

GC/MS BATCH NUMBER: Y10103

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

KEY CONSTITUENTS PRESENT IN THIS BATCH OF YLANG YLANG COMPLETE OIL	%
GERMACRENE D	23.3
(E,E)- α -FARNESENE	18.6
BENZYL BENZOATE	7.4
β -CARYOPHYLLENE	6.7
BENZYL SALICYLATE	4.6
(2E,6E)-FARNESYL ACETATE	4.6
δ -CADINENE	2.8
BENZYL ACETATE	2.7
LINALOOL	2.5
GERANYL ACETATE	2.5
(E)-CINNAMYL ACETATE	2.0
α -HUMULENE	2.0
(2E,6E)-FARNESOL	1.8
α -CADINOL	1.7
p-METHYLANISOLE	1.5
α -COPAENE	1.4
METHYL BENZOATE	1.0

Comments from Robert Tisserand:
The olfactory profile is very good,
and it looks like a genuine
"complete" ylang-ylang oil.

Date : June 8, 2016

SAMPLE IDENTIFICATION

Internal code : 16E26-PTH2-1-SM

Customer identification : Ylang Ylang Complete - Comoros - Y10103511

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).

Analyst : Sylvain Mercier, M. Sc., chimiste

Analysis date : 2016-06-08

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.	
3-Methyl-3-buten-1-yl acetate	2.73	888	0.12	0.11	1137	2.29	Aliphatic ester
α -Pinene	3.34	928	0.16	0.20	947	0.89	Monoterpene
Prenyl acetate	3.35	929	0.25	0.21	1197	3.00	Aliphatic ester
β -Pinene	4.10	975	0.06	0.05	1040	1.41	Monoterpene
Myrcene	4.38	991	0.04	0.03	1116	2.05	Monoterpene
Hexyl acetate	4.91	1022	0.05	0.04	1223	3.33	Aliphatic ester
para-Methylanisole	5.03	1028	1.53	1.53	1366	5.36	Simple phenolic
Limonene	5.13	1034	0.06	0.05	1145	2.39	Monoterpene
<i>trans</i> - β -Ocimene	5.42	1050	0.01	0.01	1203	3.07	Monoterpene
<i>cis</i> -Linalool oxide (fur.)	5.88	1076	tr	0.01	1380	5.56	Monoterp. alcohol
Methyl benzoate	6.42	1104	1.03	1.26	1531	8.47*	Phenolic ester
Linalool	6.52	1108	2.54	2.54	1497	7.65	Monoterp. alcohol
Nonanal	6.64	1113	0.01	0.01	1339	4.96	Aliphatic aldehyde
Benzyl acetate	8.18	1170	2.69	3.20	1639	12.08*	Phenolic ester
Ethyl benzoate	8.33	1176	0.04	0.04	1581	10.00	Phenolic ester
para-Cymen-8-ol	8.96	1199	0.04	0.04	1777	19.10	Monoterp. alcohol
α -Terpineol	9.11	1204	0.05	0.07	1633	11.82	Monoterp. alcohol
Geraniol	11.41	1256	0.16	0.17	1781	19.35	Monoterp. alcohol
Phenylethyl acetate	11.55	1259	0.02	0.04	1736	16.71	Phenolic ester
Prenyl hexanoate	13.01	1292	0.10	[1.26]	1531	8.47*	Aliphatic ester
δ -Elemene	14.93	1325	0.12	0.10	1430	6.35	Sesquiterpene
α -Cubebene	15.57	1335	0.18	0.20	1413	6.05	Sesquiterpene
Neryl acetate	16.86	1355	0.02	0.02	1666	13.29	Monoterp. ester
α -Copaene	17.26	1361	1.36	1.38	1437	6.48	Sesquiterpene
β -Cubebene	18.20	1376	0.19	0.22	1479	7.28	Sesquiterpene
β -Elemene	18.42	1379	0.34	7.06	1527	8.35*	Sesquiterpene
Geranyl acetate	18.92	1387	2.50	2.85	1693	14.51*	Monoterp. ester
β -Caryophyllene	20.17	1405	6.69	[7.06]	1527	8.35*	Sesquiterpene
<i>trans</i> - α -Bergamotene	20.96	1415	0.29	[1.26]	1531	8.47*	Sesquiterpene
<i>cis</i> - β -Farnesene	22.42	1433	0.18	0.16	1590	10.27	Sesquiterpene
α -Humulene	22.82	1437	2.02	2.13	1585	10.13	Sesquiterpene
<i>trans</i> - β -Farnesene	23.42	1445	0.16	1.59	1619	11.17*	Sesquiterpene
(<i>E</i>)-Cinnamyl acetate	24.35	1456	2.04	1.81	2035	35.41	Phenylpropanoid ester
Germacrene D	25.30*	1467	24.72	23.27	1632	11.76*	Sesquiterpene
α -Amorphene	25.30*	1467	[24.72]	[1.59]	1619	11.17*	Sesquiterpene
β -Selinene	25.79	1473	0.22	[23.27]	1632	11.76*	Sesquiterpene
α -Selinene	26.13	1477	0.06	0.10	1636	11.95	Sesquiterpene
Bicyclgermacrene	26.23	1479	0.91	[3.20]	1639	12.08*	Sesquiterpene
α -Muurolene	26.98	1488	0.63	0.70	1649	12.53	Sesquiterpene
γ -Cadinene	27.42	1493	0.24	0.73	1671	13.50*	Sesquiterpene

