



GC/MS BATCH NUMBER: R20103

ESSENTIAL OIL: ROSALINA
BOTANICAL NAME: MELALEUCA ERICFOLIA
ORIGIN: AUSTRALIA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF ROSALINA OIL	%
LINALOOL	47.7
LIMONENE	15.7
1,8-CINEOLE	13.3
α -PINENE	12.5
TERPINEN-4-ol	3.4
γ -TERPINENE	2.3

Comments from Robert Tisserand: Fresh, Lavender/Eucalyptus odor quality. Constituents are in expected amounts.

Date : July 06, 2018

CERTIFICATE OF ANALYSIS – GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 18G04-PTH2-1-CC

Customer identification : Rosalina - Australia - R2010379R

Type : Essential oil

Source : *Melaleuca ericifolia*

Customer : Plant Therapy


ANALYSIS

Method: PC-PA-014-17J19 - Analysis of the composition of an essential oil, or other volatile liquid, by FAST GC-FID (in French); identifications validated by GC-MS.

Analyst : Benoit Roger, Ph. D.

Analysis date : July 05, 2018

Checked and approved by :



Alexis St-Gelais, M. Sc., chimiste 2013-174

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This report is digitally signed, it is only considered valid if the digital signature is intact.

PHYSICOCHEMICAL DATA

Physical aspect: Clear liquid

Refractive index: 1.4638 ± 0.0003 (20 °C)

CONCLUSION

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

ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
Tricyclene	0.03	0.03	Monoterpene
α -Thujene	0.09	0.09	Monoterpene
α -Pinene	12.51	12.53	Monoterpene
Camphene	0.20*	0.19	Monoterpene
α -Fenchene	[0.20]*	0.01	Monoterpene
Thuja-2,4(10)-diene	0.01	0.04*	Monoterpene
β -Pinene	0.37*	0.33	Monoterpene
Sabinene	[0.37]*	[0.04]*	Monoterpene
Myrcene	0.43	0.43	Monoterpene
α -Phellandrene	0.15	0.15	Monoterpene
Octanal	0.03	0.02	Aliphatic aldehyde
α -Terpinene	0.83	0.83	Monoterpene
para-Cymene	0.77	0.77	Monoterpene
1,8-Cineole	29.02*	13.29	Monoterpenic ether
Limonene	[29.02]*	15.66	Monoterpene
(Z)- β -Ocimene	0.04	2.40*	Monoterpene
(E)- β -Ocimene	0.01	0.02	Monoterpene
γ -Terpinene	2.34	[2.40]*	Monoterpene
Unknown	tr	tr	Oxygenated monoterpene
cis-Linalool oxide (fur.)	tr	0.01	Monoterpenic alcohol
para-Cymenene	0.34*	0.01	Monoterpene
Terpinolene	[0.34]*	0.32	Monoterpene
trans-Linalool oxide (fur.)	[0.34]*	0.02	Monoterpenic alcohol
α -Pinene oxide	0.02	0.01	Monoterpenic ether
Linalool	47.66*	47.67*	Monoterpenic alcohol
Verbenol analog?	[47.66]*	0.01	Monoterpenic alcohol
endo-Fenchol	0.01	0.01	Monoterpenic alcohol
cis-para-Menth-2-en-1-ol	0.03*	[47.67]*	Monoterpenic alcohol
α -Campholenal	[0.03]*	tr	Monoterpenic aldehyde
Unknown	0.06		Unknown
trans-Pinocarveol	0.02	0.01	Monoterpenic alcohol
trans-para-Menth-2-en-1-ol	0.01	0.01	Monoterpenic alcohol
Terpinen-4-ol	3.63	3.71*	Monoterpenic alcohol
trans-Linalool oxide (pyr.)	tr	0.01	Monoterpenic alcohol
para-Cymen-8-ol	tr	0.01	Monoterpenic alcohol
α -Terpineol	0.29	0.29	Monoterpenic alcohol
cis-Piperitol	tr	tr	Monoterpenic alcohol
trans-Piperitol	0.03	0.02	Monoterpenic alcohol
trans-Carveol	0.01	0.02	Monoterpenic alcohol
Nerol	tr	0.01	Monoterpenic alcohol
Carvone	0.02	0.03	Monoterpenic ketone
α -Copaene	0.01	0.01	Sesquiterpene
α -Gurjunene	0.02	0.02	Sesquiterpene
β -Caryophyllene	0.02	0.02	Sesquiterpene
γ -Maaliene	tr	0.01	Sesquiterpene
α -Maaliene	tr	tr	Sesquiterpene
Aromadendrene	0.07	[3.71]*	Sesquiterpene
Selina-5,11-diene	0.01	0.01	Sesquiterpene

