Date : 2025-05-08

Certificate of Analysis - GC Profiling

Sample Identification

Internal code : 25D24-PTH06
Customer Identification : White Camphor - China - C30108R
Type : Essential Oil
Source : *Cinnamomum camphora ct. White camphor*
Customer : Plant Therapy

Checked an 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Notes: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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.

Méthode certifiée ISO 17025:2017 Certified method

Laboratoire PhytoChemia

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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 : Sylvain Mercier, M. Sc., Chimiste 2014-005
Date : 2025-05-08

Physicochemical data

Refractive index : 1.4673 ± 0.0003 (20 °C)
Method : PC-MAT-016 - Measure of the refractive index of a liquid.
Analyst : Cindy Caron B. Sc.
Date : 2025-04-25

Conclusion

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

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Analysis Summary - Consolidated Contents

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

Identification	%	Class
Isoamyl alcohol	0.01	Aliphatic alcohol
(4*E*)-2,6-Dimethyloctene	0.05	Monoterpene
Tricyclene	0.03	Monoterpene
α-Thujene	2.73	Monoterpene
α-Pinene	14.73	Monoterpene
α-Fenchene	0.09	Monoterpene
Camphene	0.49	Monoterpene
Thuja-2,4(10)-diene	0.01	Monoterpene
Sabinene	3.27	Monoterpene
β-Pinene	1.60	Monoterpene
6-Methyl-5-hepten-2-one	0.20	Aliphatic ketone
Myrcene	2.85	Monoterpene
6-Methyl-5-hepten-2-ol	0.11	Aliphatic alcohol
2-Carene	0.04	Monoterpene
α-Phellandrene	0.52	Monoterpene
Pseudolimonene	tr	Monoterpene
Octanal	0.02	Aliphatic aldehyde
Δ3-Carene	0.04	Monoterpene
α-Terpinene	0.61	Monoterpene
Carvomenthene	0.01	Aliphatic alcohol
para-Cymene	9.23	Monoterpene
Limonene	19.68	Monoterpene
1,8-Cineole	39.50	Monoterpenic ether
(*Z*?)-Citroxide	0.01	Monoterpenic ether
Benzyl alcohol	0.02	Simple phenolic
(*Z*)-β-Ocimene	0.03	Monoterpene
(*E*)-β-Ocimene	0.97	Monoterpene
γ-Terpinene	1.90	Monoterpene
cis-Sabinene hydrate	0.01	Monoterpenic alcohol
cis-Linalool oxide (fur.)	0.03	Monoterpenic alcohol
Fenchone	0.02	Monoterpenic ketone
Terpinolene	0.14	Monoterpene
para-Cymenene	0.02	Monoterpene
Linalool	0.11	Monoterpenic alcohol
Unknown	0.01	Monoterpenic alcohol
trans-para-Mentha-2,8-dien-1-ol	0.01	Monoterpenic alcohol
α-Campholenal	0.01	Monoterpenic aldehyde
cis-para-Mentha-2,8-dien-1-ol	0.01	Monoterpenic alcohol
Camphor	0.10	Monoterpenic ketone
Unknown	0.01	Unknown

Unknown	0.05	Oxygenated monoterpene
Unknown	0.02	Unknown
Cryptone	0.04	Normonoterpenic ketone
para-Cymen-8-ol	0.01	Monoterpenic alcohol
α-Terpineol	0.01	Monoterpenic alcohol
cis-α-Phellandrene epoxide (iPr vs Me)	0.01	Monoterpenic ether
trans-Carveol	0.01	Monoterpenic alcohol
Unknown	0.01	Unknown
Unknown	0.02	Oxygenated monoterpene
Unknown	0.03	Unknown
Geraniol	0.01	Monoterpenic alcohol
trans-Ascaridole glycol	0.01	Monoterpenic alcohol
Safrole	0.18	Phenylpropanoid
Unknown	0.01	Unknown
Unknown	0.01	Unknown
para-Menth-5-en-1,2-diol isomer III	0.01	Monoterpenic alcohol
Unknown	0.01	Monoterpenic alcohol
δ-Elemene isomer	0.01	Sesquiterpene
Eugenol	0.02	Phenylpropanoid
Unknown	0.01	Unknown
Unknown	tr	Unknown
Hodiendiol derivative III	0.01	Oxygenated monoterpene
α-Copaene	0.01	Sesquiterpene
β-Bourbonene	0.01	Sesquiterpene
β-Elemene	0.01	Sesquiterpene
Methyleugenol	0.02	Phenylpropanoid
trans-α-Bergamotene	0.01	Sesquiterpene
α-Humulene	0.02	Sesquiterpene
meta-Camphorene	0.02	Diterpene
para-Camphorene	0.01	Diterpene
Consolidated total	**99.82**	

