

GC-MS Profiling Analysis Prepared for Jade Bloom, Inc

Date: April 30, 2018
Sample: Clary Sage
Type: Essential Oil
Source: *Salvia sclarea*
Batch: 041876007

ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
Ethanol	0.17	0.16	Aliphatic alcohol
Acetic acid	tr	0.01	Aliphatic acid
Isovaleral	tr		Aliphatic aldehyde
(2E)-Hexenal	0.03	0.03*	Aliphatic aldehyde
(3Z)-Hexenol	0.12	0.13	Aliphatic alcohol
(2E)-Hexenol	0.07	0.08	Aliphatic alcohol
Hexanol	0.01	0.01	Aliphatic alcohol
α -Pinene	0.34	0.35	Monoterpene
Camphene	0.01	0.01	Monoterpene
Benzaldehyde	0.03	0.03	Simple phenolic
β -Pinene	0.33*	0.27	Monoterpene
Sabinene	[0.33]*	0.02	Monoterpene
Octen-3-ol	0.05	0.05	Aliphatic alcohol
Myrcene	0.69*	0.68	Monoterpene
<i>trans</i> -Dehydroxylinalool oxide	[0.69]*	[0.03]*	Monoterpenic ether
Octan-3-ol	0.07	0.06	Aliphatic alcohol
Octanal	0.05	0.02	Aliphatic aldehyde
<i>cis</i> -Dehydroxylinalool oxide	0.01	0.01	Monoterpenic ether
<i>para</i> -Cymene	0.01	0.01	Monoterpene
Limonene	0.66*	0.64	Monoterpene
β -Phellandrene	[0.66]*	0.01	Monoterpene
1,8-Cineole	[0.66]*	0.01	Monoterpenic ether
(Z)- β -Ocimene	0.46	0.47	Monoterpene
(E)- β -Ocimene	0.52	0.53	Monoterpene
γ -Terpinene	0.01	tr	Monoterpene
<i>cis</i> -Sabinene hydrate	tr	0.07*	Monoterpenic alcohol
<i>cis</i> -Linalool oxide (fur.)	0.05	0.05	Monoterpenic alcohol
<i>trans</i> -Linalool oxide (fur.)	0.09*	[0.07]*	Monoterpenic alcohol
Terpinolene	[0.09]*	0.02	Monoterpene
Linalool	23.81*	24.22	Monoterpenic alcohol
Hotrienol	[23.81]*	0.23	Monoterpenic alcohol
Dehydrosabinaketone	0.04	0.03	Normonoterpenic ketone
allo-Ocimene	0.01	0.01	Monoterpene
<i>trans</i> -Pinocarveol	0.04	0.04	Monoterpenic alcohol
Camphor	0.10*	0.08*	Monoterpenic ketone
<i>trans</i> -Sabinol	[0.10]*	4.22*	Monoterpenic alcohol
Nerol oxide	0.02	[0.07]*	Aliphatic ether
Borneol	0.04	[4.22]*	Monoterpenic alcohol
δ -Terpineol	tr	0.01	Monoterpenic alcohol
Rosefuran oxide	0.05*	0.05*	Monoterpenic ether
Terpinen-4-ol	[0.05]*	[0.05]*	Monoterpenic alcohol
α -Terpineol	3.14	[4.22]*	Monoterpenic alcohol
Hodiendiol	0.01	0.02	Monoterpenic alcohol
Linalyl formate	0.04	0.05	Monoterpenic ester
Nerol	0.44	0.46	Monoterpenic alcohol
Neral	0.09	0.10	Monoterpenic aldehyde
Linalyl acetate	58.06*	56.60	Monoterpenic ester
Geraniol	[58.06]*	0.99	Monoterpenic alcohol

