

## GC/MS BATCH NUMBER: CW0103

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**ESSENTIAL OIL:** CATNIP  
**BOTANICAL NAME:** NEPETA CATARIA  
**ORIGIN:** CANADA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF CATNIP OIL	%
4 $\alpha$ ,7 $\alpha$ ,7 $\alpha$ $\beta$ -NEPETALACTONE + $\beta$ -CARYOPHYLLENE	68.3
4 $\alpha$ ,7 $\alpha$ ,7 $\alpha$ -NEPETALACTONE	14.5
NEPETALIC ACID B	2.3
CARYOPHYLLENE OXIDE + SPATHULENOL	1.4
4 $\alpha$ ,7 $\beta$ ,7 $\alpha$ -NEPETALACTONE	1.4

Comments from Robert Tisserand: Pungent, citrus-green-herbaceous odor profile. Constituents are in expected amounts.

**Date :** August 22, 2017

*SAMPLE IDENTIFICATION*

**Internal code :** 17H16-PTH17-1-DM

**Customer identification :** Catnip - Canada - CW0103612R

**Type :** Essential oil

**Source :** *Nepeta cataria*

**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 :** 2017-08-21

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.	
Dimethyl sulfide	0.39	637	0.01				Sulfide
2-Ethylfuran	0.80	690	0.04	0.03	844	0.81	Furan
Senecionitrile	1.41	771	0.11				Aliphatic nitrile
(1,3E,6E)-Octatriene?	1.94	822	0.02				Alkene
(2E)-Hexenal	2.45	861	0.09				Aliphatic aldehyde
cis-Hex-3-en-1-ol	2.48	864	0.20	0.18	1326	5.68	Aliphatic alcohol
Styrene	2.90	895	0.05	0.14	1192	3.64*	Phenylpropanoid
α-Thujene	3.32	921	0.02	0.17	945	1.22*	Monoterpene
α-Pinene	3.42	927	0.16	[0.17]	945	1.22*	Monoterpene
Sabinene	4.14	969	0.15	0.18	1060	2.07	Monoterpene
β-Pinene	4.21	973	0.81	0.76	1040	1.90	Monoterpene
para-Cymene	5.17	1027	0.09	0.14	1209	3.90	Monoterpene
cis-β-Ocimene	5.36	1037	0.09	[0.14]	1192	3.64*	Monoterpene
trans-β-Ocimene	5.54	1047	0.26	0.23	1205	3.84	Monoterpene
γ-Terpinene	5.73	1058	0.03	[0.14]	1192	3.64*	Monoterpene
Linalool	6.70	1106	0.04	0.28	1505	9.55	Monoterp. alcohol
Nonanal	6.79	1110	0.03	0.02	1338	5.84	Aliphatic aldehyde
Terpinen-4-ol	8.81	1183	0.02	5.64	1521	10.15*	Monoterp. alcohol
α-Terpineol	9.48	1204	0.02	0.14	1629	14.66*	Monoterp. alcohol
Unknown (m/z = 123, 138 (60), 81 (48), 95 (43), 67 (36))	10.16	1218	0.93	0.93	1565	11.77	
Carvone	11.40	1246	0.17	[0.14]	1629	14.66*	Monoterp. ketone
4α,7α,7α-Nepetalactone	18.25	1365	14.55	14.54	1835	27.79	Monoterp. lactone
Nepetalactone analog	18.44	1368	0.15	1.38	1848	28.74*	Monoterp. lactone
4α,7α,7αβ-Nepetalactone	20.82*	1403	68.34	62.59	1886	31.56	Monoterp. lactone
β-Caryophyllene	20.82*	1403	[68.34]	[5.64]	1521	10.15*	Sesquiterpene
4α,7β,7α-Nepetalactone	20.98	1405	1.37	1.43	1898	32.46	Monoterp. lactone
Isodihydronepetalactone	22.31	1421	0.16	0.16	1950	34.90	Monoterp. lactone
α-Humulene	23.49	1435	0.46	0.45	1583	12.47	Sesquiterpene
trans-β-Farnesene	24.58	1448	0.28	0.28	1616	13.98	Sesquiterpene
Nepetalic acid A	31.16	1531	0.24	0.16	2655	52.42	Monoterp. acid
Caryophyllene oxide	33.88*	1569	1.43	[1.38]	1848	28.74*	Sesquiterp. ether
Spathulenol	33.88*	1569	[1.43]	0.09	2026	37.99	Sesquiterp. alcohol
Nepetalic acid B	35.89	1598	2.81	3.88	2685	52.97	Monoterp. acid
Unknown (m/z = 82, 81 (75), 67 (61), 55 (51), 167 (48))	43.16	1798	0.45				
Unknown (m/z = 82, 67 (67), 81 (64), 55 (48), 167 (35))	43.52	1811	2.22	2.45	2240	43.90	