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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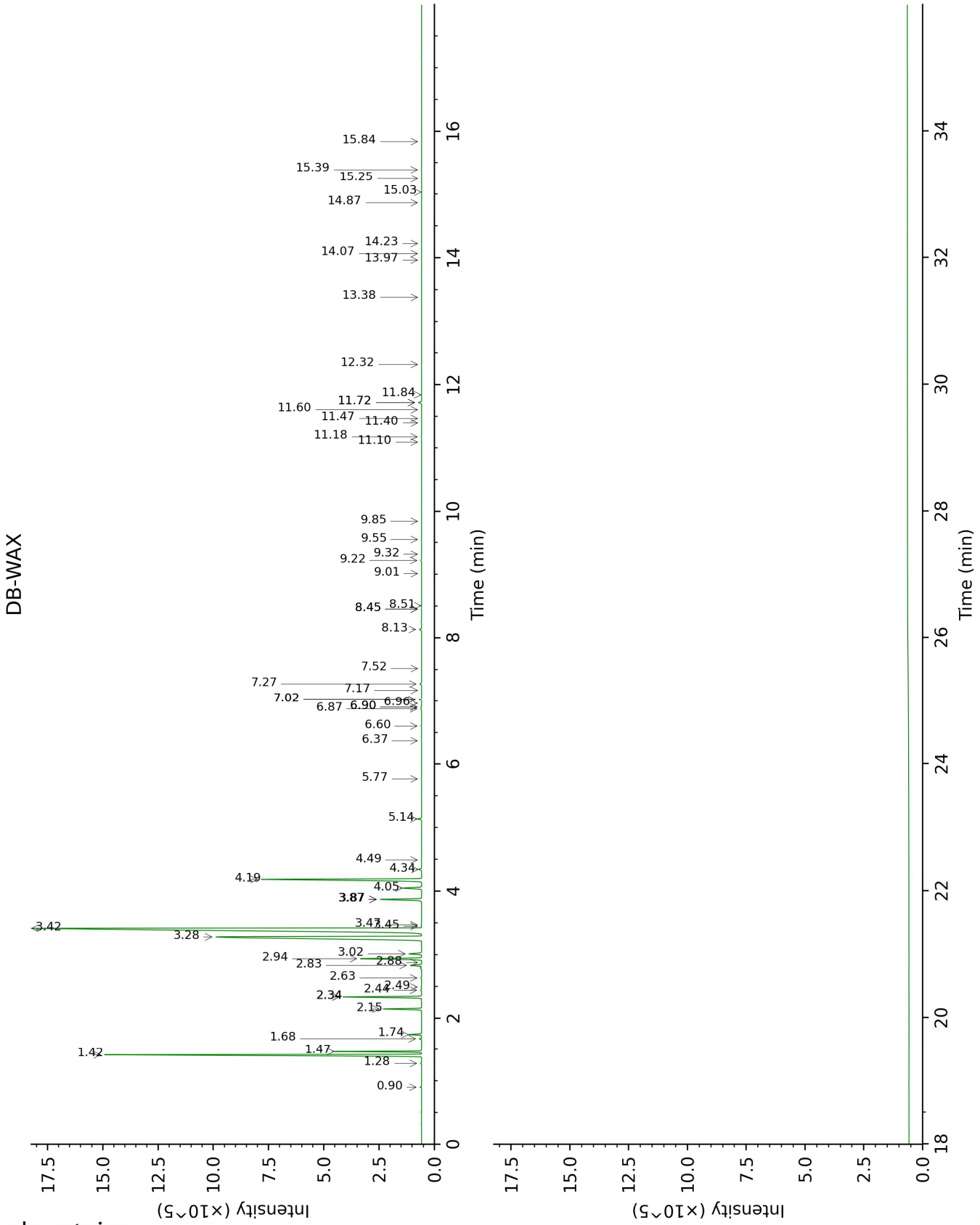
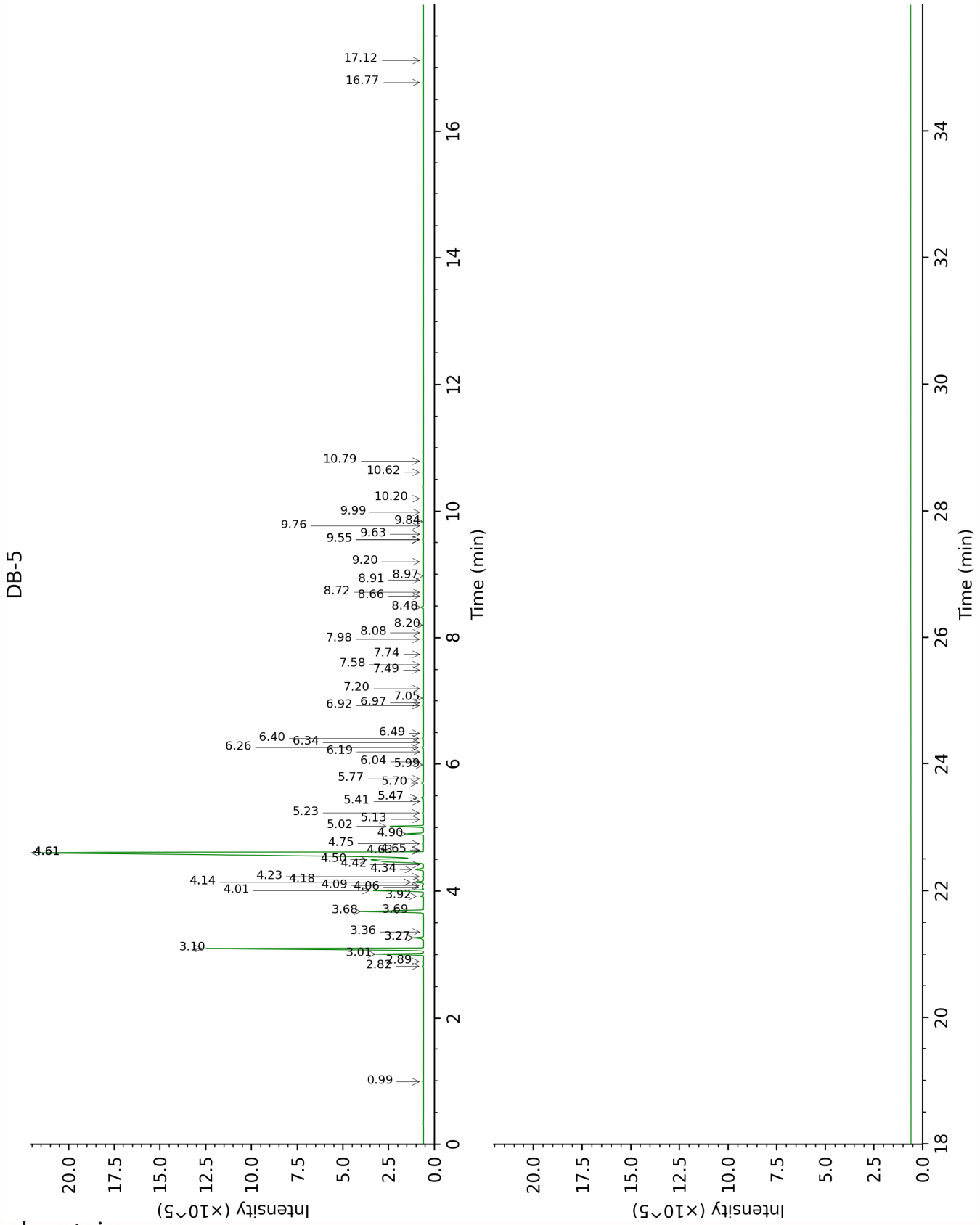

