

Date : 2026-06-15

CERTIFICATE OF ANALYSIS - GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 26F02-PTH06

Customer Identification : Organic Frankincense serrata - F50120

Type : Essential Oil

Source : *Boswellia serrata*

Customer : Plant Therapy

Checked and approved by:

Sylvain Mercier, M. Sc., Chimiste 2014-005

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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 : Jean-Christophe Fortin, M. Sc.

Date : 2026-06-10

PHYSICOCHEMICAL DATA

Refractive index : 1.4628 ± 0.0003 (20 °C)

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

Analyst : Cindy Caron B. Sc.

Date : 2026-06-03

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	%	Class
(E)-2-Methyl-1,3-pentadiene	0.01	Alkene
Toluene	0.02	Simple phenolic
Unknown	0.01	Unknown
Hashishene	0.06	Monoterpene
Tricyclene	0.01	Monoterpene
α -Thujene	60.95	Monoterpene
α -Pinene	7.52	Monoterpene
Unknown	0.26	Monoterpene
α -Fenchene	0.01	Monoterpene
Camphene	0.14	Monoterpene
Thuja-2,4(10)-diene	0.01	Monoterpene
3,7,7-Trimethylcyclohepta-1,3,5-triene	0.01	Monoterpene
Sabinene	5.32	Monoterpene
β -Pinene	0.64	Monoterpene
Pseudolimonene isomer	0.01	Monoterpene
Myrcene	1.27	Monoterpene
α -Phellandrene	6.33	Monoterpene
Δ^3 -Carene	1.60	Monoterpene
α -Terpinene	0.21	Monoterpene
<i>meta</i> -Cymene	0.07	Monoterpene
Carvomenthene	0.01	Aliphatic alcohol
<i>para</i> -Cymene	2.67	Monoterpene
Unknown	0.19	Unknown
β -Phellandrene	1.02	Monoterpene
1,8-Cineole	0.02	Monoterpenic ether
Limonene	2.00	Monoterpene
(Z)- β -Ocimene	0.38	Monoterpene
Unknown	0.07	Unknown
(E)- β -Ocimene	0.17	Monoterpene
Unknown	0.02	Unknown
γ -Terpinene	0.44	Monoterpene
<i>cis</i> -Sabinene hydrate	0.05	Monoterpenic alcohol
Unknown	0.01	Oxygenated monoterpene
<i>para</i> -Cymenene	0.02	Monoterpene
Terpinolene	0.16	Monoterpene
<i>trans</i> -Sabinene hydrate	0.04	Monoterpenic alcohol
α -Thujone	tr	Monoterpenic ketone
Linalool	0.14	Monoterpenic alcohol
Unknown	0.03	Oxygenated monoterpene
β -Thujone	0.17	Monoterpenic ketone

Unknown	0.01	Oxygenated monoterpene
<i>cis-para</i> -Menth-2-en-1-ol	0.08	Monoterpenic alcohol
Unknown	0.01	Unknown
allo-Ocimene	0.02	Monoterpene
<i>trans</i> -Pinocarveol	0.02	Monoterpenic alcohol
<i>trans</i> -Sabinol	0.06	Monoterpenic alcohol
<i>trans</i> -Verbenol	0.02	Monoterpenic alcohol
<i>para</i> -Menth-3-en-8-ol	0.02	Monoterpenic alcohol
Unknown	0.02	Oxygenated monoterpene
Borneol	0.02	Monoterpenic alcohol
α -Phellandren-8-ol	0.04	Monoterpenic alcohol
<i>cis</i> -Sabinol	0.08	Monoterpenic alcohol
Umbellulone	0.02	Monoterpenic ketone
Terpinen-4-ol	0.61	Monoterpenic alcohol
<i>meta</i> -Cymen-8-ol	0.02	Monoterpenic alcohol
Cryptone	0.02	Normonoterpenic ketone
<i>para</i> -Cymen-8-ol	0.03	Monoterpenic alcohol
α -Terpineol	0.05	Monoterpenic alcohol
Methylchavicol	2.62	Phenylpropanoid
<i>cis</i> - α -Phellandrene epoxide (iPr vs Me)	0.10	Monoterpenic ether
Verbenone	0.02	Monoterpenic ketone
<i>trans</i> -Piperitol	0.02	Monoterpenic alcohol
<i>trans</i> -Carveol	0.03	Monoterpenic alcohol
Cuminal	0.02	Monoterpenic aldehyde
Carvone	0.01	Monoterpenic ketone
Piperitone	0.07	Monoterpenic ketone
Linalyl acetate	0.03	Monoterpenic ester
Unknown	0.01	Oxygenated monoterpene
Bornyl acetate	0.06	Monoterpenic ester
Thymol	0.03	Monoterpenic alcohol
Carvacrol	0.04	Monoterpenic alcohol
<i>para</i> -Menth-5-en-1,2-diol isomer III	0.12	Monoterpenic alcohol
α -Terpinyl acetate	0.04	Monoterpenic ester
α -Ylangene	0.03	Sesquiterpene
α -Copaene	0.13	Sesquiterpene
β -Bourbonene	0.46	Sesquiterpene
1,5-diepi- β -Bourbonene	0.05	Sesquiterpene
β -Elemene	0.06	Sesquiterpene
Unknown	0.05	Unknown
Methyleugenol	0.18	Phenylpropanoid
β -Ylangene	0.07	Sesquiterpene
β -Caryophyllene	0.02	Sesquiterpene
β -Copaene	0.06	Sesquiterpene
<i>trans</i> - α -Bergamotene	0.05	Sesquiterpene
Isogermacrene D	0.05	Sesquiterpene

