



PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: M40105

ESSENTIAL OIL: MYRRH

BOTANICAL NAME: COMMIPHORA MYRRHA

ORIGIN: FRANCE

KEY CONSTITUENTS PRESENT IN THIS BATCH OF MYRRH OIL	%
CURZERENE	29.0
FURANOEDESMA-1,3-DIENE	28.8
LINDESTRENE	9.6
β-ELEMENE	4.9
2-METHOXYFURANODIENE	2.8
GERMACRENE B	2.1
γ-ELEMENE	1.7

Comments from Robert Tisserand: Classic bitter-sweet, green-woody odor profile. Constituents are in expected amounts. No red flags.

Date : July 13, 2017

SAMPLE IDENTIFICATION

Internal code : 17G05-PTH6-1-DM

Customer identification : Myrrh - France - M4010571R

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).

Analyst : Benoit Roger Ph. D.

Analysis date : 2017-07-12

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.	
α -Pinene	3.43	930	0.03	0.03	943	1.02	Monoterpene
Δ^3 -Carene	4.77	1008	0.01	0.01	1087	2.03	Monoterpene
Limonene	5.18	1031	0.02	0.01	1139	2.58	Monoterpene
<i>cis</i> - β -Ocimene	5.55	1051	0.06	0.05	1198	3.35	Monoterpene
<i>trans</i> - β -Ocimene	5.73	1061	tr	tr	1204	3.41	Monoterpene
δ -Elemene	15.36	1326	0.78	0.84	1420	6.59	Sesquiterpene
α -Cubebene	16.02	1335	0.03	0.03	1408	6.42	Sesquiterpene
Sativene	17.27	1354	0.04	0.02	1447	7.12	Sesquiterpene
α -Copaene	17.74	1362	0.09	0.10	1437	6.89	Sesquiterpene
β -Bourbonene	18.17	1368	0.28	0.32	1455	7.31	Sesquiterpene
β -Elemene	19.07	1382	4.89	5.15	1529	9.05*	Sesquiterpene
α -Gurjunene	19.34	1386	0.03	0.02	1463	7.50	Sesquiterpene
β -Caryophyllene	20.65	1405	0.46	0.36	1521	8.86	Sesquiterpene
α -Santalene	21.02	1409	0.12	0.08	1502	8.41	Sesquiterpene
β -Copaene	21.56	1415	0.07	0.24	1512	8.65	Sesquiterpene
γ -Elemene	21.96	1420	1.72	1.73	1570	10.44	Sesquiterpene
α -Guaiene	22.21	1423	0.03	[5.15]	1529	9.05*	Sesquiterpene
6,9-Guaiadiene	22.62	1428	0.07	[5.15]	1529	9.05*	Sesquiterpene
<i>cis</i> -Muuro-la-3,5-diene	23.12	1434	0.04	0.11	1563	10.17*	Sesquiterpene
α -Humulene	23.43	1438	0.20	0.20	1582	10.85	Sesquiterpene
allo-Aromadendrene	23.69	1441	0.05	[0.11]	1563	10.17*	Sesquiterpene
γ -Gurjunene	24.71	1453	0.03	0.17	1609	11.86*	Sesquiterpene
<i>trans</i> -Cadin-1(6),4-diene	25.16	1459	0.15	0.13	1595	11.35	Sesquiterpene
γ -Muuro-lene	25.53	1463	0.11	[0.17]	1609	11.86*	Sesquiterpene
Germacrene D	25.66	1465	0.60	0.63	1624	12.36	Sesquiterpene
β -Selinene	26.28	1472	0.68	0.61	1629	12.55	Sesquiterpene
Bicyclogermacrene	26.43	1474	0.07	0.07	1650	13.45	Sesquiterpene
α -Selinene	26.93	1480	0.63	0.68	1637	12.89	Sesquiterpene
Curzerene	27.98	1493	28.96	29.91	1780	20.57	Sesquiterp. ether
γ -Cadinene	28.52	1499	0.12	0.09	1666	14.22	Sesquiterpene
δ -Cadinene	28.81	1503	0.29	0.21	1671	14.49	Sesquiterpene
<i>trans</i> - γ -Bisabolene	29.44	1512	0.28	0.18	1676	14.77	Sesquiterpene
Selina-3,7(11)-diene	30.48	1526	0.19	0.35	1683	15.15*	Sesquiterpene
α -Cadinene	30.78	1531	0.19	[0.35]	1683	15.15*	Sesquiterpene
Germacrene B	32.13	1549	2.14	2.14	1724	17.26	Sesquiterpene
α -Elemol	32.61	1556	0.21	0.27	1991	34.17	Sesquiterp. alcohol
Spathulenol	34.00*	1575	0.48	0.08	2017	35.32	Sesquiterp. alcohol
(<i>E</i>)-Nerolidol	34.00*	1575	[0.48]	0.13	1980	33.68	Sesquiterp. alcohol
<i>cis</i> - β -Elemenone?	35.47	1596	0.18				Sesquiterp. ketone
Curzerenone	35.79	1601	0.33				Sesquiterp. ketone
Furanoedesma-1,3-diene	36.77	1625	28.80	40.50	2005	34.77*	Sesquiterp. ether

