

Date : 2026-06-02

CERTIFICATE OF ANALYSIS - GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 26D21-PTH01

Customer Identification : Rosalina - Australia - R20113

Type : Essential Oil

Source : *Melaleuca ericifolia* ct. Linalool

Customer : Plant Therapy

Checked and approved by:

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

Notes: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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. The compliance status of the sample is provided to facilitate the reading of the report. The client remains ultimately responsible for reviewing the results presented within this report and to establish compliance of the tested batch against relevant quality criteria.

This report is an update of the version first issued on 2026-04-23 to make a correction in the sample identification section.

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 : 2026-04-22

PHYSICOCHEMICAL DATA

Refractive index : 1.4677 ± 0.0003 (20 °C)

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

Analyst : Cindy Caron B. Sc.

Date : 2026-04-22

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
Ethanol	0.13	Aliphatic alcohol
Isobutyral	0.03	Aliphatic aldehyde
Isobutanol	0.01	Aliphatic alcohol
Isovaleral	0.01	Aliphatic aldehyde
3-Methyl-2-butanone	0.03	Aliphatic ketone
2-Methylbutyral	0.01	Aliphatic aldehyde
Isoamyl alcohol	0.01	Aliphatic alcohol
2-Methylbutanol	0.01	Aliphatic alcohol
3-Methyl-2-pentanone	0.02	Aliphatic ketone
Octane	0.01	Alkane
(3Z)-Hexenol	0.01	Aliphatic alcohol
Isobutyl isobutyrate	0.01	Aliphatic ester
α -Thujene	0.24	Monoterpene
α -Pinene	9.43	Monoterpene
α -Fenchene	0.02	Monoterpene
Camphene	0.02	Monoterpene
Thuja-2,4(10)-diene	0.01	Monoterpene
Sabinene	0.01	Monoterpene
β -Pinene	0.80	Monoterpene
6-Methyl-5-hepten-2-one	0.02	Aliphatic ketone
Myrcene	0.36	Monoterpene
<i>trans</i> -Dehydroxylinalool oxide	0.07	Monoterpenic ether
α -Phellandrene	0.05	Monoterpene
Pseudolimonene	0.05	Monoterpene
<i>cis</i> -Dehydroxylinalool oxide	0.06	Monoterpenic ether
α -Terpinene	0.15	Monoterpene
<i>para</i> -Cymene	2.15	Monoterpene
1,8-Cineole	22.65	Monoterpenic ether
Limonene	3.18	Monoterpene
(Z)- β -Ocimene	0.04	Monoterpene
(E)- β -Ocimene	0.28	Monoterpene
γ -Terpinene	1.84	Monoterpene
<i>cis</i> -Linalool oxide (fur.)	0.62	Monoterpenic alcohol
Terpinolene	0.27	Monoterpene
<i>para</i> -Cymenene	0.02	Monoterpene
<i>trans</i> -Linalool oxide (fur.)	0.46	Monoterpenic alcohol
Linalool	36.51	Monoterpenic alcohol
Hotrienol	0.31	Monoterpenic alcohol
endo-Fenchol	0.04	Monoterpenic alcohol
<i>cis-para</i> -Menth-2-en-1-ol	0.02	Monoterpenic alcohol