<i>cis</i> -Muurolo-4(15),5-diene	0.02	Sesquiterpene
γ -Muuroloene	0.05	Sesquiterpene
Germacrene D	0.36	Sesquiterpene
Unknown	0.22	Sesquiterpene
Bicyclogermacrene	0.02	Sesquiterpene
α -Muuroloene	0.01	Sesquiterpene
γ -Cadinene	0.02	Sesquiterpene
δ -Cadinene	0.48	Sesquiterpene
Elemicin	0.04	Phenylpropanoid
α -Phellandrene dimer II	0.12	Diterpene
α -Phellandrene dimer III	0.03	Diterpene
(3 <i>E</i>)-Cembrene A	0.03	Diterpene
Verticilla-4(20),7,11-triene	0.03	Diterpene
Cembrenol	0.01	Diterpenic alcohol
Serratol	0.06	Diterpenic alcohol
Consolidated total	99.14	

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

Note: no correction factor was applied

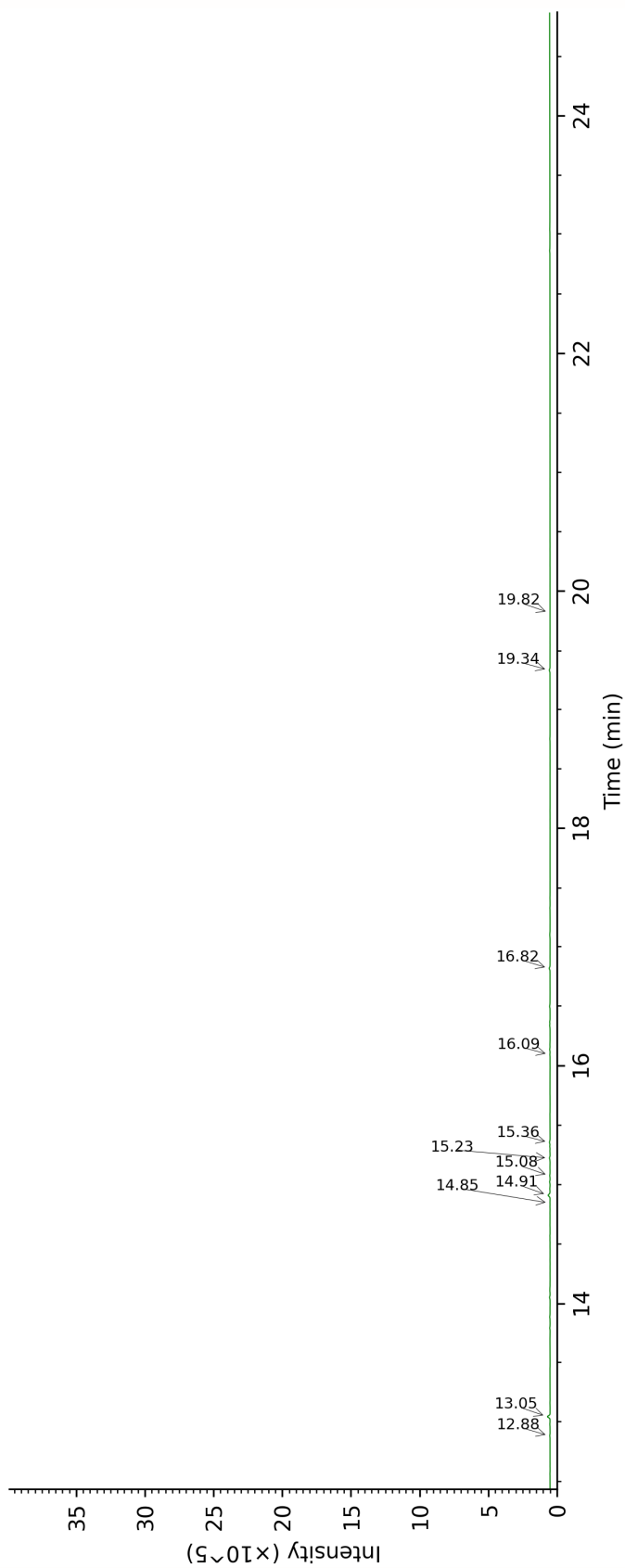
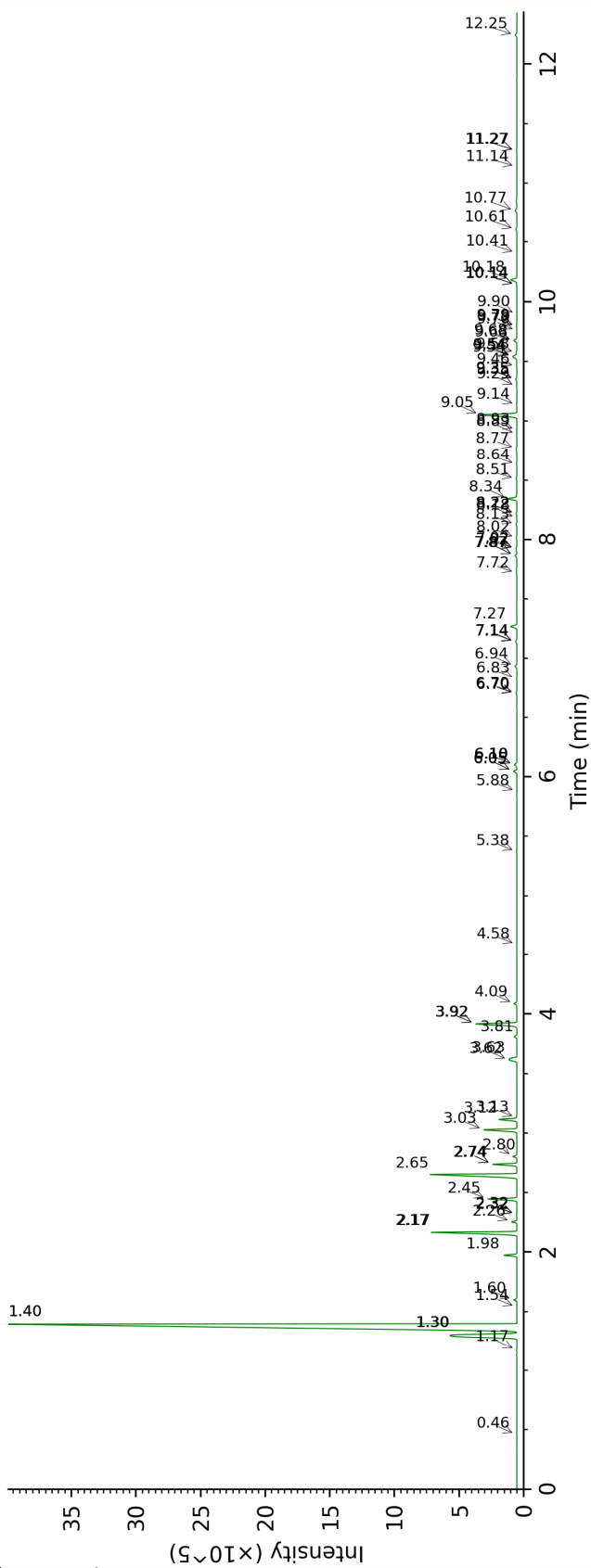
About "consolidated" data: The table above presents the breakdown of the sample volatile constituents after applying an algorithm to collapse data acquired from the multi-columns system of PhytoChemia into a single set of consolidated contents. In case of discrepancies between columns, the algorithm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

