



## Black Spruce

*Picea mariana*

Batch No. #CA-58968  
Organically Produced, Canada

Aldehydes	0.4%	Monoterpene	60.43%	Sesquiterpenes	#NAME?
α campholenal	0.18	camphene	18.87	δ cadinene	1.49
citranellal	0.10	α pinene	15.08	γ cadinene	0.50
mytenal	0.09	Δ3-carene	7.57	α muurolene	0.36
hexanal	0.01	myrcene	3.78	β caryophyllene	0.27
nonanal	0.01	β pinene	3.66	γ muurolene	0.16
(2E)-Hexenal	0.01	santene	3.42	(E)-α-bisabolene	0.14
		limonene	3.31	longifolene	0.10
		tricyclene	2.06	trans-cadina-1(6),4-diene	0.10
Ethers	1.67%	terpinolene	0.97	β elemene	0.10
1,8 cineole + β phellandrene	1.63	α phellandrene	0.40	germacrene D	0.09
dehydro-1,8-cineole	0.02	α terpinene	0.24	α cadinene	0.09
thymol methyl ether	0.02	γ terpinene	0.22	(3E,6E)-α-Farnesene	0.09
Esters	0%	para cymene	0.19	trans-cadina-1,4-diene	0.06
bornyl acetate	24.77	sabinene	0.17	trans-calamenene	0.06
isobornyl acetate	0.63	α thujene	0.16	α humulene	0.06
endo-fenchyl acetate	0.31	α fenchene	0.08	epizonearene	0.06
geranyl acetate	0.31	para-cymenene	0.07	(E)-β farnesene	0.05
trans-pinocarvyl acetate	0.16	isoterpinolene	0.04	β selinene	0.05
citronellyl acetate	0.12	thuja-2,4(10)-diene	0.04	α copaene	0.04
terpinyl acetate analog	0.11	meta-cymene	0.03	cis-muurola-4(15),5-diene	0.03
cis-verbenyl acetate	0.09	(Z)-β ocimene	0.02	trans-muurola-3,5-diene	0.03
α terpinyl acetate	0.08	2-carene	0.02	germacrene B	0.02
exo-2-hydroxycineole acetate	0.06	(E)-β ocimene	0.01	α calacorene	0.02
trans-carvyl acetate	0.06	meta-cymenene	0.01	β-copaene	0.02
myrtenyl acetate	0.03	pseudolimonene	0.01	α cubebene	0.01
trans-verbenyl acetate	0.03	Monoterpens	2.79%	longicyclene	0.01
3-methyl-3-butenoil isovalerate	0.02	borneol	0.78	β bourbonene	0.01
Ketones	0.29%	camphene hydrate	0.52	aromadendrene	0.01
verbenone	0.10	α terpineol	0.37	germacrene A	0.03
camphor	0.05	linalol	0.24	Sesquiterpenols	0.81%
piperitone	0.04	terpinen-4-ol	0.23	α cadinol	0.27
isopinocamphone	0.03	trans-pinocarveol	0.11	τ cadinol	0.15
carvone	0.02	citronellol	0.10	τ muurolol	0.14
6-Methyl-5-hepten-2-one	0.02	isoborneol	0.09	α muurolol	0.07
cryptone	0.01	cis-para-Menth-2-en-1-ol	0.08	1-epi-cubenol	0.04
pinocamphone	0.01	endo-fenchol	0.04	dodecanol	0.04
pinocarvone	0.01	myrtenol	0.04	trans-calamenen-10-ol	0.03
Other	0.97%	geraniol	0.04	endo-bourbonanol	0.03
Unknown	0.79	trans-carveol	0.04	cis-calamenen-10-ol	0.01
γ campholenal	0.04	trans-para-Menth-2-en-1-ol	0.03	cubenol	0.01
(E,E)-Geranylinalool	0.04	para-cymen-8-ol	0.02	(E)-nerolidol	0.01
Amorpha-4,9-dien-2-ol	0.03	fenchone	0.01	spathulenol	0.01
(5Z)-Tetradecen-14-olide?	0.03	(3Z)-Hexenol	0.05		
hexanol	0.02	Phenols	0.01%		
(1,8Z,11Z,14Z)-Heptadecat	0.01	toluene	0.01		
(Z)-Abienol	0.01				