α -Humulene	0.01	tr	Sesquiterpene
Valerena-4,7(11)-diene	0.03*	tr	Sesquiterpene
allo-Aromadendrene	[0.03]*	0.03	Sesquiterpene
γ -Gurjunene	tr	tr	Sesquiterpene
Selina-4,11-diene	0.01	0.01	Sesquiterpene
β -Selinene	0.01	0.01	Sesquiterpene
allo-Aromadendr-9-ene	0.01	0.01	Sesquiterpene
δ -Selinene	0.01	0.01	Sesquiterpene
Bicyclogermacrene	0.09*	0.03	Sesquiterpene
Viridiflorene	[0.09]*	0.06	Sesquiterpene
α -Selinene	[0.09]*	tr	Sesquiterpene
δ -Cadinene	0.08*	0.06	Sesquiterpene
<i>trans</i> -Calamenene	[0.08]*	0.01	Sesquiterpene
<i>trans</i> -Cadina-1,4-diene	0.01*	0.01	Sesquiterpene
Unknown	[0.01]*	tr	Sesquiterpene
Epiglobulol?	tr	0.01	Sesquiterpenic alcohol
Spathulenol	0.01	0.01	Sesquiterpenic alcohol
Globulol	0.02	0.02	Sesquiterpenic alcohol
Viridiflorol	0.01	0.01	Sesquiterpenic alcohol
Cubeban-11-ol	0.01	0.01*	Sesquiterpenic alcohol
Guaiol	0.01	0.01	Sesquiterpenic alcohol
Rosifoliol	0.01	0.01	Sesquiterpenic alcohol
1-epi-Cubenol	0.01	0.01	Sesquiterpenic alcohol
Cubenol	0.01	[0.01]*	Sesquiterpenic alcohol
α -Muurolol	tr	tr	Sesquiterpenic alcohol
Total identified	99.42%	99.37%	

