



Aromatic Plant Research Center

We provide uncompromising
quality control for your products.

Customer : doTERRA International
Lot Number : 231981
Date Filled : 07/17/2023

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



© Copyright 2023 Aromatic Plant Research Center. All rights reserved. Any publishing, copying, use, dissemination, or distribution of this report, including online, without the express written permission of Aromatic Plant Research Center is strictly prohibited.

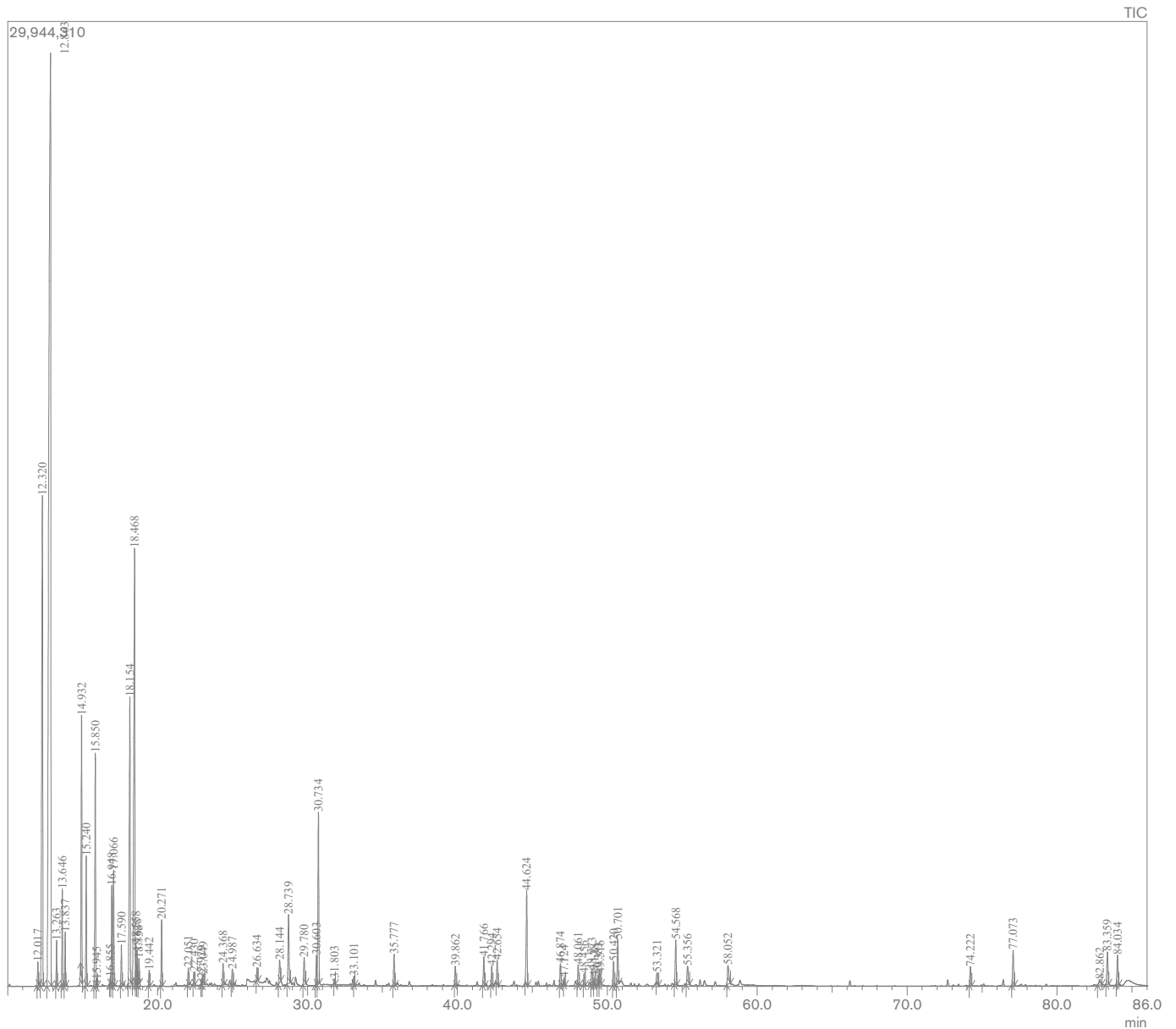
Frankincense Essential Oil

Customer : doTERRA International

Lot Number : 231981

Date Filled : 07/17/2023

Chromatogram



© Copyright 2023 Aromatic Plant Research Center. All rights reserved. Any publishing, copying, use, dissemination, or distribution of this report, including online, without the express written permission of Aromatic Plant Research Center is strictly prohibited.

Peak Report

Peak#	R.Time	Name	Area%
1	12.017	Hashishene	0.34
2	12.320	alpha-Thujene	10.09
3	12.863	alpha-Pinene	36.47
4	13.263	Thujadiene	0.57
5	13.646	Camphene	1.27
6	13.837	Thuja-2,4(10)-diene	0.70
7	14.932	Sabinene	3.75
8	15.240	beta-Pinene	1.81
9	15.850	Myrcene	3.62
10	15.945	Trimethyl Cycloheptane + dehydro-1,8-Cineole	0.11
11	16.855	3-Ethenyl-1,2-dimethyl-1,4-cyclohexadiene	0.09
12	16.948	alpha-Phellandrene	1.56
13	17.066	delta-3-Carene	1.75
14	17.590	alpha-Terpinene	0.61
15	18.154	para-Cymene	5.51