*Picea mariana*, organically produced and wildcrafted

Steam Distilled needles

Date of Analysis: 7/24/2019

**Date :** July 24, 2019

**CERTIFICATE OF ANALYSIS – GC PROFILING**

**SAMPLE IDENTIFICATION**

**Internal code :** 19G12-ALK01-1-SCC

**Customer identification :** Picea Mariana - BPIMACAN07TC

**Type :** Essential oil

**Source :** *Picea mariana*

**Customer :** Aliksir

**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 :** Alexis St-Gelais, M. Sc., chimiste

**Analysis date :** July 23, 2019

Checked and approved by :

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

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#### *PHYSICOCHEMICAL DATA*

**Physical aspect:** Clear liquid

**Refractive index:**  $1.4702 \pm 0.0003$  (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
Isovaleral	tr	Aliphatic aldehyde
2-Methylbutyral	tr	Aliphatic aldehyde
2-Ethylfuran	tr	Furan
Toluene	0.01	Simple phenolic
Hexanal	0.01	Aliphatic aldehyde
(2E)-Hexenal	0.01	Aliphatic aldehyde
(3Z)-Hexenol	0.05	Aliphatic alcohol
Hexanol	0.02	Aliphatic alcohol
Santene	3.42	Monoterpene
Unknown	0.02	Normonoterpene
Bornylene	tr	Monoterpene
Tricyclene	2.06	Monoterpene
α-Thujene	0.16	Monoterpene
α-Pinene	15.08	Monoterpene
Camphene	18.87	Monoterpene
α-Fenchene	0.08	Monoterpene
Thuja-2,4(10)-diene	0.04	Monoterpene
meta-Cymene	0.03	Monoterpene
Sabinene	0.17	Monoterpene
β-Pinene	3.66	Monoterpene
Dehydro-1,8-cineole	0.02	Monoterpenic ether
6-Methyl-5-hepten-2-one	0.02	Aliphatic ketone
Myrcene	3.78	Monoterpene
2-Pentylfuran	tr	Furan
2-Carene	0.02	Monoterpene
α-Phellandrene	0.40	Monoterpene
Pseudolimonene	0.01	Monoterpene
Δ3-Carene	7.57	Monoterpene
α-Terpinene	0.24	Monoterpene
para-Cymene	0.19	Monoterpene
Limonene	3.31	Monoterpene
1,8-Cineole	1.63*	Monoterpenic ether
β-Phellandrene	[1.63]*	Monoterpene
(Z)-β-Ocimene	0.02	Monoterpene
(E)-β-Ocimene	0.01	Monoterpene
γ-Terpinene	0.22	Monoterpene
Unknown	0.03	Oxygenated monoterpene
Unknown	0.01	Unknown
meta-Cymenene	0.01	Monoterpene
Fenchone	0.01	Aliphatic alcohol
Isoterpinolene	0.04	Monoterpene
γ-Campholenal	0.04	Aliphatic alcohol
para-Cymenene	0.07	Monoterpene
Terpinolene	0.97	Monoterpene
Linalool	0.24	Monoterpenic alcohol
Nonanal	0.01	Aliphatic aldehyde
endo-Fenchol	0.04	Monoterpenic alcohol

