Date : 2026-06-15

Certificate of Analysis - GC Profiling

Sample Identification

Internal code : 26E04-PTH05
Customer Identification : Cananga - Indonesia - CR3105
Type : Essential Oil
Source : *Cananga odorata var. macrophylla (Cananga)*
Customer : Plant Therapy

Checked an 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Notes: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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 2026-05-05 to make a modification in the sample identification section.

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 : 2026-05-05

Physicochemical data

Refractive index : 1.5028 ± 0.0003 (20 °C)
Method : PC-MAT-016 - Measure of the refractive index of a liquid.
Analyst : Cindy Caron B. Sc.
Date : 2026-05-01

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
α-Thujene	0.06	Monoterpene
α-Pinene	0.18	Monoterpene
Camphene	0.01	Monoterpene
Benzaldehyde	0.01	Simple phenolic
Sabinene	0.18	Monoterpene
β-Pinene	0.02	Monoterpene
6-Methyl-5-hepten-2-one	0.01	Aliphatic ketone
Myrcene	0.47	Monoterpene
α-Phellandrene	0.02	Monoterpene
(3*Z*)-Hexenyl acetate	tr	Aliphatic ester
α-Terpinene	0.17	Monoterpene
para-Methylanisole	1.45	Simple phenolic
para-Cymene	0.10	Monoterpene
Limonene	0.06	Monoterpene
β-Phellandrene	0.04	Monoterpene
Benzyl alcohol	0.01	Simple phenolic
(*Z*)-β-Ocimene	0.05	Monoterpene
(*E*)-β-Ocimene	0.03	Monoterpene
γ-Terpinene	0.28	Monoterpene
para-Cresol	0.01	Simple phenolic
Terpinolene	0.09	Monoterpene
Methyl benzoate	0.03	Phenolic ester
Linalool	1.54	Monoterpenic alcohol
Nonanal	0.01	Aliphatic aldehyde
cis-para-Menth-2-en-1-ol	0.02	Monoterpenic alcohol
Benzeneacetonitrile	0.01	Simple phenolic
Benzyl acetate	0.01	Phenolic ester
para-Cresyl acetate	0.01	Phenolic ester
Terpinen-4-ol	0.60	Monoterpenic alcohol
α-Terpineol	0.07	Monoterpenic alcohol
Methylchavicol	0.07	Phenylpropanoid
Nerol	0.06	Monoterpenic alcohol
3,4-Dimethoxytoluene	0.02	Phenolic ester
Neral	0.05	Monoterpenic aldehyde
Geraniol	0.96	Monoterpenic alcohol
Geranial	0.09	Monoterpenic aldehyde
(*E*)-Anethole	0.02	Phenylpropanoid
1-Nitro-2-phenylethane	0.02	Simple phenolic
4-Vinylguaiacol	0.01	Simple phenolic
Bicycloelemene	0.05	Sesquiterpene

