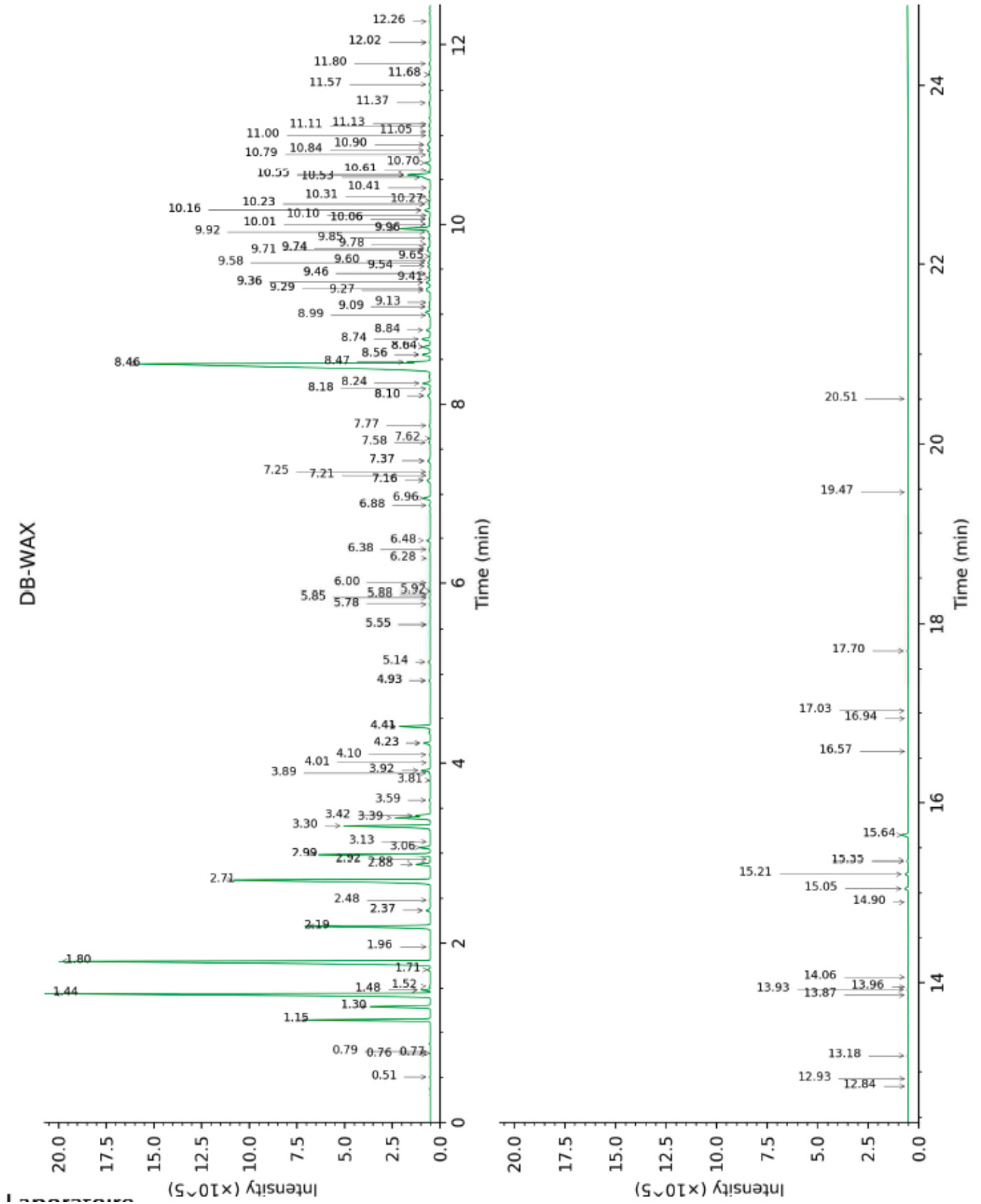
[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