3-Methyl-3-butenyl isovalerate	0.02	Aliphatic ester
cis-para-Menth-2-en-1-ol	0.08	Monoterpenic alcohol
α-Campholenal	0.18	Monoterpenic aldehyde
trans-Pinocarveol	0.11	Monoterpenic alcohol
Camphor	0.05	Monoterpenic ketone
trans-para-Menth-2-en-1-ol	0.03	Monoterpenic alcohol
Camphepane hydrate	0.52	Monoterpenic alcohol
Isoborneol	0.09	Monoterpenic alcohol
Citronellal	0.10	Monoterpenic aldehyde
Pinocamphone	0.01	Monoterpenic ketone
Borneol	0.78	Monoterpenic alcohol
Unknown	0.03	Unknown
Isopinocamphone	0.03	Monoterpenic ketone
Terpinen-4-ol	0.23	Monoterpenic alcohol
Cryptone	0.01	Normonoterpenic ketone
para-Cymen-8-ol	0.02	Monoterpenic alcohol
α-Terpineol	0.37	Monoterpenic alcohol
Myrtenal	0.09	Monoterpenic aldehyde
Myrtenol	0.04	Monoterpenic alcohol
Verbenone	0.10	Monoterpenic ketone
trans-Carveol	0.04	Monoterpenic alcohol
endo-Fenchyl acetate	0.31	Monoterpenic ester
Citronellol	0.10	Monoterpenic alcohol
Thymol methyl ether	0.02	Monoterpenic ether
Unknown	0.02	Oxygenated monoterpene
Carvone	0.02	Monoterpenic ketone
Piperitone	0.04	Monoterpenic ketone
Geraniol	0.04	Monoterpenic alcohol
Unknown	0.02	Unknown
trans-Verbenyl acetate	0.03	Monoterpenic ester
cis-Verbenyl acetate	0.09	Monoterpenic ester
Unknown	0.29	Unknown
Isobornyl acetate	0.63	Monoterpenic ester
Bornyl acetate	24.77	Monoterpenic ester
Unknown	0.19	Monoterpenic ester
trans-Pinocarvyl acetate	0.16	Monoterpenic ester
Myrtenyl acetate	0.03	Monoterpenic ester
Terpinyl acetate analog	0.11	Monoterpenic ester
trans-Caryl acetate	0.06	Monoterpenic ester
exo-2-Hydroxycineole acetate	0.06	Monoterpenic ester
Unknown	0.02	Unknown
α-Terpinyl acetate	0.08	Monoterpenic ester
α-Cubebene	0.01	Sesquiterpene
Citronellyl acetate	0.12	Monoterpenic ester
Unknown	0.01	Oxygenated monoterpene
Longicyclene	0.01	Sesquiterpene
α-Copaene	0.04	Sesquiterpene
β-Bourbonene	0.01	Sesquiterpene
Geranyl acetate	0.31	Monoterpenic ester
β-Elemene	0.10	Sesquiterpene
Longifolene	0.10	Sesquiterpene
β-Caryophyllene	0.27	Sesquiterpene

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$\beta$ -Copaene	0.02	Sesquiterpene
Aromadendrene	0.01	Sesquiterpene
<i>trans</i> -Muurola-3,5-diene	0.03	Sesquiterpene
$\alpha$ -Humulene	0.06	Sesquiterpene
<i>cis</i> -Muurola-4(15),5-diene	0.03	Sesquiterpene
(E)- $\beta$ -Farnesene	0.05	Sesquiterpene
<i>trans</i> -Cadina-1(6),4-diene	0.10	Sesquiterpene
$\gamma$ -Muurolene	0.16	Sesquiterpene
Germacrene D	0.09	Sesquiterpene
Dodecanol	0.04	Aliphatic alcohol
$\beta$ -Selinene	0.05	Sesquiterpene
Epizonarene	0.06	Sesquiterpene
$\alpha$ -Muurolene	0.36	Sesquiterpene
Germacrene A	0.03	Sesquiterpene
$\gamma$ -Cadinene	0.50	Sesquiterpene
Cubebol	0.01	Sesquiterpenic alcohol
(3E,6E)- $\alpha$ -Farnesene	0.09	Sesquiterpene
endo-1-Bourbonanol	0.03	Sesquiterpenic alcohol
<i>trans</i> -Calamenene	0.06	Sesquiterpene
$\delta$ -Cadinene	1.49	Sesquiterpene
<i>trans</i> -Cadina-1,4-diene	0.06	Sesquiterpene
$\alpha$ -Cadinene	0.09	Sesquiterpene
$\alpha$ -Calacorene	0.02	Sesquiterpene
(E)- $\alpha$ -Bisabolene	0.14	Sesquiterpene
Unknown	0.03	Oxygenated sesquiterpene
Germacrene B	0.02	Sesquiterpene
(E)-Nerolidol	0.01	Sesquiterpenic alcohol
Spathulenol	0.01	Sesquiterpenic alcohol
Unknown	0.01	Oxygenated sesquiterpene
Unknown	0.02	Unknown
10-epi-Cubenol	0.04	Sesquiterpenic alcohol
$\tau$ -Cadinol	0.15	Sesquiterpenic alcohol
$\tau$ -Muurolol	0.14	Sesquiterpenic alcohol
$\alpha$ -Muurolol	0.07	Sesquiterpenic alcohol
$\alpha$ -Cadinol	0.27	Sesquiterpenic alcohol
<i>cis</i> -Calamenen-10-ol	0.01	Sesquiterpenic alcohol
<i>trans</i> -Calamenen-10-ol	0.03	Sesquiterpenic alcohol
Unknown	0.02	Oxygenated sesquiterpene
(1,8Z,11Z,14Z)-Heptadecatetraene	0.01	Alkene
Amorpha-4,9-dien-2-ol	0.03	Sesquiterpenic alcohol
(5Z)-Tetradecen-14-oxide?	0.03	Aliphatic lactone
Unknown	0.05	Oxygenated sesquiterpene
Unknown	0.02	Oxygenated sesquiterpene
(E,E)-Geranylinalool	0.04	Diterpenic alcohol
(Z)-Abienol	0.01	Diterpenic alcohol
Pinocarvone	0.01	Monoterpenic ketone
<b>Consolidated total</b>	<b>98.25%</b>	