α -Campholenal	0.03	Monoterpenic aldehyde
<i>trans</i> -Pinocarveol	0.05	Monoterpenic alcohol
<i>cis</i> - α -Dihydroterpineol	0.02	Monoterpenic alcohol
Nerol oxide	0.02	Aliphatic ether
Borneol	0.03	Monoterpenic alcohol
<i>cis</i> -Linalool oxide (pyr.)	0.06	Monoterpenic alcohol
δ -Terpineol	0.04	Monoterpenic alcohol
Terpinen-4-ol	0.51	Monoterpenic alcohol
<i>para</i> -Cymen-8-ol	0.03	Monoterpenic alcohol
α -Terpineol	3.49	Monoterpenic alcohol
<i>cis</i> -Piperitol	0.02	Monoterpenic alcohol
Unknown	0.02	Unknown
<i>trans</i> -Carveol	0.03	Monoterpenic alcohol
Nerol	0.11	Monoterpenic alcohol
Citronellol	0.03	Monoterpenic alcohol
Unknown	0.01	Oxygenated monoterpene
Neral	0.11	Monoterpenic aldehyde
Unknown	0.03	Unknown
Geraniol	0.27	Monoterpenic alcohol
Geranial	0.14	Monoterpenic aldehyde
Geranyl formate	0.02	Monoterpenic ester
Methyl geranate	0.11	Monoterpenic ester
Eugenol	0.02	Phenylpropanoid
Isoledene	0.19	Sesquiterpene
α -Copaene	0.02	Sesquiterpene
7-Cubebene	0.13	Sesquiterpene
Geranyl acetate	0.02	Monoterpenic ester
β -Elemene	0.04	Sesquiterpene
Phenylethyl isobutyrate	0.23	Phenolic ester
Unknown	0.04	Sesquiterpene
α -Gurjunene	0.35	Sesquiterpene
Unknown	0.04	Sesquiterpene
β -Caryophyllene	0.13	Sesquiterpene
γ -Maaliene	0.14	Sesquiterpene
β -Gurjunene	0.25	Sesquiterpene
α -Maaliene	0.14	Sesquiterpene
Aromadendrene	3.29	Sesquiterpene
Selina-5,11-diene	0.32	Sesquiterpene
Unknown	0.25	Sesquiterpene
α -Humulene	0.01	Sesquiterpene
allo-Aromadendrene	1.23	Sesquiterpene
Valerena-4,7(11)-diene	0.08	Sesquiterpene
<i>cis</i> -Cadina-1(6),4-diene	0.09	Sesquiterpene
γ -Gurjunene	0.20	Sesquiterpene
Selina-4,11-diene	0.06	Sesquiterpene

Germacrene D	0.03	Sesquiterpene
β -Selinene	0.27	Sesquiterpene
allo-Aromadendr-9-ene	0.25	Sesquiterpene
δ -Selinene	0.11	Sesquiterpene
α -Selinene	0.19	Sesquiterpene
Viridiflorene	1.01	Sesquiterpene
Bicyclogermacrene	1.09	Sesquiterpene
α -Muurolene	0.04	Sesquiterpene
Unknown MEER VI [m/z 202, 145 (81), 105 (71), 131 (59)...]	0.09	Unknown
δ -Guaiene	0.19	Sesquiterpene
γ -Cadinene	0.09	Sesquiterpene
Unknown	0.11	Sesquiterpene
<i>trans</i> -Calamenene	0.01	Sesquiterpene
δ -Cadinene	0.10	Sesquiterpene
Zonarene	0.05	Sesquiterpene
<i>trans</i> -Cadina-1,4-diene	0.01	Sesquiterpene
α -Calacorene	0.07	Sesquiterpene
α -Elemol	0.03	Sesquiterpenic alcohol
Epiglobulol	0.19	Sesquiterpenic alcohol
Maaliol	0.05	Sesquiterpenic alcohol
Palustrol	0.12	Sesquiterpenic alcohol
(<i>E</i>)-Nerolidol	0.07	Sesquiterpenic alcohol
Spathulenol	0.38	Sesquiterpenic alcohol
Globulol	0.80	Sesquiterpenic alcohol
Viridiflorol	0.24	Sesquiterpenic alcohol
Cubeban-11-ol	0.18	Sesquiterpenic alcohol
Ledol	0.13	Sesquiterpenic alcohol
Guaiol	0.04	Sesquiterpenic alcohol
Eudesm-5-en-11-ol analog	0.01	Sesquiterpenic alcohol
Unknown	0.07	Oxygenated sesquiterpene
Unknown	0.07	Oxygenated sesquiterpene
Rosifoliol	0.30	Sesquiterpenic alcohol
Eremoligenol?	0.01	Sesquiterpenic alcohol
1-epi-Cubenol	0.01	Sesquiterpenic alcohol
Isospathulenol	0.10	Sesquiterpenic alcohol
Cubenol	0.01	Sesquiterpenic alcohol
τ -Cadinol	0.02	Sesquiterpenic alcohol
α -Eudesmol	0.03	Sesquiterpenic alcohol
Methyl eudesmate	0.02	Phenolic ester
Unknown	0.02	Oxygenated sesquiterpene
1,10- <i>seco</i> -Aromadendrane-1,10-dione?	0.02	Sesquiterpenic ketone
Consolidated total	99.04	

