

GC/MS BATCH NUMBER: Y10106

ESSENTIAL OIL: YLANG YLANG COMPLETE
BOTANICAL NAME: CANANGA ODORATA
ORIGIN: FRANCE

KEY CONSTITUENTS PRESENT IN THIS BATCH OF YLANG YLANG COMPLETE OIL	%
GERMACRENE D	13.2
β-CARYOPHYLLENE	12.4
LINALOOL	9.1
BENZYL BENZOATE	7.1
GERANYL ACETATE	6.6
(E,E)-α-FARNESENE	6.1
BENZYL ACETATE	5.7
para-METHYLANISOLE	4.6
α-HUMULENE	3.4
METHYL BENZOATE	2.7
BENZYL SALICYLATE	2.6
δ-CADINENE	2.3
(E)-CINNAMYL ACETATE	1.8
δ-GUAIENE	1.7
(2E,6E)-FARNESOL	1.7
(2E,6E)-FARNESYL ACETATE	1.3
α-CADINOL	1.3

Comments from Robert Tisserand: Beautiful soft, floral odor profile. Constituents are in expected amounts.

Date : August 9, 2017

SAMPLE IDENTIFICATION

Internal code : 17H03-PTH1-1-DM

Customer identification : Ylang Complete - France - Y1010676R

Type : Essential oil

Source : *Cananga odorata*

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 : Sylvain Mercier, M. Sc., chimiste

Analysis date : 2017-08-09

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.	
2-Methyl-3-buten-2-ol	0.54	657	0.02	0.01	975	1.37	Aliphatic alcohol
Isoamyl acetate	2.70	880	0.01	0.02	1068	2.15*	Aliphatic ester
3-Methyl-3-buten-1-yl acetate	2.80	888	0.21	0.22	1142	3.02	Aliphatic ester
α -Pinene	3.43*	927	0.69	0.21	948	1.23	Monoterpene
Prenyl acetate	3.43*	927	[0.69]	0.47	1204	3.82*	Aliphatic ester
Camphene	3.71	944	tr	0.01	1008	1.63	Monoterpene
Sabinene	4.14	969	0.01	[0.02]	1068	2.15*	Monoterpene
β -Pinene	4.20	973	0.08	0.08	1042	1.92	Monoterpene
Benzaldehyde	4.23	974	0.02	0.02	1439	7.82	Simple phenolic
Myrcene	4.48	989	0.11	0.10	1116	2.69	Monoterpene
6-Methyl-5-hepten-2-one	4.56	994	0.01	0.01	1282	4.98	Aliphatic ketone
<i>cis</i> -Hex-3-en-1-yl acetate	4.88	1011	0.08	0.08	1267	4.75	Aliphatic ester
Hexyl acetate	5.01	1018	0.10	0.11	1225	4.14	Aliphatic ester
<i>para</i> -Methylanisole	5.19	1028	4.64	4.46	1371	6.38	Simple phenolic
Limonene	5.24	1031	0.22	0.22	1146	3.08	Monoterpene
<i>cis</i> - β -Ocimene	5.36	1037	0.01	0.01	1192	3.63	Monoterpene
<i>trans</i> - β -Ocimene	5.54	1047	0.02	[0.47]	1204	3.82*	Monoterpene
Benzyl alcohol	5.68	1055	0.10	1.22	1786	24.19*	Simple phenolic
<i>cis</i> -Linalool oxide (fur.)	6.00	1073	0.02	0.01	1382	6.56	Monoterp. alcohol
<i>trans</i> -Linalool oxide (fur.)	6.32	1090	0.02	0.03	1415	7.27	Monoterp. alcohol
Methyl benzoate	6.62	1103	2.65	2.69	1535	10.66	Phenolic ester
Linalool	6.76	1108	9.14	8.84	1502	9.45*	Monoterp. alcohol
Benzyl acetate	8.47	1171	5.66	6.34	1644	15.50*	Phenolic ester
Ethyl benzoate	8.60	1175	0.05	3.76	1584	12.52*	Phenolic ester
Methyl salicylate	9.28	1199	0.09	0.07	1662	16.41	Phenolic ester
α -Terpineol	9.45	1203	0.25	13.20	1623	14.38*	Monoterp. alcohol
Geraniol	11.87*	1256	1.17	[1.22]	1786	24.19*	Monoterp. alcohol
Phenylethyl acetate	11.87*	1256	[1.17]	0.16	1729	20.43	Phenolic ester
Geranial	12.67	1274	0.04	0.04	1655	16.05	Monoterp. aldehyde
Prenyl hexanoate	13.51	1292	0.15	12.47	1524	10.25*	Aliphatic ester
1-Nitro-2-phenylethane	14.62	1311	0.04				Simple phenolic
α -Cubebene	15.98	1331	0.11	0.15	1406	7.05	Sesquiterpene
α -Ylangene	17.23	1350	0.17	0.17	1423	7.45	Sesquiterpene
α -Copaene	17.71*	1357	1.51	0.85	1431	7.63	Sesquiterpene
Eugenol	17.71*	1357	[1.51]	0.83	2068	39.32	Phenylpropanoid
Neryl acetate	17.86	1359	0.03	0.02	1657	16.17	Monoterp. ester
β -Cubebene	18.68	1372	0.13	0.11	1477	8.73	Sesquiterpene
β -Elemene	18.94	1376	0.31	[12.47]	1524	10.25*	Sesquiterpene
Geranyl acetate	19.53	1385	6.63	12.45	1698	18.33*	Monoterp. ester
β -Caryophyllene	20.80	1403	12.38	[12.47]	1524	10.25*	Sesquiterpene