\*: 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

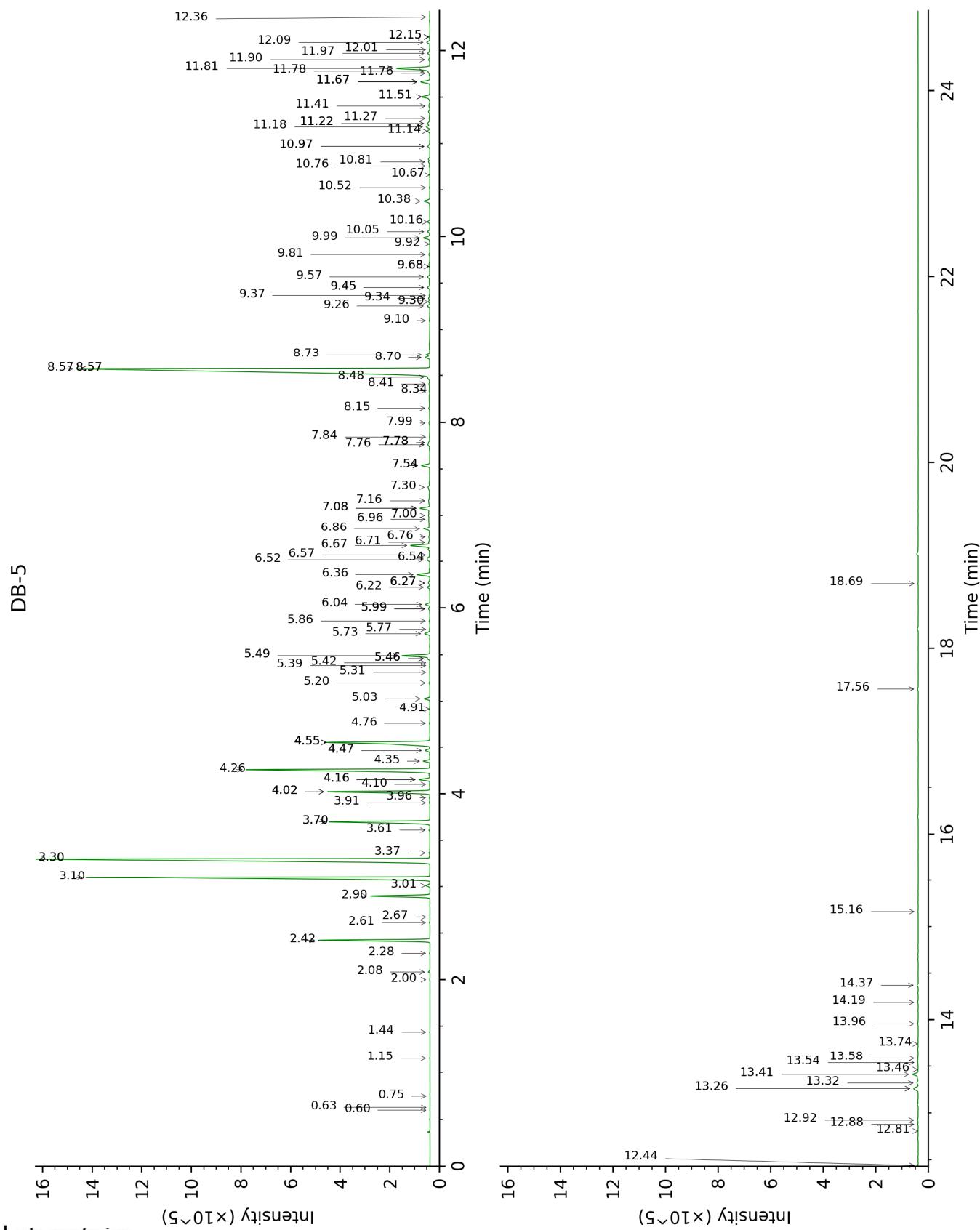
tr: The compound has been detected below 0.005% of total signal.