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

Note: no correction factor was applied

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FULL ANALYSIS DATA

Identification	Column DB-5			Column DB-WAX		
	R.T	R.I	%	R.T	R.I	%
Acetone	0.37	495	tr	0.51	784	0.01
2-Methylfuran	0.49	604	0.01			
Isovaleral	0.58	637	tr	0.79	891	tr
2-Methylbutyral	0.61	648	tr	0.77	884	tr
Toluene	1.12	753	0.02	1.52	1004	0.02
Hexanal	1.40	795	0.01	1.96	1047	0.01
Unknown [m/z 109, 67 (32), 81 (14), 41 (12), 124 (10)]	1.74	827	tr	0.76	880	tr
(3Z)-Hexenol	2.04	852	0.01	5.92	1350	tr
Hexanol	2.23	868	tr	5.56*	1323	0.01
Santene	2.35	879	3.51	1.15*	951	3.49
Styrene	2.39	882	tr	4.01	1213	tr
2-Heptanone	2.44	887	tr	3.13	1146	tr
Unknown [m/z 79, 93 (66), 94 (52), 91 (39), 77 (37), 122 (31)]	2.54	895	0.07	1.48*	1000	0.25
Bornylene	2.59	899	0.01	1.15*	951	[3.49]
Tricyclene	2.82	915	2.00	1.30	974	2.01
α -Thujene	2.93	922	0.18	1.48*	1000	[0.25]
α -Pinene	3.03	929	15.99	1.44	996	15.85
α -Fenchene	3.23*	942	18.33	1.71	1022	0.10
Camphene	3.23*	942	[18.33]	1.80	1031	18.13
Thuja-2,4(10)-diene	3.29	946	0.03	2.37*	1086	0.16
meta-Cymene	3.53	963	0.06	2.99*	1136	4.24
β -Pinene	3.62*	969	5.03	2.19	1069	4.86
Sabinene	3.62*	969	[5.03]	2.37*	1086	[0.16]
2-Pentylfuran	3.86*	985	0.01	3.81	1199	0.01
6-Methyl-5-hepten-2-one	3.86*	985	[0.01]	5.14	1294	0.08
Myrcene	3.94	990	4.20	2.99*	1136	[4.24]
2-Carene	4.01	995	0.01	2.48	1097	0.01
α -Phellandrene	4.07*	999	0.53	2.88	1127	0.50
Pseudolimonene	4.07*	999	[0.53]	2.92	1131	0.01
Δ 3-Carene	4.18*	1006	9.31	2.71	1114	9.24
(3Z)-Hexenyl acetate	4.18*	1006	[9.31]	4.93*	1279	0.04
α -Terpinene	4.27	1012	0.35	3.06	1141	0.35
ortho-Cymene	4.35	1017	0.02	4.23*	1228	0.25
para-Cymene	4.39†	1019	5.52	4.23*	1228	[0.25]
Limonene	4.47*†	1024	[5.52]	3.30	1160	3.43
β -Phellandrene	4.47*†	1024	[5.52]	3.39	1167	1.36
1,8-Cineole	4.47*†	1024	[5.52]	3.42	1169	0.47
(Z)- β -Ocimene	4.67	1037	0.02	3.89	1204	0.02
(E)- β -Ocimene	4.83	1047	0.02	4.10	1219	0.02

γ-Terpinene	4.94	1054	0.32	3.92	1206	0.32
Unknown [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	5.12	1065	0.04	4.93*	1279	[0.04]
Unknown [m/z 94, 79 (74), 67 (33), 41 (22), 95 (21)...]	5.30	1076	0.01			
meta-Cymenene	5.31	1077	0.02	6.38	1382	0.02
Fenchone	5.34	1079	0.02	5.85	1345	0.02
Isoterpinolene	5.38	1082	0.08	4.41*	1242	1.19
Terpinolene	5.40*	1083	1.38	4.41*	1242	[1.19]
para-Cymenene	5.40*	1083	[1.38]	6.48	1390	0.13
γ-Campholenal	5.40*	1083	[1.38]			
α-Pinene oxide	5.52	1090	0.01	5.56*	1323	[0.01]
2-Nonanone	5.54	1092	tr	5.88	1347	tr
Unknown [m/z 79, 94 (87), 77 (25), 91 (21), 93 (16), 95 (12), 138 (8)]	5.66*	1099	0.29			
Perillene	5.66*	1099	[0.29]	6.28	1375	tr
Linalool	5.67	1100	0.03	8.18	1516	0.02
Nonanal	5.70	1102	0.02	6.00	1356	0.01
Unknown [m/z 119, 109 (94), 43 (61), 95 (56), 91 (48), 77 (32), 152 (32), 137 (31), 134 (24)]	5.75	1105	tr	8.64*	1552	0.32
endo-Fenchol	5.80	1108	0.05	8.46*	1538	22.77
3-Methyl-3-butenyl isovalerate	5.92†	1116	0.17	5.78	1340	0.02
cis-para-Menth-2-en-1-ol	5.97*†	1119	[0.17]	8.24	1521	0.28
α-Campholenal	5.97*†	1119	[0.17]	7.16*	1440	0.16
trans-Pinocarveol	6.15	1131	0.10	9.36*	1608	0.19
Camphor	6.20	1134	0.13	7.37*	1456	0.10
Camphene hydrate	6.29	1140	0.31	8.64*	1552	[0.32]
Isoborneol	6.45*	1150	0.16	9.54	1622	0.10
Citronellal	6.45*	1150	[0.16]	7.16*	1440	[0.16]
Pinocamphone	6.50	1153	0.02	7.37*	1456	[0.10]
Pinocarvone	6.56	1157	0.07	8.10*	1510	0.13
Borneol	6.61	1160	0.66	9.96*	1656	1.38
Unknown [m/z 109, 108 (48), 67 (41), 81 (40), 41 (28)...]	6.65	1163	0.04	7.58	1471	0.06
Isopinocamphone	6.69	1165	0.04	7.77	1485	0.04
Terpinen-4-ol	6.78	1171	0.34	8.74	1560	0.34
meta-Cymen-8-ol	6.86	1176	0.01	11.68*	1801	0.03
Cryptone	6.91	1180	0.02	9.36*	1608	[0.19]