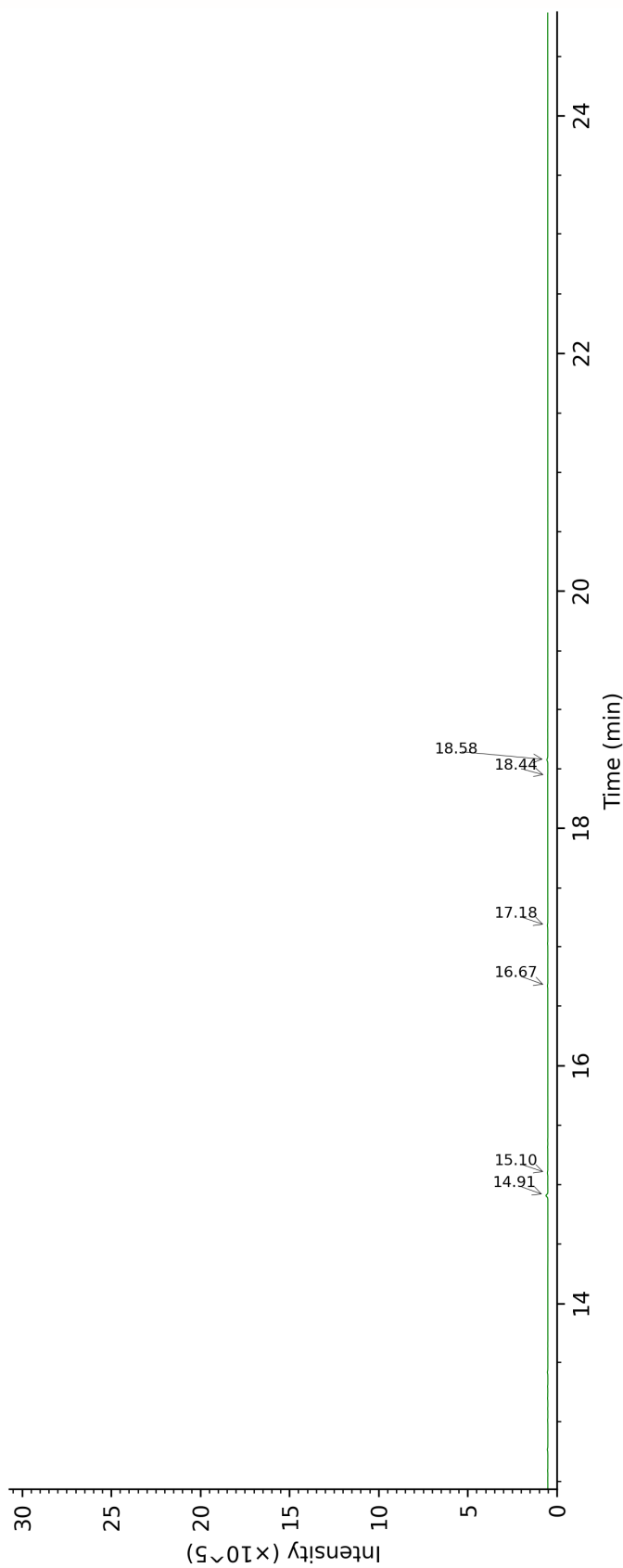
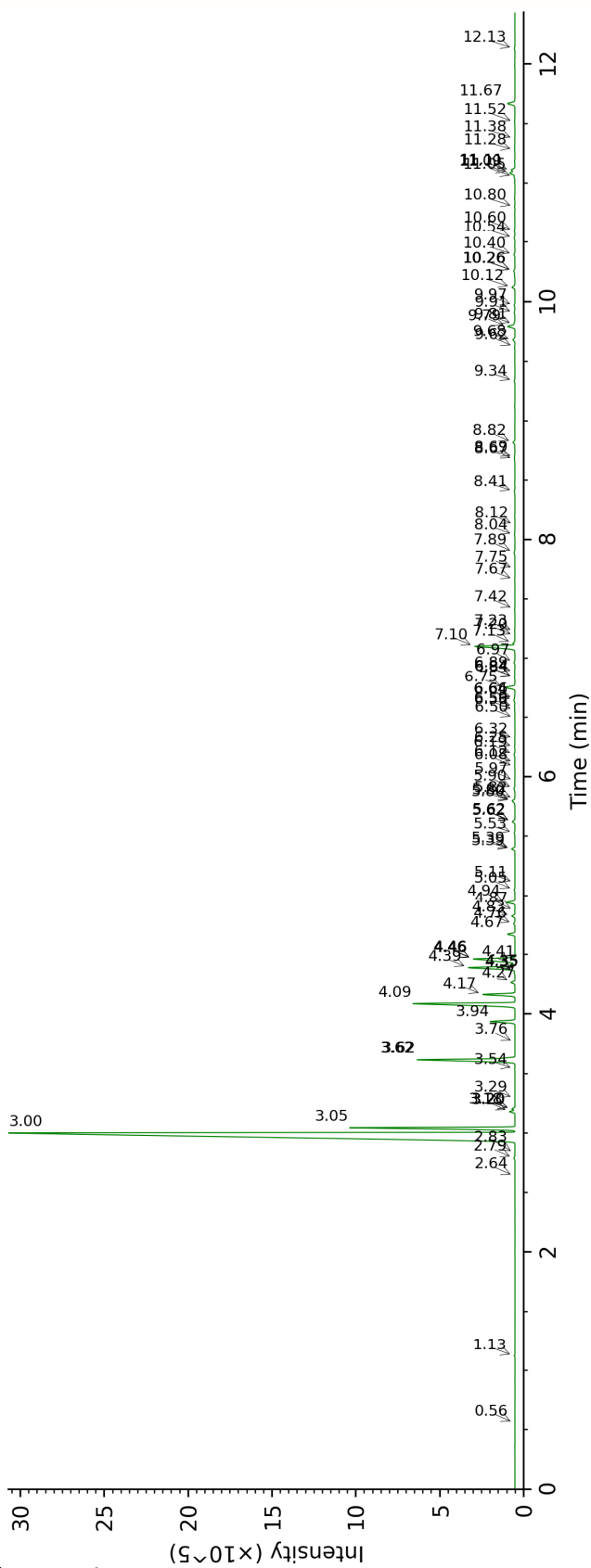
Bracketed value ([xx]): A bracketed percent value indicate that two or more compound percentage could not be solved due to coelution.