(Z,E)- α -Farnesene	27.98	1500	0.74	[0.73]	1671	13.50*	Sesquiterpene
(E,E)- α -Farnesene	28.82*	1511	21.53	18.55	1703	14.93	Sesquiterpene
δ -Cadinene	28.82*	1511	[21.53]	2.77	1678	13.81	Sesquiterpene
<i>trans</i> -Calamenene	29.01	1513	0.06	0.06	1725	16.00	Sesquiterpene
<i>trans</i> -Cadina-1,4-diene	29.80	1524	0.15	[2.85]	1693	14.51*	Sesquiterpene
α -Cadinene	30.12	1529	0.21	0.18	1708	15.13	Sesquiterpene
(E)-Nerolidol	33.22	1571	0.21	0.15	1990	32.93	Sesquiterp. alcohol
Viridiflorol	34.16	1584	0.06	0.06	1984	32.53	Sesquiterp. alcohol
Guaiol	34.74	1592	0.10	0.11	2003	33.70	Sesquiterp. alcohol
Junenol	35.43	1601	0.37	0.25	1921	28.76	Sesquiterp. alcohol
1,10-diepi-Cubenol	36.11	1616	0.26	0.31	1951	30.58	Sesquiterp. alcohol
1-epi-Cubenol	36.25	1620	0.06	0.04	1975	32.00	Sesquiterp. alcohol
Cubenol	36.75	1632	0.15	0.23	1954	30.78	Sesquiterp. alcohol
τ -Cadinol	36.98	1637	0.52	0.47	2070	36.61	Sesquiterp. alcohol
τ -Muurolol	37.11	1641	0.87	0.81	2086	37.16	Sesquiterp. alcohol
α -Muurolol	37.24	1644	0.33	0.32	2100	37.68	Sesquiterp. alcohol
Himachalol	37.40	1648	0.24	0.23	2090	37.31	Sesquiterp. alcohol
α -Cadinol	37.57	1652	1.68	1.61	2123	38.48	Sesquiterp. alcohol
(2Z,6Z)-Farnesol	38.06	1664	0.20	4.65	2196	40.47*	Sesquiterp. alcohol
(2E,6Z)-Farnesol	38.39	1672	0.02	0.02	2255	41.99	Sesquiterp. alcohol
(2E,6E)-Farnesol	40.31	1722	1.78	1.94	2287	42.73	Sesquiterp. alcohol
Benzyl benzoate	41.93	1774	7.36	7.34	2478	46.81	Phenolic ester
(2E,6E)-Farnesyl acetate	43.94	1843	4.57	[4.65]	2196	40.47*	Sesquiterp. ester
Benzyl salicylate	44.81	1875	4.64	4.66	2622	49.58	Phenolic ester
Total identified			97.94%	96.69%			

*: 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 : 1.5068 \pm 0.0003 (20 °C)

CONCLUSION

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