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

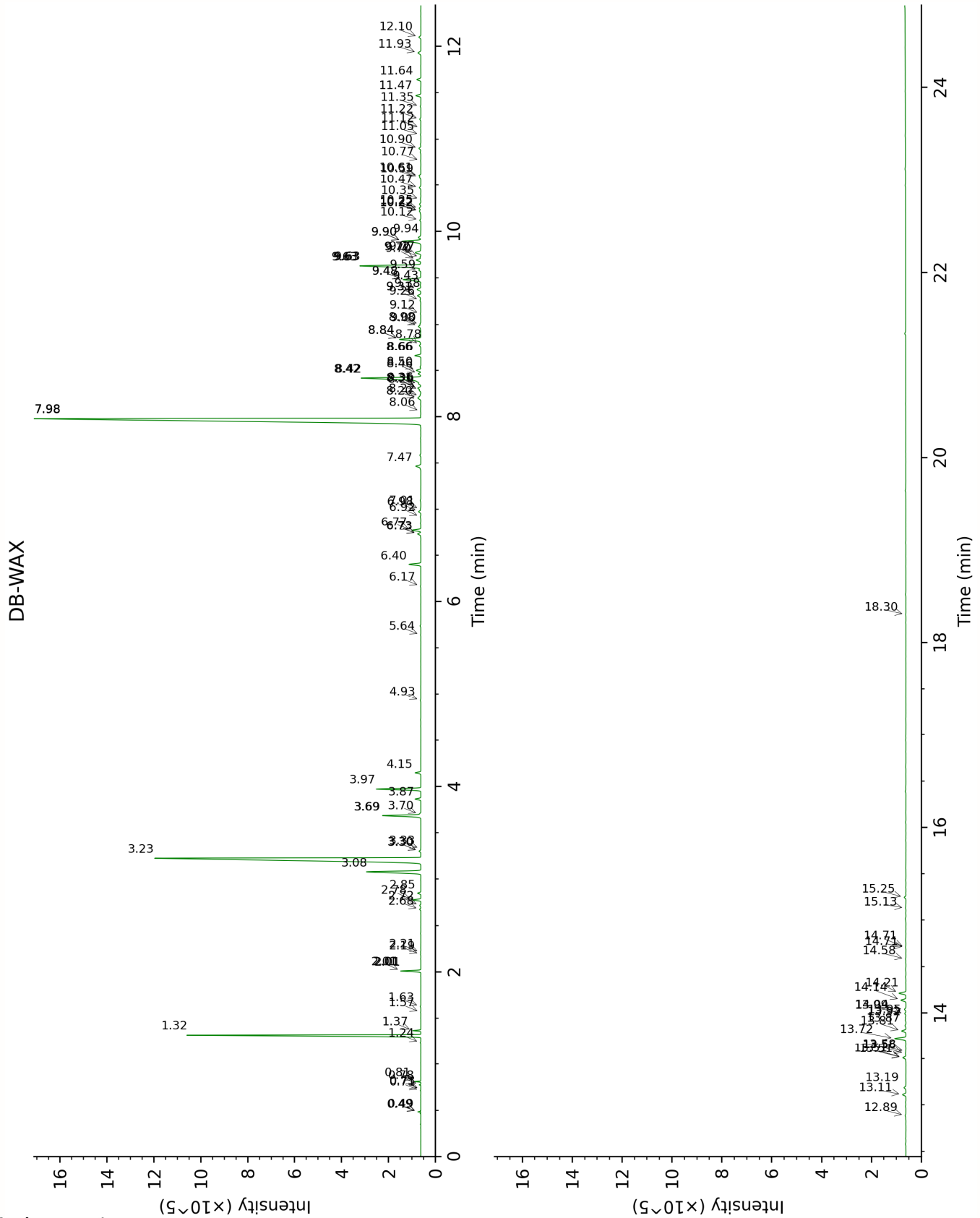
Note: no correction factor was applied

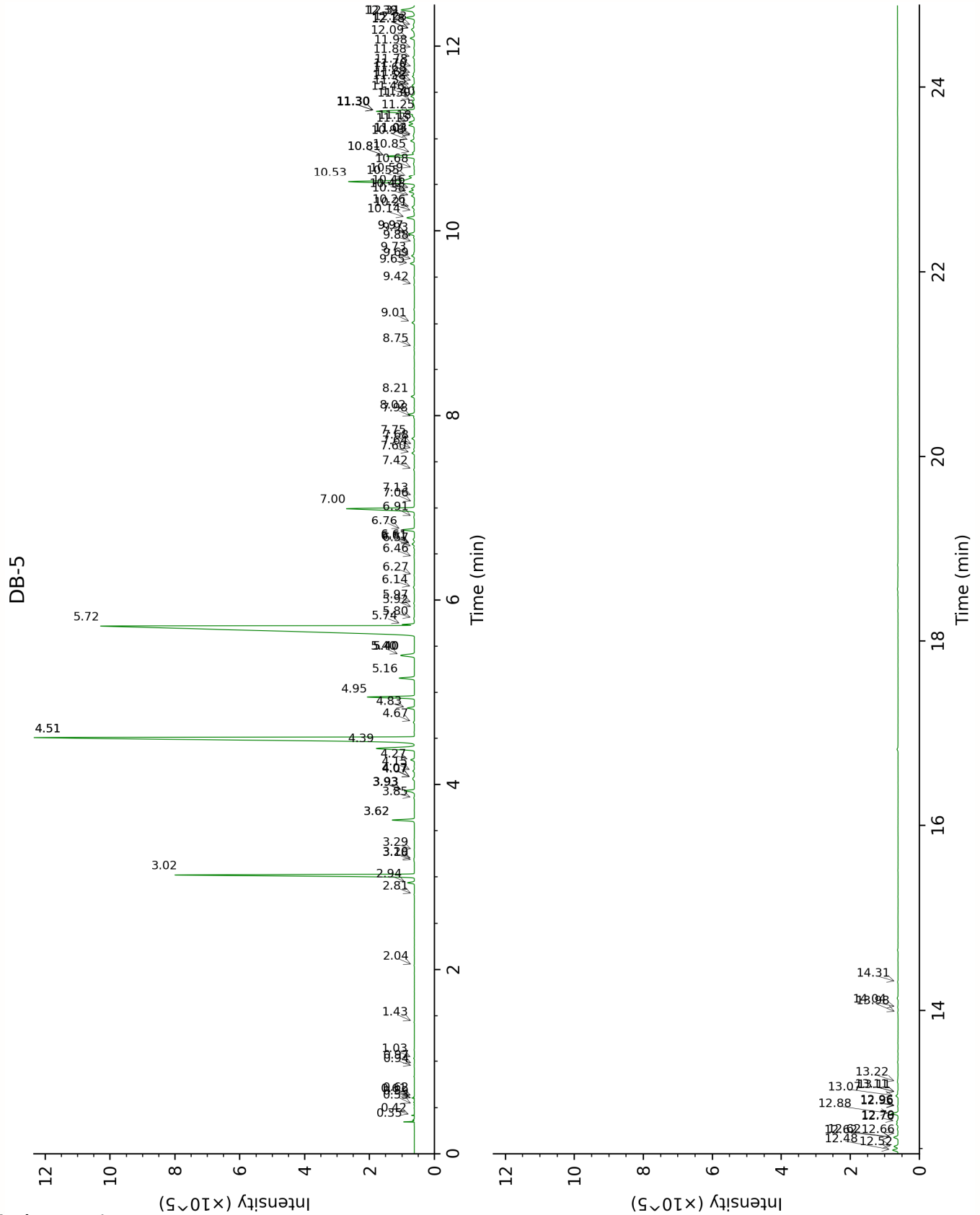
About "consolidated" data: The table above presents the breakdown of the sample volatile constituents after applying an algorithm to collapse data acquired from the multi-columns system of PhytoChemia into a single set of consolidated contents. In case of discrepancies between columns, the algorithm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