Benzyl butyrate	0.09	Phenolic ester
α-Cubebene	0.23	Sesquiterpene
Eugenol	0.30	Phenylpropanoid
Neryl acetate	0.02	Monoterpenic ester
α-Ylangene	0.24	Sesquiterpene
α-Copaene	1.36	Sesquiterpene
β-Bourbonene	0.01	Sesquiterpene
β-Cubebene	0.04	Sesquiterpene
Geranyl acetate	1.70	Monoterpenic ester
β-Elemene	0.46	Sesquiterpene
Cyperene	0.04	Sesquiterpene
Isocaryophyllene	0.03	Sesquiterpene
Methyleugenol	0.13	Phenylpropanoid
α-Gurjunene	0.03	Sesquiterpene
β-Caryophyllene	31.11	Sesquiterpene
Caryophylla-4(12),8(13)-diene	0.06	Sesquiterpene
β-Copaene	0.53	Sesquiterpene
Aromadendrene	0.12	Sesquiterpene
α-Guaiene	0.04	Sesquiterpene
Isogermacrene D	0.03	Sesquiterpene
trans-Muurola-3,5-diene	0.09	Sesquiterpene
(*E*)-Isoeugenol	0.01	Phenylpropanoid
α-Humulene	8.12	Sesquiterpene
cis-Cadina-1(6),4-diene	0.03	Sesquiterpene
cis-Muurola-4(15),5-diene	0.25	Sesquiterpene
trans-Cadina-1(6),4-diene	0.46	Sesquiterpene
γ-Muurolene	[2.97]	Sesquiterpene
α-Amorphene	[2.97]	Sesquiterpene
Germacrene D	6.92	Sesquiterpene
trans-Muurola-4(15),5-diene	0.14	Sesquiterpene
Prenyl benzoate	0.31	Phenolic ester
Bicyclogermacrene	1.19	Sesquiterpene
epi-Cubebol	0.03	Sesquiterpenic alcohol
(3*Z*,6*E*)-α-Farnesene	0.02	Sesquiterpene
α-Muurolene	0.06	Sesquiterpene
Methyl (*E*)-isoeugenol	0.04	Phenylpropanoid
Unknown	0.22	Sesquiterpene
δ-Guaiene	0.46	Sesquiterpene
δ-Amorphene	0.69	Sesquiterpene
Unknown	4.18	Sesquiterpene
β-Curcumene	0.06	Sesquiterpene
γ-Cadinene	1.42	Sesquiterpene
Cubebol	0.06	Sesquiterpenic alcohol
(3*E*,6*E*)-α-Farnesene	5.56	Sesquiterpene
trans-Calamenene	0.19	Sesquiterpene

Zonarene	0.48	Sesquiterpene
δ-Cadinene	4.45	Sesquiterpene
trans-Cadina-1,4-diene	0.31	Sesquiterpene
Guaiacylacetone	0.03	Phenylpropanoid
α-Cadinene	0.34	Sesquiterpene
α-Calacorene	0.06	Sesquiterpene
cis-Dracunculifoliol	0.01	Sesquiterpenic alcohol
α-Elemol	0.51	Sesquiterpenic alcohol
Germacrene B	0.05	Sesquiterpene
Sesquirosefuran?	0.03	Sesquiterpenic ether
β-Calacorene	0.07	Sesquiterpene
(*E*)-Nerolidol	0.12	Sesquiterpenic alcohol
(3*Z*)-Hexenyl benzoate	0.10	Phenolic ester
Spathulenol	0.06	Sesquiterpenic alcohol
Caryophyllene oxide	0.57	Sesquiterpenic ether
Caryophyllene oxide isomer	0.05	Sesquiterpenic ether
Globulol	0.19	Sesquiterpenic alcohol
Unknown	0.09	Oxygenated sesquiterpene
Viridiflorol	0.09	Sesquiterpenic alcohol
Guaiol	0.02	Sesquiterpenic alcohol
Copaborneol	0.30	Sesquiterpenic alcohol
Humulene epoxide II	0.14	Sesquiterpenic ether
1,10-diepi-Cubenol	0.12	Sesquiterpenic alcohol
Junenol	0.25	Sesquiterpenic alcohol
1-epi-Cubenol	0.43	Sesquiterpenic alcohol
γ-Eudesmol	0.42	Sesquiterpenic alcohol
τ-Muurolol	0.90	Sesquiterpenic alcohol
τ-Cadinol	0.14	Sesquiterpenic alcohol
Cubenol	0.23	Sesquiterpenic alcohol
α-Muurolol	0.61	Sesquiterpenic alcohol
Unknown	0.43	Sesquiterpenic alcohol
α-Cadinol	1.67	Sesquiterpenic alcohol
trans-Calamenen-10-ol	0.04	Sesquiterpenic alcohol
Bulnesol	0.06	Sesquiterpenic alcohol
Unknown	0.16	Oxygenated sesquiterpene
(2*E*,6*Z*)-Farnesol	0.03	Sesquiterpenic alcohol
(2*E*,6*E*)-Farnesol	1.21	Sesquiterpenic alcohol
(2*E*,6*E*)-Farnesal	0.05	Sesquiterpenic aldehyde
Benzyl benzoate	4.16	Phenolic ester
(2*E*,6*E*)-Farnesyl acetate	0.46	Sesquiterpenic ester
Benzyl salicylate	0.48	Phenolic ester
Geranyl benzoate	0.26	Phenolic ester
Consolidated total	**97.18**	

