

## GC-MS Profiling Analysis Prepared for Jade Bloom, Inc

**Date:** February 6, 2018

**Sample:** Rose Absolute

**Type:** Absolute

**Source:** *Rosa x damascena*

**Batch:** K170304

### ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
Acetaldehyde	0.02		Aliphatic aldehyde
Ethanol	0.62	0.76	Aliphatic alcohol
(3Z)-Hexenol	0.01	0.01	Aliphatic alcohol
(2E)-Hexenol	0.01	0.01	Aliphatic alcohol
Hexanol	0.02	0.01	Aliphatic alcohol
Heptanal	0.01	0.01	Aliphatic aldehyde
$\alpha$ -Pinene	0.01	0.02	Aliphatic alcohol
Benzaldehyde	0.01	0.01	Simple phenolic
$\beta$ -Pinene	0.02*	0.01	Monoterpene
Sabinene	[0.02]*	0.01	Monoterpene
Myrcene	0.04	0.05	Monoterpene
Valeral diethyl acetal?	0.01*		Aliphatic acetal
Limonene	[0.01]*	0.01	Monoterpene
Benzyl alcohol	0.40*	0.52	Simple phenolic
Benzeneacetaldehyde	[0.40]*		Simple phenolic
(Z)- $\beta$ -Ocimene	[0.40]*	0.01	Monoterpene
(E)- $\beta$ -Ocimene	0.01	0.01	Monoterpene
<i>cis</i> -Sabinene hydrate	0.01	0.01	Monoterpenic alcohol
Rosefuran	0.01	0.01	Monoterpenic ether
Linalool	0.06	0.07	Monoterpenic alcohol
Nonanal	0.02*	0.01	Aliphatic aldehyde
<i>cis</i> -Rose oxide	[0.02]*	0.03	Monoterpenic ether
Phenylethyl alcohol	34.47	41.55	Simple phenolic
Phenylethyl formate	0.01	0.01	Phenolic ester
Terpinen-4-ol	0.01	0.02	Monoterpenic alcohol
Nerol	0.90	1.18	Monoterpenic alcohol
Citronellol	4.87	5.67	Monoterpenic alcohol
Neral	[4.87]	0.03	Monoterpenic aldehyde
(Z)-Isogeraniol	0.02	0.02	Monoterpenic alcohol
Phenylacetic acid?	0.07		Phenolic acid
Geraniol	1.76	2.08	Monoterpenic alcohol
Geranial	0.06	0.05	Monoterpenic aldehyde
Citronellyl formate	0.04		Monoterpenic ester
Methyl geranate	0.01	0.01	Monoterpenic ester
Citronellyl acetate	0.06	0.06	Monoterpenic ester
Eugenol	0.44	0.53	Phenylpropanoid
Geranic acid	0.30*	0.33	Aliphatic acid
$\beta$ -Bourbonene	[0.30]*	0.01	Sesquiterpene
Geranyl acetate	0.09	0.12	Monoterpenic ester
Methyleugenol	0.30	0.35	Phenylpropanoid
$\beta$ -Caryophyllene	0.07	0.13*	Sesquiterpene
$\alpha$ -Guaiene	0.04	[0.13]*	Sesquiterpene
$\alpha$ -Humulene	0.05	0.04	Sesquiterpene
Germacrene D	0.04	0.03	Sesquiterpene
Aciphyllene	0.01	0.01	Sesquiterpene
$\delta$ -Guaiene	0.09*	0.05	Sesquiterpene
Pentadecane	[0.09]*	0.06	Alkane
$\gamma$ -Cadinene	0.02	0.04	Sesquiterpene

δ-Cadinene	0.03	0.12	Sesquiterpene
α-Elemol	0.01	0.01	Sesquiterpenic alcohol
Phenylethyl tiglate	0.01	0.02	Phenolic ester
Hexadecane	0.01	0.02	Alkane
Methoxyeugenol	0.01	tr	Phenylpropanoid
Phenylethyl hexanoate	0.01		Phenolic ester
β-Eudesmol	0.02	0.02	Sesquiterpenic alcohol
(8Z)-Heptadecene	0.04	0.04	Alkene
(2Z,6Z)-Farnesol	0.02	0.02	Sesquiterpenic alcohol
Heptadecane	0.36	0.42	Alkane
(2E,6E)-Farnesol	0.14	0.32	Sesquiterpenic alcohol
Mint sulfide?	0.08		Sesquiterpenic sulfide
Benzyl benzoate	0.02	0.06	Phenolic ester
Octadecane	0.03	0.03	Alkane
Phenylethyl octanoate	0.01		Phenolic ester
Phenylethyl benzoate	0.04	0.04	Phenolic ester
(9Z)-Nonadecene	0.62	0.73	Alkene
Phenylethyl phenylacetate	0.01		Phenolic ester
Nonadecane	1.56	1.84	Alkane
Palmitic acid	0.19*	0.09	Aliphatic acid
(9Z)-Eicosene	[0.19]*	0.05	Alkene
Eicosane	0.07	0.09	Alkane
Phenylethyl decanoate	0.02		Phenolic ester
(10Z)-Heneicosene	0.06	0.07	Alkene
Heneicosane	0.20	0.23	Alkane
Citronellyl caprate	0.03		Monoterpenic ester
Geranyl caprate	0.08		Monoterpenic ester
Phenylethyl undecanoate?	0.23		Phenolic ester
Docosene isomer	0.09		Alkene
Docosane	tr	0.01	Alkane
Tricosane	0.02	0.03	Alkane
Citronellyl laurate	0.04		Monoterpenic ester
Geranyl laurate	0.04		Monoterpenic ester
Tetradecyl octanoate	0.05		Aliphatic ester
Tetradecyl nonanoate	0.08		Aliphatic ester
Pentadecyl octanoate	0.11		Aliphatic ester
Phenylethyl myristate	0.10		Phenolic ester
Pentacosane	0.03	0.04	Alkane
Citronellyl myristate	0.03		Monoterpenic ester
Geranyl myristate	0.03		Monoterpenic ester
Unknown	0.11		Phenolic ester
Unknown	0.11		Phenolic ester
Phenylethyl palmitoleate?	0.35		Phenolic ester
Phenylethyl palmitate	0.03		Phenolic ester
Citronellyl palmitoleate?	0.02		Monoterpenic ester
Geranyl palmitoleate?	0.18*		Monoterpenic ester
Citronellyl palmitate	[0.18]*		Monoterpenic ester
Geranyl palmitate	0.17		Monoterpenic ester
α-Tocopherol?	0.16		Tocopherol
Unknown	8.94		Oxygenated triterpene
<b>Total identified</b>	<b>50.48%</b>	<b>58.24%</b>	

\*: Two or more compounds are coeluting on this column

*CONCLUSION*

No adulterant, contaminant or diluent has been detected using this method. The unidentified fraction of the oil consists of several unknown weakly volatile compounds, that are characteristic of rose absolutes (the main peak is reported).

