



Aromatic Plant Research Center

We provide uncompromising
quality control for your products.

Customer : doTERRA International
Lot Number : 232091
Date Filled : 07/28/2023

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 Turmeric lot revealed no contaminants or adulteration.
The sample meets the expected chemical profile for authentic essential oils of *Curcuma longa*.

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



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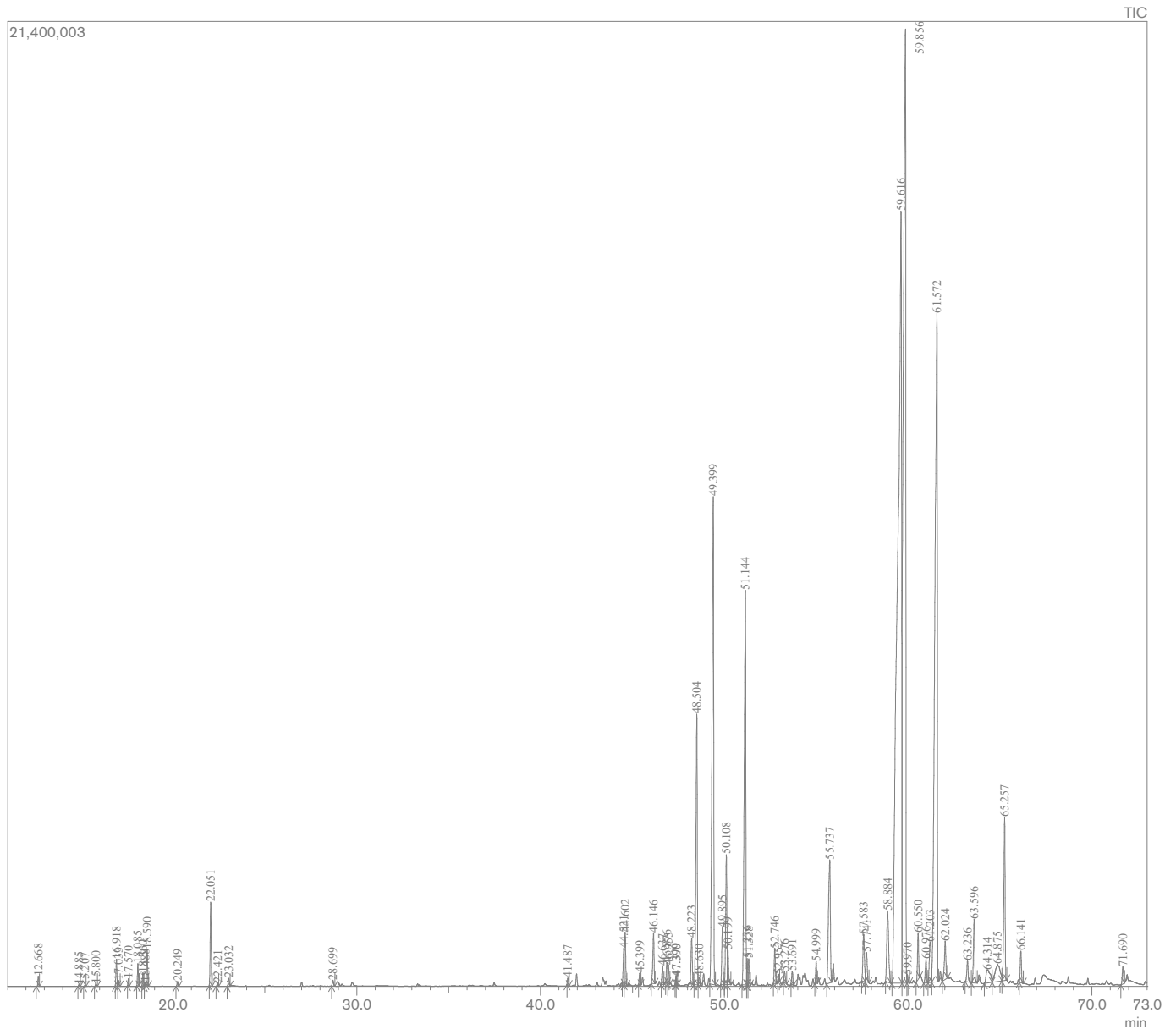
Turmeric Essential Oil