This page was intentionally left blank. The following pages present the complete data of the analysis.

DB-WAX



DB-5



FULL ANALYSIS DATA

(E)-2-Methyl-1,3-pentadiene	Column DB-WAX			Column DB-5		
	0.46	761.7	0.01	0.56	628.1	0.01
Toluene	1.40*	1009.4	[60.83]	1.13	757.4	0.02
Unknown BOFR II [m/z 93, 91 (72), 121 (58), 77 (49), 79 (41), 43 (22), 105 (20), 107 (20), 41 (18), 136 (17), 92 (17)]				2.64	905.9	0.01
Hashishene	1.30*	993.9	[7.56]	2.79	916.1	0.06
Tricyclene	1.17	973.1	0.01	2.83	918.8	0.01
α -Thujene	1.40*	1009.4	[60.83]	3.00	930.4	60.95
α -Pinene	1.30*	993.9	[7.56]	3.05	933.3	7.52
Unknown SAOF I [m/z 91, 92 (47), 65 (11)... 134 (1)]	2.26	1094.4	0.25	3.18	942.4	0.26
α -Fenchene	1.54	1024.1	0.01	3.20*	944.0	[0.14]
Camphene	1.60	1030.0	0.14	3.20*	944.0	[0.14]
Thuja-2,4(10)-diene	2.17*	1085.8	[5.30]	3.30	950.1	0.01
3,7,7-Trimethylcyclohepta-1,3,5-triene	2.74*	1135.1	[1.28]	3.54	966.7	0.01
Sabinene	2.17*	1085.8	[5.30]	3.62*	971.9	[5.97]
β -Pinene	1.98	1066.8	0.64	3.62*	971.9	[5.97]
Pseudolimonene isomer	2.32*	1100.6	[0.01]	3.76	981.8	0.01
Myrcene	2.74*	1135.1	[1.28]	3.94	993.6	1.27
α -Phellandrene	2.65	1128.5	6.31	4.09	1003.8	6.33
Δ^3 -Carene	2.45	1112.6	1.59	4.17	1008.7	1.60
α -Terpinene	2.80	1140.2	0.20	4.27	1015.2	0.21
meta-Cymene	3.92*	1225.2	[2.74]	4.35*	1020.4	[0.05]
Carvomenthene	2.32*	1100.6	[0.01]	4.35*	1020.4	[0.05]
para-Cymene	3.92*	1225.2	[2.74]	4.39	1023.0	2.67
Unknown BODA IV [m/z 109, 43 (58), 95 (26)... 137 (15)...]	6.05*	1379.4	[0.22]	4.41	1024.6	0.19
β -Phellandrene	3.12	1164.3	1.02	4.46*	1027.7	[3.05]
1,8-Cineole	3.14	1165.8	0.02	4.46*	1027.7	[3.05]
Limonene	3.03	1157.6	2.00	4.46*	1027.7	[3.05]
(Z)- β -Ocimene	3.63	1203.8	0.38	4.67	1041.0	0.38
Unknown BOFR III [m/z 109, 43 (57), 91 (28), 67 (25), 93 (24), 95 (22), 77 (21), 137	7.14*	1461.5	[0.11]	4.76	1046.7	0.07