FULL ANALYSIS DATA

Ethanol	Column DB-WAX			Column DB-5		
	0.81	912.2	0.14	0.35	506.8	0.13
Isobutyral	0.49*	783.4	[0.05]	0.42	540.9	0.03
Isobutanol	2.01*	1066.6	[0.80]	0.53	621.7	0.01
Isovaleral	0.73	887.1	tr	0.59	643.4	0.01
3-Methyl-2-butanone	0.78	903.1	0.03	0.61	648.5	0.03
2-Methylbutyral	0.72	881.2	0.01	0.62	653.4	0.01
Isoamyl alcohol	3.33	1178.3	tr	0.94	732.7	0.01
2-Methylbutanol	3.30*	1176.0	[0.08]	0.97	736.4	0.01
3-Methyl-2-pentanone	1.24	980.3	0.01	1.04	746.0	0.02
Octane	0.49*	783.4	[0.05]	1.43	804.2	0.01
(3Z)-Hexenol	5.64	1346.0	0.01	2.04	856.3	0.01
Isobutyl isobutyrate	2.01*	1066.6	[0.80]	2.81	918.0	0.01
α-Thujene	1.37	1001.3	0.24	2.94	926.5	0.24
α-Pinene	1.32	993.3	9.31	3.02	932.2	9.43
α-Fenchene	1.57	1022.8	0.01	3.18	942.4	0.02
Camphene	1.63	1029.0	0.02	3.20	943.8	0.02
Thuja-2,4(10)-diene	2.19	1084.2	0.01	3.30	950.4	0.01
Sabinene	2.22	1086.6	0.01	3.62*	972.1	[0.81]
β-Pinene	2.01*	1066.6	[0.80]	3.62*	972.1	[0.81]
6-Methyl-5-hepten-2-one	4.93	1298.2	0.02	3.86	988.0	0.02
Myrcene	2.78	1134.8	0.36	3.93*	993.4	[0.43]
trans-Dehydroxylinalool oxide	3.30*	1176.0	[0.08]	3.93*	993.4	[0.43]
α-Phellandrene	2.68	1126.8	0.05	4.07*	1002.4	[0.10]
Pseudolimonene	2.72	1130.1	0.05	4.07*	1002.4	[0.10]
cis-Dehydroxylinalool oxide	3.70	1207.6	0.04	4.15	1007.5	0.06
α-Terpinene	2.85	1140.5	0.14	4.27	1015.3	0.15
para-Cymene	3.97	1227.5	2.13	4.39	1023.0	2.15
1,8-Cineole	3.23	1170.1	22.65	4.51*	1030.5	[25.75]
Limonene	3.08	1158.6	3.18	4.51*	1030.5	[25.75]
(Z)-β-Ocimene	3.69*	1206.4	[1.86]	4.67	1041.0	0.04
(E)-β-Ocimene	3.87	1219.6	0.27	4.83	1050.8	0.28
γ-Terpinene	3.69*	1206.4	[1.86]	4.95	1058.4	1.84
cis-Linalool oxide (fur.)	6.40	1401.7	0.62	5.16	1071.9	0.62