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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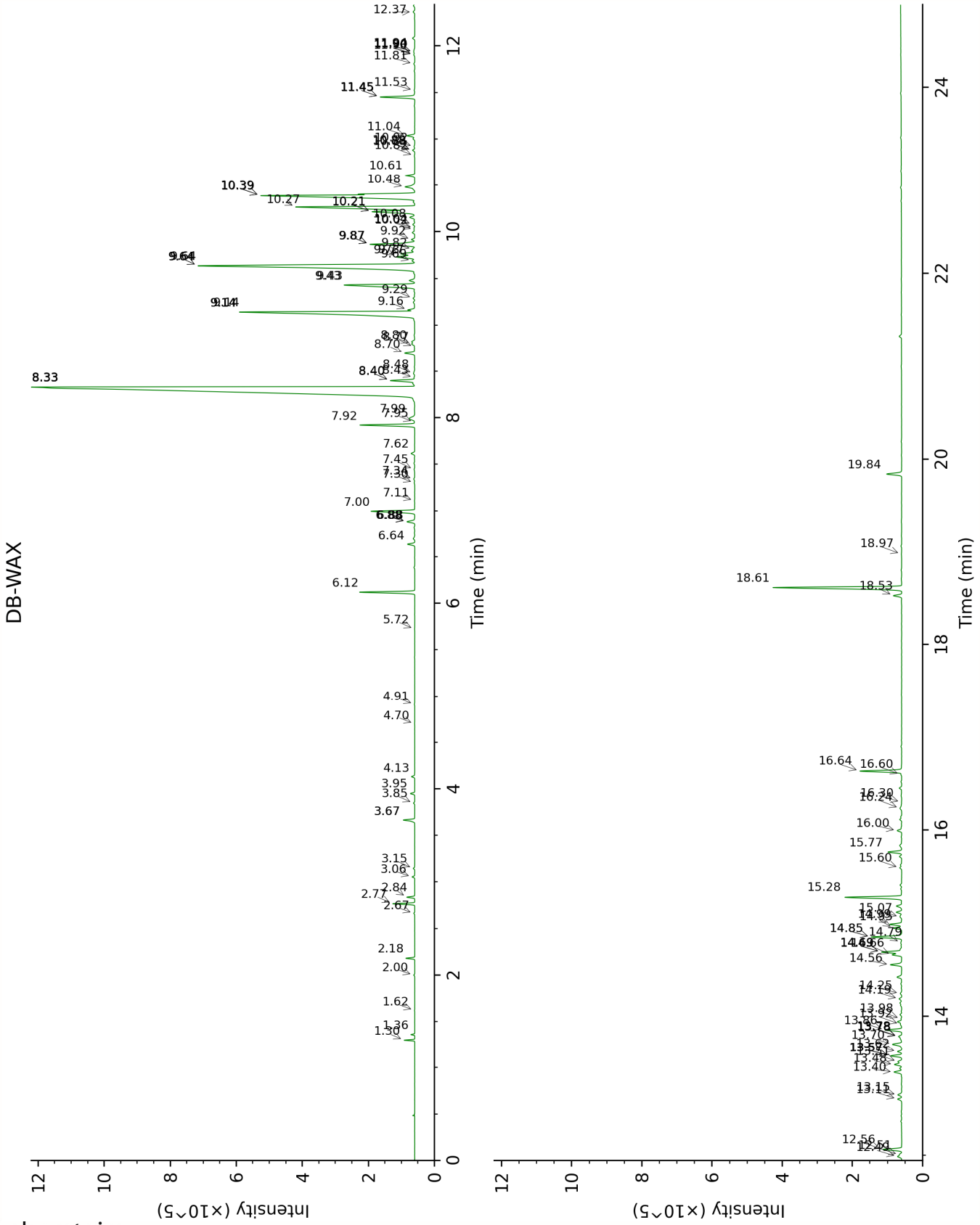