16	18.468	Limonene	9.53
17	18.558	beta-Phellandrene	0.48
18	18.638	1,8-Cineole	0.41
19	18.758	cis-beta-Ocimene+ortho-Cymene	0.36
20	19.442	trans-beta-Ocimene	0.22
21	20.271	gamma-Terpinene	1.03
22	22.051	Terpinolene	0.25
23	22.430	para-Cymenene	0.20
24	22.929	Perillene	0.07
25	23.049	Linalool	0.19
26	24.368	trans-Thujone	0.34
27	24.987	alpha-Campholenal	0.26
28	26.634	alpha-Felandren-8-ol	0.22
29	28.144	para-Mentha-1,5-dien-8-ol	0.49
30	28.739	Terpinen-4-ol	1.40
31	29.780	alpha-Terpineol	0.54
32	30.603	Verbenone	0.51
33	30.734	Octyl acetate	3.20
34	31.803	Decyl methyl ether	0.07
35	33.101	Carvone	0.12
36	35.777	Bornyl acetate	0.54
37	39.862	alpha-Cubebene	0.36
38	41.766	alpha-Copaene	0.52
39	42.294	beta-Bourbonene	0.35
40	42.654	beta-Elemene	0.41
41	44.624	beta-Caryophyllene	1.85
42	46.874	alpha-Humulene	0.40
43	47.124	allo-Aromadendrene	0.10
44	48.061	trans-Cadina-1(6),4-diene	0.36
45	48.456	Germacrene D	0.21
46	48.973	beta-Selinene	0.27
47	49.138	trans-Muurolo-4(14),5-diene	0.12
48	49.383	alpha-Selinene	0.16
49	49.516	alpha-Muurolole	0.21
50	50.420	gamma-Cadinene	0.44
51	50.701	delta-Cadinene	0.84
52	53.321	trans-Nerolidol	0.25
53	54.568	Caryophyllene oxide	0.85
54	55.356	Viridiflorol	0.48
55	58.052	epi-alpha-Cadinol	0.54
56	74.222	3-trans-Cembrene A	0.37
57	77.073	Verticilla-4(20),7,11-triene	0.73
58	82.862	Neocembrene A	0.17
59	83.359	Serratol	0.74
60	84.034	Incensyl acetate	0.59
			100.00

