

GC/MS BATCH NUMBER: M40106

ESSENTIAL OIL: MYRRH

BOTANICAL NAME: COMMIPHORA MYRRHA

ORIGIN: ETHIOPIA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF MYRRH OIL	%
FURANOEDESMA-1,3-DIENE	32.2
UNIDENTIFIED FURANOEUDSMANE	15.6
CURZERENE	15.1
LINDESTRENE	10.5
2-METHOXYFURANODIENE	3.4
GERMACRENE B	3.4
β-ELEMENE	3.2
GERMACRENE D	1.3

Comments from Robert Tisserand: Excellent rich, green-woody odor profile. Constituents are in expected amounts.

Date : December 19, 2017

SAMPLE IDENTIFICATION

Internal code : 17L18-PTH4-1-CC

Customer identification : Myrrh - Ethiopia - M4010672R

Type : Essential oil

Source : *Commiphora myrrha*

Customer : Plant Therapy

ANALYSIS

Method : PC-PA-001-15E06, "Analysis of the composition of a liquid essential oil by GC-FID" (in French).

Identifications double-checked by GC-MS

Analyst : Benoit Roger Ph. D.

Analysis date : 2017-12-19

Checked and approved by :

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

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IDENTIFIED COMPOUNDS

Identification	Column: BP5			Column: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
<i>trans</i> - β -Ocimene	5.54	1047	0.08	0.08	1199	3.58	Monoterpene
δ -Elemene	15.37	1322	0.61	0.68	1417	6.98	Sesquiterpene
α -Cubebene	16.03	1332	0.02	0.01	1409	6.78	Sesquiterpene
α -Copaene	17.76	1358	0.06	0.06	1430	7.29	Sesquiterpene
β -Bourbonene	18.20	1365	0.24	0.28	1451	7.77	Sesquiterpene
β -Elemene	19.09	1378	3.17	3.72	1523	9.67*	Sesquiterpene
β -Caryophyllene	20.69	1401	0.41	[3.72]	1523	9.67*	Sesquiterpene
β -Copaene	21.60	1412	0.06	0.08	1503	9.02	Sesquiterpene
γ -Elemene	21.97	1417	0.30	0.28	1565	11.23	Sesquiterpene
<i>cis</i> -Muurolo-3,5-diene	23.09	1430	0.02	0.02	1549	10.63	Sesquiterpene
α -Humulene	23.50	1435	0.18	0.19	1578	11.72	Sesquiterpene
γ -Gurjunene	25.20	1455	0.10	0.09	1594	12.28	Sesquiterpene
γ -Muurolole	25.43	1458	0.02	0.10	1609	12.85	Sesquiterpene
Germacrene D	25.76	1462	1.32	1.73	1619	13.35*	Sesquiterpene
β -Selinene	26.37	1469	0.35	[1.73]	1619	13.35*	Sesquiterpene
α -Selinene	27.01	1477	0.34	0.49	1630	13.92	Sesquiterpene
Curzerene	27.98	1488	15.13	14.47	1770	22.01	Sesquiterp. ether
γ -Cadinene	28.56	1495	0.07	1.24	1659	15.45*	Sesquiterpene
β -Bisabolene	28.89	1499	0.20	[1.24]	1659	15.45*	Sesquiterpene
δ -Cadinene	29.54	1508	0.30	0.31	1670	16.01	Sesquiterpene
<i>trans</i> - γ -Bisabolene	30.57	1523	0.04	0.08	1675	16.27*	Sesquiterpene
Selina-3,7(11)-diene	30.86	1527	0.05	[0.08]	1675	16.27*	Sesquiterpene
Germacrene B	32.25	1547	3.36	3.46	1719	18.64	Sesquiterpene
α -Elemol	32.82	1554	0.14	44.76	1994	36.00*	Sesquiterp. alcohol
Spathulenol	33.92	1570	0.03	0.03	2017	37.02	Sesquiterp. alcohol
(<i>E</i>)-Nerolidol	34.12	1573	0.59	[44.76]	1994	36.00*	Sesquiterp. alcohol
<i>cis</i> - β -Elemenone?	35.60	1594	0.07				Sesquiterp. ketone
Curzerenone	35.93	1598	0.05				Sesquiterp. ketone
Furanoedesma-1,3-diene	36.91	1622	32.19	[44.76]	1994	36.00*	Sesquiterp. ether
Lindestrene	37.17	1629	10.48	[44.76]	1994	36.00*	Sesquiterp. ether
Cubenol	37.29	1632	0.05	0.95	1944	33.74*	Sesquiterp. alcohol
τ -Cadinol	37.49	1637	0.11	0.48	2061	38.49	Sesquiterp. alcohol
τ -Muurolol	37.68	1641	0.49	0.37	2096	39.56	Sesquiterp. alcohol
Furanodiene	37.82	1645	0.12	[44.76]	1994	36.00*	Sesquiterp. ether
Isofuranogermacrene	37.90	1647	0.07	[44.76]	1994	36.00*	Sesquiterp. ether
α -Cadinol	38.04	1650	0.51	3.59	2121	40.33*	Sesquiterp. alcohol
Elemyl acetate	38.58	1664	0.98	[0.95]	1944	33.74*	Sesquiterp. ester
Germacrene	39.05	1675	0.18	1.20	2071	38.77	Sesquiterp. ketone
Unidentified furanoedesmane	39.53	1687	15.59	15.45	2049	38.10	Sesquiterp. ether
2-Methoxyfuranodiene	40.46	1713	3.39	[3.59]	2121	40.33*	Sesquiterp. ether