Note: no correction factor was applied

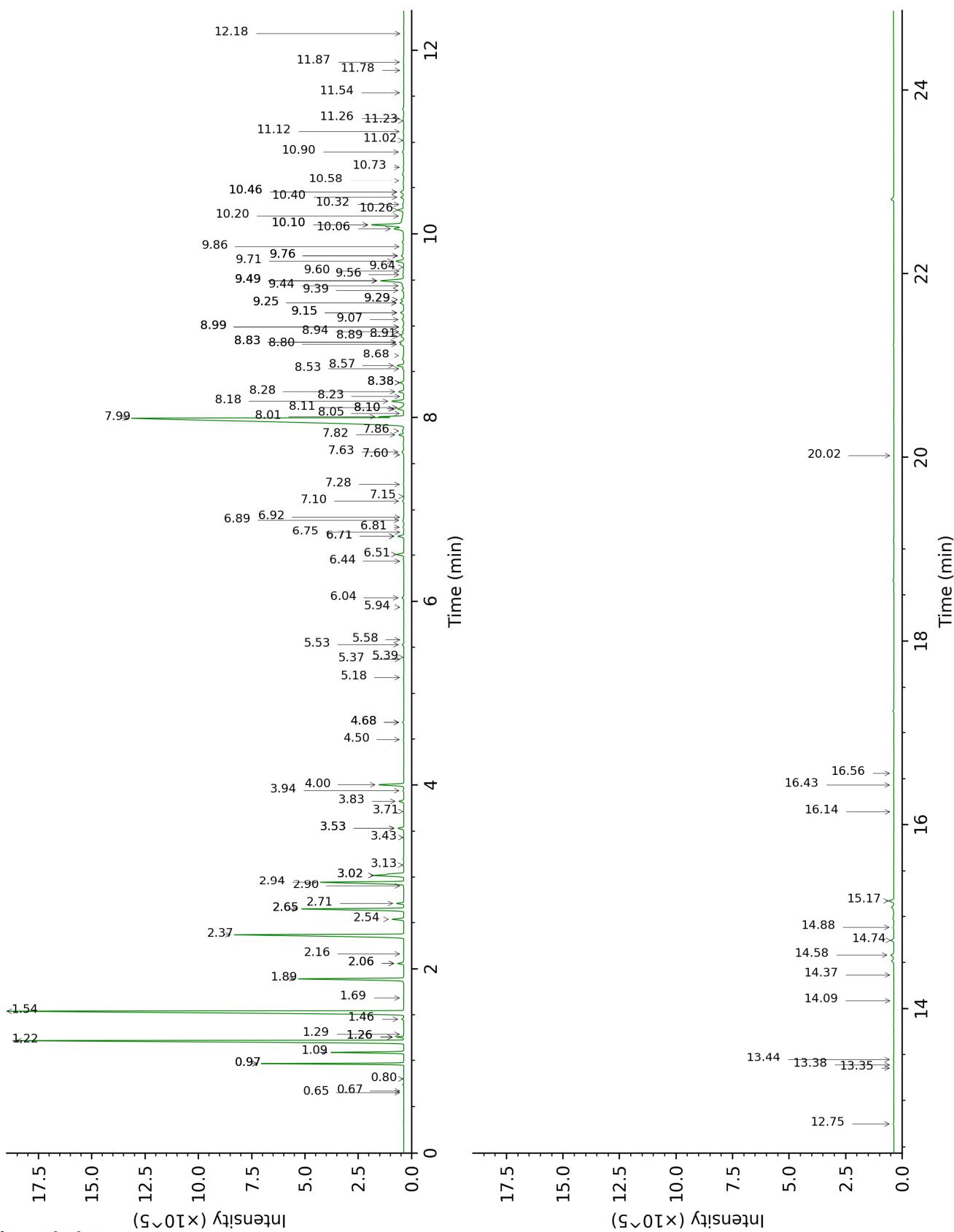
**About "consolidated" data:** The table above presents the breakdown of the sample volatile constituents after applying an algorithm to collapse data acquired from the multi-columns system of PhytoChemia into a single set of consolidated contents. In case of discrepancies between columns, the algorithm 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.