Terpinolene	4.15	1240.4	0.27	5.40*	1087.6	[0.75]
<i>para</i> -Cymenene	6.17	1384.4	0.02	5.40*	1087.6	[0.75]
<i>trans</i> -Linalool oxide (fur.)	6.77	1429.2	0.46	5.40*	1087.6	[0.75]
Linalool	7.98*	1521.0	[36.38]	5.72	1107.8	36.51
Hotrienol	8.66*	1574.5	[0.30]	5.74	1109.0	0.31
endo-Fenchol	8.22	1540.2	0.04	5.80	1113.3	0.04
<i>cis-para</i> -Menth-2-en-1-ol	7.98*	1521.0	[36.38]	5.92	1120.6	0.02
α -Campholenal	6.92	1440.7	0.03	5.97	1124.0	0.03
<i>trans</i> -Pinocarveol	9.00	1601.5	0.04	6.14	1135.1	0.05
<i>cis</i> - α -Dihydroterpineol	8.06	1527.2	0.02	6.27	1143.5	0.02
Nerol oxide	6.73*	1426.2	[0.19]	6.46	1156.2	0.02
Borneol	9.63*	1652.8	[3.53]	6.57	1163.1	0.03
<i>cis</i> -Linalool oxide (pyr.)	10.12	1693.1	0.06	6.61*	1165.5	[0.10]
δ -Terpineol	9.31*	1626.5	[0.22]	6.61*	1165.5	[0.10]
Terpinen-4-ol	8.42*	1555.5	[3.63]	6.76	1175.6	0.51
<i>para</i> -Cymen-8-ol	11.35	1798.1	0.03	6.90	1185.0	0.03
α -Terpineol	9.63*	1652.8	[3.53]	7.00	1191.0	3.49
<i>cis</i> -Piperitol	9.42	1635.8	0.03	7.06	1195.3	0.02
Unknown SASC VI [m/z 43, 71 (80), 67 (55), 59 (51), 68 (44), 41 (43)...]	10.77	1748.1	0.02	7.13	1199.8	0.02
<i>trans</i> -Carveol	11.22	1786.3	0.07	7.42	1219.1	0.03
Nerol	10.90	1759.4	0.11	7.60	1231.3	0.11
Citronellol	10.58	1732.1	0.06	7.64	1234.2	0.03
Unknown CIAU II [m/z 137, 152 (28), 43 (25), 91 (24), 109 (23), 119 (19)]	11.12	1778.3	0.01	7.68	1237.0	0.01
Neral	9.31*	1626.5	[0.22]	7.76	1242.1	0.11
Unknown MEER IV [m/z 69, 41 (75), 109 (35), 95 (34), 55 (28), 43 (27), 110 (26)...]				7.98	1257.8	0.03
Geraniol	11.47	1808.2	0.28	8.02	1260.0	0.27
Geranial	9.94	1677.9	0.15	8.21	1273.3	0.14
Geranyl formate	9.72	1660.2	0.04	8.75	1307.0	0.02
Methyl geranate	9.59	1649.1	0.11	9.01	1325.8	0.11
Eugenol	14.58	2097.6	0.02	9.42	1354.6	0.02
Isoledene	6.73*	1426.2	[0.19]	9.65	1371.0	0.19

α -Copaene	7.01	1447.0	0.02	9.69	1373.8	0.02
7-Cubebene	6.98	1444.8	0.13	9.73	1376.9	0.13
Geranyl acetate	10.35	1711.6	0.03	9.88	1387.4	0.02
β -Elemene	8.29	1545.2	0.09	9.93	1391.0	0.04
Phenylethyl isobutyrate	11.64	1823.6	0.23	9.97*	1393.7	[0.28]
Unknown EUGL IV [m/z 93, 122 (98), 161 (98), 107 (86), 95 (46), 105 (72)... 204 (34)]				9.97*	1393.7	[0.28]
α -Gurjunene	7.47	1481.9	0.35	10.14	1406.1	0.35
Unknown EUGL V [m/z 119, 107 (86), 105 (85), 93 (78), 189 (66), 81 (65), 121 (64)... 204 (23)]				10.21	1411.3	0.04
β -Caryophyllene	8.31	1546.9	0.18	10.26	1414.6	0.13
γ -Maaliene	8.36	1550.7	0.13	10.38	1423.8	0.14
β -Gurjunene	8.20	1538.6	0.24	10.42	1427.1	0.25
α -Maaliene	8.46	1559.1	0.15	10.46	1429.6	0.14
Aromadendrene	8.42*	1555.5	[3.63]	10.53	1435.3	3.29
Selina-5,11-diene	8.50	1562.0	0.24	10.55	1436.6	0.32
Unknown MECA I [m/z 161, 105 (69), 119 (42), 91 (41), 204 (38)]	8.66*	1574.5	[0.30]	10.59	1439.5	0.25
α -Humulene	9.12	1610.6	0.02	10.68	1446.5	0.01
allo-Aromadendrene	8.84*	1588.8	[1.30]	10.81*	1456.4	[1.31]
Valerena-4,7(11)-diene	8.78	1583.6	0.08	10.81*	1456.4	[1.31]
cis-Cadina-1(6),4-diene	8.84*	1588.8	[1.30]	10.85	1459.1	0.09
γ -Gurjunene	8.98	1599.7	0.17	10.98	1468.9	0.20
Selina-4,11-diene	9.26	1622.2	0.05	11.03	1472.9	0.06
Germacrene D	9.63*	1652.8	[3.53]	11.04	1473.8	0.03
β -Selinene	9.70	1658.0	0.28	11.15	1481.5	0.27
allo-Aromadendrene	9.38	1631.9	0.22	11.18	1484.0	0.25
δ -Selinene	9.48*	1640.7	[1.11]	11.25	1489.1	0.11
α -Selinene	9.77*	1664.5	[0.37]	11.30*	1492.8	[2.31]
Viridiflorene	9.48*	1640.7	[1.11]	11.30*	1492.8	[2.31]
Bicyclogermacrene	9.90*	1674.5	[1.14]	11.30*	1492.8	[2.31]
α -Muurolene	9.90*	1674.5	[1.14]	11.39	1499.5	0.04

