Aromatic Plant Research Center

We provide uncompromising
quality control for your products.

Customer : doTERRA International
Lot Number : 240881Y
Date Filled : 03/28/2024

Column : ZB5 (60 m length × 0.25 mm inner diameter × 0.25 µm film thickness)
Instrument : Shimadzu GCMS-QP2010 Ultra
Carrier gas : Helium 80 psi
Temperature ramp : 2 degrees celsius per minute up to 260-degrees celsius
Split ratio : 30:1
Sample preparation : 5%w/v solution with Dichloromethane.

Comments:
The analysis of this Frankincense lot revealed no contaminants or adulteration.
The sample meets the expected chemical profile for authentic essential oils of Boswellia species.

Analysied by : Ambika Poudel
Reviewed by : Dr. Prabodh Satyal

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Aromatic Plant Research Center
230 N 1200 E STE 100
Lehi, UT 84043
www.aromaticplant.org

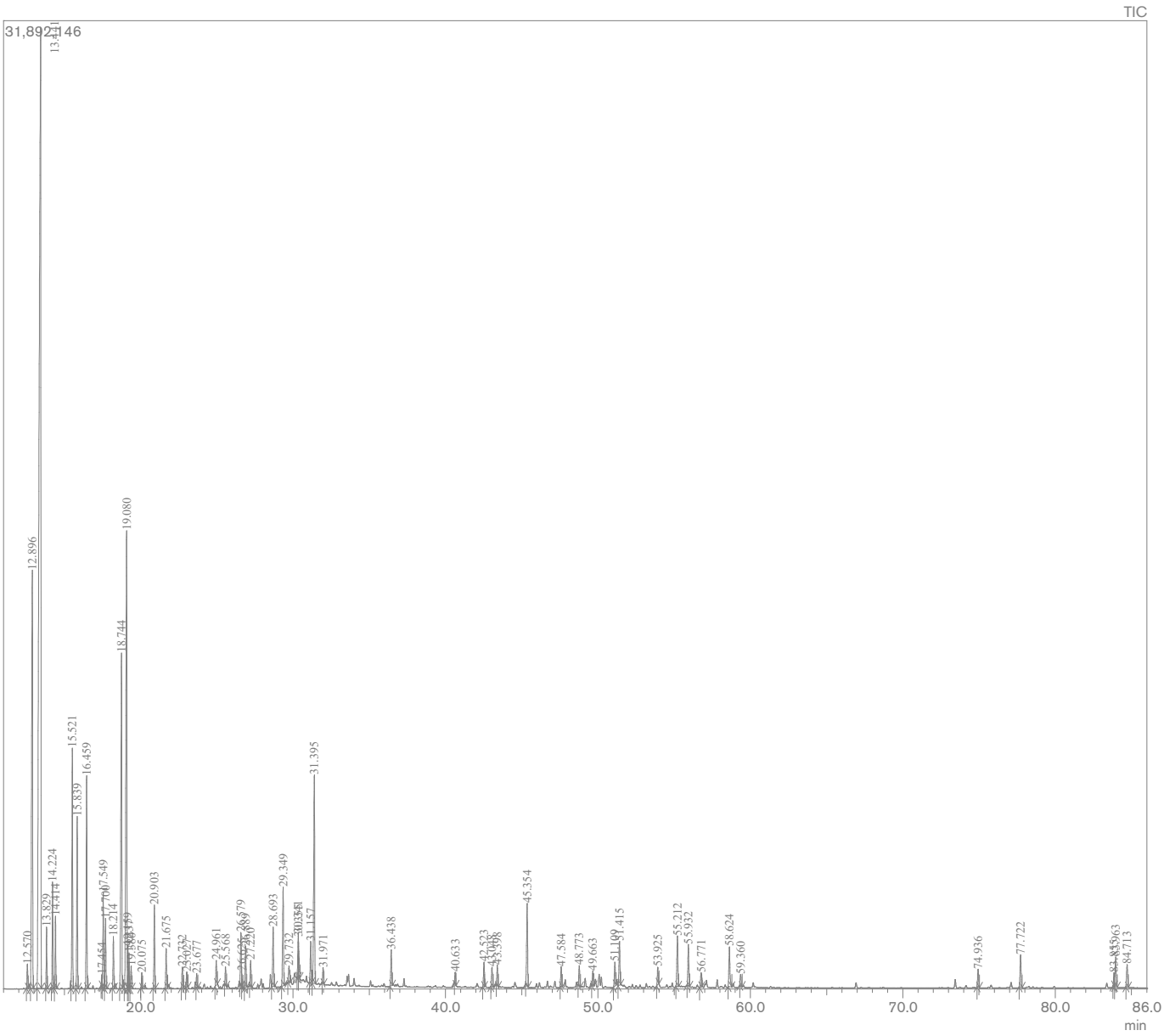
Frankincense Essential Oil

Customer : doTERRA International

Lot Number : 240881Y

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Chromatogram



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Peak Report

Peak#	R.Time	Name	Area%
1	12.570	Hashishene	0.34
2	12.896	alpha-Thujene	8.40
3	13.441	alpha-Pinene	33.24
4	13.829	Thujadiene	0.77
5	14.224	Camphene	1.38
6	14.414	Thuja-2,4(10)-diene	0.94
7	15.521	Sabinene	3.56
8	15.839	beta-Pinene	2.42
9	16.459	Myrcene	3.16
10	17.454	3-Ethenyl-1,2-dimethyl-1,4-cyclohexadiene	0.15
11	17.549	alpha-Phellandrene	1.37
12	17.700	delta-3-Carene	0.99