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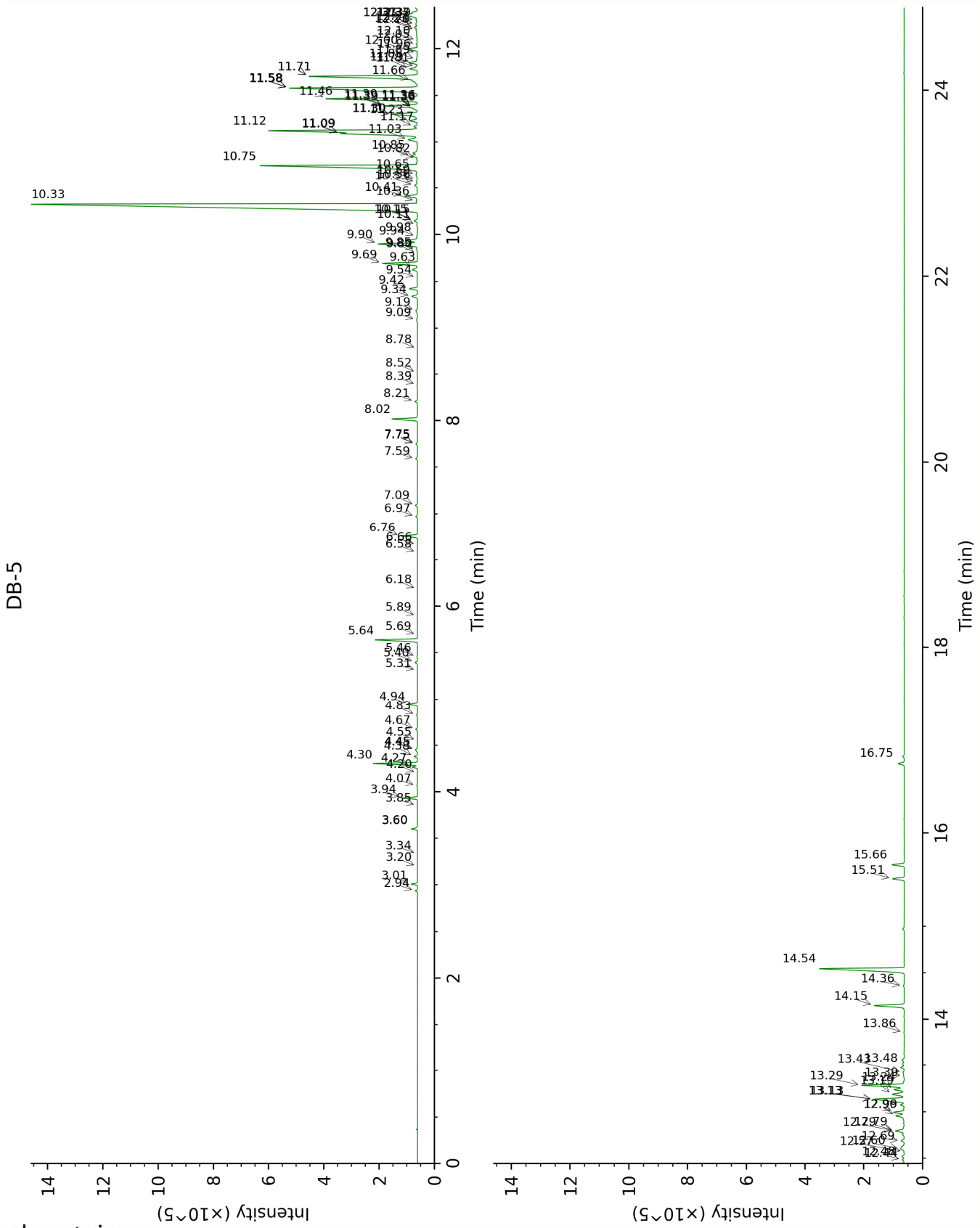
DB-5
Time (min)
Intensity (×10^5)
10.33
11.71
11.58
11.46
11.12
11.09
10.75
9.90
9.69
8.78
8.52
8.39
8.21
8.02
7.75
7.59
7.09
6.97
6.76
6.18
5.89
5.69
5.64
5.31
4.94
4.83
4.67
4.55
4.30
4.27
4.07
3.94
3.85
3.60
3.34
3.20
3.01
2.94
16.75
15.66
15.51
14.54
14.36
14.15
13.86
13.48
13.29
12.90

