

GC-MS Profiling Analysis Prepared for Jade Bloom, Inc

Date: September 24, 2018

Sample: Lemon

Type: Essential Oil

Source: *Citrus x limon*

Batch: 180805331

ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
Tricyclene	0.01	0.01	Monoterpene
α -Thujene	0.32	0.32	Monoterpene
α -Pinene	1.91	1.91	Monoterpene
Camphene	0.06	0.06	Monoterpene
β -Pinene	11.71*	10.24	Monoterpene
Sabinene	[11.71]*	1.48	Monoterpene
Myrcene	1.56	1.58	Monoterpene
α -Phellandrene	0.04	0.04	Monoterpene
Octanal	0.06	0.05	Aliphatic aldehyde
Δ 3-Carene	0.01	0.01	Monoterpene
α -Terpinene	0.17	0.17	Monoterpene
para-Cymene	70.41	0.39	Monoterpene
Limonene	[70.41]*	69.97*	Monoterpene
1,8-Cineole	[70.41]*	0.30	Monoterpenic ether
β -Phellandrene	[70.41]*	[69.97]*	Monoterpene
(Z)- β -Ocimene	0.04	7.94*	Monoterpene
(E)- β -Ocimene	0.09	0.09	Monoterpene
γ -Terpinene	7.88	[7.94]*	Monoterpene
cis-Sabinene hydrate	0.04	0.04	Monoterpenic alcohol
Terpinolene	0.30	0.30	Monoterpene
trans-Sabinene hydrate	0.04	0.04	Monoterpenic alcohol
Linalool	0.11	0.11	Monoterpenic alcohol
Nonanal	0.05	0.05	Aliphatic aldehyde
trans-para-Mentha-2,8-dien-1-ol	0.01	0.01	Monoterpenic alcohol
cis-Limonene oxide	0.02	0.02	Monoterpenic ether
trans-Limonene oxide	0.02	0.01	Monoterpenic ether
Camphor	0.01	0.01	Monoterpenic ketone
Citronellal	0.06	0.06	Monoterpenic aldehyde
Borneol	0.01	0.17*	Monoterpenic alcohol
Terpinen-4-ol	0.03	0.03	Monoterpenic alcohol
Isogeranial	0.01	0.01	Monoterpenic aldehyde
α -Terpineol	0.15	[0.17]*	Monoterpenic alcohol
Decanal	0.03	0.03	Aliphatic aldehyde
trans-Carveol	tr	tr	Monoterpenic alcohol
2,3-Epoxyneral?	0.01		Monoterpenic aldehyde
Nerol	0.05	0.05	Monoterpenic alcohol
2,3-Epoxygeranial?	0.04		Monoterpenic aldehyde
Neral	0.69	0.70*	Monoterpenic aldehyde
Geraniol	0.03	0.02	Monoterpenic alcohol
Geranial	1.05	1.07*	Monoterpenic aldehyde
Undecanal	0.01	0.01	Aliphatic aldehyde
Citronellyl acetate	0.02	[0.70]*	Monoterpenic ester
Neryl acetate	0.35	0.35	Monoterpenic ester
Geranyl acetate	0.18	0.19	Monoterpenic ester
Dodecanal	0.01	0.01	Aliphatic aldehyde
β -Caryophyllene	0.22	0.34	Sesquiterpene
cis- α -Bergamotene	0.01	0.03	Sesquiterpene
trans- α -Bergamotene	0.34	0.18	Sesquiterpene

α-Humulene	0.02	0.02	Sesquiterpene
β-Santalene	0.01	0.01	Sesquiterpene
(E)-β-Farnesene	0.04	0.03	Sesquiterpene
Germacrene D	0.01	0.01	Sesquiterpene
β-Selinene	0.01	0.01	Sesquiterpene
trans-β-Bergamotene	0.03	0.02	Sesquiterpene
Valencene	0.01	0.02*	Sesquiterpene
Bicyclogermacrene	0.04	[1.07]*	Sesquiterpene
(Z)-α-Bisabolene	0.01	0.01	Sesquiterpene
β-Bisabolene	0.50*	0.52	Sesquiterpene
γ-Cadinene	[0.50]*	0.02	Sesquiterpene
(Z)-γ-Bisabolene	0.01	[0.02]*	Sesquiterpene
(E)-α-Bisabolene	0.02	0.01	Sesquiterpene
Caryophyllene oxide isomer	0.01*	0.01*	Sesquiterpenic ether
Caryophyllene oxide	[0.01]*	[0.01]*	Sesquiterpenic ether
Unknown	0.02	0.02	Oxygenated sesquiterpene
Unknown	0.02	0.02	Oxygenated sesquiterpene
α-Bisabolol	0.03	0.03	Sesquiterpenic alcohol
Myristic acid	0.02		Aliphatic acid
Citropten	0.06		Furanocoumarin
Palmitic acid	0.06		Aliphatic acid
Bergapten	tr		Furanocoumarin
Linoleic acid	0.02		Aliphatic acid
Oleic acid	0.03		Aliphatic acid
Stearic acid	0.05		Aliphatic acid
Total identified	99.11%	99.09%	

*: Two or more compounds are coeluting on this column

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

tr: The compound has been detected below 0.005% of total signal.

Note: no correction factor was applied



Jade Bloom

PHYSICOCHEMICAL DATA

Physical aspect: Light yellow liquid

Refractive index: 1.4735 ± 0.0003 (20 °C)

HEALTH, HEALING & HAPPINESS

ISO 855:2004 - OIL OF LEMON, OBTAINED BY EXPRESSION - EQUATORIAL

Compound	Min. %	Max. %	Observed %	Complies?
Geranyl acetate	tr	0.30	0.18	Yes
Neryl acetate	0.10	0.50	0.35	Yes
β-Bisabolene	0.20	0.90	0.52	Yes
Geranial	0.5	2.0	1.1	Yes
Neral	0.2	1.2	0.7	Yes
α-Terpineol		0.40	0.15	Yes
γ-Terpinene	6.0	12.0	7.9	Yes
Limonene	59.0	75.0	70.0	Yes
para-Cymene	0.05	0.35	0.39	No
β-Pinene	7.0	16.0	10.2	Yes
Sabinene	1.4	3.0	1.5	Yes
α-Pinene	1.4	3.0	1.9	Yes
α-Thujene	0.2	0.5	0.3	Yes
Refractive index	1.4730	1.4790	1.4735	Yes

CONCLUSION

No adulterant, contaminant or diluent has been detected using this method. The oil marginally does not comply with the ISO standard for cold-pressed equatorial lemon oil.