

SERVICE DE SPECTROMETRIE DE MASSE DE L'ISIC (SSMI)

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ANALYSES GC-MS

Le 21 Mars 2013

Objet: Analyse d'une huile essentielle de Menthe verte
Nom latin: *Mentha spicata* (Lamiacée)
Lot: 501K104244
Provenance: Inde
Partie distillée: Parties aériennes fleuries
Destinataire : Entreprise Gedane (Lausanne, Suisse)
Composés majoritaires:

Nom	N° CAS	N° CE (EINECS)	Caractéristiques
α -Carvone	6485-40-1	229-352-5	Xn, R22
Limonene	5989-27-5	227-813-5	N, Xi, R10, R38, R43, R50/53

CONDITIONS EXPERIMENTALES

Type d'instrument : CP-3800 couplé au 1200L Triple quadrupole MS/MS (Varian)
Mode d'ionisation : Impact électronique (IE), 70 eV (mode positif)
Gamme de masse : m/z 50-300 en 0.5 sec
Colonne : FactorFour VF-5ms (5% phenyl-methyl 95% dimethyl polysiloxane, 0.25mm x 30 m)
Débit : 1 mL/min
Gradient : 3 min à 50°C ; Montée à 150°C en 20 min puis à 250°C en 7 min
Calibrant : FC43
Echantillons : Huile essentielle diluée 1:1000 dans l'éther. Injection de 1 μ L.

Figure 1 – Chromatogramme TIC-GC/MS d'huile essentielle de Menthe verte (501K104244) analysée sur colonne capillaire FactorFour VF-5ms (5% phenyl-méthyl 95% diméthylpolysiloxane, 0.25mm x 30 m). Les numéros des pics sont reportés dans la Table 1.

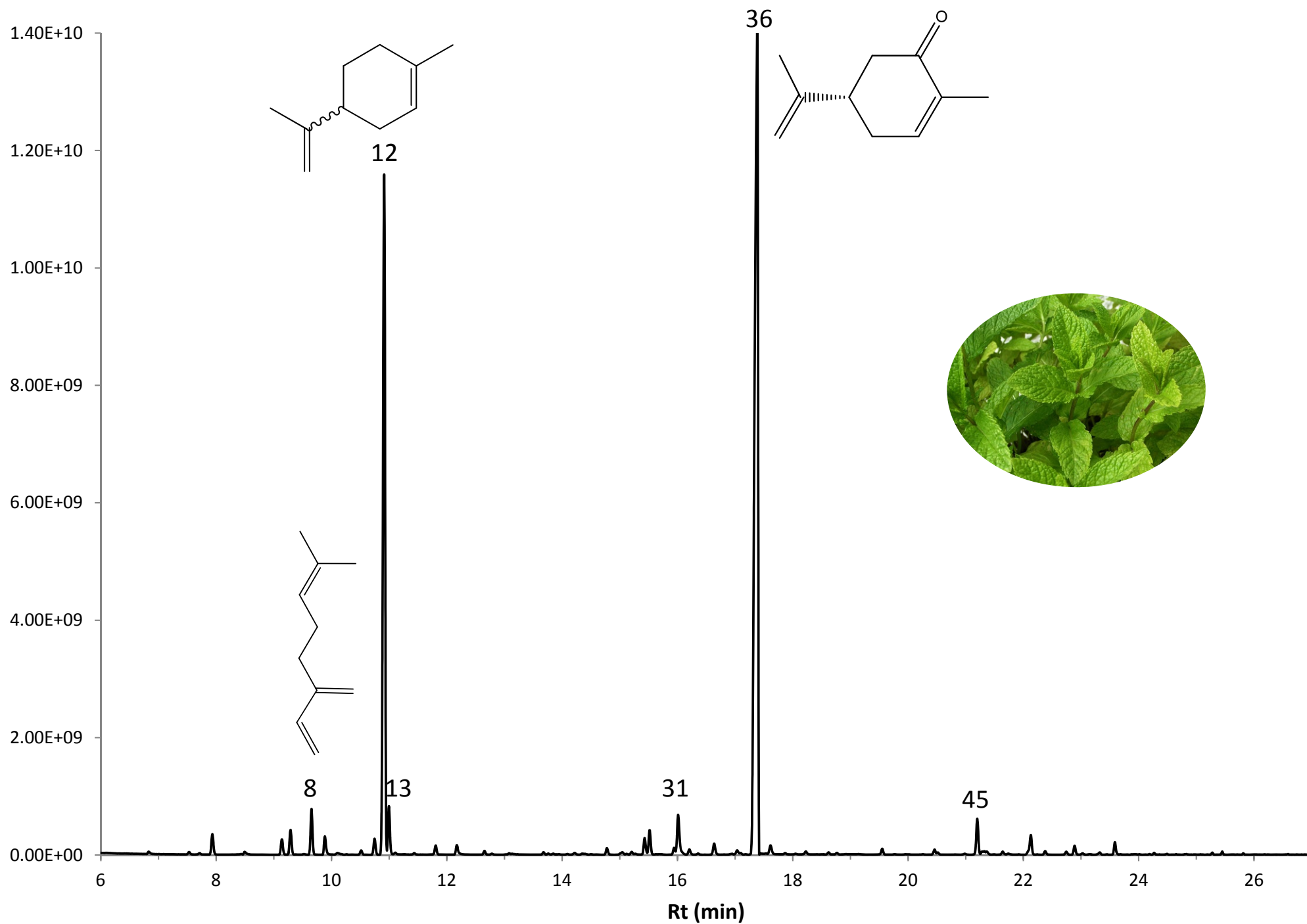


Table 1 – Composition de l'huile essentielle de Menthe verte (501K104244)