Unknown (m/z = 81, 82 (95), 109 (72), 67 (71), 166 (67), 55 (61), 41 (58), 167 (51))	43.63	1815	0.31	0.17	2260	44.36	
<b>Total identified</b>			<b>92.51%</b>	<b>92.87%</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

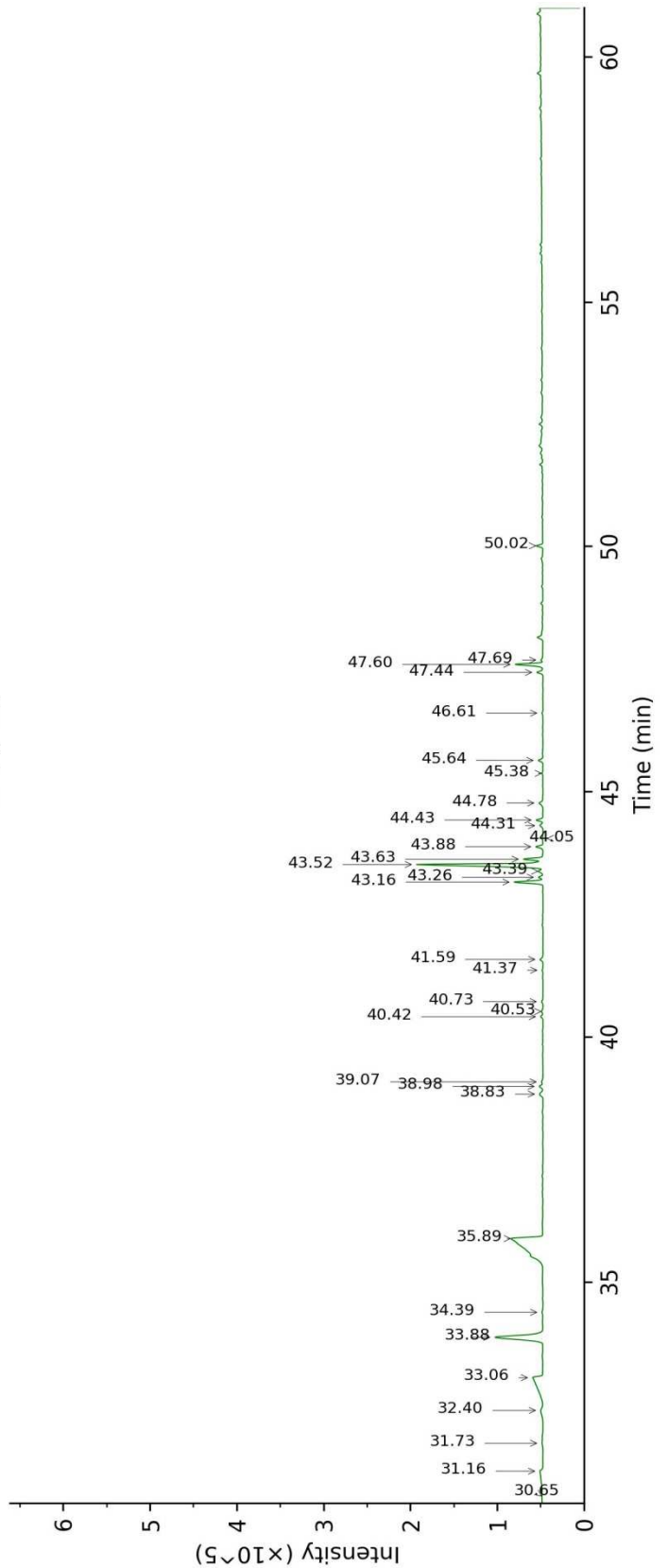
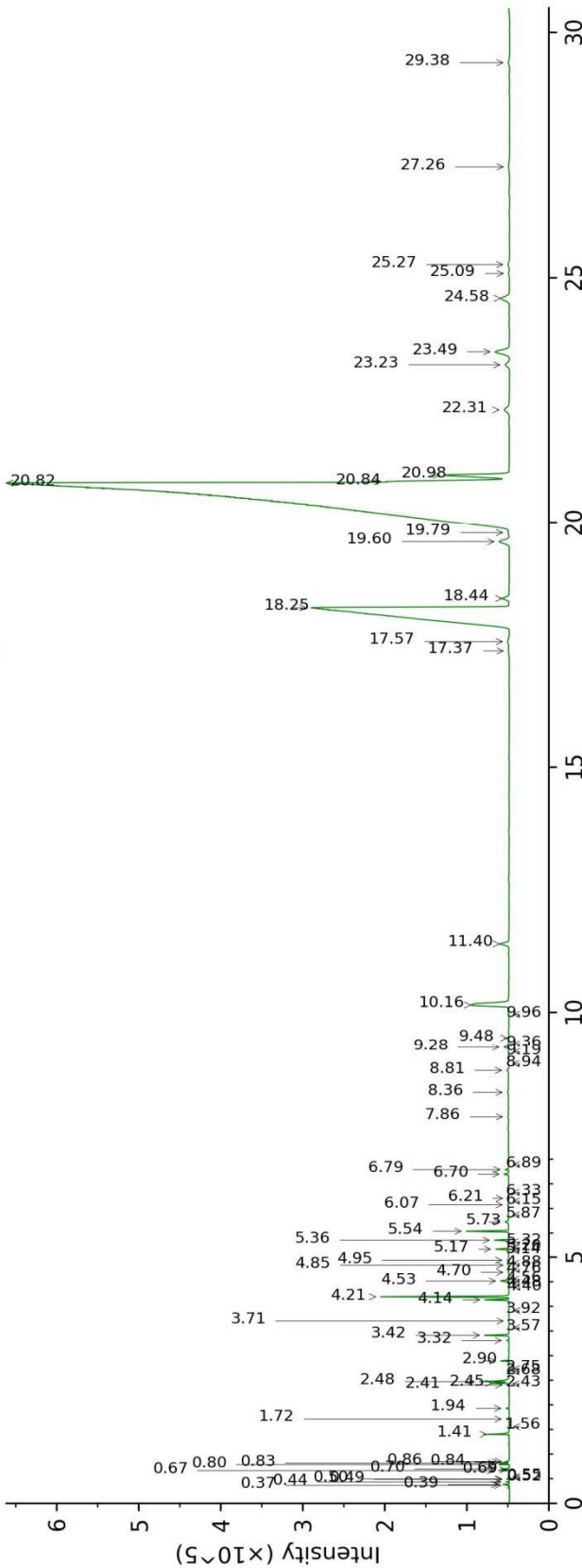
**Physical aspect :** Yellow-brownish liquid

**Refractive index :** 1.4875 ± 0.0003 (20 °C)

#### CONCLUSION

No adulterant, contaminant or diluent were detected using this method. Please note that the identification of nepetalic acids is tentative and relies on peak shape and retention indexes.

17H16-PTH17-1-DM\_BP5



17H16-PTH17-1-DM\_WAX