Lindestrene	37.04	1631	9.58	[40.50]	2005	34.77*	Sesquiterp. ether
Cubenol	37.33	1638	0.11	1.22	1950	32.15*	Sesquiterp. alcohol
τ -Cadinol	37.55	1644	0.62	0.73	2070	37.51	Sesquiterp. alcohol
τ -Muurolol	37.64	1646	0.03	0.04	2102	38.49	Sesquiterp. alcohol
Furanodiene	37.92	1653	0.40	[40.50]	2005	34.77*	Sesquiterp. ether
Isofuranogermacrene	37.98	1654	0.43	[40.50]	2005	34.77*	Sesquiterp. ether
α -Cadinol	38.05	1656	0.22	0.10	2112	38.79	Sesquiterp. alcohol
Elemyl acetate	38.56	1668	1.14	[1.22]	1950	32.15*	Sesquiterp. ester
Germacrene	39.19	1684	0.64	0.86	2078	37.74	Sesquiterp. ketone
Unidentified furanoeudesmane	39.29	1686	1.27	1.47	2053	36.87	Sesquiterp. ether
2-Methoxyfuranodiene	40.38	1717	2.77	3.04	2132	39.39	Sesquiterp. ether
Benzyl benzoate	42.31	1777	0.10	0.09	2479	47.58	Phenolic ester
2-Acetoxyfuranodiene	45.59	1894	0.99	1.05	2440	46.77	Sesquiterp. ester
Unknown (m/z = 197, 108 (82), 43 (64), 212 (54), 169 (43), 79 (37), 183 (34)... 272 (9))	48.38	2006	0.44				
Total identified			92.20%	94.05%			

*: 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

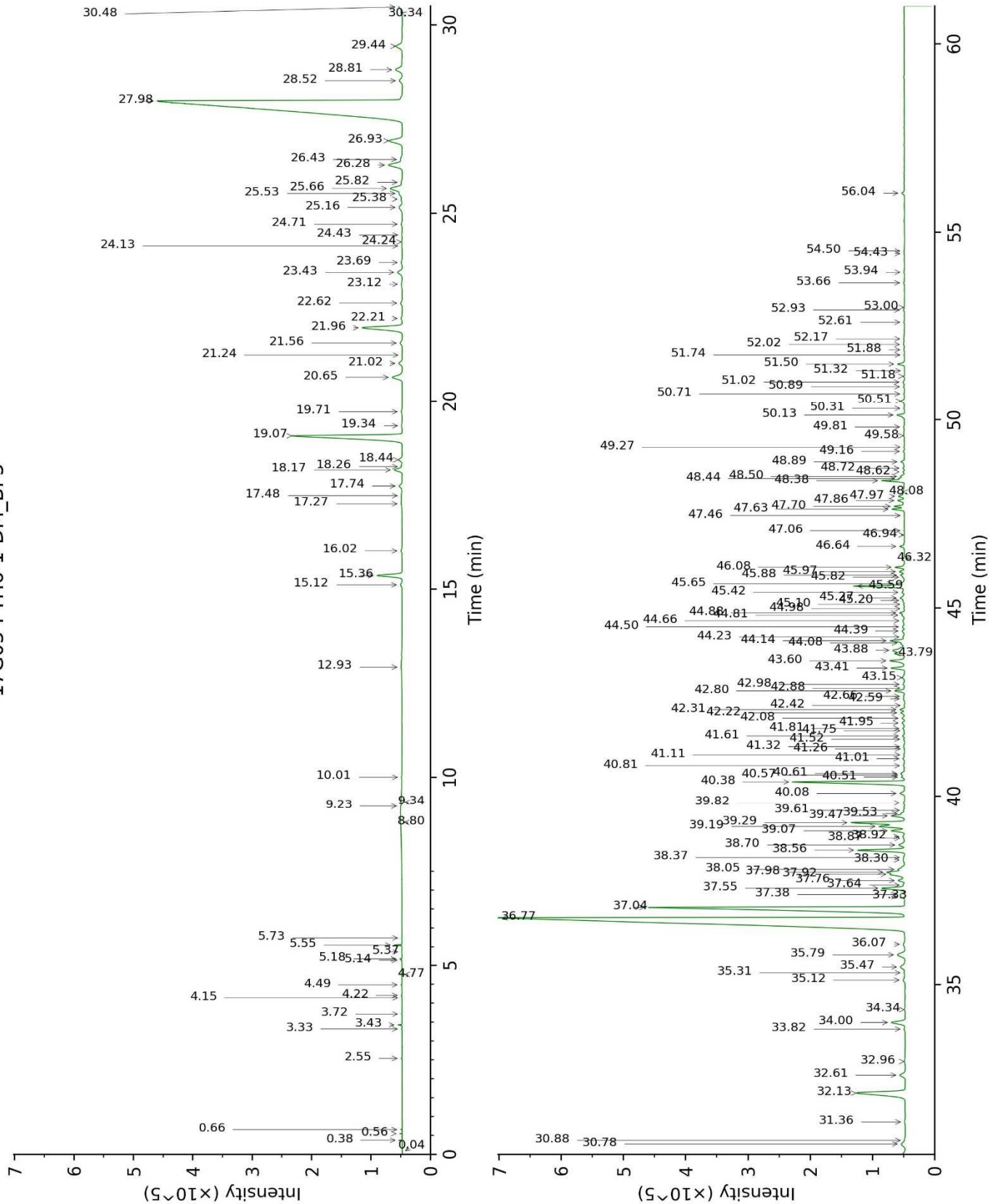
Physical aspect : Yellow liquid

Refractive index : 1.5150 \pm 0.0003 (20 °C)

CONCLUSION

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

17G05-PTH6-1-DM_BP5



17G05-PTH6-1-DM_WAX

