

CERTIFICATE OF ANALYSIS

PRODUCT IDENTIFICATION		COMPANY IDENTIFICATION	
PRODUCT NAME:	Hemlock Spruce	COMPANY:	ZAYAT AROMA INC.
BOTANICAL NAME:	Tsuga canadensis	ADDRESS:	1339 SHEFFORD, BROMONT (QC) J2L 1C9, CANADA
SYNONYM(S):		TELEPHONE:	1.855.534.1671
		FAX:	1.855.553.6010
		WEB:	WWW.ZAYATAROMA.COM
		E-MAIL:	INFO@ZAYATAROMA.COM
INCI NAME:	Tsuga canadensis leaf oil		
CAS TSCA:	8008-10-4	HS CODE:	3301.29
CAS EINECS:	289-926-6	EINECS:	
FEMA:	N/A	COE:	N/A
COUNTRY OF ORIGIN:	Canada	FDA CODE:	N/A
PRODUCTION TYPE:	Certified Organic	Certified organic by Ecocert Canada	
PRODUCTION METHOD:	Steam distilled	 	
PART DISTILLED:	Needles & Twigs		
LOT NUMBER:	EAB878226CA35224A		
PRODUCTION DATE:	04/2024		
EXPIRATION DATE:	04/2029		

PROPERTIES	SPECIFICATIONS	RESULTS
APPEARANCE	<i>Colorless to pale yellow liquid</i>	<i>Complies</i>
ODOR	<i>Characteristic fresh balsamic sweet fruity odor</i>	<i>Complies</i>
SOLUBILITY	<i>Soluble in alcohol and oils. Insoluble in water.</i>	<i>Complies</i>
SPECIFIC GRAVITY:	<i>0.890 - 0.926 @ 20°C</i>	<i>Complies</i>
OPTICAL ROTATION:	<i>-25.0 - -15.0 @ 20°C</i>	<i>Complies</i>
REFRACTIVE INDEX:	<i>1.466 - 1.472 @ 20°C</i>	<i>Complies</i>
PEROXYDE VALUE:	<i><= 15 mEq O2/KG</i>	<i>N/A</i>

DISCLAIMER

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CERTIFICATE OF ANALYSIS

Date : 2024-07-16

CERTIFICATE OF ANALYSIS - GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 24G02-ZAA01

Customer Identification : Pruche - Canada - EAB878226 CA35224A

Type : Essential Oil

Source : *Tsuga canadensis*

Customer : ZAYAT AROMA

Checked and approved by:

Alexis St-Gelais, Ph. D., 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Notes: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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.

GAS CHROMATOGRAPHIC ANALYSIS

Method : PC-MAT-014 - Analysis of the composition of an essential oil or other volatile liquide by FAST GC-FID

✖ISO

Results : See analysis summary (next page)

Analyst : Alexis St-Gelais, Ph. D., Chimiste 2013-174

Date : 2024-07-16

PHYSICOCHEMICAL DATA

Refractive index : 1.4722 ± 0.0003 (20 °C)

Method : PC-MAT-016 - Measure of the refractive index of a liquid.

Analyst : Cindy Caron B. Sc.

Date : 2024-07-03

CONCLUSION

This sample does not feature the expected composition for hemlock essential oil, with too much delta-3-carene and beta-pinene, too little tricyclene, prominently bornyl acetate instead of isobornyl acetate, too much camphor and missing a notable amount of pin-2-en-8-yl acetate. The overall profile resembles a mixture of white and black spruce, the former imparting e.g. camphor and the latter e.g. santene.

