Date : June 20, 2017

SAMPLE IDENTIFICATION

Internal code : 17F20-GUR2-1-DM
Customer identification : Eucalyptus
Type : Essential oil
Source : *Eucalyptus globulus*
Customer : GuruNanda LLC.

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 : 2017-06-20

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.	
Hashishene	3.22	917	0.01	2.78	946	1.04*	Monoterpene
α-Thujene	3.32	923	0.01	[2.78]	946	1.04*	Monoterpene
α-Pinene	3.43	930	2.89	[2.78]	946	1.04*	Monoterpene
α-Fenchene	3.69	945	0.01	tr	990	1.23	Monoterpene
Camphene	3.72	947	0.02	0.01	1001	1.28	Monoterpene
β-Pinene	4.21	976	0.17	0.14	1044	1.61	Monoterpene
Myrcene	4.49	993	0.34	0.38	1118	2.31	Monoterpene
α-Phellandrene	4.77	1008	0.60	0.44	1110	2.24	Monoterpene
α-Terpinene	4.96	1019	0.15	0.17	1125	2.41	Monoterpene
1,8-Cineole	5.35*	1040	94.16	89.70	1159	2.84*	Monoterp. ether
Limonene	5.35*	1040	[94.16]	[89.70]	1159	2.84*	Monoterpene
para-Cymene	5.35*	1040	[94.16]	4.88	1209	3.48*	Monoterpene
cis-β-Ocimene	5.38	1042	0.09	1.46	1189	3.23*	Monoterpene
trans-β-Ocimene	5.55	1051	0.05	[4.88]	1209	3.48*	Monoterpene
γ-Terpinene	5.74	1062	1.44	[1.46]	1189	3.23*	Monoterpene
trans-Pinocarveol	7.60	1142	tr	tr	1567	10.33	Monoterp. alcohol
α-Terpineol	9.43	1206	0.01	0.02	1625	12.43	Monoterp. alcohol
Total identified			**99.95%**	**99.98%**			

*: 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

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Other Data

Physical aspect : Clear liquid
Refractive index : 1.4610 ± 0.0003 (20 °C)

Compliance with NF T 75-225:1993 (Oil of Eucalyptus globulus, Rectified)

Compound	70-75%		80-85%		Observed %	Complies?
	Min. %	Max. %	Min. %	Max. %		
α-Pinene	tr	20	tr	12	2.9	Yes
Limonene	2	15	2	15	89.7	80-85%
1,8-Cineole	70		80			
para-Cymene	1	6	1	10	4.9	Yes
trans-Pinocarveol	tr	10	tr	6	tr	Yes
Aromadendrene		tr		tr	Not detected	Yes
Globulol		tr		tr	Not detected	Yes
Refractive index	1.460	1.470	1.458	1.465	1.4610	Yes

Conclusion

No adulterant, contaminant or diluent were detected using this method. The oil complies with the ISO norm for a 80-85% rectified eucalyptus oil.

