

Sample Information

Analyzed by : Dr. Robert S. Pappas
 Analyzed : 9/24/2019 10:14:14 PM
 Sample Type : Essential Oil
 Sample Name : Balsam Fir Needle - Barefut
 Sample ID : 0104
 Injection Volume : 0.10
 Instrument ID : GC-3

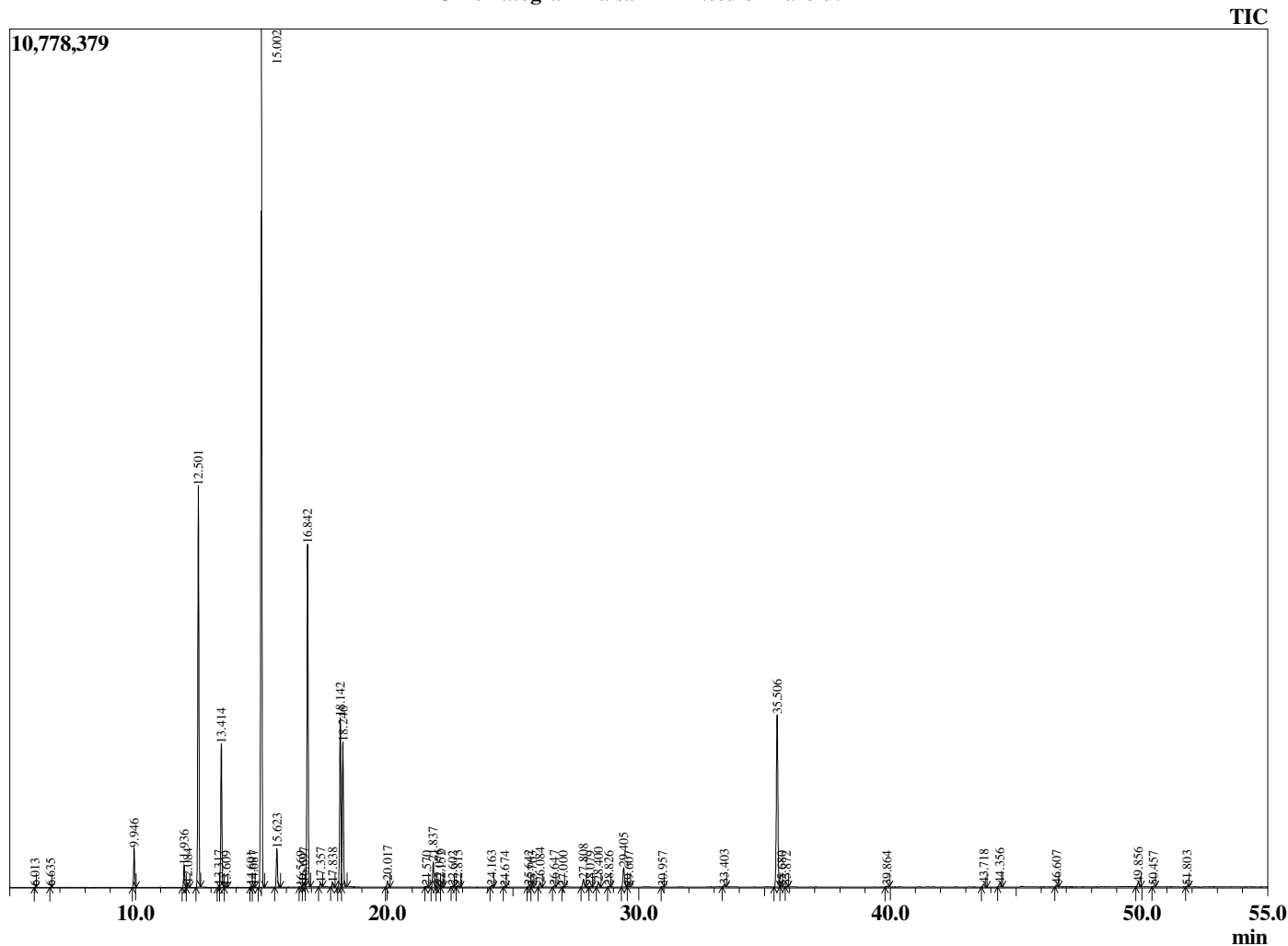


Peak Report TIC

R.Time	Name	Area%
6.013	Toluene	0.01
6.635	Hexyl methyl ether	0.01
9.946	Santene	1.32
11.936	Tricyclene	0.80
12.084	alpha-Thujene	0.14
12.501	alpha-Pinene	14.63
13.317	alpha-Fenchene	0.07
13.414	Camphene	5.53
13.609	Thuja-2,4(10)diene	0.04
14.601	Unidentified	0.04
14.687	Sabinene	0.06
15.002	beta-Pinene	33.67
15.623	Myrcene	1.56
16.569	Unidentified	0.03
16.697	alpha-Phellandrene	0.19
16.842	delta-3-Carene	14.46
17.357	alpha-Terpinene	0.17
17.838	para-Cymene	0.19
18.142	Limonene	7.34
18.246	beta-Phellandrene	5.91
20.017	gamma-Terpinene	0.28
21.570	Isoterpinolene	0.04
21.837	Terpinolene	1.14
22.076	Fenchone	0.12
22.152	para-Cymenene	0.06
22.602	Unidentified	0.03
22.813	Linalool	0.07
24.163	alpha-Fenchol	0.09
24.674	alpha-Campholenal	0.01
25.642	trans-Pinocarveol	0.08
25.763	Unidentified	0.02
26.084	Camphor	0.21
26.647	trans-beta-Terpineol	0.05
27.000	Pinocamphone	0.02
27.808	Borneol	0.41
28.079	Isopinocampone	0.03
28.400	Terpinen-4-ol	0.24
28.826	para-Cymen-8-ol	0.03
29.405	alpha-Terpineol	1.03
29.607	Estragole	0.03
30.957	alpha-Fenchyl acetate	0.02
33.403	Piperitone	0.12
35.506	Bornyl acetate	8.84
35.680	Unidentified	0.03
35.872	Thymol	0.03
39.864	Unidentified	0.06
43.718	Junipene	0.18
44.356	beta-Caryophyllene	0.19
46.607	alpha-Humulene	0.10
49.856	beta-Bisabolene	0.24
50.457	delta-Cadinene	0.03
51.803	trans-alpha-Bisabolene	0.04
		100.00

This report is valid for 1 year from the analyzed date.

Chromatogram Balsam Fir Needle - Barefut



Comments:

The analysis of this Balsam Fir Needle batch sample meets the expected chemical profile for authentic essential oil of *Abies balsamea*. No contamination or adulteration was detected.