ANALYSIS SUMMARY - CONSOLIDATED CONTENTS

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

Identification	%	Class
Isovaleral	tr	Aliphatic aldehyde
3-Pentanone	tr	Aliphatic ketone
2-Ethylfuran	tr	Furan
Toluene	0.01	Simple phenolic
Hexanal	tr	Aliphatic aldehyde
Octane	tr	Alkane
Furfural	0.01	Furan
(3Z)-Hexenol	0.05	Aliphatic alcohol
Hexanol	0.03	Aliphatic alcohol
Santene	2.03	Normonoterpene
Styrene	0.01	Simple phenolic
Unknown	0.02	Normonoterpene
Hashishene	0.01	Monoterpene
Tricyclene	1.44	Monoterpene
α -Thujene	0.14	Monoterpene
α -Pinene	20.24	Monoterpene
Camphene	13.42	Monoterpene
α -Fenchene	0.08	Monoterpene
Thuja-2,4(10)-diene	0.04	Monoterpene
3,7,7-Trimethylcyclohepta-1,3,5-triene	0.03	Monoterpene
Sabinene	0.24	Monoterpene
β -Pinene	15.65	Monoterpene
Myrcene	4.01	Monoterpene
2-Carene	0.01	Monoterpene
α -Phellandrene	0.30	Monoterpene
Δ^3 -Carene	5.48	Monoterpene
Unknown	0.02	Oxygenated monoterpene
α -Terpinene	0.16	Monoterpene
<i>meta</i> -Cymene	0.05	Monoterpene
<i>para</i> -Cymene	0.35	Monoterpene
1,8-Cineole	[2.05]	Monoterpenic ether
Limonene	6.21	Monoterpene
β -Phellandrene	[2.05]	Monoterpene
(Z)- β -Ocimene	0.02	Monoterpene
(E)- β -Ocimene	0.01	Monoterpene
γ -Terpinene	0.21	Monoterpene
Unknown	0.04	Oxygenated monoterpene
Fenchone	0.04	Monoterpenic ketone
Isoterpinolene	0.07	Monoterpene
Terpinolene	0.79	Monoterpene

γ -Campholenal	0.01	Aliphatic alcohol
<i>para</i> -Cymenene	0.09	Monoterpene
2-Nonanone	0.02	Aliphatic ketone
α -Pinene oxide	0.02	Monoterpenic ether
Perillene	0.01	Monoterpenic ether
Linalool	0.17	Monoterpenic alcohol
Nonanal	0.03	Aliphatic aldehyde
endo-Fenchol	0.07	Monoterpenic alcohol
<i>cis-para</i> -Menth-2-en-1-ol	0.03	Monoterpenic alcohol
α -Campholenal	0.05	Monoterpenic aldehyde
<i>trans-para</i> -Menth-2-en-1-ol	0.03	Monoterpenic alcohol
<i>trans</i> -Pinocarveol	0.08	Monoterpenic alcohol
Camphor	2.93	Monoterpenic ketone
Camphene hydrate	0.35	Monoterpenic alcohol
Isoborneol	0.08	Monoterpenic alcohol
Pinocamphone	0.04	Monoterpenic ketone
Pinocarvone	0.01	Monoterpenic ketone
Borneol	1.00	Monoterpenic alcohol
Unknown	0.02	Unknown
Isopinocamphone	0.05	Monoterpenic ketone
Terpinen-4-ol	0.30	Monoterpenic alcohol
Cryptone	0.02	Normonoterpenic ketone
<i>para</i> -Cymen-8-ol	0.05	Monoterpenic alcohol
α -Terpineol	0.64	Monoterpenic alcohol
Myrtenol	0.04	Monoterpenic alcohol
Methylchavicol	0.01	Phenylpropanoid
Unknown	0.03	Unknown
Verbenone	0.03	Monoterpenic ketone
endo-Fenchyl acetate	0.21	Monoterpenic ester
Citronellol	0.10	Monoterpenic alcohol
Thymol methyl ether	0.07	Monoterpenic ether
Carvone	0.02	Monoterpenic ketone
Piperitone	0.14	Monoterpenic ketone
Geraniol	0.02	Monoterpenic alcohol
3-Methyl-3-butenyl hexanoate	0.01	Aliphatic ester
Unknown	0.02	Unknown
Undec-(5Z)-en-2-one	0.03	Aliphatic ketone
(7Z)-Undecen-2-one	0.07	Aliphatic ketone
Bornyl acetate	15.14	Monoterpenic ester
Unknown	0.16	Unknown
Isobornyl acetate	0.37	Monoterpenic ester
<i>cis</i> -Verbenyl acetate	0.13	Monoterpenic ester
Unknown	0.09	Monoterpenic ester
<i>trans</i> -Pinocarvyl acetate	0.08	Monoterpenic ester
Unknown	0.02	Unknown