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Chromatogram



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Peak Report

Peak#	R.Time	Name	Area%
1	12.668	alpha-Pinene	0.07
2	14.885	Sabinene	0.01
3	15.207	beta-Pinene	0.01
4	15.800	Myrcene	0.02
5	16.918	alpha-Phellandrene	0.21
6	17.033	delta-3-Carene	0.05
7	17.570	alpha-Terpinene	0.05
8	18.085	para-Cymene	0.18
9	18.360	Limonene	0.10
10	18.488	beta-Phellandrene	0.03
11	18.590	1,8-Cineole	0.29
12	20.249	gamma-Terpinene	0.04
13	22.051	Terpinolene	0.75
14	22.421	para-Cymenene	0.03
15	23.032	Linalool	0.09
16	28.699	Terpinen-4-ol	0.06
17	41.487	Megastigma-4,6(cis),8(cis)-triene	0.06
18	44.531	alpha-Santalene	0.34
19	44.602	beta-Caryophyllene	0.55
20	45.399	trans-alpha-Bergamotene	0.11
21	46.146	Turmeric sesquiterpenoid 1	0.58
22	46.637	trans-beta-Farnesene	0.18
23	46.876	alpha-Humulene	0.22
24	46.955	Amorpha-4,11-diene	0.17
25	47.379	alpha-Acoradiene	0.05
26	47.390	beta-Acoradiene	0.04
27	48.223	gamma-Curcumene	0.50
28	48.504	ar-Curcumene	3.29
29	48.630	trans-beta-Bergamotene	0.09
30	49.399	alpha-Zingiberene	7.23
31	49.895	Turmeric sesquiterpenoid 2	0.62
32	50.108	beta-Bisabolene	1.47
33	50.199	beta-Curcumene	0.33
34	51.144	beta-Sesquiphellandrene	5.49
35	51.236	trans-gamma-Bisabolene	0.22
36	51.328	Turmeric sesquiterpenoid 3	0.27
37	52.746	Turmeric sesquiterpenoid 4	0.36
38	52.952	Humulene epoxide I	0.06
39	53.276	Turmeric sesquiterpenoid 5	0.14
40	53.691	Turmeric sesquiterpenoid 6	0.13
41	54.999	Cucumadione	0.21
42	55.737	anti-anti-Helifolen-12-al B	2.09
43	57.583	Turmeric sesquiterpenoid 7	0.62
44	57.741	Turmeric sesquiterpenoid 8	0.36
45	58.884	Turmeric sesquiterpenoid 9	1.24
46	59.616	ar-Turmerone	27.84
47	59.856	alpha-Turmerone	21.71
48	59.970	Turmeric sesquiterpenoid 10	0.07
49	60.550	cis-gamma-Atlantone	0.48
50	60.976	Turmeric sesquiterpenoid 11	0.28
51	61.203	trans-gamma-Atlantone	0.65
52	61.572	beta-Turmerone	14.69
53	62.024	cis-alpha-Atlantone	0.51
54	63.236	6R,7R-Bisabolone	0.26
55	63.596	6S,7R-Bisabolone	0.74
56	64.314	Turmeric sesquiterpenoid 12	0.49
57	64.875	Turmeric sesquiterpenoid 13	0.77
58	65.257	trans-alpha-Atlantone	1.97
59	66.141	Turmeric sesquiterpenoid 14	0.34
60	71.690	(S)-3-Methyl-6-((S)-6-methyl-4-oxohept-5-en-2-yl)cyclohex-2-enone	0.20
			100.00