13	18.214	alpha-Terpinene	0.74
14	18.744	para-Cymene	6.13
15	19.080	Limonene	9.15
16	19.159	beta-Phellandrene	0.49
17	19.237	1,8-Cineole	0.45
18	19.380	cis-beta-Ocimene	0.35
19	20.075	trans-beta-Ocimene	0.21
20	20.903	gamma-Terpinene	1.27
21	21.675	n-Octanol	0.61
22	22.732	Terpinolene	0.33
23	23.027	para-Cymenene	0.25
24	23.677	Linalool	0.21
25	24.961	alpha-Thujone	0.41
26	25.568	alpha-Campholenal	0.26
27	26.579	trans-Pinocarveol	0.87
28	26.625	cis-Verbenol	0.13
29	26.889	trans-Verbenol	0.68
30	27.220	alpha-Felandren-8-ol	0.40
31	28.693	para-Mentha-1,5-dien-8-ol	1.04
32	29.349	Terpinen-4-ol	1.71
33	29.732	para-Cymen-8-ol	0.33
34	30.341	alpha-Terpineol	0.54
35	30.355	Myrtenol	0.46
36	31.157	Verbenone	0.69
37	31.395	Octyl acetate	4.05
38	31.971	trans-Carveol	0.23
39	36.438	Bornyl acetate	0.61
40	40.633	alpha-Cubebene	0.17
41	42.523	alpha-Copaene	0.44
42	43.048	beta-Bourbonene	0.36
43	43.398	beta-Elemene	0.34
44	45.354	beta-Caryophyllene	1.54
45	47.584	alpha-Humulene	0.36
46	48.773	trans-Cadina-1(6),4-diene	0.34
47	49.663	beta-Selinene	0.25
48	51.109	gamma-Cadinene	0.43
49	51.415	delta-Cadinene	0.80
50	53.925	trans-Nerolidol	0.30
51	55.212	Caryophyllene oxide	0.97
52	55.932	Viridiflorol	0.76
53	56.771	1,10-di-epi-Cubenol	0.27
54	58.624	epi-alpha-Cadinol	0.85
55	59.360	alpha-Cadinol	0.23
56	74.936	3-cis-Cembrene A	0.34
57	77.722	Verticilla-4(20),7,11-triene	0.66
58	83.855	Incensole	0.25
59	83.963	Serratol	0.61
60	84.713	Incensyl acetate	0.44
			100.00

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