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DB-WAX



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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	640	tr	0.67	891	tr
2-Methylbutyral	0.63	651	tr	0.65	883	tr
2-Ethylfuran	0.75	697	tr	0.80	920	tr
Toluene	1.15	760	0.01	1.29	1005	0.01
Hexanal	1.44	800	0.01	1.68	1046	0.01
(2E)-Hexenal	2.00	848	0.01	3.13	1176	0.02
(3Z)-Hexenol	2.08	855	0.05	5.53	1354	0.07
Hexanol	2.28	871	0.02	5.18	1328	0.02
Santene	2.42	883	3.42	0.97*	950	3.44
Unknown [m/z 79, 93 (66), 94 (52), 91 (39), 77 (37), 122 (31)]	2.61	898	0.02	1.26*	1002	0.19
Bornylene	2.67	903	tr	0.97*	950	[3.44]
Tricyclene	2.90	918	2.06	1.10	973	2.07
$\alpha$ -Thujene	3.01	925	0.16	1.26*	1002	[0.19]
$\alpha$ -Pinene	3.10	932	15.08	1.22	997	15.10
Camphepane	3.30*	944	18.94	1.54	1031	18.87
$\alpha$ -Fenchene	3.30*	944	[18.94]	1.46	1022	0.08
Thuja-2,4(10)-diene	3.37	949	0.04	2.06*	1086	0.21
meta-Cymene	3.61	965	0.03	2.65*	1136	3.81
Sabinene	3.70*	971	3.83	2.06*	1086	[0.21]
$\beta$ -Pinene	3.70*	971	[3.83]	1.89	1068	3.66
Dehydro-1,8-cineole	3.91	984	0.02	2.90	1157	0.01
6-Methyl-5-hepten-2-one	3.96	988	0.02	4.68*	1294	0.06
Myrcene	4.02*	992	3.80	2.65*	1136	[3.81]
2-Pentylfuran	4.02*	992	[3.80]	3.43	1200	tr
2-Carene	4.10	997	0.02	2.16	1096	0.01
$\alpha$ -Phellandrene	4.16*	1001	0.41	2.54	1128	0.40
Pseudolimonene	4.16*	1001	[0.41]			
$\Delta$ 3-Carene	4.26	1008	7.57	2.37	1114	7.51
$\alpha$ -Terpinene	4.35	1013	0.24	2.71	1141	0.23
para-Cymene	4.47	1020	0.19	3.83	1230	0.19
Limonene	4.55*	1026	4.94	2.94	1160	3.31
1,8-Cineole	4.55*	1026	[4.94]	3.02*	1167	1.58
$\beta$ -Phellandrene	4.55*	1026	[4.94]	3.02*	1167	[1.58]
(Z)- $\beta$ -Ocimene	4.76	1039	0.02	3.53*	1208	0.24
(E)- $\beta$ -Ocimene	4.91	1049	0.01	3.71	1221	0.02
$\gamma$ -Terpinene	5.03	1056	0.22	3.53*	1208	[0.24]
Unknown [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	5.20	1067	0.03	4.50	1280	0.03
Unknown [m/z 94,	5.31	1074	0.01			