para-Cymen-8-ol	6.97*	1183	0.06	11.68*	1801	[0.03]
trans-Isocarveol	6.97*	1183	[0.06]	11.13	1754	0.01
α-Terpineol	7.02	1186	0.69	9.96*	1656	[1.38]
Myrtenal	7.07	1190	0.01	8.84	1567	0.16
Methyl salicylate	7.09*	1191	0.05	10.61	1710	0.02
Myrtenol	7.09*	1191	[0.05]	11.05	1747	0.04
Verbenone	7.22	1199	0.05	9.74*†	1639	[0.23]
Unknown [m/z 95, 93 (32), 121 (24), 79 (22), 91 (21), 105 (16)... 154 (2)]	7.23	1200	0.06	11.11	1752	0.06
endo-Fenchyl acetate	7.45	1214	0.30	6.96	1425	0.29
trans-Carveol	7.47	1216	0.02	11.57	1791	0.04
cis-Isocarveol	7.64	1227	0.01	12.02*	1831	0.02
Thymol methyl ether	7.69*	1231	0.13	8.56*	1545	0.33
Citronellol	7.69*	1231	[0.13]	10.84	1729	0.13
Carvone	7.78	1237	0.02	10.16*	1673	0.25
Piperitone	7.92	1246	0.05	10.06*	1665	0.06
Geraniol	8.08	1257	0.04	11.80	1812	0.05
Geranial	8.26	1269	0.01	10.27	1681	0.02
Unknown [m/z 43, 119 (72), 81 (66), 54 (48), 41 (47), 58 (44)...]	8.34	1274	0.03			
trans-Verbenyl acetate	8.49*	1284	23.42	9.46*	1616	0.05
Isobornyl acetate	8.49*	1284	[23.42]	8.47	1539	0.60
Bornyl acetate	8.49*	1284	[23.42]	8.46*	1538	[22.77]
trans-Linalool oxide acetate (pyr.)	8.49*	1284	[23.42]	9.09*	1586	0.08
Unknown [m/z 107, 43 (76), 150 (42), 91 (28), 108 (23)]	8.61	1292	0.14	9.29	1602	0.14
trans-Pinocarvyl acetate	8.64	1295	0.14	9.27	1601	0.13
Car-3-en-5-one	8.76	1302	0.01	12.26	1852	0.01
Myrtenyl acetate	9.01	1320	0.02	9.78	1642	0.02
Terpinyl acetate analog	9.16	1331	0.08	9.71†	1636	0.23
trans-Carvyl acetate	9.21	1335	0.04	10.32	1685	0.03
exo-2-Hydroxycineole acetate	9.25	1337	0.05	10.23*	1678	0.08
Unknown [m/z 133, 105 (45), 91 (38), 119 (36)... 150 (3)]	9.28	1339	0.02			
α-Cubebene	9.36*	1345	0.07	6.88	1419	0.03

