

## GC/MS BATCH NUMBER: D10105

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**ESSENTIAL OIL:** DILL WEED  
**BOTANICAL NAME:** ANETHUM GRAVEOLENS  
**ORIGIN:** USA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF DILL WEED OIL	%
CARVONE	32.6
$\alpha$ -PHELLANDRENE	28.1
LIMONENE	27.1
DILL ETHER	7.5
1,8-CINEOLE	2.2
TRANS-DIHYDROCARVONE	1.1

Comments from Robert Tisserand: Delicious sweet-green minty odor profile, with constituents in expected amounts.

**Date :** November 20, 2017

*SAMPLE IDENTIFICATION*

**Internal code :** 17K15-PTH8-1-CC

**Customer identification :** Dill Weed - USA - 20170285

**Type :** Essential oil

**Source :** *Anethum graveolens*

**Customer :** Plant Therapy

*ANALYSIS*

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

Identifications double-checked by GC-MS

**Analyst :** Sylvain Mercier, M. Sc., chimiste

**Analysis date :** 2017-11-20

Checked and approved by :

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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.	
Toluene	1.32	759	0.01	0.31	954	1.18*	Simple phenolic
cis-Hex-3-en-1-ol	2.50	865	0.05	0.05	1317	5.40	Aliphatic alcohol
Hexanol	2.73	883	0.02	0.03	1292	5.02	Aliphatic alcohol
α-Thujene	3.31	920	0.16	[0.31]	954	1.18*	Monoterpene
α-Pinene	3.42	927	0.85	0.67	945	1.14	Monoterpene
Camphene	3.71	944	0.02	0.01	999	1.43	Monoterpene
Sabinene	4.14	969	0.09	0.07	1052	1.95	Monoterpene
β-Pinene	4.20	973	0.05	0.03	1037	1.78	Monoterpene
Myrcene	4.48	989	0.46	28.51	1112	2.51*	Monoterpene
α-Phellandrene	4.82	1008	28.13	[28.51]	1112	2.51*	Monoterpene
α-Terpinene	4.95	1015	0.01	[28.51]	1112	2.51*	Monoterpene
Limonene	5.24*	1031	25.07	27.06	1143	2.92*	Monoterpene
para-Cymene	5.24*	1031	[25.07]	0.74	1206	3.74*	Monoterpene
1,8-Cineole	5.25	1032	2.23	[27.06]	1143	2.92*	Monoterp. ether
cis-β-Ocimene	5.36	1038	0.03	0.06	1185	3.47*	Monoterpene
trans-β-Ocimene	5.54	1047	0.01	[0.74]	1206	3.74*	Monoterpene
γ-Terpinene	5.72	1057	0.03	[0.06]	1185	3.47*	Monoterpene
Octanol	6.20*	1083	0.08	0.02	1507	9.26	Aliphatic alcohol
Terpinolene	6.20*	1083	[0.08]	0.06	1221	3.97	Monoterpene
para-Cymenene	6.42	1095	0.06	0.04	1363	6.12	Monoterpene
cis-Limonene oxide	7.34	1130	0.04	0.04	1366	6.17	Monoterp. ether
trans-Limonene oxide	7.47	1134	0.02	0.02	1381	6.41	Monoterp. ether
Camphor	7.83	1147	0.02	7.51	1428	7.36*	Monoterp. ketone
Dill ether	8.97	1189	7.52	[7.51]	1428	7.36*	Monoterp. ether
cis-Dihydrocarvone	9.49	1204	0.35	0.37	1514	9.54	Monoterp. ketone
trans-Dihydrocarvone	9.69	1208	1.12	1.08	1526	9.98	Monoterp. ketone
Isodihydrocarveol	10.55	1227	0.05				Monoterp. alcohol
trans-Carveol	10.69	1230	0.04	0.02	1746	20.76	Monoterp. alcohol
Carvone	11.71*	1253	32.64	32.85	1630	14.17*	Monoterp. ketone
cis-Carveol	11.71*	1253	[32.64]	0.06	1774	22.56	Monoterp. alcohol
Piperitone	11.85	1256	0.06	[32.85]	1630	14.17*	Monoterp. ketone
Germacrene D	25.62	1460	0.05	[32.85]	1630	14.17*	Sesquiterpene
<b>Total identified</b>			<b>99.27%</b>	<b>99.61%</b>			