Unknown MEER VI [m/z 202, 145 (81), 105 (71), 131 (59)...]				11.40	1500.6	0.09
δ-Guaiene	9.77*	1664.5	[0.37]	11.46	1505.0	0.19
γ-Cadinene	10.22*	1701.1	[0.12]	11.53	1510.7	0.09
Unknown EUGL VII [m/z 159, 145 (91), 131 (67), 105 (46), 202 (43)]	10.60	1733.8	0.13	11.58	1514.1	0.11
trans-Calamenene	11.05	1772.0	0.02	11.62	1517.7	0.01
δ-Cadinene	10.25	1703.7	0.10	11.68	1521.9	0.10
Zonarene	10.22*	1701.1	[0.12]	11.70	1524.1	0.05
trans-Cadina-1,4- diene	10.47	1722.4	0.09	11.78	1529.9	0.01
α-Calacorene	11.93	1849.3	0.21	11.88	1538.2	0.07
α-Elemol	13.86	2027.9	0.05	11.98	1546.1	0.03
Epiglobulol	13.11	1957.0	0.20	12.09	1554.5	0.19
Maaliol	12.89	1936.0	0.05	12.18*	1562.0	[0.21]
Palustrol	12.10	1864.4	0.12	12.18*	1562.0	[0.21]
(E)-Nerolidol	13.56	1998.6	0.03	12.23	1565.4	0.07
Spathulenol	14.21	2061.9	0.39	12.31	1572.1	0.38
Globulol	13.72	2014.2	0.64	12.39	1578.7	0.80
Viridiflorol	13.81	2022.2	0.24	12.48	1585.8	0.24
Cubeban-11-ol	13.51*	1994.3	[0.19]	12.52	1588.8	0.18
Ledol	13.19	1964.1	0.13	12.62*	1596.7	[0.20]
Guaiol	13.92	2033.6	0.04	12.62*	1596.7	[0.20]
Eudesm-5-en-11-ol analog	14.04	2045.1	0.08	12.66	1599.8	0.01
Unknown EUGL VIII [m/z 94, 91 (83), 105 (78), 79 (75), 107 (62), 120 (58)... 218 (11)]	13.99	2040.4	0.07	12.76	1608.0	0.07
Unknown PRME XVI [m/z 179, 161 (30), 109 (22), 95 (18), 81 (17)... 204 (5), 222 (3)]	13.95	2036.2	0.03	12.79	1610.2	0.07
Rosifoliol	14.14	2054.6	0.28	12.88	1617.5	0.30
Eremoligenol?	14.71*	2110.1	[0.02]	12.96*	1624.1	[0.02]
1-epi-Cubenol	13.58	2001.0	0.01	12.96*	1624.1	[0.02]
Isospathulenol	15.25	2164.5	0.09	13.07	1633.5	0.10
Cubenol	13.51*	1994.3	[0.19]	13.11*	1636.4	[0.03]
τ-Cadinol	14.71*	2110.1	[0.02]	13.11*	1636.4	[0.03]

α -Eudesmol	15.13	2152.7	0.02	13.22	1645.9	0.03
Methyl eudesmate				13.98	1708.8	0.02
Unknown KUER IX [m/z 43, 93 (44), 162 (39), 107 (39), 121 (34), 95 (32)...220 (7)]	18.30	2492.2	0.01	14.04	1714.2	0.02
1,10-seco- Aromadendrane- 1,10-dione?				14.31	1737.7	0.02
Total reported	98.14%			99.03%		

*: 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