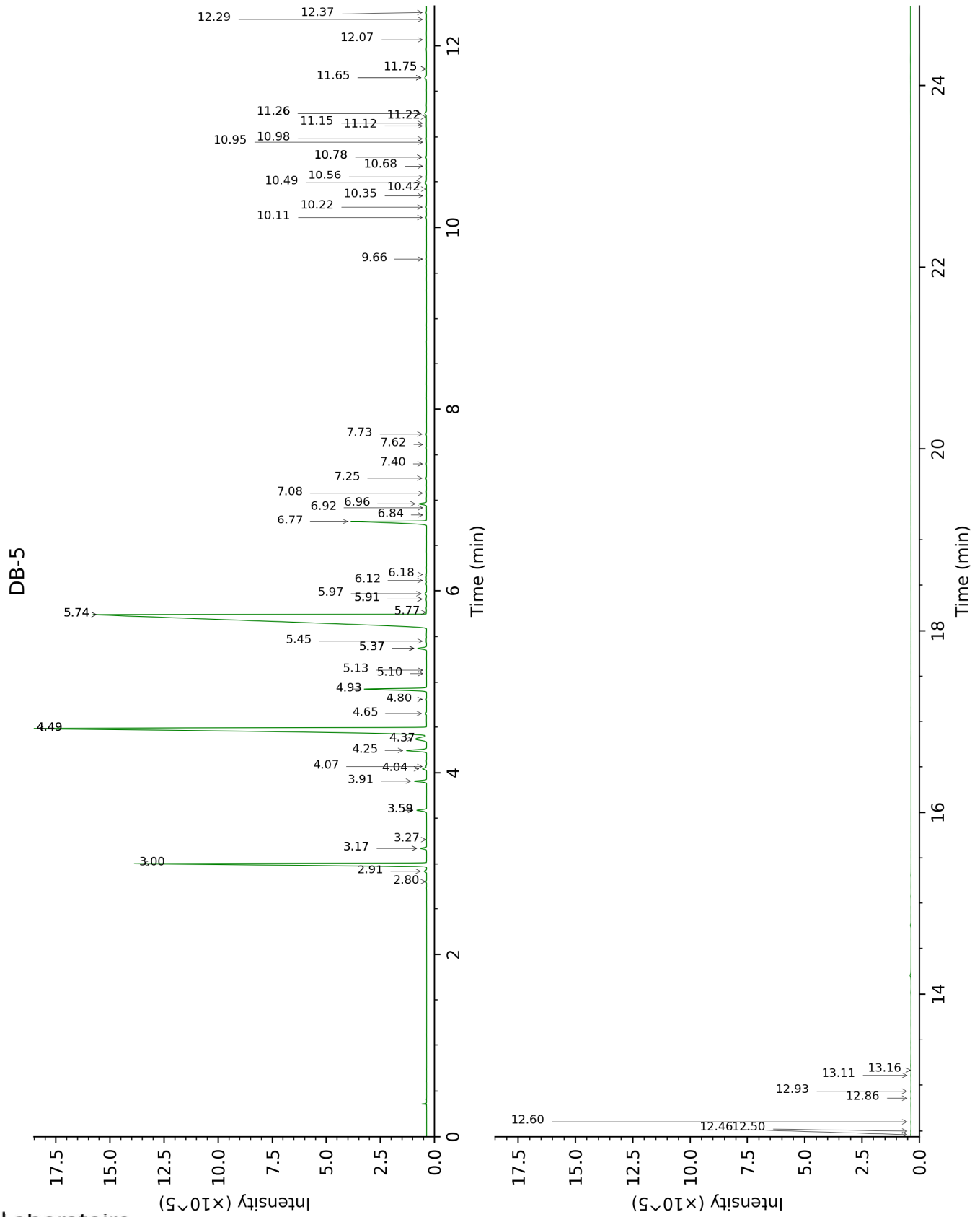
*: Two or more compounds are coeluting on this column