β -Copaene	21.54	1411	0.38	[8.84]	1502	9.45*	Sesquiterpene
<i>trans</i> - α -Bergamotene	22.01	1417	0.05	[12.47]	1524	10.25*	Sesquiterpene
<i>cis</i> -Muurolole-3,5-diene	23.08*	1430	0.48	0.15	1552	11.29	Sesquiterpene
<i>cis</i> - β -Farnesene	23.08*	1430	[0.48]	[3.76]	1584	12.52*	Sesquiterpene
α -Humulene	23.48	1435	3.37	[3.76]	1584	12.52*	Sesquiterpene
allo-Aromadendrene	24.08	1442	0.10	0.07	1567	11.86	Sesquiterpene
<i>trans</i> - β -Farnesene	24.58	1448	0.07	[13.20]	1623	14.38*	Sesquiterpene
(<i>E</i>)-Cinnamyl acetate	25.16*	1455	2.31	1.76	2045	38.62	Phenylpropanoid ester
(<i>E</i>)-Isoeugenol	25.16*	1455	[2.31]	0.48	2242	43.93	Phenylpropanoid
Germacrene D	25.87*	1463	14.60	[13.20]	1623	14.38*	Sesquiterpene
α -Amorphene	25.87*	1463	[14.60]	1.54	1612	13.76*	Sesquiterpene
β -Selinene	26.29	1468	0.03	[13.20]	1623	14.38*	Sesquiterpene
Viridiflorene	26.45	1470	0.21	[1.54]	1612	13.76*	Sesquiterpene
Bicyclogermacrene	26.91*	1475	0.88	0.23	1641	15.30	Sesquiterpene
α -Selinene	26.91*	1475	[0.88]	0.48	1632	14.85	Sesquiterpene
α -Muurolole	27.69	1485	0.75	[6.34]	1644	15.50*	Sesquiterpene
δ -Guaiene	27.94	1488	1.71	1.56	1629	14.66	Sesquiterpene
(<i>Z,E</i>)- α -Farnesene	28.26	1492	0.42	2.45	1675	17.15*	Sesquiterpene
γ -Cadinene	28.72	1497	0.72	0.84	1667	16.73	Sesquiterpene
(<i>E,E</i>)- α -Farnesene	29.31	1505	6.07	[12.45]	1698	18.33*	Sesquiterpene
δ -Cadinene	29.49	1508	2.31	[2.45]	1675	17.15*	Sesquiterpene
<i>trans</i> -Calamenene	29.79	1512	0.10	0.09	1733	20.65	Sesquiterpene
<i>trans</i> -Cadinole-1,4-diene	30.52	1522	0.14	[12.45]	1698	18.33*	Sesquiterpene
α -Cadinene	30.86	1527	0.20	0.17	1703	18.67	Sesquiterpene
α -Elemol	32.59	1551	0.05	0.06	1997	37.05	Sesquiterp. alcohol
Caryophyllene oxide	33.84*	1569	0.25	0.14	1844	28.44	Sesquiterp. ether
Spathulenol	33.84*	1569	[0.25]	0.02	2017	37.71	Sesquiterp. alcohol
(<i>E</i>)-Nerolidol	34.30	1575	0.11	0.10	1995	36.95	Sesquiterp. alcohol
Viridiflorol	34.68	1581	0.05	0.04	1979	36.21	Sesquiterp. alcohol
Guaiol	35.33	1590	0.04	0.04	2011	37.52	Sesquiterp. alcohol
Junenol	35.95	1599	0.26	0.20	1926	33.79	Sesquiterp. alcohol
1,10-diepi-Cubenol	36.62	1615	0.19	0.29	1954	35.07*	Sesquiterp. alcohol
Cubenol	37.24	1630	0.11	[0.29]	1954	35.07*	Sesquiterp. alcohol
τ -Cadinol	37.52	1637	0.38	0.37	2071	39.40	Sesquiterp. alcohol
τ -Muurolole	37.64	1640	0.65	0.64	2085	39.87	Sesquiterp. alcohol
α -Muurolole	37.76	1643	0.24	0.28	2099	40.30	Sesquiterp. alcohol
Himachalol	37.91	1647	0.20	0.17	2089	39.99	Sesquiterp. alcohol
α -Cadinol	38.10	1652	1.27	1.25	2126	41.02	Sesquiterp. alcohol
(<i>2Z,6Z</i>)-Farnesol	38.57	1663	0.14	0.13	2200	42.98	Sesquiterp. alcohol
(<i>2E,6E</i>)-Farnesol	40.71	1721	1.69	1.84	2286	44.98	Sesquiterp. alcohol
Benzyl benzoate	42.39	1774	7.14	7.45	2487	49.21*	Phenolic ester
(<i>2E,6E</i>)-Farnesyl acetate	44.19	1836	1.29	1.34	2190	42.71	Sesquiterp. ester
Benzyl salicylate	45.22	1873	2.60	2.64	2630	51.96	Phenolic ester