Pin-2-en-8-yl acetate	0.02	Monoterpenic ester
Terpinyl acetate analog	0.06	Monoterpenic ester
exo-2-Hydroxycineole acetate	0.02	Monoterpenic ester
α -Longipinene	0.04	Sesquiterpene
α -Terpinyl acetate	0.05	Monoterpenic ester
Citronellyl acetate	0.06	Monoterpenic ester
Longicyclene	0.03	Sesquiterpene
α -Copaene	0.04	Sesquiterpene
Geranyl acetate	0.12	Monoterpenic ester
β -Elemene	0.10	Sesquiterpene
Longifolene	0.21	Sesquiterpene
Methyleugenol	0.02	Phenylpropanoid
β -Caryophyllene	0.21	Sesquiterpene
β -Copaene	0.01	Sesquiterpene
<i>trans</i> - α -Bergamotene	0.01	Sesquiterpene
<i>cis</i> -Muurolo-3,5-diene	0.02	Sesquiterpene
3-Methyl-3-butenyl benzoate	0.02	Phenolic ester
α -Humulene	0.12	Sesquiterpene
(<i>E</i>)- β -Farnesene	0.07	Sesquiterpene
<i>trans</i> -Cadina-1(6),4-diene	0.04	Sesquiterpene
γ -Muurolole	0.10	Sesquiterpene
Germacrene D	0.05	Sesquiterpene
β -Selinene	0.06	Sesquiterpene
<i>trans</i> -Muurolo-4(15),5-diene	0.02	Sesquiterpene
α -Selinene	0.05	Sesquiterpene
α -Muurolole	0.19	Sesquiterpene
γ -Cadinene	0.21	Sesquiterpene
(3 <i>E</i> ,6 <i>E</i>)- α -Farnesene	0.07	Sesquiterpene
β -Bisabolene	0.06	Sesquiterpene
δ -Cadinene	0.77	Sesquiterpene
<i>trans</i> -Cadina-1,4-diene	0.02	Sesquiterpene
α -Cadinene	0.05	Sesquiterpene
α -Calacorene	0.01	Sesquiterpene
(<i>E</i>)- α -Bisabolene	0.07	Sesquiterpene
Germacrene B	0.01	Sesquiterpene
(<i>E</i>)-Nerolidol	0.01	Sesquiterpenic alcohol
Caryophyllene oxide	0.03	Sesquiterpenic ether
β -Oplophenone	0.02	Sesquiterpenic ketone
1,10-diepi-Cubenol	0.02	Sesquiterpenic alcohol
1-epi-Cubenol	0.01	Sesquiterpenic alcohol
τ -Muurolol	0.05	Sesquiterpenic alcohol
τ -Cadinol	0.05	Sesquiterpenic alcohol
α -Muurolol	0.02	Sesquiterpenic alcohol
α -Cadinol	0.09	Sesquiterpenic alcohol
(5 <i>Z</i>)-Tetradecen-14-olide?	0.01	Aliphatic lactone

Unknown	0.02	Oxygenated diterpene
Manool	0.02	Diterpenic alcohol
(Z)-Abienol	0.02	Diterpenic alcohol
Palustral	0.02	Diterpenic aldehyde
Consolidated total	99.56	

