

RCBC

Research Centre for Bioorganic Chemistry
Chulalongkorn University, Bangkok, THAILAND

Sample : AloEx Hydrosol
Received Date : December 24, 2023
Origin : Nasaema Industry Co.,Ltd

Method for evaluation :

Solid phase microextraction/Gas chromatography mass spectrometry (SPME/GCMS)

Condition for GCMS

Inlet pressure 5.2929 psi,

septum purge flow 3mL/min, split less mode,

purge flow to split vent 100 ml/min at 5 min

SPME injection setting: incubation temperature 40°C, incubation time 30 min, agitator on 10s, agitator speed 250 rpm, extraction time 30 min, desorption time 300 s

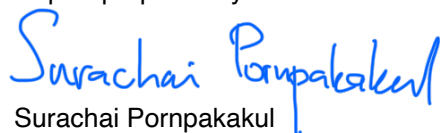
Oven temperature 50°C, ramping rate 2°C/min, initial temperature 50°C, final temperature 220°C (hold time at 15 min)

Analysis MS spectrum by Agilent MassHunter Quantitative Analysis Navigator

Results

By solid phase microextraction (SPME) and GCMS analysis of AloEx Hydrosol and comparing with standard alkane and NIST database, AloEx hydrosol mainly comprised of alpha- or beta-bisabolene, caryophyllene, alpha-farnesene, cadinene, alpha-humulene, alpha-curcumen, gamma-muurolene, and copaene (see Table 1 and Figure 1)

Report prepared by:



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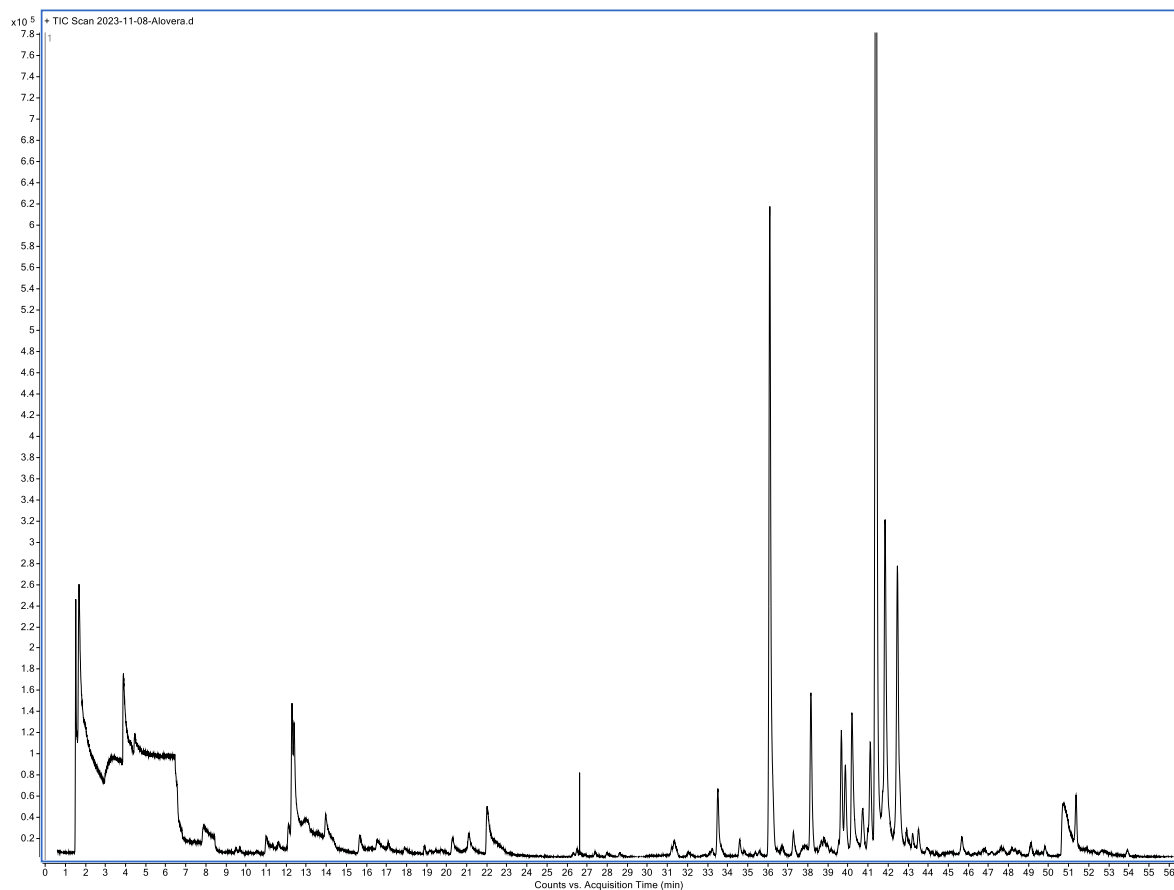
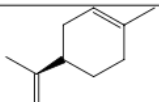
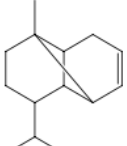
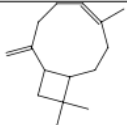
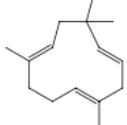
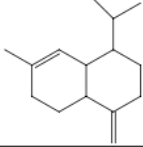
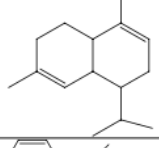
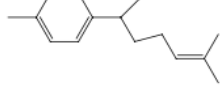
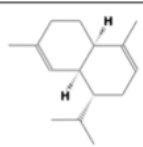
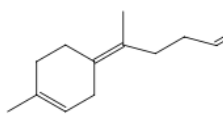
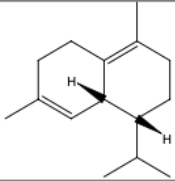


Figure 1 GCMS chromatogram of AloEx hydrosol

Table 1 GCMS analysis of AloEx hydrosol

Peak	Retention time	Identified compounds	Structure	%
1	12.29	D-Limonene		1.51
2	33.51	Copaene		2.18
3	36.11	Caryophyllene		20.23
4	38.15	Humelene		4.4
5	39.67	γ -Muurolene		2.7
6	39.87	1,2,4a,5,6,8a-hexahydro-4,7-dimethyl-1-(1-methylethyl)-Naphthalene		1.93
7	40.2	α -curcumene (or 1-(1,5-dimethyl-4-hexenyl)-4-methyl-Benzene)		4.2
8	40.73	α -Muurolene		1.21
9	41.39	1-Methyl-4-(6-methylhept-5-en-2-ylidene)cyclohex-1-ene or α -Bisabolene		41.73
10	41.85	α -Farnesene		10.28
11	42.46	(1S-cis)-1,2,3,5,6,8a-hexahydro-4,7-dimethyl-1-(1-methylethyl)-Naphthalene or Cadinene		9.63