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Plus que des analyses... des conseils

(21), 41 (17), 79 (14)...						
(E)- β -Ocimene	3.81	1217.5	0.16	4.82	1050.8	0.17
Unknown BOFR IV [m/z 109, 45 (67), 41 (40), 67 (39), 81 (33), 79 (27), 95 (24), 91 (23), 82 (21), 55 (21), 93 (20)...	6.70*	1428.1	[0.06]	4.87	1053.8	0.02
γ -Terpinene	3.62	1202.9	0.43	4.94	1058.1	0.44
cis-Sabinene hydrate	6.70*	1428.1	[0.06]	5.05	1065.1	0.05
Unknown PIMA I [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	4.58	1273.1	0.01	5.11	1069.1	0.01
para-Cymenene	6.10*	1383.6	[0.17]	5.40*	1087.2	[0.18]
Terpinolene	4.09	1237.5	0.16	5.40*	1087.2	[0.18]
trans-Sabinene hydrate	7.72	1505.5	0.04	5.53	1095.9	0.04
α -Thujone	5.88	1367.0	tr	5.62*	1101.9	[0.15]
Linalool	7.86*	1516.5	[0.12]	5.62*	1101.9	[0.15]
Unknown BOSE I [m/z 109, 81 (54), 91 (32), 79 (22)...	6.05*	1379.4	[0.22]	5.80*	1113.1	[0.20]
β -Thujone	6.10*	1383.6	[0.17]	5.80*	1113.1	[0.20]
Unknown BOSE II [m/z 109, 91 (57), 93 (47), 81 (44), 77 (40)... 154 (1)]				5.82	1114.4	0.01
cis-para-Menth-2-en- 1-ol	7.92*	1521.2	[0.10]	5.90	1120.0	0.08
Unknown BOSE III [m/z 111, 43 (22), 55 (14), 41 (12), 110 (11)...				5.97	1124.1	0.01
allo-Ocimene	5.38	1330.0	0.02	6.08	1131.7	0.02
trans-Pinocarveol	8.93	1600.7	0.02	6.12	1134.1	0.02
trans-Sabinol	9.58	1653.5	0.04	6.19	1138.5	0.06
trans-Verbenol	9.29	1630.0	0.04	6.25	1142.6	0.02
para-Menth-3-en-8- ol	8.51	1567.7	0.05	6.32	1147.3	0.02
Unknown RHGR XIX [m/z 109, 43 (75), 137 (46), 67 (31), 93 (25)...				6.50	1158.5	0.02

