

GC/MS BATCH NUMBER: M40103

ESSENTIAL OIL: MYRRH

BOTANICAL NAME: COMMIPHORA MYRRHA

ORIGIN: SOMALIA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF MYRRH OIL	%
(1,3)-FURANOEUDESMA-DIENE	28.7
CURZERENE	26.3
LINDESTRENE	8.5
β -ELEMENE	3.9
2-METHOXYFURANODIENE	3.0
GERMACRENE B	1.9
γ -ELEMENE	1.3
ELEMYL ACETATE	1.2
2-ACETOXYFURANODIENE	1.0

Comments from Robert Tisserand: The odor profile and appearance are very good, and the composition is as expected for a genuine Myrrh oil.

Date : August 8, 2016

SAMPLE IDENTIFICATION

Internal code : 16G25-PTH1-1-SM

Customer identification : Myrrh - M4010363R

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 : Sylvain Mercier, M. Sc., chimiste

Analysis date : 2016-08-08

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-Thujene	3.24	923	0.01	0.01	951	0.91	Monoterpene
α-Pinene	3.35	929	0.05	0.04	944	0.88	Monoterpene
Myrcene	4.40	993	0.01	0.01	1113	2.02	Monoterpene
Δ3-Carene	4.67	1009	0.01	0.01	1088	1.79	Monoterpene
para-Cymene	5.05	1030	0.01	0.02	1206	3.10	Monoterpene
Limonene	5.08	1031	0.05	0.04	1137	2.30	Monoterpene
trans-β-Ocimene	5.45	1052	0.09	0.08	1200	3.03	Monoterpene
δ-Elemene	15.02	1327	0.92	1.01	1419	6.17	Sesquiterpene
α-Cubebene	15.65	1337	0.03	0.03	1411	6.01	Sesquiterpene
α-Copaene	17.33	1362	0.12	0.13	1435	6.44	Sesquiterpene
β-Bourbonene	17.75	1369	0.32	0.36	1454	6.81	Sesquiterpene
β-Elemene	18.64	1382	3.91	4.34	1527	8.34*	Sesquiterpene
α-Gurjunene	19.28	1392	0.03	0.03	1461	6.96	Sesquiterpene
β-Caryophyllene	20.19	1405	0.47	[4.34]	1527	8.34*	Sesquiterpene
β-Copaene	20.57	1410	0.13	0.09	1506	7.81	Sesquiterpene
γ-Elemene	21.50	1421	1.25	1.29	1569	9.61	Sesquiterpene
α-Humulene	22.94	1439	0.22	0.33	1582	10.02	Sesquiterpene
γ-Gurjunene	24.63	1459	0.19	0.15	1597	10.48	Sesquiterpene
γ-Murolene	25.02	1464	0.15	0.23	1613	10.94	Sesquiterpene
Germacrene D	25.13	1465	0.61	0.70	1627	11.54	Sesquiterpene
β-Selinene	25.73	1473	0.60	0.55	1623	11.37	Sesquiterpene
α-Selinene	26.37	1480	0.57	0.69	1634	11.85	Sesquiterpene
Curzerene	27.46	1494	26.32	27.23	1775	18.98	Sesquiterp. ether
γ-Cadinene	28.25	1503	0.46	0.39	1668	13.39	Sesquiterpene
δ-Cadinene	28.86	1511	0.38	0.35	1681	13.95	Sesquiterpene
Selina-3,7(11)-diene	29.89	1526	0.15	0.28	1674	13.64	Sesquiterpene
Germacrene B	31.60	1549	1.92	1.90	1723	15.93	Sesquiterpene
α-Elemol	32.29	1558	0.16	38.93	1996	33.28*	Sesquiterp. alcohol
(E)-Nerolidol	33.63	1577	0.48	[38.93]	1996	33.28*	Sesquiterp. alcohol
cis-β-Elemenone?	35.16	1598	0.19				Sesquiterp. ketone
Curzerenone	35.54	1603	0.25				Sesquiterp. ketone
Furanoeudesma-1,3-diene	36.45	1625	28.65	[38.93]	1996	33.28*	Sesquiterp. ether
Lindestrene	36.73	1631	8.54	[38.93]	1996	33.28*	Sesquiterp. ether
Cubenol	36.86	1634	0.24	1.31	1945	30.19*	Sesquiterp. alcohol
τ-Cadinol	37.31	1645	0.89	0.91	2067	36.48	Sesquiterp. alcohol
τ-Murolol	37.47	1649	0.20	0.26	2082	37.04	Sesquiterp. alcohol
Furanodiene	37.64	1654	0.36	[38.93]	1996	33.28*	Sesquiterp. ether
Isofuranogermacrene	37.68	1654	0.51	0.44	1985	32.61	Sesquiterp. ether
α-Cadinol	37.83	1658	0.23	3.21	2122	38.44*	Sesquiterp. alcohol
Elemyl acetate	38.33	1670	1.24	[1.31]	1945	30.19*	Sesquiterp. ester
Germacrene	38.98	1686	0.76	0.92	2071	36.65	Sesquiterp. ketone

Unidentified furanoeudesmane	39.02	1687	1.57	1.67	2043	35.67	Sesquiterp. ether
2-Methoxyfuranodiene	40.17	1718	3.03	[3.21]	2122	38.44*	Sesquiterp. ether
Benzyl benzoate	42.08	1779	0.11	0.11	2477	46.79	Phenolic ester
2-Acetoxyfuranodiene	45.41	1896	0.92	1.07	2436	46.00	Sesquiterp. ether
Total identified			86.80%	88.68%			

*: 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 : 1.5155 ± 0.0003 (20 °C)

CONCLUSION

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