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79 (74), 67 (33), 41 (22), 95 (21)...					
meta-Cymenene	5.39	1078	0.01	5.94	1383
Fenchone	5.42	1080	0.01	5.40	1344
Isoterpinolene	5.46*	1083	0.09	3.94	1238
$\gamma$ -Campholenal	5.46*	1083	[0.09]	4.68*	1294
para-Cymenene	5.49*	1085	1.09	6.04	1391
Terpinolene	5.49*	1085	[1.09]	4.00	1243
Linalool	5.73	1100	0.24	7.82	1524
Nonanal	5.77	1103	0.01	5.58	1358
endo-Fenchol	5.86	1109	0.04	8.11	1547
3-Methyl-3-butenyl isovalerate	5.99*	1117	0.06	5.37	1342
cis-para-Menth-2-en-1-ol	5.99*	1117	[0.06]	7.86	1527
$\alpha$ -Campholenal	6.04	1120	0.18	6.71*	1440
trans-Pinocarveol	6.22	1132	0.11	8.89	1608
Camphor	6.27*	1135	0.09	6.89	1454
trans-para-Menth-2-en-1-ol	6.27*	1135	[0.09]	8.68	1591
Campheine hydrate	6.36	1141	0.52	8.18	1552
Isoborneol	6.52	1152	0.09	9.07	1623
Citronellal	6.54	1153	0.10	6.71*	1440
Pinocamphone	6.57	1155	0.01	6.92	1456
Borneol	6.67	1162	0.78	9.49*	1657
Unknown [m/z 109, 108 (48), 67 (41), 81 (40), 41 (28)...]	6.71	1164	0.03	7.10	1469
Isopinocamphone	6.76	1168	0.03	7.28	1483
Terpinen-4-ol	6.86	1174	0.23	8.28	1560
Cryptone	6.96	1180	0.01	8.83*	1603
para-Cymen-8-ol	7.00	1183	0.02	11.23	1803
$\alpha$ -Terpineol	7.08*	1188	0.36	9.49*	1657
Myrtenal	7.08*	1188	[0.36]	8.38*	1568
Myrtenol	7.16	1194	0.04	10.58	1748
Verbenone	7.30	1203	0.10	9.25*	1637
trans-Carveol	7.54*	1219	0.34	11.12	1793
endo-Fenchyl acetate	7.54*	1219	[0.34]	6.51	1425
Citronellol	7.76	1234	0.10	10.46*	1737
Thymol methyl ether	7.78*	1236	0.04		
Unknown [m/z 137, 152 (28), 43 (25), 91 (24), 109 (23), 119 (19)]	7.78*	1236	[0.04]	11.02	1785
Carvone	7.84	1240	0.02	9.64	1669
Piperitone	7.99	1251	0.04	9.60	1665
Geraniol	8.15	1262	0.04	11.26	1805
Unknown [m/z 43, 119 (72), 81 (66), 54]	8.34	1274	0.02		

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(48), 41 (47), 58 (44)...						
<i>trans</i> -Verbenyl acetate	8.41	1280	0.03	8.99*	1616	0.06
<i>cis</i> -Verbenyl acetate	8.48	1285	0.09	8.38*	1568	[0.18]
Unknown [m/z 119, 43 (87), 91 (78), 92 (70), 134 (50) ...]	8.58*	1291	26.54	8.57	1582	0.29
Isobornyl acetate	8.58*	1291	[26.54]	8.01	1539	0.63
Bornyl acetate	8.58*	1291	[26.54]	7.99	1538	24.77
Unknown [m/z 107, 43 (76), 150 (42), 91 (28), 108 (23)]	8.70	1299	0.19	8.83*	1603	[0.20]
<i>trans</i> -Pinocarvyl acetate	8.73	1302	0.16	8.80	1601	0.15
Myrtenyl acetate	9.10	1322	0.03	9.29*	1640	0.13
Terpinyl acetate analog	9.26	1333	0.11	9.29*	1640	[0.13]
<i>trans</i> -Carvyl acetate	9.30	1336	0.06	9.86	1687	0.04
exo-2-Hydroxycineole acetate	9.34	1339	0.06	9.76*	1679	0.14
Unknown [m/z 133, 105 (45), 91 (38), 119 (36) ... 150 (3)]	9.37	1341	0.02			
$\alpha$ -Terpinyl acetate	9.45*	1347	0.10	9.39	1648	0.08
$\alpha$ -Cubebeene	9.45*	1347	[0.10]	6.44	1420	0.01
Citronellyl acetate	9.57	1356	0.12	9.15*	1629	0.17
Unknown [m/z 93, 121 (68), 43 (67), 67 (44), 136 (36), 107 (34) ... 180 (4)]	9.68*	1363	0.02	9.76*	1679	[0.14]
Longicyclene	9.68*	1363	[0.02]	6.75	1443	0.01
$\alpha$ -Copaene	9.81	1372	0.04	6.81	1448	0.04
$\beta$ -Bourbonene	9.92	1380	0.01	7.15	1473	0.01
Geranyl acetate	9.99	1385	0.31	10.26	1720	0.29
$\beta$ -Elemene	10.05	1390	0.10	8.10*	1546	0.26
Longifolene	10.16	1397	0.10	7.63	1509	0.09
$\beta$ -Caryophyllene	10.38	1414	0.27	8.10*	1546	[0.26]
$\beta$ -Copaene	10.52	1424	0.02	8.05	1542	0.02
Aromadendrene	10.67	1435	0.01	8.23	1556	0.01
<i>trans</i> -Muurola-3,5-diene	10.76	1442	0.03	8.53	1580	0.05
$\alpha$ -Humulene	10.81	1446	0.06	8.94	1612	0.06
<i>cis</i> -Muurola-4(15),5-diene	10.97*	1458	0.11	8.99*	1616	[0.06]
(E)- $\beta$ -Farnesene	10.97*	1458	[0.11]	9.15*	1629	[0.17]

