

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

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### *ANALYSES GC-MS*

Le 19 Octobre 2011

**Objet:** Analyse d'une huile essentielle par GC-MS  
**Nom:** **Sauge officinale**  
**Lot:** **SAG101B070011**  
**Destinataire :** Entreprise Gedane (Lausanne, Suisse)  
**Composés majoritaires:**  **$\alpha$ -Thujone ; Camphor**

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### *CONDITIONS EXPERIMENTALES*

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**Type d'instrument :** GC CP-3800 couplé au 1200L Triple quadrupole MS/MS (Varian)

**Mode d'ionisation :** Impact électronique (IE), 70 eV (mode positif)

**Gamme de masse :**  $m/z$  50-250 en 0.5 sec

**Colonne :** FactorFour VF-5ms (5% phenyl-methyl 95% dimethyl polysiloxane, 0.25mm x 30 m)

**Débit :** 1 mL/min

**Gradient :** 50°C pendant 3 min; Montée à 150°C en 20 min; Montée à 250°C en 7 min

**Calibrant :** FC43

**Echantillons :** Huile essentielle diluée 1:500 dans l'éther. Injection de 1  $\mu$ L.

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Figure 1 – Chromatogramme TIC-GC/MS de Sauge Officinale (SAG2000) analysé sur colonne capillaire FactorFour VF-5ms

(5% phenyl-methyl 95% dimethylpolysiloxane, 0.25mm x 30 m). Les numéros des pics sont reportés dans la Table 1.