FULL ANALYSIS DATA

	Column DB-WAX			Column DB-5		
α-Thujene	1.36	1000.2	0.06	2.94	926.5	0.06
α-Pinene	1.30	990.5	0.17	3.01	931.2	0.18
Camphene	1.62	1028.4	tr	3.20	943.9	0.01
Benzaldehyde	7.11	1454.9	0.01	3.34	953.3	0.01
Sabinene	2.18	1083.3	0.18	3.60*	971.0	[0.21]
β-Pinene	2.00	1065.5	0.02	3.60*	971.0	[0.21]
6-Methyl-5-hepten-2-one	4.91	1296.8	0.02	3.86	988.0	0.01
Myrcene	2.77	1133.9	0.46	3.94	993.4	0.47
α-Phellandrene	2.66	1125.9	0.02	4.07	1002.5	0.02
(3*Z*)-Hexenyl acetate	4.70	1281.2	0.01	4.20	1010.9	tr
α-Terpinene	2.84	1139.4	0.17	4.27	1015.2	0.17
para-Methylanisole	6.12	1381.0	1.45	4.30	1017.6	1.45
para-Cymene	3.95	1225.8	0.11	4.38	1022.5	0.10
Limonene	3.06	1156.6	0.06	4.45*	1027.0	[0.09]
β-Phellandrene	3.15	1163.7	0.04	4.45*	1027.0	[0.09]
Benzyl alcohol	11.52	1812.9	0.02	4.55	1033.4	0.01
(*Z*)-β-Ocimene	3.67*	1204.7	[0.33]	4.67	1040.9	0.05
(*E*)-β-Ocimene	3.85	1218.2	0.04	4.83	1050.7	0.03
γ-Terpinene	3.67*	1204.7	[0.33]	4.94	1058.0	0.28
para-Cresol	13.78*	2020.0	[0.15]	5.31	1081.8	0.01
Terpinolene	4.13	1239.2	0.09	5.40	1087.2	0.09
Methyl benzoate	8.43	1556.6	0.03	5.46	1091.2	0.03
Linalool	7.92	1516.5	1.54	5.64	1102.6	1.54
Nonanal	5.72	1351.9	0.01	5.69	1106.1	0.01
cis-para-Menth-2-en-1-ol	7.95	1518.9	0.01	5.89	1119.1	0.02
Benzeneacetonitrile	11.94*	1849.9	[0.07]	6.18	1138.0	0.01
Benzyl acetate	9.87*	1672.1	[1.53]	6.58	1163.7	0.01
para-Cresyl acetate	9.82	1668.0	0.04	6.66	1169.1	0.01
Terpinen-4-ol	8.40*	1554.0	[0.72]	6.76	1175.3	0.60
α-Terpineol	9.64*	1653.2	[11.17]	6.97	1189.3	0.07
Methylchavicol	9.16	1614.4	0.18	7.09	1197.1	0.07
Nerol	10.88*	1757.5	[0.07]	7.59	1231.0	0.06
3,4-Dimethoxytoluene	10.82	1752.4	0.02	7.75*	1241.8	[0.06]
Neral	9.29	1624.6	0.05	7.75*	1241.8	[0.06]
Geraniol	11.45*	1806.6	[0.98]	8.02	1260.3	0.96
Geranial	9.92	1676.2	0.10	8.21	1273.1	0.09
(*E*)-Anethole	10.92	1760.9	0.03	8.39	1285.5	0.02
1-Nitro-2-phenylethane	13.98	2038.7	0.02	8.52	1294.5	0.02