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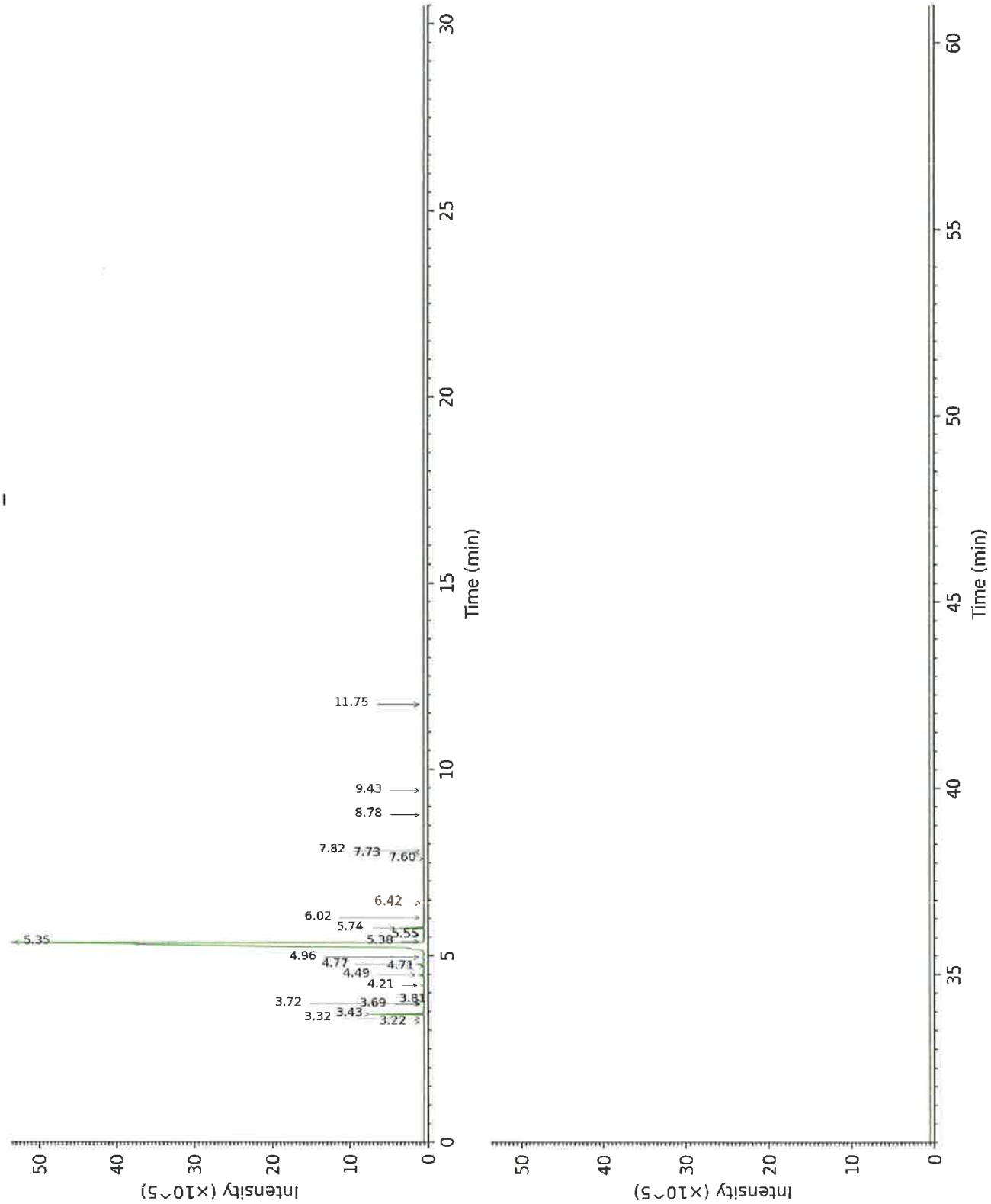
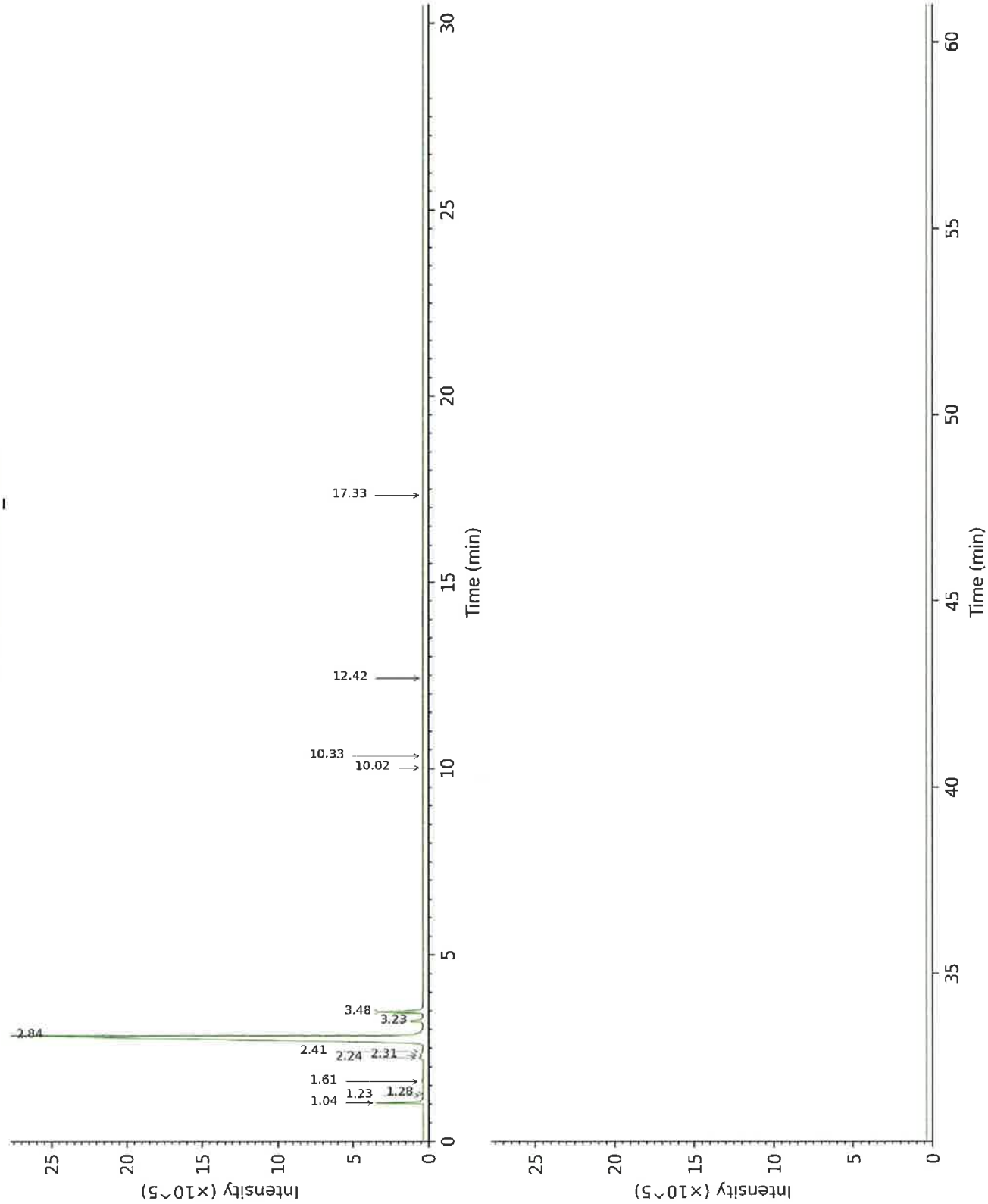
17F20-GUR2-1-DM_BP5



17F20-GUR2-1-DM_WAX



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