<i>trans</i> -Cadin-1(6),4-diene	11.14	1470	0.10	8.91	1609	0.09
$\gamma$ -Muurolene	11.18	1474	0.16	9.25*	1637	[0.19]
Germacrene D	11.22*	1476	0.13	9.44	1652	0.09
Dodecanol	11.22*	1476	[0.13]	12.75	1939	0.04
$\beta$ -Selinene	11.27	1480	0.05	9.56	1662	0.06
Epizonarene	11.41	1490	0.06	9.49*	1657	[1.21]
$\alpha$ -Muurolene	11.51*	1498	0.39	9.71	1674	0.36
Germacrene A	11.51*	1498	[0.39]	10.10*	1706	1.70
$\gamma$ -Cadinene	11.67*	1510	0.41	10.06	1703	0.50
Cubebol	11.67*	1510	[0.41]	12.18	1887	0.01
(3E,6E)- $\alpha$ -Farnesene	11.67*	1510	[0.41]	10.20	1715	0.09
endo-1-Bourbonanol	11.76	1517	0.03			
<i>trans</i> -Calamenene	11.78	1519	0.06	10.90	1774	0.07
$\delta$ -Cadinene	11.81	1521	1.49	10.10*	1706	[1.70]
<i>trans</i> -Cadin-1,4-diene	11.90	1529	0.06	10.32	1725	0.06
$\alpha$ -Cadinene	11.97	1534	0.09	10.46*	1737	[0.17]
$\alpha$ -Calacorene	12.01	1537	0.02	11.78	1852	0.02
(E)- $\alpha$ -Bisabolene	12.09	1543	0.14	10.40	1732	0.14
Unknown [m/z 95, 81 (70), 109 (68), 93 (59), 67 (53), 41 (49), 139 (40)... 220 (3)]	12.15*	1548	0.04	11.87	1860	0.03
Germacrene B	12.15*	1548	[0.04]	10.73	1760	0.02
(E)-Nerolidol	12.36	1565	0.01	13.44	2004	0.03
Spathulenol	12.44	1571	0.01	14.08	2066	0.01
Unknown [m/z 177, 43 (97), 109 (65), 67 (57), 96 (51)... 220 (13)]	12.81	1600	0.01	13.35	1995	0.03
Unknown0 [m/z 108, 43 (56), 109 (33), 93 (26), 119 (24)... 212 (2)]	12.88	1605	0.02	14.36	2093	0.02
10-epi-Cubenol	12.92	1609	0.04	13.38	1998	0.02
$\tau$ -Cadinol	13.26*	1637	0.29	14.58	2114	0.15
$\tau$ -Muurolol	13.26*	1637	[0.29]	14.74	2130	0.14
$\alpha$ -Muurolol	13.32	1642	0.07	14.88	2144	0.05
$\alpha$ -Cadinol	13.41	1650	0.27	15.17	2173	0.24
<i>cis</i> -Calamenen-10-ol	13.46	1654	0.01	16.14	2274	0.01
<i>trans</i> -Calamenen-10-ol	13.54	1660	0.03	16.43	2304	0.04
Unknown [m/z 177, 159 (98), 93 (94), 136 (84), 121 (68), 135 (65), 91 (57)... 220 (23)]	13.58	1664	0.02			

(1,8Z,11Z,14Z)-Heptadecatetraene	13.74	1677	0.01	11.54	1830	0.02
Amorpha-4,9-dien-2-ol	13.96	1695	0.03	16.56	2318	0.04
(5Z)-Tetradecen-14-olide?	14.19	1714	0.03			
Unknown [m/z 159, 132 (79), 135 (37), 91 (35), 177 (33)... 220 (16)]	14.37	1730	0.05			
Unknown [m/z 43, 162 (93), 119 (77), 159 (65), 93 (65), 147 (57)...220 (28)]	15.16	1799	0.02			
(E,E)-Geranylinalool	17.56	2022	0.04			
(Z)-Abienol	18.69	2136	0.01	20.02	2715	0.01
Pinocarvone				7.60	1507	0.01
<b>Total identified</b>	<b>98.38%</b>			<b>97.37%</b>		
<b>Total reported</b>	<b>98.82%</b>			<b>97.85%</b>		

\*: Two or more compounds are coeluting on this column

[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

R.T.: Retention time (minutes)

R.I.: Retention index