Benzyl benzoate	42.34	1772	0.10	0.15	2471	48.41	Phenolic ester
Unknown, not seen in MS	44.05	1831	1.64	1.42	2292	44.60	Unknown
2-Acetoxyfuranodiene	45.62	1888	0.20	0.21	2430	47.58	Sesquiterpic
Total identified	93.41%			95.98%			

*: Two or more compounds are coeluting on this column

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

Note: no correction factor was applied

OTHER DATA

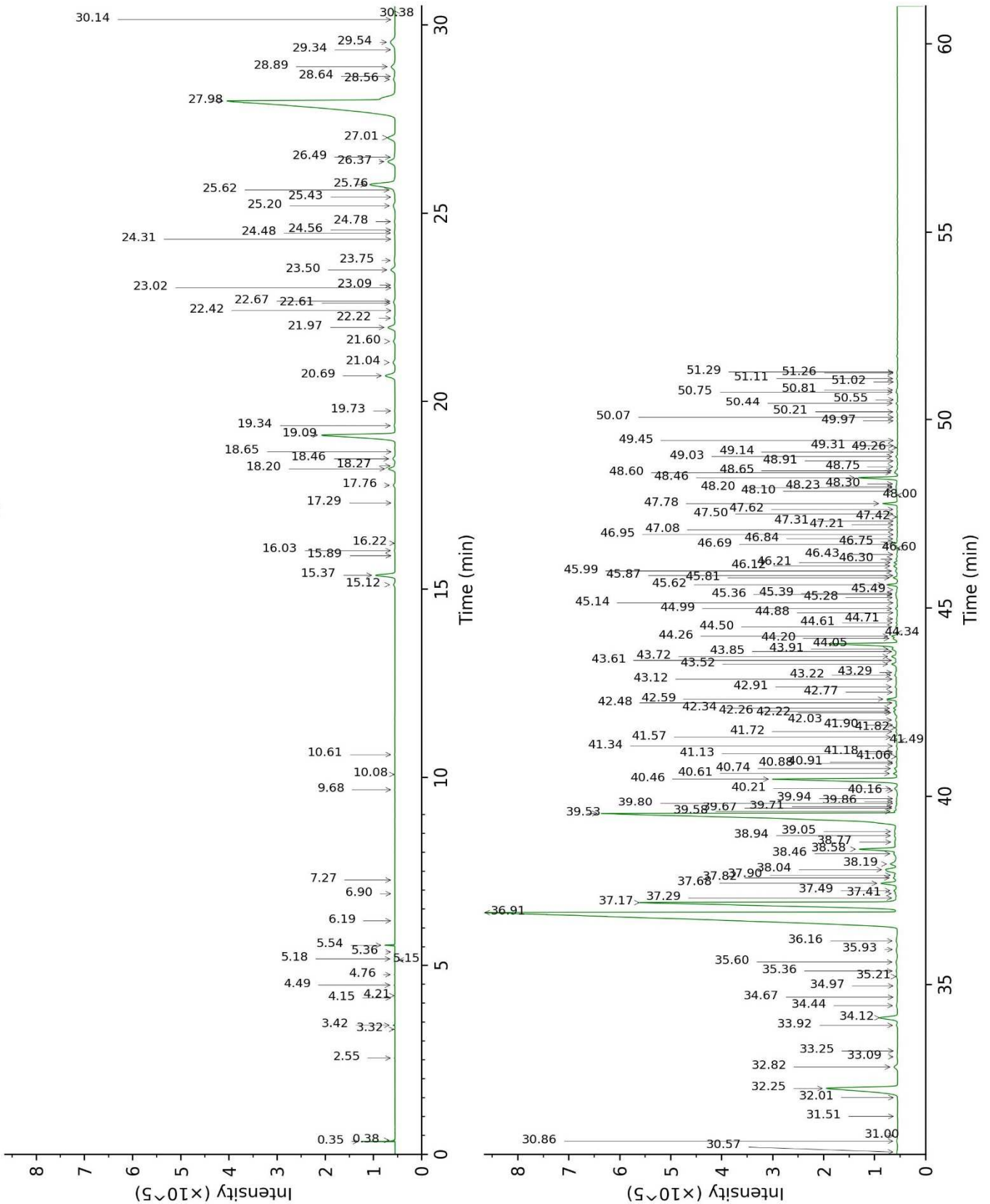
Physical aspect : Yellow viscous liquid

Refractive index : 1.5285 ± 0.0003 (20 °C)

CONCLUSION

No adulterant, contaminant or diluent were detected using this method.

17L18-PTH4-1-CC_BP5



17L18-PTH4-1-CC_WAX