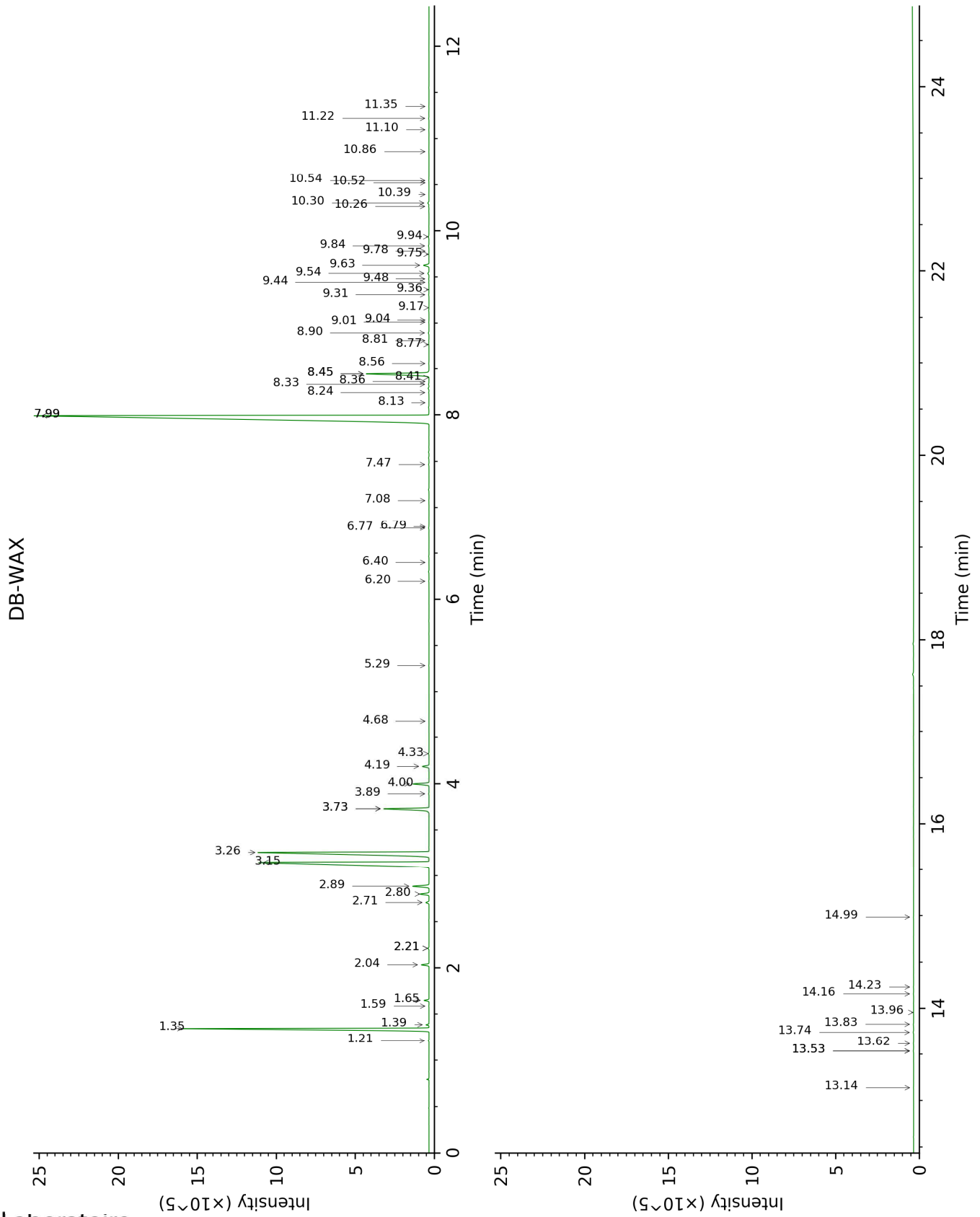
[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

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

Note: no correction factor was applied

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FULL ANALYSIS DATA

Identification	Column DB-5			Column DB-WAX		
	R.T	R.I	%	R.T	R.I	%
Tricyclene	2.80	916	0.03	1.21	975	0.03
α -Thujene	2.91	924	0.09	1.39	1004	0.09
α -Pinene	3.00	930	12.51	1.35	997	12.53
Camphene	3.17*	941	0.20	1.65	1032	0.19
α -Fenchene	3.17*	941	[0.20]	1.59	1025	0.01
Thuja-2,4(10)-diene	3.27	948	0.01	2.21*	1087	0.04
β -Pinene	3.59*	969	0.37	2.04	1070	0.33
Sabinene	3.59*	969	[0.37]	2.21*	1087	[0.04]
Myrcene	3.91	991	0.43	2.80	1138	0.43
α -Phellandrene	4.04	1000	0.15	2.71	1130	0.15
Octanal	4.07	1002	0.03	4.33	1253	0.02
α -Terpinene	4.25	1013	0.83	2.89	1144	0.83
para-Cymene	4.37	1021	0.77	4.00	1230	0.77
1,8-Cineole	4.49*	1028	29.02	3.26	1173	13.29
Limonene	4.49*	1028	[29.02]	3.15	1165	15.66
(Z)- β -Ocimene	4.65	1038	0.04	3.73*	1210	2.40
(E)- β -Ocimene	4.80	1048	0.01	3.89	1222	0.02
γ -Terpinene	4.93	1056	2.34	3.73*	1210	[2.40]
Unknown [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	5.10	1067	tr	4.68	1278	tr
cis-Linalool oxide (fur.)	5.13	1069	tr	6.40	1403	0.01
para-Cymenene	5.37*	1084	0.34	6.20	1389	0.01
Terpinolene	5.37*	1084	[0.34]	4.19	1243	0.32
trans-Linalool oxide (fur.)	5.37*	1084	[0.34]	6.77	1431	0.02
α -Pinene oxide	5.45	1089	0.02	5.29	1323	0.01
Linalool	5.74*	1108	47.66	7.99*	1523	47.67
Verbenol analog?	5.74*	1108	[47.66]	8.13	1534	0.01
endo-Fenchol	5.77	1109	0.01	8.24	1543	0.01
cis-para-Menth-2-en-1-ol	5.91*	1118	0.03	7.99*	1523	[47.67]
α -Campholenal	5.91*	1118	[0.03]	6.79	1432	tr
Unknown [m/z 43, 70 (95), 81 (71), 55 (55), 41 (47)...]	5.97	1122	0.06			
trans-Pinocarveol	6.12	1132	0.02	9.01	1603	0.01
trans-para-Menth-2-en-1-ol	6.18	1136	0.01	8.81	1587	0.01
Terpinen-4-ol	6.77	1174	3.63	8.45*	1559	3.71
trans-Linalool oxide (pyr.)	6.84	1178	tr	10.39	1716	0.01
para-Cymen-8-ol	6.92	1183	tr	11.35	1798	0.01
α -Terpineol	6.96	1186	0.29	9.63	1653	0.29