Geranial	0.27	0.11	Monoterpenic aldehyde
Neryl formate	0.19*	0.01	Monoterpenic ester
Bornyl acetate	[0.19]*	0.20	Monoterpenic ester
Thymol	0.01	tr	Monoterpenic alcohol
Geranyl formate	0.06	0.02	Monoterpenic ester
δ-Elemene	0.02	0.01	Sesquiterpene
Hodiendiol derivative	0.04	0.04	Oxygenated monoterpene
α-Cubebene	tr	tr	Sesquiterpene
α-Terpinyol acetate	0.11	0.10	Monoterpenic ester
Unknown	0.03		Monoterpenic ester
Unknown	0.07	0.02*	Oxygenated monoterpene
Neryl acetate	1.18	1.18	Monoterpenic ester
α-Copaene	0.10	[0.08]*	Sesquiterpene
β-Bourbonene	0.05	0.02	Sesquiterpene
Geranyl acetate	2.47	2.47	Monoterpenic ester
β-Cubebene	0.11*	0.02	Sesquiterpene
β-Elemene	[0.11]*	2.54*	Sesquiterpene
α-Gurjunene	0.04	0.04	Sesquiterpene
β-Caryophyllene	2.47	[2.54]*	Sesquiterpene
Coumarin	0.14*	0.15	Coumarin
β-Copaene	[0.14]*	0.01	Sesquiterpene
α-Humulene	0.03	0.04	Sesquiterpene
Germacrene D	1.03*	[4.22]*	Sesquiterpene
α-Amorphene	[1.03]*	0.04	Sesquiterpene
β-Selinene	0.03	0.03	Sesquiterpene
Hodiendiol derivative IV	0.02		Oxygenated monoterpene
α-Selinene	0.07*	0.01	Sesquiterpene
Bicyclogermacrene	[0.07]*	0.06	Sesquiterpene
α-Murolene	0.01	0.01	Sesquiterpene
(Z)-α-Bisabolene	0.07	0.04	Sesquiterpene
Hodiendiol derivative II	0.01		Oxygenated monoterpene
γ-Cadinene	0.03	0.06*	Sesquiterpene
trans-Calamenene	0.05*	[0.02]*	Sesquiterpene
δ-Cadinene	[0.05]*	[0.06]*	Sesquiterpene
β-Sesquiphellandrene	0.04	0.05	Sesquiterpene
Spathulenol	0.02	0.02	Sesquiterpenic alcohol
Caryophyllene oxide isomer	0.07*	0.02	Sesquiterpenic ether
Caryophyllene oxide	[0.07]*	0.08	Sesquiterpenic ether
Guaiol	0.06	0.06	Sesquiterpenic alcohol
Hinesol	0.02	0.01	Sesquiterpenic alcohol
τ-Cadinol	0.02	0.01	Sesquiterpenic alcohol
α-Eudesmol	0.02	0.11	Sesquiterpenic alcohol
α-Cadinol	0.02	0.06	Sesquiterpenic alcohol
Bulnesol	0.11	0.08	Sesquiterpenic alcohol
Cyclocolorone	0.01		Sesquiterpenic ketone
Sclareol	0.37	0.37	Diterpenic alcohol
Total identified	99.04%	98.97%	

*: 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

PHYSICOCHEMICAL DATA

Physical aspect: Clear liquid

Refractive index: 1.4578 ± 0.0003 (20 °C)

COMPLIANCE WITH NFT 75-255:1992 (SALVIA SCLAREA)

Compound	Traditionnal		Freshly crushed		Observed Content	Complies?
	Min.	Max.	Min.	Max.		
Linalool	6.5	13.5	13	24	24	Fresh
Linalyl acetate	62	78	56	70.5	58	Fresh
α-Terpineol	tr	1.2	1	5	3.1	Fresh
Germacrene D	1.5	12	1.2	7.5	1.0	No
Sclareol	0.4	2.6	0.4	2.6	0.4	Yes
Refractive index	1.456	1.466	1.456	1.466	1.458	Yes

CONCLUSION

No adulterant, contaminant or diluent has been detected using this method. The oil marginally does not comply with the AFNOR standard for freshly crushed clary sage oil.



Jade Bloom

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