DB-WAX
Time (min)
Intensity (×10^5)
15.84
15.39
15.25
15.03
14.87
14.23
14.07
13.97
13.38
12.32
11.84
11.72
11.60
11.47
11.40
11.18
11.10
9.85
9.55
9.32
9.22
9.01
8.51
8.45
8.13
7.52
7.27
7.17
7.02
6.96
6.90
6.87
6.60
6.37
5.77
5.14
4.49
4.34
4.19
4.05
3.87
3.45
3.42
3.28
3.02
2.94
2.88
2.83
2.63
2.49
2.44
2.34
2.15
1.74
1.68
1.47
1.42
1.28
0.90


DB-5
Time (min)
Intensity (×10^5)
17.12
16.77
10.79
10.62
10.20
9.99
9.84
9.76
9.63
9.55
9.20
8.97
8.91
8.72
8.66
8.48
8.20
8.08
7.98
7.74
7.58
7.49
7.20
7.05
6.97
6.92
6.49
6.40
6.34
6.26
6.19
6.04
5.99
5.77
5.70
5.47
5.41
5.23
5.13
5.02
4.90
4.75
4.65
4.61
4.50
4.42
4.34
4.23
4.18
4.14
4.09
4.06
4.01
3.92
3.69
3.68
3.36
3.27
3.10
3.01
2.89
2.82
0.99

FULL ANALYSIS DATA

	Column DB-WAX			Column DB-5		
Isoamyl alcohol	3.47	1176.4	0.02	0.99	733.7	0.01
(4*E*)-2,6-Dimethyloctene	0.90	911.1	0.04	2.82	913.9	0.05
Tricyclene	1.28	971.9	0.04	2.89	918.8	0.03
α-Thujene	1.47	999.2	2.72	3.01	926.6	2.73
α-Pinene	1.42	994.1	14.73	3.10	932.6	14.73
α-Fenchene	1.68	1019.9	0.09	3.27*	943.9	[0.59]
Camphene	1.74	1026.5	0.49	3.27*	943.9	[0.59]
Thuja-2,4(10)-diene	2.34*	1085.4	[3.28]	3.36	950.0	0.01
Sabinene	2.34*	1085.4	[3.28]	3.68*†	971.6	[3.84]
β-Pinene	2.15	1066.5	1.60	3.69*†	972.3	[1.03]
6-Methyl-5-hepten-2-one	5.14	1300.0	0.19	3.92	987.8	0.20
Myrcene	2.94	1134.5	2.84	4.01	993.7	2.85
6-Methyl-5-hepten-2-ol	7.02*	1435.0	[0.12]	4.06	997.3	0.11
2-Carene	2.44	1095.5	0.04	4.09	999.1	0.04
α-Phellandrene	2.83	1126.2	0.52	4.14*	1002.6	[0.54]
Pseudolimonene	2.88	1129.7	tr	4.14*	1002.6	[0.54]
Octanal	4.49	1252.5	0.02	4.18	1004.9	0.02
Δ3-Carene	2.64	1110.7	0.04	4.23	1008.2	0.04
α-Terpinene	3.02	1140.5	0.61	4.34	1015.4	0.61
Carvomenthene	2.49	1099.4	0.03	4.42	1020.2	0.01
para-Cymene	4.19	1230.1	9.00	4.50	1025.1	9.23
Limonene	3.28	1161.4	19.68	4.60*	1032.0	[59.01]
1,8-Cineole	3.42	1172.0	39.50	4.60*	1032.0	[59.01]
(*Z*?)-Citroxide	3.45	1174.5	0.01	4.64	1033.9	0.01
Benzyl alcohol	11.84	1818.5	0.01	4.65	1034.8	0.02
(*Z*)-β-Ocimene	3.87*	1207.0	[1.94]	4.75	1041.0	0.03
(*E*)-β-Ocimene	4.05	1220.1	0.96	4.90	1050.9	0.97
γ-Terpinene	3.87*	1207.0	[1.94]	5.02	1058.5	1.90
cis-Sabinene hydrate	6.96	1430.6	0.02	5.13	1065.4	0.01
cis-Linalool oxide (fur.)	6.60	1404.1	0.04	5.23	1071.8	0.03
Fenchone	5.77	1344.7	0.02	5.41	1083.3	0.02
Terpinolene	4.34	1241.6	0.14	5.47*	1087.0	[0.14]
para-Cymenene	6.37	1387.3	0.02	5.47*	1087.0	[0.14]
Linalool	8.13	1517.4	0.11	5.70	1101.7	0.11
Unknown ORMA l [m/z 119, 109 (94), 43 (61), 95	8.51	1546.2	0.02	5.77	1106.0	0.01