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

Note: no correction factor was applied

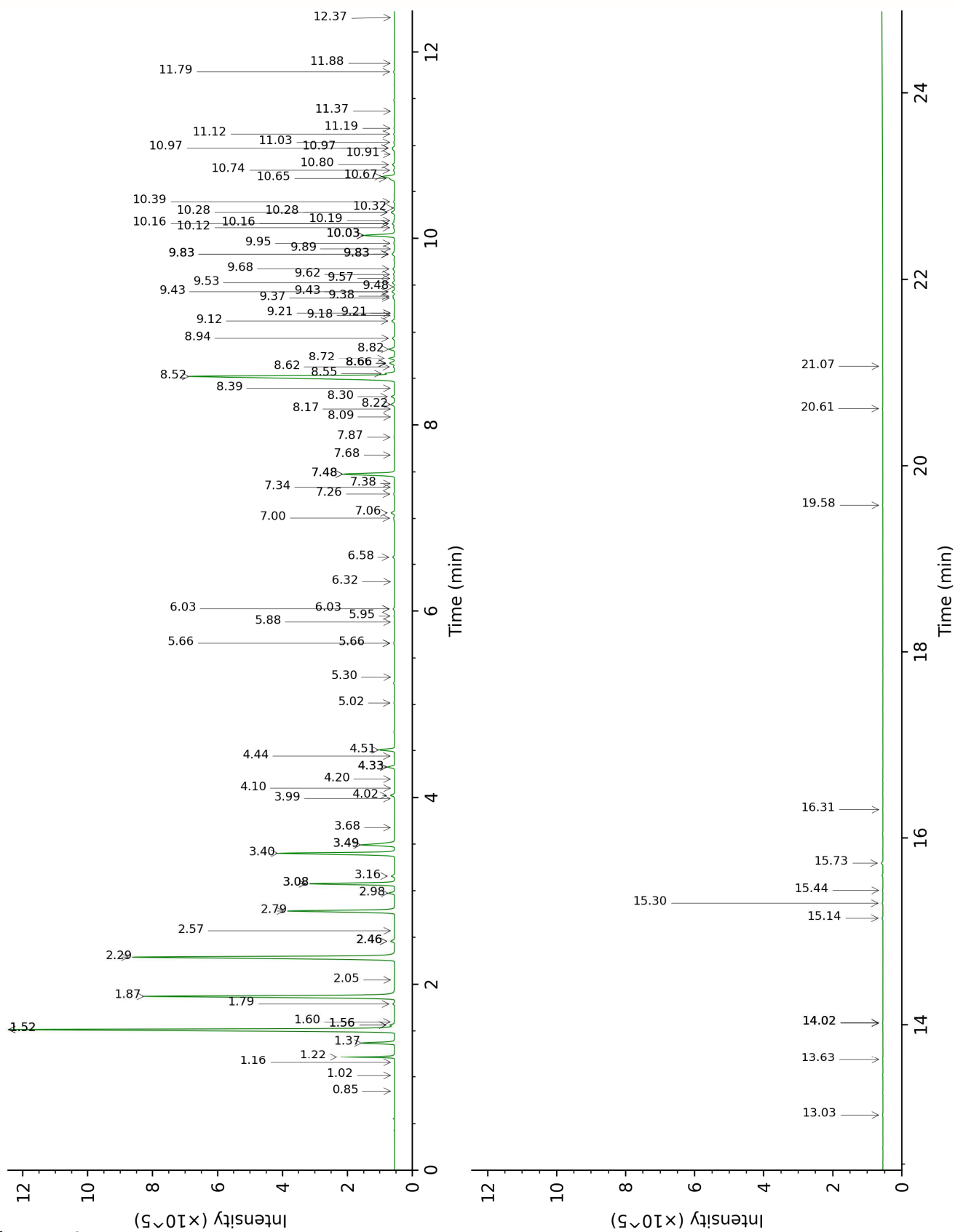
About "consolidated" data: The table above presents the breakdown of the sample volatile constituents after applying an algorithm to collapse data acquired from the multi-columns system of PhytoChemia into a single set of consolidated contents. In case of discrepancies between columns, the algorithm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