N°	Retention Time (min.)	Area	% of Total	Identification (NIST 11 / Massfinder)	Prob (%)
1	4.56	6.13E+08	0.57	Ethyl Acetate	58
2	6.83	1.05E+08	0.10	2,5-Diethyltetrahydrofuran	93
3	7.71	5.15E+07	0.05	α -Thujene	66
4	7.94	8.58E+08	0.79	α -Pinene	71
5	8.50	1.37E+08	0.13	3-Methylcyclohexanone	82
6	9.14	6.36E+08	0.59	Sabinene	84
7	9.29	1.02E+09	0.95	β -Pinene	82
8	9.65	1.75E+09	1.62	β-Myrcene	82
9	9.89	8.20E+08	0.76	3-Octanol	72
10	10.52	1.76E+08	0.16	D-2 Carene	69
11	10.75	6.55E+08	0.61	m/p-Cimene	86
12	10.91	3.04E+10	28.03	Limonene	75
13	11.00	1.62E+09	1.50	Eucalyptol	84
14	11.11	5.71E+07	0.05	(Z)- β -Ocimene	20
15	11.44	5.79E+07	0.05	(E)- β -Ocimene	25
16	11.81	3.54E+08	0.33	γ -Terpinene	83
17	12.17	4.49E+08	0.41	Trans-Sabinene Hydrate	62
18	12.65	1.48E+08	0.14	Terpinolene	60
19	12.78	4.28E+07	0.04	o/p-Cymenene	20
20	13.08	4.58E+07	0.04	Linalool	40
21	13.68	9.08E+07	0.08	3-Octanol, Acetate	73
22	13.76	4.28E+07	0.04	trans-p-Mentha-2,8-dienol	53
23	14.10	2.25E+07	0.02	Cis-Limonene Oxide	30
24	14.22	7.93E+07	0.07	trans-Limonene Oxide	40
25	14.78	2.71E+08	0.25	1-Menthone	35
26	15.04	1.52E+08	0.14	Isomenthone	54
27	15.21	1.20E+08	0.11	p-Mentha-1,5-dien-8-ol	50
28	15.43	6.94E+08	0.64	δ -Terpineol	67
29	15.52	1.01E+09	0.93	Terpinen-4-ol	78
30	15.94	2.71E+08	0.25	α -Terpineol	83
31	16.01	2.03E+09	1.88	Cis-Dihydrocarvone	60
32	16.21	2.39E+08	0.22	Trans-Dihydrocarvone	84
33	16.64	5.10E+08	0.47	Trans-Carveol	61
34	17.04	2.10E+08	0.19	Cis-Carveol	72
35	17.10	6.55E+07	0.06	Cis-3-Hexenyl Isovalerate	64
36	17.38	5.69E+10	52.54	α-Carvone	71
37	17.61	4.36E+08	0.40	Piperitone	63
38	17.87	5.44E+07	0.05	Carvone Oxide, Trans-	65
39	18.05	2.68E+07	0.02	Isopiperitone	82
40	18.23	1.48E+08	0.14	Carvone Oxide, Cis-	57

Table 1 – Composition de l'huile essentielle de Menthe verte (501K104244) (suite)

N°	Retention Time (min.)	Area	% of Total	Identification (NIST 11 / Massfinder)	Prob (%)
41	18.62	8.86E+07	0.08	Menthyl Acetate	54
42	19.55	2.49E+08	0.23	Dihydrocarveol Acetate	15
43	20.46	2.17E+08	0.20	Trans-Caryyl Acetate	20
44	20.98	4.35E+07	0.04	α -Cubenene	10
45	21.20	1.62E+09	1.49	β-Bourbonene	54
46	21.29	8.75E+07	0.08	1,5-di-epi- β -Bourbonene	56
47	21.32	1.05E+08	0.10	Cis- β -Elemene	15
48	21.37	1.10E+08	0.10	Cis-Jasmone	60
49	21.64	1.34E+08	0.12	Benzoic acid, 2,3-dichloro-, methyl ester	45
50	22.13	9.65E+08	0.89	β -Caryophyllene	75
51	22.38	1.53E+08	0.14	β -Copaeneene	54
52	22.74	1.33E+08	0.12	Isogermacrene D	35
53	22.89	3.67E+08	0.34	(E)- β -Farnesene	45
54	23.03	6.96E+07	0.06	α -Humulene	40
55	23.59	4.89E+08	0.45	Germacrene D	20
56	24.27	6.04E+07	0.06	w-Cadinene / w-Amorphene	67/64
57	25.28	6.52E+07	0.06	Caryophyllene Oxide	60

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37	17.61	4.36E+08	0.40	Piperitone
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50	22.13	9.65E+08	0.89	β -Caryophyllene
51	22.38	1.53E+08	0.14	β -Copaeneene
52	22.74	1.33E+08	0.12	Isogermacrene D
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55	23.59	4.89E+08	0.45	Germacrene D
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57	25.28	6.52E+07	0.06	Caryophyllene Oxide