Analysis Pine, Grand White Essential Oil

PhytoChemia









Date: May 10, 2017

SAMPLE IDENTIFICATION

Internal code: 17E05-FSE17-1-DM

Customer identification: Grande White Pine Twigs + Needles - Lot #HEBPISTCAN05QC

Type: Essential oil
Source: Pinus strobus

Customer: Flowers Shining Everywhere Inc.

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ANALYSIS

Method: PC-PA-001-15E06, "Analysis of the composition of a liquid essential oil by GC-FID" (in French).

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Analyst: Sylvain Mercier, M. Sc., chimiste

Analysis date: 2017-05-10

Checked and approved by:

The of the

Alexis St-Gelais, M. Sc., chimiste 2013-174

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Plus que des analyses... des conseils

+ + 6 * 0

Essential oil, Pinus strobus Customer Identification: Report prepared for Internal Code: 17E05-FSE17-1-DM Grande White Pine Twigs + Needles - Lot #HEBPISTCAN05QC Flowers Shining Everywhere Inc.

Total identified			98.73%	98.89%			
Manoyl oxide	47.55	1972	0.10	0.08	2199	42.00	Diterp. ether
α-Cadinol	37.82	1650	0.07	0.07	2134	40.30	Sesquiterp. alcohol
τ-Muurolol	37.38	1640	0.04	0.04	2086	38.85	Sesquiterp, alcohol
τ-Cadinol	37.27	1637	0.04	0.04	2071	38.35	Sesquiterp. alcohol
Humulene epoxide II	35.26	1593	0.06	0.05	1900	30.35	Sesquiterp. ether
(E)-Nerolidol	33.58*	1 570	[0.09]	0.03	1995	35.50	Sesquiterp. alcohol
Caryophyllene oxide	33.58*	1570	0.09	0.04	1847	26.52	Sesquiterp. ether
δ-Cadinene	29.11	1507	0.41	0.41	1672	15.62	Sesquiterpene
γ-Cadinene	28.44	1498	0.14	0.16	1666	15.32	Sesquiterpene
a-Muurolene	27.41	1486	0.09	0.09	1644	14.19	Sesquiterpene
a-Selinene	26.63*	1476	[80.0]	0.03	1632	13.57	Sesquiterpene
Bicyclogermacrene	26.63*	1476	80.0	0.06	1640	13.98	Sesquiterpene
Viridiflorene	26.17	1471	0.04	[0.25]	1621	13.01*	Sesquiterpene
Germacrene D	25.39	1462	0.27	0.20	1618	12.91	Sesquiterpene
γ-Muurolene	25.27	1460	0.06	[0.13]	1608	12.52*	Sesquiterpene
a-Humulene	23.21	1435	0.47	0.50	1579	11.45	Sesquiterpene

^{*:} 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: Clear liquid

Refractive index: 1.4730 ± 0.0003 (20 °C)

CONCLUSION

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

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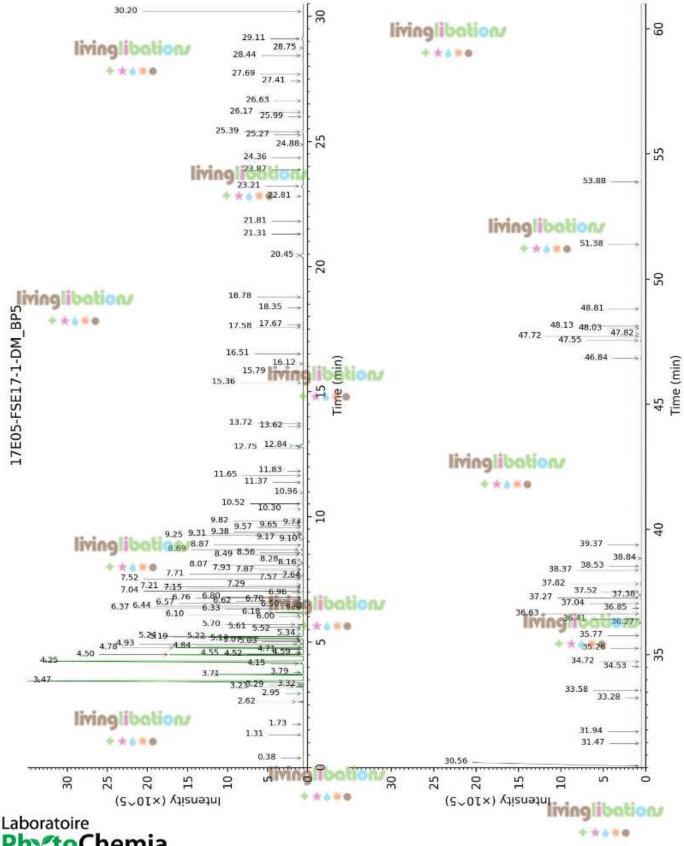
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> livinglibations +++*



livinglibation + + 6 * 0

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Intensity (×10~5)

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Noitensity (×10^5)

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