4-Vinylguaiacol	14.85*	2124.5	[0.91]	8.78	1309.3	0.01
Bicycloelemene	6.88*	1437.8	[0.26]	9.09	1331.2	0.05
Benzyl butyrate	11.45*	1806.6	[0.98]	9.19	1338.2	0.09
α-Cubebene	6.64	1419.0	0.21	9.34	1349.2	0.23
Eugenol	14.56	2095.1	0.36	9.42	1354.9	0.30
Neryl acetate	10.02	1684.8	0.02	9.54	1363.4	0.02
α-Ylangene	6.88*	1437.8	[0.26]	9.63	1369.4	0.24
α-Copaene	7.00	1446.3	1.36	9.69	1374.1	1.36
β-Bourbonene	7.30	1469.3	0.02	9.80	1381.6	0.01
β-Cubebene	7.62	1493.1	0.12	9.85	1385.0	0.04
Geranyl acetate	10.39*†	1715.1	[6.19]	9.90	1388.9	1.70
β-Elemene	8.33*	1548.5	[31.85]	9.94	1391.4	0.46
Cyperene	7.34	1472.4	0.04	9.98	1394.4	0.04
Isocaryophyllene	7.99	1521.9	0.30	10.11	1403.5	0.03
Methyleugenol	13.15	1960.5	0.13	10.15*	1406.4	[0.14]
α-Gurjunene	7.45	1480.2	0.03	10.15*	1406.4	[0.14]
β-Caryophyllene	8.33*	1548.5	[31.85]	10.33	1419.9	31.11
Caryophylla-4(12),8(13)-diene	8.48	1560.0	0.06	10.36	1422.1	0.06
β-Copaene	8.33*	1548.5	[31.85]	10.41	1426.3	0.53
Aromadendrene	8.40*	1554.0	[0.72]	10.53	1435.0	0.12
α-Guaiene	8.33*	1548.5	[31.85]	10.56	1437.8	0.04
Isogermacrene D	8.77	1582.8	0.01	10.59	1439.8	0.03
trans-Muurola-3,5-diene	8.70	1577.3	0.32	10.65	1444.0	0.09
(*E*)-Isoeugenol	16.30	2273.2	0.01	10.75*	1451.4	[8.13]
α-Humulene	9.14*	1612.5	[8.30]	10.75*	1451.4	[8.13]
cis-Cadina-1(6),4-diene	8.80	1585.5	0.11	10.82	1456.9	0.03
cis-Muurola-4(15),5-diene	9.14*	1612.5	[8.30]	10.85	1459.3	0.25
trans-Cadina-1(6),4-diene	9.14*	1612.5	[8.30]	11.03	1472.4	0.46
γ-Muurolene	9.43*	1636.3	[2.86]	11.09†	1477.4	3.07
α-Amorphene	9.43*	1636.3	[2.86]	11.09†	1477.4	3.07
Germacrene D	9.64*	1653.2	[11.17]	11.12*†	1479.6	[6.82]
trans-Muurola-4(15),5-diene	9.69	1657.5	0.09	11.17	1482.9	0.14
Prenyl benzoate	13.57*	1999.7	[0.32]	11.23	1487.6	0.31
Bicyclogermacrene	9.87*	1672.1	[1.53]	11.30*	1492.8	[1.23]
epi-Cubebol	11.81	1838.4	0.03	11.30*	1492.8	[1.23]
(3*Z*,6*E*)-α-Farnesene	10.04	1686.4	0.02	11.36*	1497.6	[0.12]
α-Muurolene	9.87*	1672.1	[1.53]	11.36*	1497.6	[0.12]
Methyl (*E*)-isoeugenol	14.79	2118.0	0.04	11.36*	1497.6	[0.12]