152 (4)]						
Borneol	9.54*	1650.6	[0.41]	6.56	1162.8	0.02
α -Phellandren-8-ol	9.90	1680.1	0.01	6.59	1164.7	0.04
cis-Sabinol	10.61	1740.3	0.08	6.64	1168.1	0.08
Umbellulone	8.64	1577.5	0.02	6.66	1169.3	0.02
Terpinen-4-ol	8.34	1554.3	0.60	6.75	1175.3	0.61
meta-Cymen-8-ol	11.27*	1797.3	[0.02]	6.84*	1181.1	[0.04]
Cryptone	8.89	1597.6	0.02	6.84*	1181.1	[0.04]
para-Cymen-8-ol	11.27*	1797.3	[0.02]	6.89	1184.0	0.03
α -Terpineol	9.54*	1650.6	[0.41]	6.97	1189.3	0.05
Methylchavicol	9.05	1610.5	2.65	7.10	1198.2	2.62
cis- α -Phellandrene epoxide (iPr vs Me)	10.77	1753.8	0.14	7.13	1199.9	0.10
Verbenone	9.35*	1634.9	[0.09]	7.20	1204.2	0.02
trans-Piperitol	10.14*	1700.3	[0.04]	7.23	1206.6	0.02
trans-Carveol	11.14	1786.0	0.01	7.42	1219.2	0.03
Cuminal	10.41	1722.8	0.02	7.67	1236.2	0.02
Carvone	9.76	1668.4	0.01	7.76	1242.3	0.01
Piperitone	9.68*	1661.7	[0.24]	7.89	1251.8	0.07
Linalyl acetate	7.92*	1521.2	[0.10]	8.04	1261.8	0.03
Unknown BOSE VI [m/z 109, 41 (22), 81 (14), 43 (11)... 152 (4)]				8.12	1267.6	0.01
Bornyl acetate	8.02	1528.3	0.05	8.41	1286.9	0.06
Thymol	14.85	2131.9	0.01	8.67	1305.1	0.03
Carvacrol	15.08	2155.2	0.03	8.69	1306.5	0.04
para-Menth-5-en-1,2-diol isomer III	14.91	2138.5	0.14	8.82	1312.2	0.12
α -Terpinyl acetate	9.46	1644.2	0.03	9.34	1348.9	0.04
α -Ylangene	6.83	1438.1	0.02	9.62	1369.1	0.03
α -Copaene	6.94	1446.0	0.13	9.68	1373.3	0.13
β -Bourbonene	7.27	1471.3	0.48	9.79	1381.2	0.46
1,5-diepi- β -Bourbonene	7.14*	1461.5	[0.11]	9.81	1382.7	0.05
β -Elemene	8.22*	1544.4	[0.05]	9.91	1389.4	0.06
Unknown CALU VIII [m/z 71, 100 (92), 111 (79), 69 (46), 109 (45)...]	16.82	2336.9	0.06	9.97	1393.7	0.05
Methyleugenol	13.05	1957.7	0.18	10.12	1404.6	0.18
β -Ylangene	7.86*	1516.5	[0.12]	10.26*	1414.8	[0.09]
β -Caryophyllene	8.18	1541.6	0.02	10.26*	1414.8	[0.09]
β -Copaene	8.13	1537.2	0.07	10.40	1425.1	0.06
trans- α -Bergamotene	8.22*	1544.4	[0.05]	10.54	1435.7	0.05

Isogermacrene D	8.77	1588.3	0.06	10.60	1440.3	0.05
cis-Muurolo-4(15),5-diene	9.14	1617.3	0.02	10.80	1455.7	0.02
γ-Muuroloene	9.35*	1634.9	[0.09]	11.05	1474.4	0.05
Germacrene D	9.54*	1650.6	[0.41]	11.08	1476.8	0.36
Unknown BOSE VII [m/z 91, 93 (92), 105 (71), 77 (69), 79 (68), 133 (63)... 204 (32)]	9.68*	1661.7	[0.24]	11.11	1478.8	0.22
Bicyclogermacrene	9.80*	1671.6	[0.03]	11.28	1491.6	0.02
α-Muuroloene	9.80*	1671.6	[0.03]	11.38	1498.6	0.01
γ-Cadinene	10.14*	1700.3	[0.04]	11.52	1509.2	0.02
δ-Cadinene	10.18	1703.6	0.48	11.67	1521.4	0.48
Elemicin	15.23	2170.3	0.04	12.13	1558.0	0.04
α-Phellandrene dimer II	12.25	1884.0	0.13	14.91	1790.3	0.12
α-Phellandrene dimer III	12.88	1942.4	0.03	15.10	1806.7	0.03
(3E)-Cembrene A	15.36	2183.6	0.04	16.67	1952.2	0.03
Verticilla-4(20),7,11-triene	16.09	2260.0	0.01	17.18	2000.4	0.03
Cembrenol	19.82	2680.9	0.01	18.44	2127.2	0.01
Serratol	19.34	2622.6	0.05	18.58	2141.4	0.06
Total reported		98.60%			99.13%	

*: 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