\*: 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*

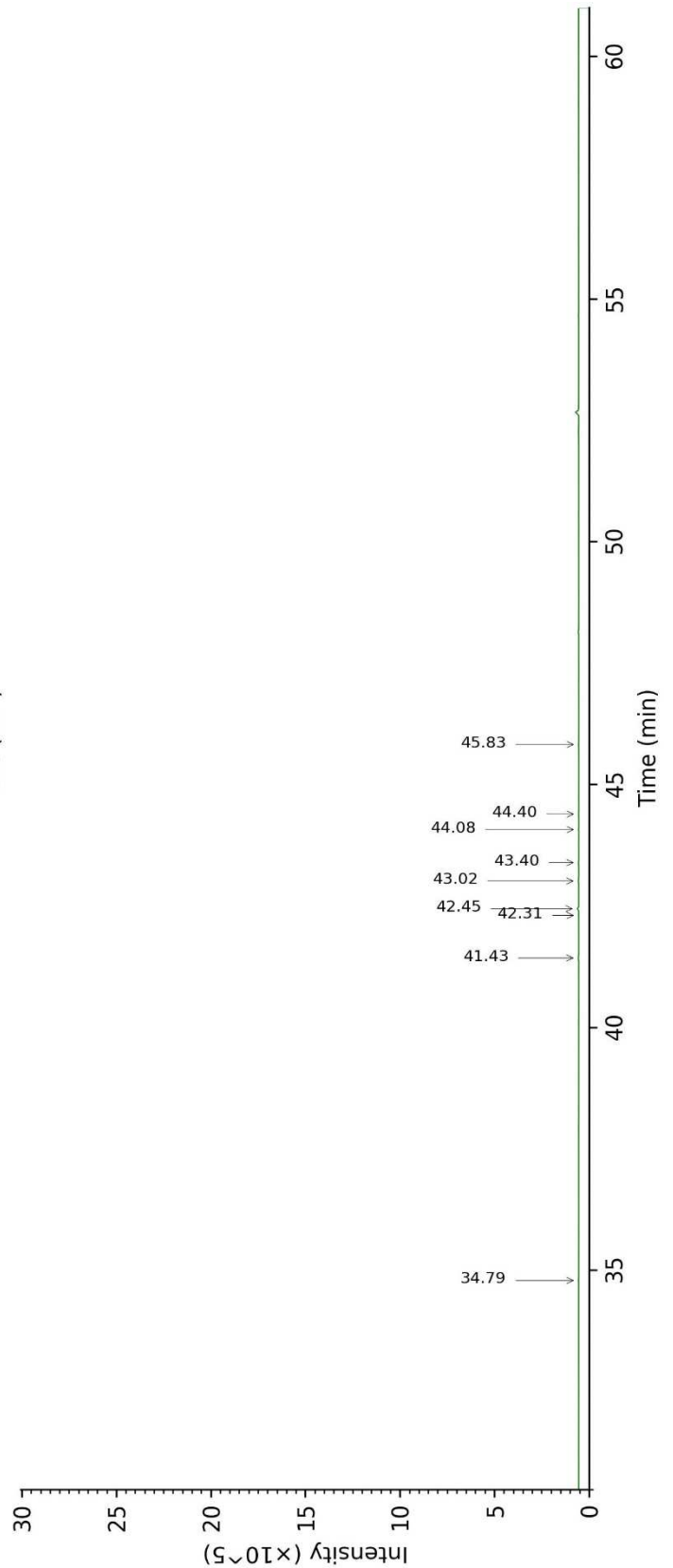
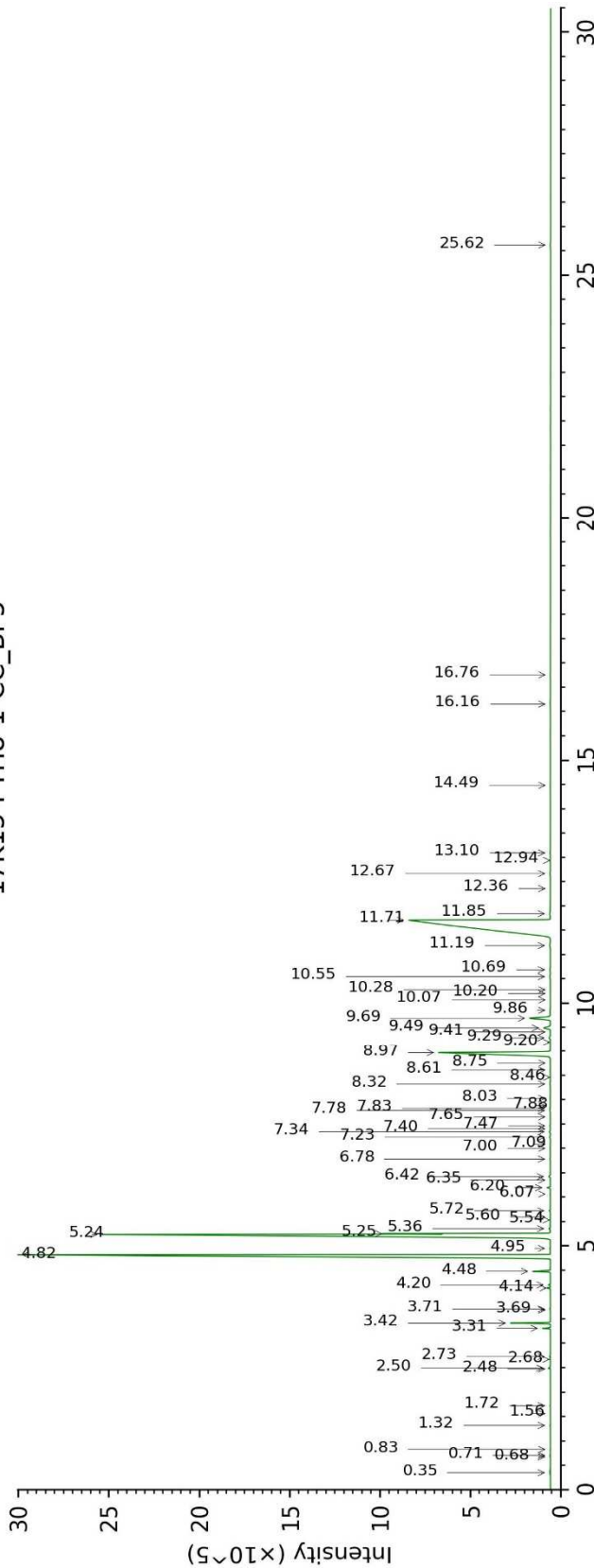
**Physical aspect :** Faintly yellow liquid

**Refractive index :**  $1.4815 \pm 0.0003$  (20 °C)

*CONCLUSION*

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

17K15-PTH8-1-CC\_BP5



17K15-PTH8-1-CC\_WAX

