

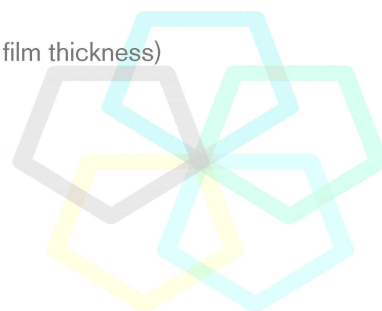


Aromatic Plant Research Center

We provide uncompromising
quality control for your products.

Customer : doTERRA International
Lot Number : 223136
Date Filled : 11/09/2022

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 Lemon lot revealed no contaminants or adulteration.
The sample meets the expected chemical profile for authentic essential oils of Citrus limon.

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



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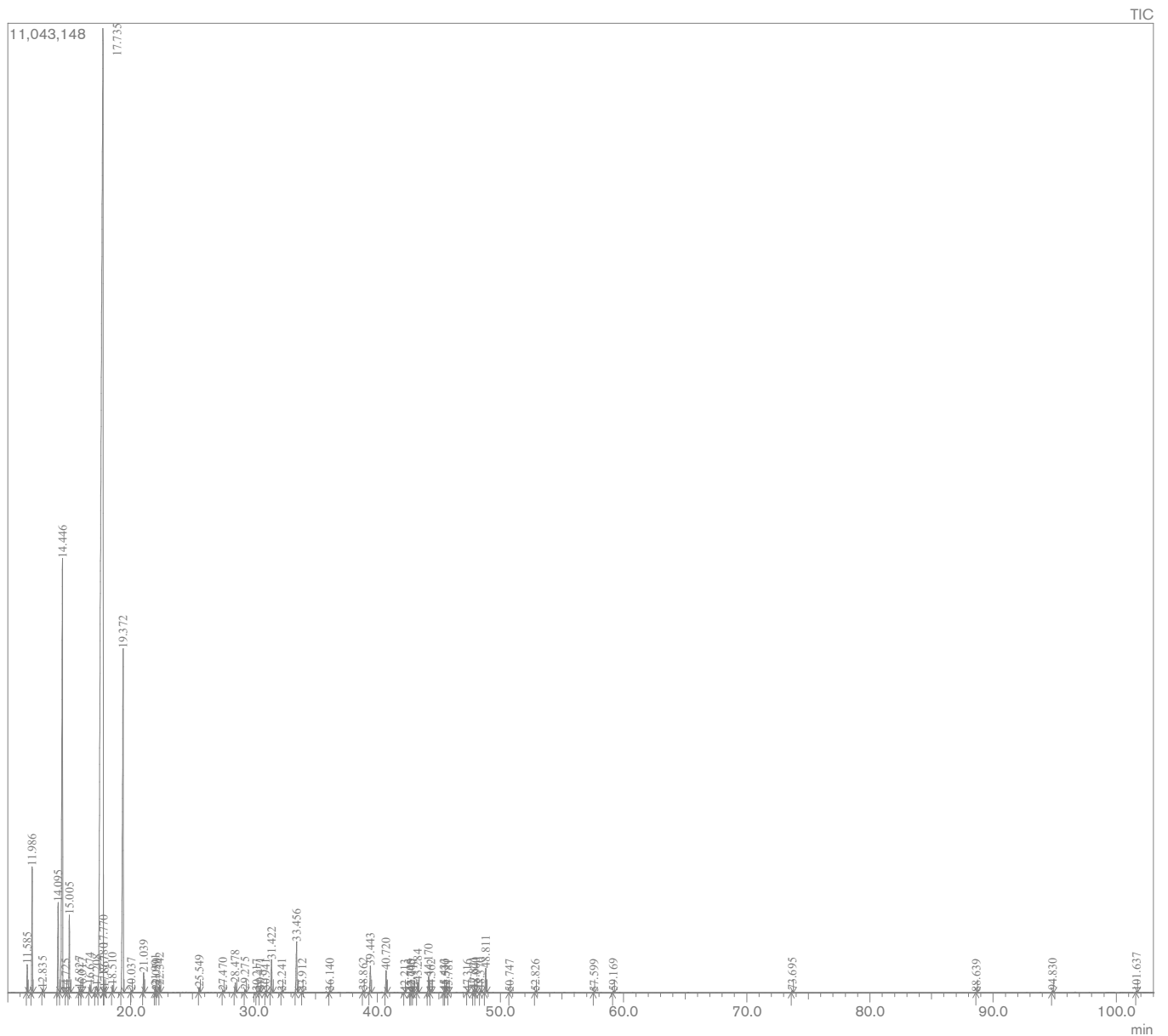
Lemon Essential Oil

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Chromatogram



Peak Report

Peak#	R.Time	Name	Area%
1	11.585	alpha-Thujene	0.45
2	11.986	alpha-Pinene	2.11
3	12.835	Camphene	0.06
4	14.095	Sabinene	2.06
5	14.446	beta-Pinene	11.98
6	14.725	6-Methyl-5-hepten-2-one	0.01
7	15.005	Myrcene	1.48
8	15.827	n-Octanal	0.07
9	16.017	alpha-Phellandrene	0.04
10	16.674	alpha-Terpinene	0.19
11	17.208	para-Cymene	0.32
12	17.735	Limonene	64.68
13	17.770	beta-Phellandrene	0.11
14	17.780	1,8-Cineole	0.09
15	17.867	cis-beta-Ocimene	0.07
16	18.510	trans-beta-Ocimene	0.13
17	19.372	gamma-Terpinene	9.97
18	20.037	cis-Sabinene hydrate	0.03
19	21.039	Terpinolene	0.40
20	21.991	Linalool	0.12
21	22.050	trans-Sabinene hydrate	0.02
22	22.342	n-Nonanal	0.14
23	25.549	Citronellal	0.11
24	27.470	Terpinen-4-ol	0.04
25	28.478	alpha-Terpineol	0.22
26	29.275	n-Decanal	0.06
27	30.217	Epoxy neral	0.02
28	30.471	Nerol	0.05
29	30.941	Epoxy geranial	0.03
30	31.422	Neral	0.77
31	32.241	Geraniol	0.02
32	33.456	Geranial	1.24
33	33.912	Perilla aldehyde	0.02
34	36.140	Undecanal	0.03
35	38.862	Citronellyl acetate	0.04
36	39.443	Neryl acetate	0.61
37	40.720	Geranyl acetate	0.49
38	42.213	Tetradecane	0.01
39	42.700	Perilla acetate	0.01
40	42.745	Dodecanal	0.01
41	42.917	cis-alpha-Bergamotene	0.02
42	43.284	beta-Caryophyllene	0.25
43	44.170	trans-alpha-Bergamotene	0.39
44	44.362	cis-beta-Farnesene	0.02
45	45.433	trans-beta-Farnesene	0.03
46	45.530	alpha-Humulene	0.02
47	45.781	beta-Santalene	0.01
48	47.316	trans-beta-Bergamotene	0.02
49	47.821	Valencene	0.07
50	48.000	Bicyclogermacrene	0.06
51	48.370	cis-alpha-Bisabolene	0.05
52	48.811	beta-Bisabolene	0.58
53	50.747	trans-alpha-Bisabolene	0.01
54	52.826	Germacrene D-4-ol	0.02
55	57.599	cis-Eudesmane-4-on-11-ol	0.01
56	59.169	alpha-Bisabolol	0.02
57	73.695	Citropten	0.04
58	88.639	Tricosane	0.01
59	94.830	Oxypeucedanin	0.04
60	101.637	Tetracosanal	0.03
			100.00