Unknown CAOD II [m/z 119, 41 (95), 123 (53), 80 (49), 161 (44), 105 (42)... 204 (2)]				11.39*	1499.6	[1.37]
δ-Guaiene	9.76	1663.7	0.46	11.39*	1499.6	[1.37]
δ-Amorphene	9.73	1661.1	0.69	11.39*	1499.6	[1.37]
Unknown CAOD III, not seen in MS	9.64*	1653.2	[11.17]	11.46	1505.3	4.18
β-Curcumene	10.08	1689.5	0.06	11.58*	1514.3	[7.10]
γ-Cadinene	10.22*	1700.7	[1.49]	11.58*	1514.3	[7.10]
Cubebol	12.37	1888.3	0.06	11.58*	1514.3	[7.10]
(3*E*,6*E*)-α-Farnesene	10.39*†	1715.1	[6.19]	11.58*	1514.3	[7.10]
trans-Calamenene	11.04	1771.0	0.24	11.66	1520.7	0.19
Zonarene	10.22*	1700.7	[1.49]	11.70*	1524.2	[4.93]
δ-Cadinene	10.27	1704.9	4.45	11.70*	1524.2	[4.93]
trans-Cadina-1,4-diene	10.48	1723.2	0.38	11.79	1530.6	0.31
Guaiacylacetone	18.97	2569.6	0.02	11.81	1532.5	0.03
α-Cadinene	10.61	1733.9	0.31	11.85	1535.8	0.34
α-Calacorene	11.90*	1847.0	[0.04]	11.89	1538.8	0.06
cis-Dracunculifoliol	11.90*	1847.0	[0.04]	11.96	1544.1	0.01
α-Elemol	13.86	2026.9	0.48	12.00	1547.3	0.51
Germacrene B	10.88*	1757.5	[0.07]	12.05	1551.2	0.05
Sesquirosefuran?	11.94*	1849.9	[0.07]	12.10	1555.0	0.03
β-Calacorene	12.49	1899.1	0.15	12.20	1563.5	0.07
(*E*)-Nerolidol	13.62	2004.0	0.12	12.23	1565.8	0.12
(3*Z*)-Hexenyl benzoate	14.19	2059.5	0.09	12.27	1568.6	0.10
Spathulenol	14.25	2065.0	0.05	12.31	1572.2	0.06
Caryophyllene oxide	12.56	1905.9	0.57	12.37*	1576.4	[0.77]
Caryophyllene oxide isomer	12.51	1900.9	0.05	12.37*	1576.4	[0.77]
Globulol	13.70	2011.8	0.34	12.39	1578.4	0.19
Unknown MECA III [m/z 161, 105 (84), 43 (80), 119 (72), 93 (62), 121 (54)... 204 (38), 222 (2)]	13.78*	2020.0	[0.15]	12.44	1582.6	0.09
Viridiflorol	13.78*	2020.0	[0.15]	12.48	1585.8	0.09
Guaiol	13.92	2032.8	0.04	12.57	1592.8	0.02
Copaborneol	14.69*†	2108.4	[0.58]	12.60	1595.1	0.30
Humulene epoxide II	13.10	1956.3	0.13	12.69	1602.1	0.14

1,10-diepi-Cubenol	13.51	1993.8	0.12	12.79*	1610.5	[0.45]
Junenol	13.40	1983.5	0.25	12.79*	1610.5	[0.45]
1-epi-Cubenol	13.57*	1999.7	[0.32]	12.96	1624.0	0.43
γ-Eudesmol	14.66*†	2105.5	[0.28]	13.00	1627.2	0.42
τ-Muurolol	14.85*	2124.5	[0.91]	13.14*	1638.8	[1.64]
τ-Cadinol	14.69*†	2108.4	[0.58]	13.14*	1638.8	[1.64]
Cubenol	13.48	1991.0	0.23	13.14*	1638.8	[1.64]
α-Muurolol	14.99	2138.3	0.36	13.19	1643.2	0.61
Unknown cadinol analog II [m/z 95, 121 (73), 43 (57), 79 (43), 161 (43), 109 (40)... 204 (35), 222 (2)]	14.95	2134.2	0.25	13.24	1647.5	0.43
α-Cadinol	15.28	2167.7	1.68	13.28	1651.3	1.67
trans-Calamenen-10-ol	16.60	2304.3	0.02	13.39	1660.3	0.04
Bulnesol	15.07	2146.3	0.08	13.43	1663.0	0.06
Unknown CAOD I [m/z 123, 95 (31), 81 (29), 105 (27)... 222 (5)]	16.00	2241.1	0.14	13.48	1667.2	0.16
(2*E*,6*Z*)-Farnesol	16.24	2266.3	0.09	13.86	1699.1	0.03
(2*E*,6*E*)-Farnesol	16.64	2308.3	1.22	14.15	1723.9	1.21
(2*E*,6*E*)-Farnesal	15.60	2199.7	0.06	14.36	1742.3	0.05
Benzyl benzoate	18.61	2527.7	4.14	14.54	1758.4	4.16
(2*E*,6*E*)-Farnesyl acetate	15.77	2217.0	0.40	15.51	1844.3	0.46
Benzyl salicylate	19.84	2672.4	0.48	15.66	1858.0	0.48
Geranyl benzoate	18.53	2517.5	0.25	16.75	1959.5	0.26
Total reported		95.41%			97.74%	

*: 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