Geranyl benzoate	47.53	1963	0.12	[7.45]	2487	49.21*	Phenolic ester
Total identified			98.56%	96.26%			

*: 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

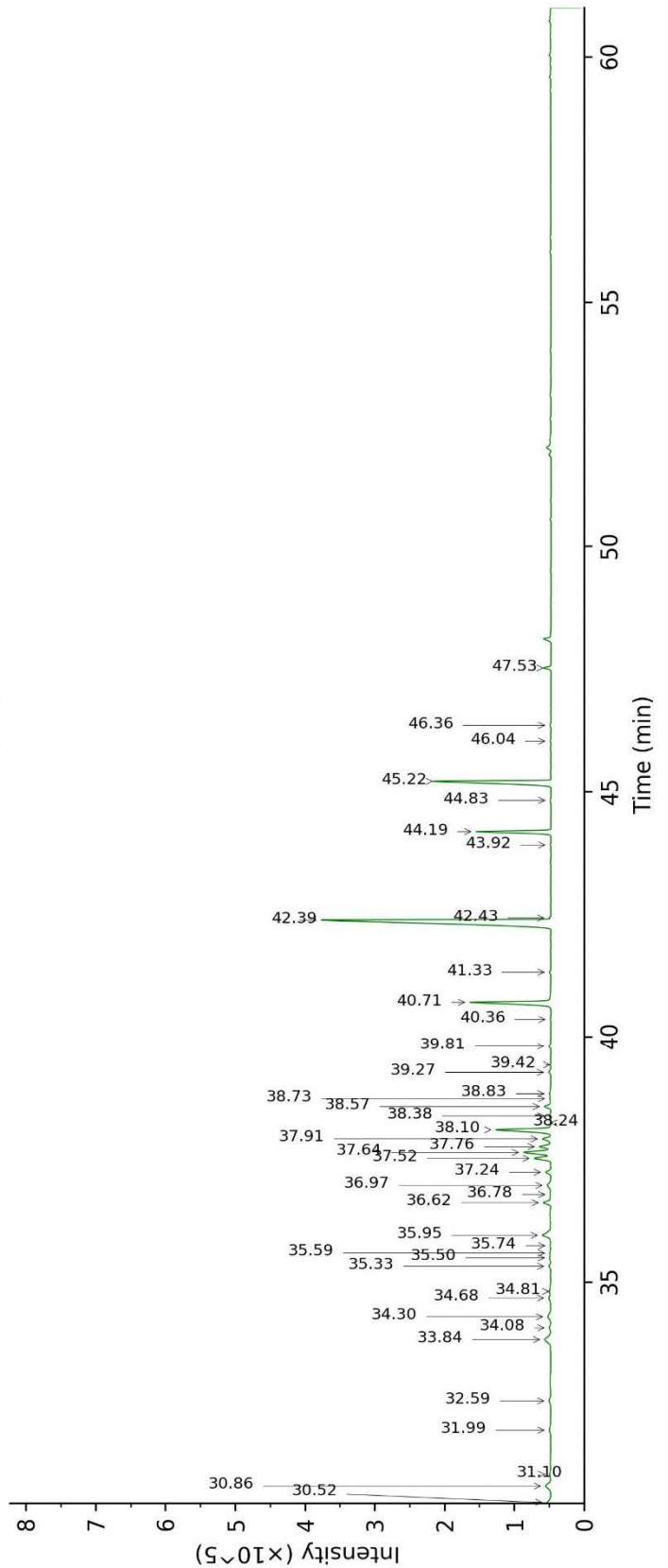