α -Terpinyl acetate	9.36*	1345	[0.07]	9.85	1647	0.08
Citronellyl acetate	9.47	1353	0.09	9.58	1626	0.09
Longicyclene	9.56	1360	0.02	7.21	1444	0.02
Unknown [m/z 93, 121 (68), 43 (67), 67 (44), 136 (36), 107 (34)... 180 (4)]	9.62	1363	0.03	10.23*	1678	[0.08]
α -Copaene	9.70	1369	0.03	7.25	1446	0.02
β -Bourbonene	9.80	1376	tr	7.62	1474	0.01
Geranyl acetate	9.89	1383	0.22	10.70	1717	0.21
β -Elemene	9.94	1386	0.06	8.56*	1545	[0.33]
Longifolene	10.05	1394	0.12	8.10*	1510	[0.13]
β -Caryophyllene	10.27	1410	0.22	8.56*	1545	[0.33]
<i>cis</i> -Muurolo-3,5-diene	10.65	1439	0.02	9.13	1590	0.03
<i>trans</i> -Muurolo-3,5-diene	10.70	1442	0.04	9.09*	1586	[0.08]
α -Humulene	10.73	1444	0.05	9.41	1612	0.06
<i>cis</i> -Muurolo-4(15),5-diene	10.87*	1455	0.09	9.46*	1616	[0.05]
Unknown [m/z 95, 43 (94), 79 (93), 91 (71), 93 (65), 177 (54), 41 (52)...]	10.87*	1455	[0.09]	11.00	1743	0.03
(<i>E</i>)- β -Farnesene	10.87*	1455	[0.09]	9.65	1631	0.03
<i>trans</i> -Cadina-1(6),4-diene	11.03	1466	0.08	9.36*	1608	[0.19]
γ -Muurolole	11.07*	1470	0.11	9.74*†	1639	[0.23]
Selina-4,11-diene	11.07*	1470	[0.11]	9.60	1628	0.04
Germacrene D	11.11	1473	0.07	9.92	1653	0.08
Dodecanol	11.14	1475	0.03	13.18	1935	0.04
β -Selinene	11.17	1477	0.02	10.01*	1660	0.05
<i>trans</i> -Muurolo-4(15),5-diene	11.24	1482	0.04	10.01*	1660	[0.05]
α -Selinene	11.30	1487	0.03	10.10	1668	0.01
(3 <i>Z</i> ,6 <i>E</i>)- α -Farnesene	11.40*	1494	0.24	10.41	1693	0.01
α -Muurolole	11.40*	1494	[0.24]	10.16*	1673	[0.25]
γ -Cadinene	11.56	1506	0.27	10.52	1703	0.26
(<i>Z</i>)- γ -Bisabolene	11.60	1510	0.01	10.06*	1665	[0.06]
endo-1-Bourbonanol	11.65	1514	0.02			
<i>trans</i> -Calamenene	11.70*	1518	1.10	11.37	1774	0.06
δ -Cadinene	11.70*	1518	[1.10]	10.55*	1705	1.04
Zonarene	11.77	1523	tr	10.55*	1705	[1.04]
<i>trans</i> -Cadina-1,4-diene	11.80	1525	0.04	10.79	1725	0.04
α -Cadinene	11.86	1530	0.06	10.90*	1734	0.17
(<i>E</i>)- α -Bisabolene	11.98	1540	0.13	10.90*	1734	[0.17]
β -Calacorene	12.26*	1562	0.01	12.84	1904	0.01
(<i>E</i>)-Nerolidol	12.26*	1562	[0.01]	13.96	2007	0.01
Caryophyllene	12.38	1571	0.01	12.93	1912	0.01

oxide						
Globulol	12.43	1575	0.01	14.06	2018	0.01
Unknown0 [m/z 108, 43 (56), 109 (33), 93 (26), 119 (24)... 212 (2)]	12.83	1606	0.03	14.90	2098	0.02
1-epi-Cubenol	12.99	1620	0.04	13.93	2004	0.04
Cubenol	13.16*	1634	0.31	13.86	1998	0.02
τ-Muurolol	13.16*	1634	[0.31]	15.21	2130	0.14
τ-Cadinol	13.16*	1634	[0.31]	15.05	2113	0.16
α-Muurolol	13.22	1639	0.04	15.35	2144	0.05
α-Cadinol	13.32	1647	0.28	15.64	2172	0.29
cis-Calamenen-10-ol	13.38	1652	tr	16.57	2269	tr
trans-Calamenen-10-ol	13.43	1657	0.01	16.94	2308	0.01
(1,8Z,11Z,14Z)-Heptadecatetraene	13.58	1669	0.02	12.02*	1831	[0.02]
(8Z)-Heptadecene	13.67	1676	0.01	10.55*	1705	[1.04]
Amorpha-4,9-dien-2-ol	13.87	1692	0.03	17.03	2317	0.03
(5Z)-Tetradecen-14-olide?	14.09	1711	0.02			
Unknown [m/z 159, 132 (79), 135 (37), 91 (35), 177 (33)... 220 (16)]	14.28	1728	0.05	17.70	2390	0.05
Manool	17.68	2041	0.01	19.47	2591	0.01
(Z)-Abienol	18.59	2133	0.03	20.51	2716	0.02
Unknown [m/z 109, 81 (35), 43 (34), 69 (33), 67 (29), 152 (29)]				3.59	1182	0.03
Unknown [m/z 119, 43 (87), 91 (78), 92 (70), 134 (50)...]				8.99	1579	0.03
Total identified		98.77%			98.31%	
Total reported		99.32%			98.75%	

*: 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