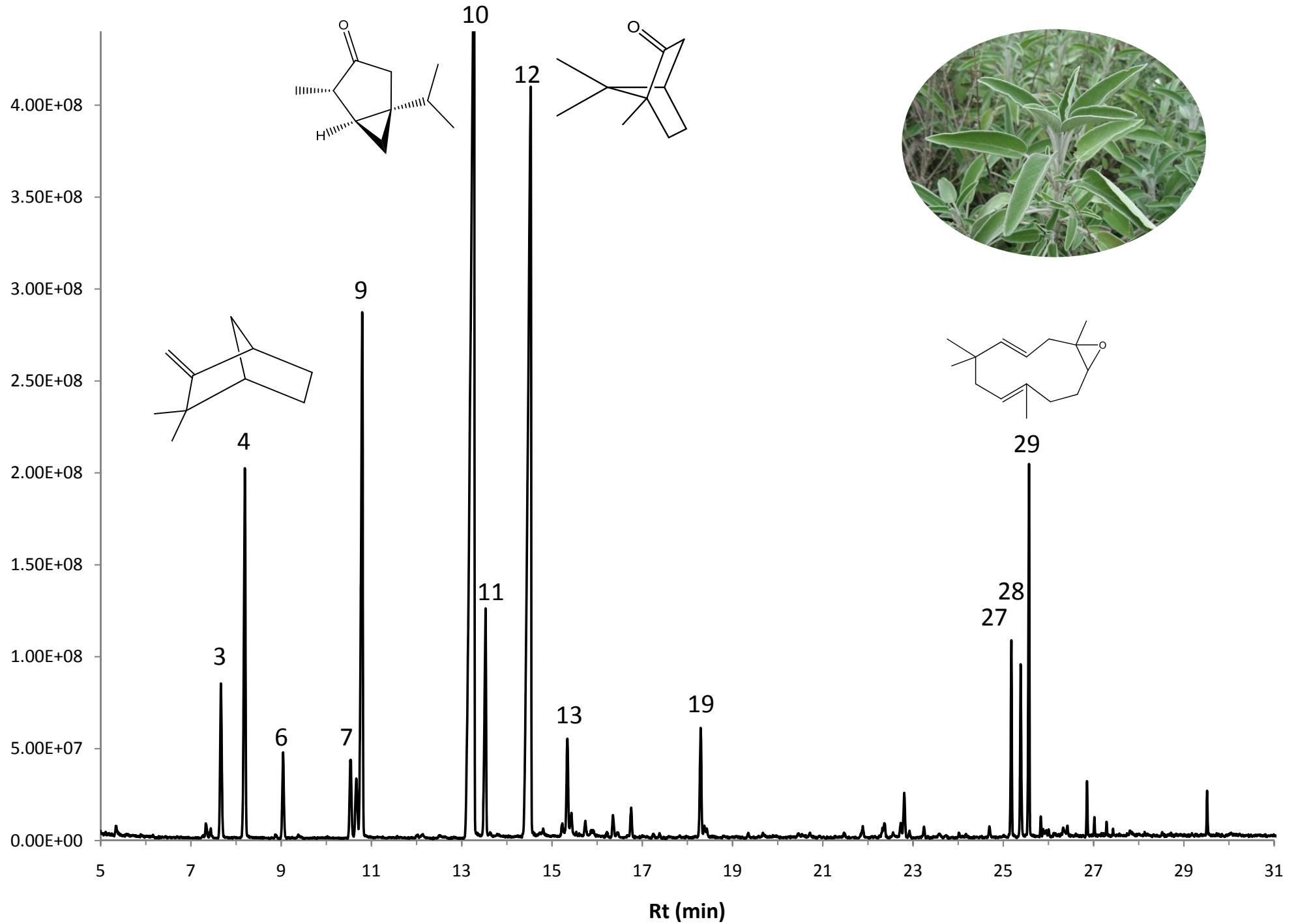


Table 1 – Composition de l'huile essentielle de Saugé officinale (SAG101B070011)

N°	Retention Time (min.)	Area	% of Total	Identification (NIST 08 / Massfinder)	Prob (%)
1	7.33	1.57E+07	0.18	Tricyclene	20
2	7.44	1.14E+07	0.13	$\alpha$ -Thujene	63
3	<b>7.66</b>	<b>2.11E+08</b>	<b>2.46</b>	<b><math>\alpha</math>-Pinene</b>	<b>80</b>
4	<b>8.19</b>	<b>5.07E+08</b>	<b>5.92</b>	<b>Camphene</b>	<b>77</b>
5	8.87	6.12E+06	0.07	Sabinene / $\alpha$ -Phellandrene	71/71
6	<b>9.04</b>	<b>1.14E+08</b>	<b>1.33</b>	<b><math>\beta</math>-Pinene</b>	<b>74</b>
7	<b>10.54</b>	<b>1.28E+08</b>	<b>1.50</b>	<b>o/p-Cymene</b>	<b>83/80</b>
8	10.67	1.02E+08	1.19	D-Limonene	79
9	<b>10.80</b>	<b>8.06E+08</b>	<b>9.40</b>	<b>Eucalyptol</b>	<b>91</b>
10	<b>13.27</b>	<b>2.92E+09</b>	<b>34.10</b>	<b><math>\alpha</math>-Thujone</b>	<b>78</b>
11	<b>13.53</b>	<b>3.20E+08</b>	<b>3.74</b>	<b><math>\beta</math>-Thujone</b>	<b>50</b>
12	<b>14.52</b>	<b>2.04E+09</b>	<b>23.79</b>	<b>Camphor</b>	<b>66</b>
13	<b>15.34</b>	<b>1.42E+08</b>	<b>1.65</b>	<b>Borneol</b>	<b>81</b>
14	15.43	3.75E+07	0.44	4-Terpineol	77
15	15.74	1.87E+07	0.22	Unknown	
16	16.22	7.62E+06	0.09	Cis-Verbenone	48
17	16.35	3.17E+07	0.37	Unknown	
18	16.75	4.14E+07	0.48	Isobornyl Formate	28
19	<b>18.30</b>	<b>1.56E+08</b>	<b>1.82</b>	<b>Bornyl Acetate</b>	<b>39</b>
20	19.35	5.74E+06	0.07	Myrtenyl Acetate	69
21	21.89	2.24E+07	0.26	Isocaryophyllene	*
22	22.35	3.09E+07	0.36	$\beta$ -Caryophyllene	15
23	22.73	2.16E+07	0.25	Unknown	
24	22.81	5.89E+07	0.69	$\alpha$ -Humulene	78
25	23.24	1.13E+07	0.13	$\gamma$ -Amorphene	62
26	24.69	1.30E+07	0.15	$\beta$ -Caryophyllene Oxide	*
27	<b>25.18</b>	<b>1.82E+08</b>	<b>2.12</b>	<b>Caryophyllene Oxide</b>	<b>81</b>
28	<b>25.38</b>	<b>1.73E+08</b>	<b>2.02</b>	<b>Viridiflorol</b>	<b>33</b>
29	<b>25.57</b>	<b>3.36E+08</b>	<b>3.93</b>	<b>Humulene-epoxide-II</b>	<b>72</b>
30	25.83	1.66E+07	0.19	Unknown	
31	26.85	4.51E+07	0.53	Sandela	10
32	29.52	3.64E+07	0.42	Manool	35

\* Identification manuelle basée sur le spectre IE et le RI

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