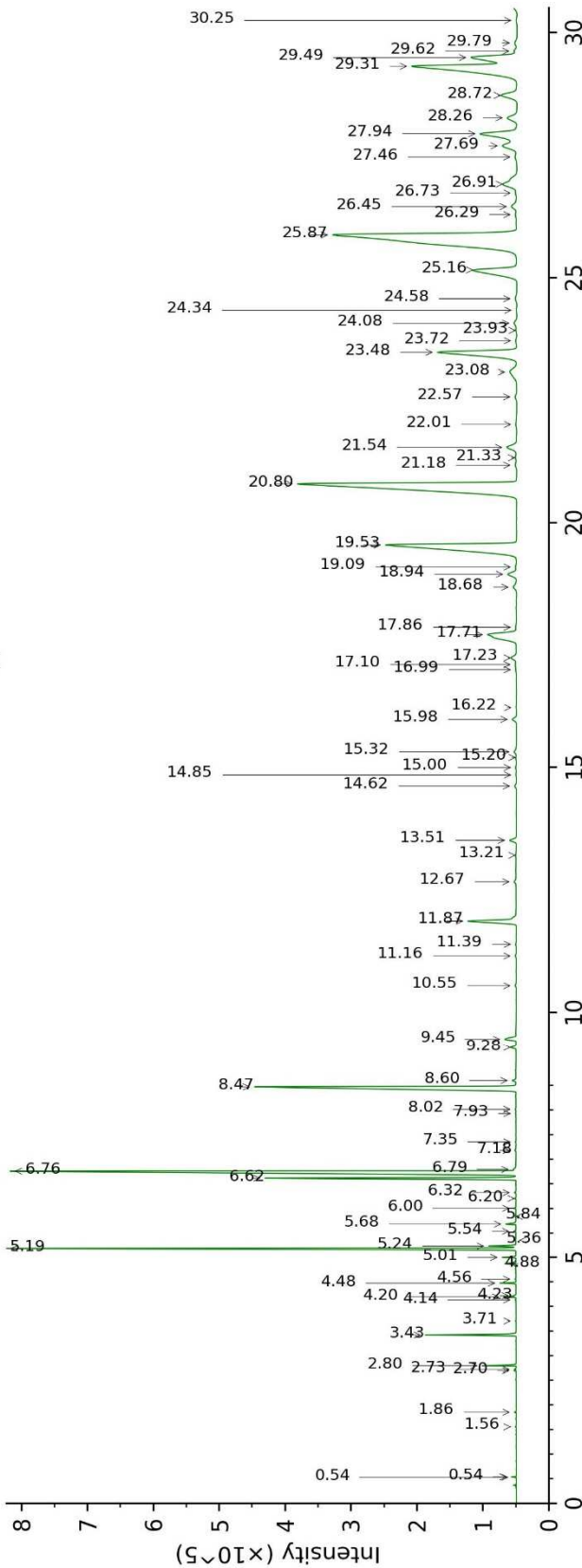
Physical aspect : Light yellow liquid

Refractive index : 1.5000 ± 0.0003 (20 °C)

CONCLUSION

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

17H03-PTH1-1-DM_BP5



17H03-PTH1-1-DM_WAX