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(56), 91 (48), 77 (32), 152 (32), 137 (31), 134 (24)]						
trans-para-Mentha-2,8-dien-1-ol	9.01	1584.8	0.01	5.99	1120.2	0.01
α-Campholenal	7.02*	1435.0	[0.12]	6.04	1123.2	0.01
cis-para-Mentha-2,8-dien-1-ol	9.55	1627.6	0.02	6.19	1133.5	0.01
Camphor	7.27	1453.3	0.09	6.26	1137.9	0.10
Unknown MEAL II [m/z 109, 124 (45), 119 (41), 43 (35), 91 (28), 95 (25)...]	6.87	1424.0	0.04	6.34	1143.0	0.01
Unknown CICA III [m/z 109, 41 (49), 124 (41), 43 (31), 95 (28), 84 (22)... 152 (7)]	6.90*	1426.1	[0.04]	6.40	1147.1	0.05
Unknown CICA VIII [m/z 71, 85 (48), 43 (42), 57 (38), 58 (37), 41 (21), ... 155 (12)]				6.49	1152.5	0.02
Cryptone	9.22	1601.1	0.06	6.92	1180.9	0.04
para-Cymen-8-ol	11.60	1797.7	0.01	6.97	1183.6	0.01
α-Terpineol	9.85	1651.6	0.01	7.05	1189.2	0.01
cis-α-Phellandrene epoxide (iPr vs Me)	11.10	1754.5	0.01	7.20	1198.9	0.01
trans-Carveol	11.47	1785.8	0.01	7.49	1218.5	0.01
Unknown CICA IV [m/z 43, 97 (72), 41 (44), 71 (27), 55 (26), 82 (25)...]				7.58	1224.4	0.01
Unknown CIAU II [m/z 137, 152 (28), 43 (25), 91 (24), 109 (23), 119 (19)]	11.40	1779.9	tr	7.74	1235.5	0.02

Unknown CALU IV [m/z 43, 97 (69), 107 (46), 41 (28), 55 (21), 109 (20)...]	11.18	1761.5	0.03	7.98	1251.6	0.03
Geraniol	11.72*	1807.7	[0.17]	8.08	1258.6	0.01
trans-Ascaridole glycol	14.23	2036.8	0.01	8.20	1266.8	0.01
Safrole	11.72*	1807.7	[0.17]	8.48	1286.0	0.18
Unknown CICA V [m/z 95, 110 (95), 67 (31), 43 (29), 122 (18), 41 (14)...]	12.32	1860.4	0.01	8.66	1298.0	0.01
Unknown CICA VI [m/z 112, 97 (93), 83 (60), 43 (46), 41 (20), 69 (19)...]	13.97	2011.8	0.01	8.72	1302.2	0.01
para-Menth-5-en-1,2-diol isomer III	15.25	2136.8	0.01	8.91	1311.8	0.01
Unknown MEAL I [m/z 97, 112 (92), 83 (62), 43 (44), 41 (25)... 170? (4)]	15.03	2115.5	0.01	8.98	1316.5	0.01
δ-Elemene isomer	6.90*	1426.1	[0.04]	9.20	1332.4	0.01
Eugenol	14.87	2098.7	0.02	9.55*	1357.3	[0.03]
Unknown EUGL I [m/z 43, 95 (62), 107 (45), 110 (41), 55 (28), 67 (25)...]	14.07	2021.5	0.01	9.55*	1357.3	[0.03]
Unknown CICA VII [m/z 43, 95 (64), 110 (47), 109 (46), 107 (43), 55 (28)...]				9.55*	1357.3	[0.03]
Hodiendiol derivative III				9.63	1363.4	0.01
α-Copaene	7.17	1446.0	0.01	9.76	1372.7	0.01
β-Bourbonene	7.52	1471.3	0.01	9.84	1378.3	0.01
β-Elemene	8.45*	1542.0	[0.02]	9.99	1388.8	0.01

Methyleugenol	13.38	1957.0	0.01	10.20	1404.0	0.02
trans-α-Bergamotene	8.45*	1542.0	[0.02]	10.62	1435.2	0.01
α-Humulene	9.32	1609.0	0.01	10.79	1448.3	0.02
meta-Camphorene	15.39	2151.3	0.02	16.77	1952.8	0.02
para-Camphorene	15.84	2196.2	0.01	17.12	1986.1	0.01
Total reported		99.55%			99.65%	

*: 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

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