



Aromatic Plant Research Center

We provide uncompromising
quality control for your products.

Customer : doTERRA International
Lot Number : 240313
Date Filled : 01/31/2024

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 Citronella lot revealed no contaminants or adulteration.
The sample meets the expected chemical profile for authentic essential oils of *Cymbopogon winterianus*.

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



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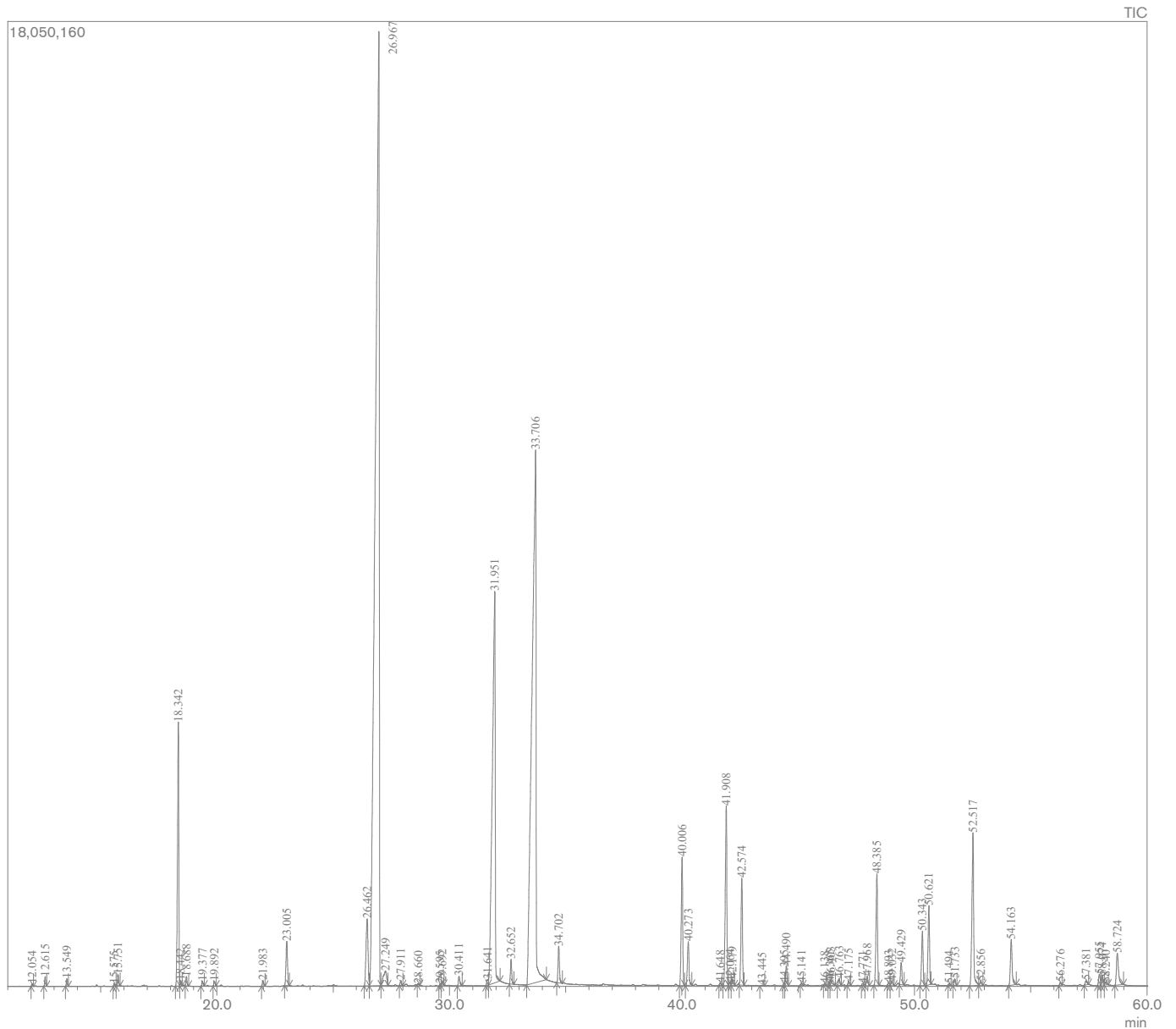
Citronella Essential Oil

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Chromatogram



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Peak Report

Peak#	R.Time	Name	Area%
1	12.054	Tricyclene	0.02
2	12.615	alpha-Pinene	0.10
3	13.549	Camphene	0.08
4	15.575	6-Methyl-5-hepten-2-one	0.03
5	15.751	Myrcene	0.13
6	18.342	Limonene	3.68
7	18.442	beta-Phellandrene	0.05
8	18.688	cis-beta-Ocimene+para-Menthan-8-ol	0.12
9	19.377	trans-beta-Ocimene	0.06
10	19.892	Bergamal	0.06
11	21.983	Terpinolene	0.07
12	23.005	Linalool	0.68
13	26.462	Isopulegol	1.40
14	26.967	Citronellal	39.73
15	27.249	iso-Isopulegol	0.51
16	27.911	neoiso-Isopulegol	0.06
17	28.660	Terpinen-4-ol	0.02
18	29.595	4-cis-Decenal	0.02
19	29.692	alpha-Terpineol	0.05
20	30.411	n-Decanal	0.14
21	31.641	Nerol	0.09
22	31.951	Citronellol	11.72
23	32.652	Neral	0.33
24	33.706	Geraniol	22.68
25	34.702	Geranial	0.52
26	40.006	Citronellyl acetate	1.90
27	40.273	Eugenol	0.72
28	41.648	alpha-Copaene	0.03
29	41.908	Geranyl acetate	2.91
30	42.064	cis-beta-Elemene	0.06
31	42.179	beta-Bourbonene	0.10
32	42.574	trans-beta-Elemene	1.66
33	43.445	Methyl eugenol	0.01
34	44.395	beta-Ylangene	0.03
35	44.490	beta-Caryophyllene	0.30
36	45.141	beta-Copaene	0.03
37	46.138	cis-Muurolo-3,5-diene	0.02
38	46.365	trans-Muurolo-3,5-diene	0.03
39	46.403	trans-Isoeugenol	0.11
40	46.763	alpha-Humulene	0.11
41	47.175	cis-Muurolo-4(14),5-diene	0.06
42	47.771	cis-Cadina-1(6),4-diene	0.03
43	47.968	trans-Cadina-1(6),4-diene	0.14
44	48.385	Germacrene D	1.76
45	48.893	Isobicyclogermacrene	0.04
46	49.032	trans-Muurolo-4(14),5-diene	0.08
47	49.429	alpha-Muuroloene	0.36
48	50.343	gamma-Cadinene	0.85
49	50.621	delta-Cadinene	1.24
50	51.494	trans-Cadine-1,4-diene	0.02
51	51.733	alpha-Cadinene	0.10
52	52.517	alpha-Elemol	2.78
53	52.856	Geranyl butanoate	0.07
54	54.163	Germacrene D-4-ol	0.82
55	56.276	Sesquilandulol	0.04
56	57.381	gamma-Eudesmol	0.08
57	57.955	epi-alpha-Cadinol	0.18
58	58.074	epi-alpha-Muurolo	0.20
59	58.240	delta-Cadinol	0.06
60	58.724	alpha-Cadinol	0.72
			100.00