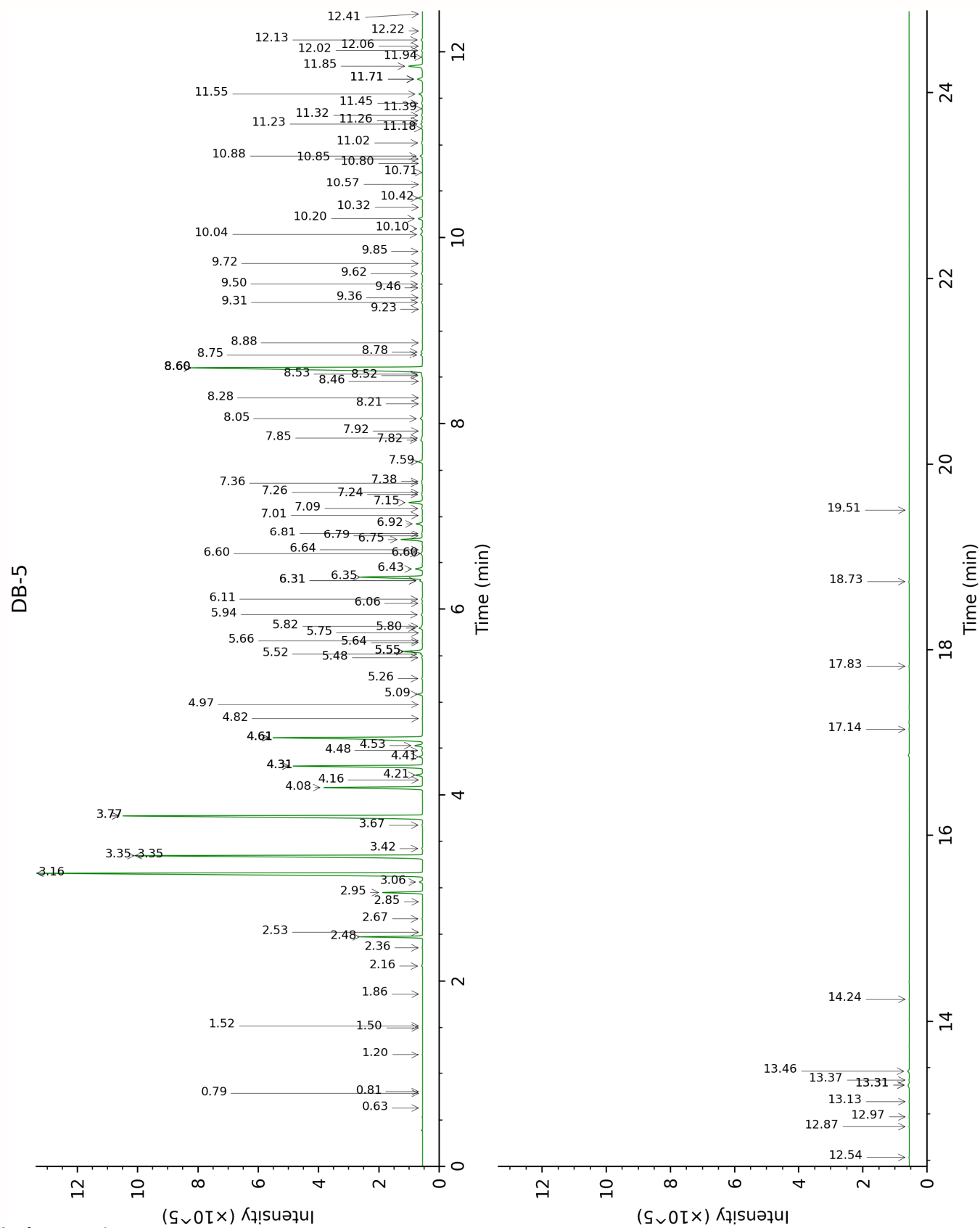
Unknowns: Unknown compounds' mass spectral data is presented in the "Full analysis data" table. The occurrence of unknown compounds is to be expected in many samples, and does not denote particular problems unless noted otherwise in the conclusion.

Bracketed value ([xx]): A bracketed percent value indicate that two or more compound percentage could not be solved due to coelution.