<i>cis</i> -Piperitol	7.08	1194	tr	9.36	1632	tr
<i>trans</i> -Piperitol	7.25	1204	0.03	10.26	1705	0.02
<i>trans</i> -Carveol	7.40	1215	0.01	11.22	1787	0.02
Nerol	7.62	1229	tr	10.86	1756	0.01
Carvone	7.73	1237	0.02	9.84	1670	0.03
α -Copaene	9.66	1370	0.01	7.08	1454	0.01
α -Gurjunene	10.11	1402	0.02	7.47	1483	0.02
β -Caryophyllene	10.22	1410	0.02	8.33	1550	0.02
γ -Maaliene	10.35	1420	tr	8.36	1552	0.01
α -Maaliene	10.42	1425	tr	8.41	1556	tr
Aromadendrene	10.49	1430	0.07	8.45*	1559	[3.71]
Selina-5,11-diene	10.56	1435	0.01	8.56	1567	0.01
α -Humulene	10.68	1444	0.01	9.17	1616	tr
Valerena-4,7(11)-diene	10.78*	1452	0.03	8.77	1584	tr
allo-Aromadendrene	10.78*	1452	[0.03]	8.90	1594	0.03
γ -Gurjunene	10.94	1464	tr	9.04	1605	tr
Selina-4,11-diene	10.98	1467	0.01	9.31	1627	0.01
β -Selinene	11.12	1478	0.01	9.75	1663	0.01
allo-Aromadendrene	11.15	1480	0.01	9.44	1638	0.01
δ -Selinene	11.22	1485	0.01	9.48	1641	0.01
Bicyclogermacrene	11.26*	1488	0.09	9.94	1678	0.03
Viridiflorene	11.26*	1488	[0.09]	9.54	1646	0.06
α -Selinene	11.26*	1488	[0.09]	9.78	1666	tr
δ -Cadinene	11.65*	1518	0.08	10.30	1708	0.06
<i>trans</i> -Calamenene	11.65*	1518	[0.08]	11.10	1777	0.01
<i>trans</i> -Cadina-1,4-diene	11.75*	1525	0.01	10.54	1729	0.01
Unknown [m/z 119, 105 (53), 161 (33), 93 (28), 91 (25), 40 (20)...204]	11.75*	1525	[0.01]	10.52	1727	tr
Epiglobulol?	12.07	1550	tr	13.14	1960	0.01
Spathulenol	12.29	1568	0.01	14.23	2064	0.01
Globulol	12.37	1574	0.02	13.74	2016	0.02
Viridiflorol	12.46	1581	0.01	13.83	2025	0.01
Cubeban-11-ol	12.50	1584	0.01	13.53*	1997	0.01
Guaiol	12.60	1592	0.01	13.96	2037	0.01
Rosifoliol	12.86	1613	0.01	14.16	2057	0.01
1-epi-Cubenol	12.93	1620	0.01	13.62	2004	0.01
Cubenol	13.11	1634	0.01	13.53*	1997	[0.01]
α -Muurolol	13.16	1638	tr	14.99	2139	tr
Total identified	99.42%			99.37%		
Total reported	99.49%			99.38%		

*: Two or more compounds are coeluting on this column

[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

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