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DB-WAX





FULL ANALYSIS DATA

Isovaleral	Column DB-WAX			Column DB-5		
	0.85	887.2	tr	0.63	641.1	tr
3-Pentanone	1.16	939.0	tr	0.79	696.0	tr
2-Ethylfuran	1.02	917.2	0.01	0.81	702.3	tr
Toluene	1.60	1002.5	0.01	1.20	759.6	0.01
Hexanal	2.05	1045.5	0.01	1.50	801.0	tr
Octane				1.52	803.9	tr
Furfural				1.86	832.5	0.01
(3Z)-Hexenol	5.95	1345.6	0.04	2.16	857.5	0.05
Hexanol	5.66*	1325.1	[0.06]	2.36	873.8	0.03
Santene	1.22	948.2	2.03	2.48	883.6	2.03
Styrene	4.10	1209.9	0.01	2.53	887.7	0.01
Unknown ABBA I [m/z 79, 93 (66), 94 (52), 91 (39), 77 (37), 122 (31)]	1.56*	999.3	[0.21]	2.67	899.6	0.02
Hashishene	1.52*	994.3	[20.05]	2.85	912.7	0.01
Tricyclene	1.37	972.1	1.44	2.95	919.3	1.44
α -Thujene	1.56*	999.3	[0.21]	3.06	926.8	0.14
α -Pinene	1.52*	994.3	[20.05]	3.16	933.0	20.24
Camphene	1.87	1028.7	13.42	3.35*	945.5	[13.58]
α -Fenchene	1.79	1020.9	0.08	3.35*	945.5	[13.58]
Thuja-2,4(10)-diene	2.46*	1084.9	[0.21]	3.42	950.6	0.04
3,7,7- Trimethylcyclohepta- 1,3,5-triene	3.08*	1133.8	[4.05]	3.68	967.2	0.03
Sabinene	2.46*	1084.9	[0.21]	3.77*	973.8	[15.89]
β -Pinene	2.29	1068.8	15.65	3.77*	973.8	[15.89]
Myrcene	3.08*	1133.8	[4.05]	4.08	993.9	4.01
2-Carene	2.57	1095.6	0.01	4.16	999.3	0.01
α -Phellandrene	2.98	1126.2	0.29	4.21	1002.7	0.30
Δ 3-Carene	2.78	1111.7	5.48	4.31*	1008.9	[5.50]
Unknown PIMA 12 [m/z 109, 81 (35), 43 (34), 69 (33), 67 (29), 152 (29)]	3.68	1179.3	0.02	4.31*	1008.9	[5.50]
α -Terpinene	3.16	1140.0	0.16	4.41	1015.2	0.16
<i>meta</i> -Cymene	4.33*	1225.9	[0.36]	4.48	1019.4	0.05
<i>para</i> -Cymene	4.33*	1225.9	[0.36]	4.53	1022.7	0.35
1,8-Cineole	3.49*	1165.3	[2.05]	4.61*	1028.0	[8.27]
Limonene	3.40	1158.5	6.21	4.61*	1028.0	[8.27]
β -Phellandrene	3.49*	1165.3	[2.05]	4.61*	1028.0	[8.27]
(Z)- β -Ocimene	3.99	1202.1	0.02	4.82	1040.9	0.02
(E)- β -Ocimene	4.20	1216.8	0.02	4.97	1050.7	0.01

γ-Terpinene	4.02	1204.5	0.21	5.09	1057.8	0.21
Unknown PIMA I [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	5.02	1274.4	0.04	5.26	1068.4	0.04
Fenchone	5.88	1341.0	0.02	5.48	1082.4	0.04
Isoterpinolene	4.44	1234.1	0.03	5.52	1084.8	0.07
Terpinolene	4.51	1238.7	0.79	5.55*	1086.6	[0.88]
γ-Campholenal	5.30	1299.5	0.01	5.55*	1086.6	[0.88]
para-Cymenene	6.58	1390.0	0.09	5.55*	1086.6	[0.88]
2-Nonanone	6.03*	1351.0	[0.09]	5.64	1092.6	0.02
α-Pinene oxide	5.66*	1325.1	[0.06]	5.66	1093.8	0.02
Perillene	6.32	1371.5	0.01	5.75	1099.1	0.01
Linalool	8.30	1516.6	0.16	5.80	1102.4	0.17
Nonanal	6.03*	1351.0	[0.09]	5.82	1103.6	0.03
endo-Fenchol	8.62	1540.9	0.07	5.94	1111.5	0.07
cis-para-Menth-2-en- 1-ol	8.40	1523.5	0.03	6.06	1119.3	0.03
α-Campholenal	7.26	1439.6	0.06	6.11	1122.2	0.05
trans-para-Menth-2- en-1-ol	9.18	1583.4	0.03	6.31*	1134.8	[0.12]
trans-Pinocarveol	9.43*	1603.2	[0.14]	6.31*	1134.8	[0.12]
Camphor	7.48*	1455.2	[2.93]	6.35	1137.3	2.93
Camphene hydrate	8.72	1548.2	0.33	6.43	1142.9	0.35
Isoborneol	9.62	1617.9	0.08	6.60*	1153.5	[0.12]
Pinocamphone	7.48*	1455.2	[2.93]	6.60*	1153.5	[0.12]
Pinocarvone	8.17	1506.5	0.02	6.64	1156.1	0.01
Borneol	10.03*	1651.2	[1.66]	6.75	1163.1	1.00
Unknown PIMA 4 [m/z 109, 108 (48), 67 (41), 81 (40), 41 (28)...]	7.68	1470.1	0.03	6.79	1165.7	0.02
Isopinocamphone	7.87	1484.0	0.04	6.81	1167.2	0.05
Terpinen-4-ol	8.82	1556.0	0.30	6.92	1174.4	0.30
Cryptone	9.43*	1603.2	[0.14]	7.02	1180.1	0.02
para-Cymen-8-ol	11.79	1796.7	0.06	7.09	1184.9	0.05
α-Terpineol	10.03*	1651.2	[1.66]	7.15	1189.0	0.64
Myrtenol	11.12	1740.6	0.06	7.24	1194.5	0.04
Methylchavicol	9.57	1614.5	0.05	7.26	1195.9	0.01
Unknown PIMA 7 [m/z 95, 93 (32), 121 (24), 79 (22), 91 (21), 105 (16)... 154 (2)]	11.18	1745.8	0.04	7.36	1202.3	0.03
Verbenone	9.83*	1635.1	[0.19]	7.38	1203.6	0.03

endo-Fenchyl acetate	7.06	1424.9	0.19	7.59	1217.6	0.21
Citronellol	10.97*	1728.0	[0.19]	7.82	1233.1	0.10
Thymol methyl ether	8.66*	1544.0	[0.29]	7.85	1234.7	0.07
Carvone	10.28*	1670.8	[0.21]	7.92	1239.7	0.02
Piperitone	10.16*	1661.1	[0.14]	8.06	1248.6	0.14
Geraniol	11.88	1804.7	0.03	8.21	1259.3	0.02
3-Methyl-3-butenyl hexanoate	8.09	1500.1	0.01	8.28	1263.6	0.01
Unknown PIMA 5 [m/z 43, 119 (72), 81 (66), 54 (48), 41 (47), 58 (44)...]				8.46	1275.5	0.02
Undec-(5Z)-en-2-one	9.20*	1585.3	[0.03]	8.52	1279.6	0.03
(7Z)-Undecen-2-one				8.53	1280.6	0.07
Bornyl acetate	8.52	1533.2	15.14	8.60*	1285.2	[15.67]
Unknown PIMA 13 [m/z 119, 43 (87), 91 (78), 92 (70), 134 (50)...]	9.12	1578.9	0.16	8.60*	1285.2	[15.67]
Isobornyl acetate	8.55	1535.5	0.37	8.60*	1285.2	[15.67]
cis-Verbenyl acetate	8.94	1564.8	0.13	8.60*	1285.2	[15.67]
Unknown PIMA 6 [m/z 107, 43 (76), 150 (42), 91 (28), 108 (23)]	9.37	1597.8	0.06	8.75	1295.0	0.09
trans-Pinocarvyl acetate	9.38	1599.4	0.10	8.78	1297.0	0.08
Unknown PIPO I [m/z 69, 41 (79), 91 (59), 92 (55), 79 (52), 107 (40)...]				8.88	1303.6	0.02
Pin-2-en-8-yl acetate	9.89	1639.7	0.01	9.24	1328.9	0.02
Terpinyl acetate analog	9.83*	1635.1	[0.19]	9.31	1334.1	0.06
exo-2-Hydroxycineole acetate	10.32	1674.5	0.04	9.36	1337.6	0.02
α -Longipinene	7.00	1420.8	0.06	9.46	1345.1	0.04
α -Terpinyl acetate	9.95	1644.4	0.06	9.50	1347.9	0.05
Citronellyl acetate	9.68	1622.6	0.10	9.62	1355.7	0.06
Longicyclene	7.34	1444.9	0.03	9.72	1363.4	0.03
α -Copaene	7.38	1447.9	0.03	9.85	1372.5	0.04
Geranyl acetate	10.80	1713.2	0.11	10.04	1385.4	0.12
β -Elemene	8.66*	1544.0	[0.29]	10.10	1389.7	0.10

Longifolene	8.22	1510.3	0.21	10.20	1397.3	0.21
Methyleugenol	13.63	1960.9	0.02	10.32	1405.9	0.02
β -Caryophyllene	8.66*	1544.0	[0.29]	10.42	1413.3	0.21
β -Copaene	8.66*	1544.0	[0.29]	10.57	1424.2	0.01
<i>trans</i> - α -Bergamotene	8.66*	1544.0	[0.29]	10.71	1434.3	0.01
<i>cis</i> -Muurolo-3,5-diene	9.20*	1585.3	[0.03]	10.80	1441.6	0.02
3-Methyl-3-butenyl benzoate				10.85	1445.2	0.02
α -Humulene	9.53	1610.9	0.12	10.88	1447.5	0.12
(<i>E</i>)- β -Farnesene	9.83*	1635.1	[0.19]	11.02	1458.0	0.07
<i>trans</i> -Cadina-1(6),4-diene	9.48	1607.3	0.04	11.18	1469.6	0.04
γ -Muurolole	9.83*	1635.1	[0.19]	11.23	1473.0	0.10
Germacrene D	10.03*	1651.2	[1.66]	11.26	1475.7	0.05
β -Selinene	10.12	1657.7	0.07	11.32	1480.0	0.06
<i>trans</i> -Muurolo-4(15),5-diene	10.16*	1661.1	[0.14]	11.39	1485.3	0.02
α -Selinene	10.19	1663.8	0.05	11.45	1489.6	0.05
α -Muurolole	10.28*	1670.8	[0.21]	11.55	1497.0	0.19
γ -Cadinene	10.65	1700.7	0.21	11.71*	1509.2	[0.28]
(3 <i>E</i> ,6 <i>E</i>)- α -Farnesene	10.74	1708.1	0.07	11.71*	1509.2	[0.28]
β -Bisabolene	10.39	1679.8	0.06	11.71*	1509.2	[0.28]
δ -Cadinene	10.67	1702.4	0.72	11.85	1520.2	0.77
<i>trans</i> -Cadina-1,4-diene	10.91	1722.5	0.03	11.94	1527.8	0.02
α -Cadinene	11.03	1733.1	0.05	12.02	1533.3	0.05
α -Calacorene	12.37	1847.7	0.02	12.06	1537.0	0.01
(<i>E</i>)- α -Bisabolene	10.97*	1728.0	[0.19]	12.13	1542.3	0.07
Germacrene B	11.37	1761.1	0.02	12.22	1549.8	0.01
(<i>E</i>)-Nerolidol	14.02*	1997.8	[0.02]	12.41	1564.4	0.01
Caryophyllene oxide	13.03	1906.2	0.03	12.54	1574.2	0.03
β -Oplopenone ?	14.02*	1997.8	[0.02]	12.87	1600.2	0.02
1,10-diepi-Cubenol	14.02*	1997.8	[0.02]	12.97	1608.6	0.02
1-epi-Cubenol	14.02*	1997.8	[0.02]	13.13	1622.1	0.01
τ -Muurolol	15.30	2121.8	0.05	13.31*	1636.9	[0.10]
τ -Cadinol	15.14	2105.8	0.05	13.31*	1636.9	[0.10]
α -Muurolol	15.44	2135.5	0.02	13.37	1641.4	0.02
α -Cadinol	15.73	2164.5	0.09	13.46	1649.2	0.09
(5 <i>Z</i>)-Tetradecen-14-olide?				14.24	1714.2	0.01
Unknown PISI V [m/z 105, 91 (100), 81 (89), 79 (86), 109 (86), 257]	16.31	2223.0	0.01	17.14	1976.6	0.02

(83)... 275 (12)...						
Manool	19.58	2584.5	0.02	17.83	2043.5	0.02
(Z)-Abienol	20.61	2709.8	0.01	18.73	2135.1	0.02
Palustral	21.07	2766.2	0.01	19.51	2215.9	0.02
Total reported		98.97%			99.47%	

*: Two or more compounds are coeluting on this column

[xx]: Duplicate percentage due to coelutions, only the first one is 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