



Aromatic Plant Research Center

We provide uncompromising
quality control for your products.

Customer: doTERRA International

Lot Number: 1715011

Date Filled: 5/30/2017

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 Peppermint lot revealed no contaminants or adulteration.

The sample meets the expected chemical profile for authentic essential oils of *Mentha piperita*.



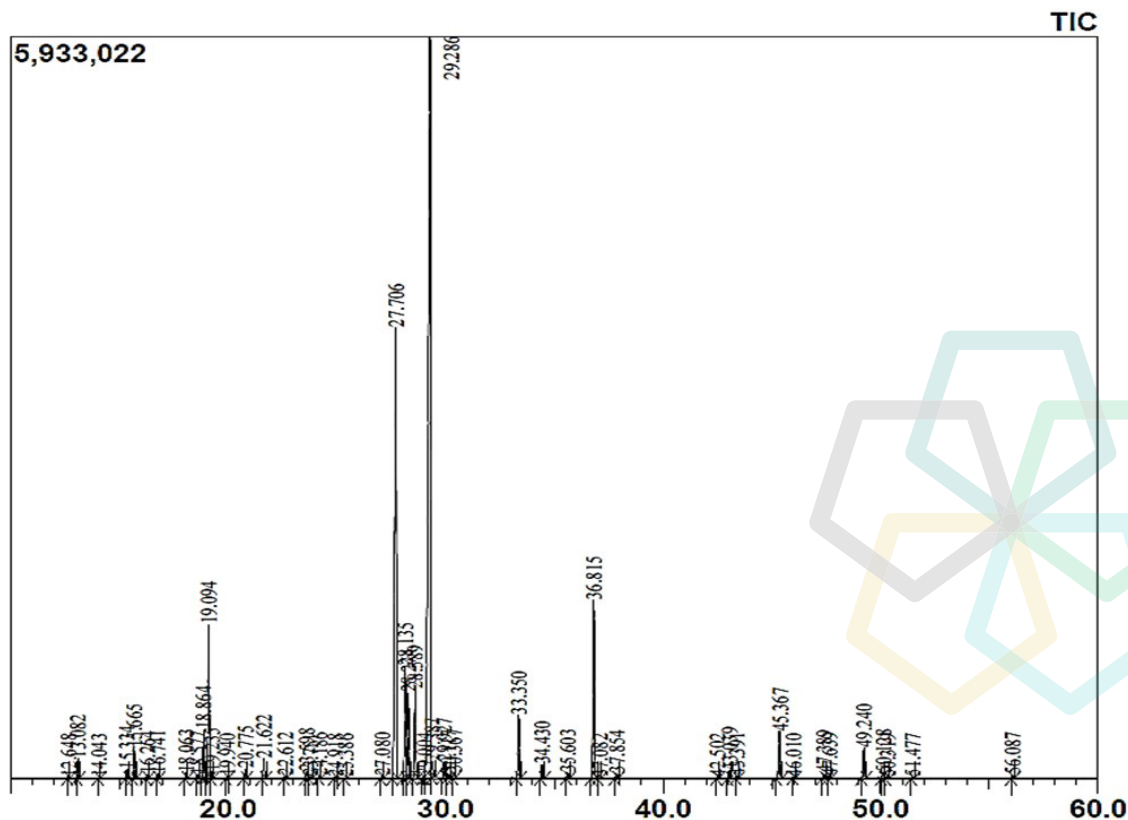
Peppermint Essential Oil

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Chromatogram



Peak Report

Ret.Time	Compound Name	Area %			
12.648	alpha-Thujene	0.03	27.08	trans-Chrysanthemal	0.07
13.082	alpha-Pinene	0.53	27.706	Menthone	19.59
14.043	Camphene	0.02	28.135	Menthofuran	3.98
15.334	Sabinene	0.25	28.274	Isomenthone	2.89
15.665	beta-Pinene	0.89	28.589	Neomenthol	3.2
16.264	Myrcene	0.12	29.004	trans-Isopulegone	0.05
16.741	3-Octanol	0.14	29.286	Menthol	44.26
18.063	alpha-Terpinene	0.17	29.387	Terpinen-4-ol	0.61
18.577	para-Cymene	0.1	29.927	Isomenthol	0.56
18.864	Limonene	1.54	30.117	Neoisomenthol	0.15
19.094	1,8-Cineole	4.79	30.367	alpha-Terpineol	0.17
19.235	cis-beta-Ocimene	0.21	33.35	Pulegone	2.22
19.94	trans-beta-Ocimene	0.05	34.43	Piperitone	0.5
20.775	gamma-Terpinene	0.3	35.603	Neomenthyl acetate	0.19
21.622	cis-Sabinene hydrate	0.67	36.815	Menthyl acetate	6.85
22.612	Terpinolene	0.08	37.082	Dihydroedulan	0.03
23.598	Linalool	0.21	37.854	Isomenthyl acetate	0.18
23.751	trans-Sabinene hydrate	0.08	42.502	alpha-Copaene	0.04
24.186	2-Methyl butyl isovalerate	0.07	43.039	alpha-Bourbonene	0.27
24.918	3-Octyl acetate	0.04	43.391	beta-Elmene	0.06
25.386	cis-para-Menth-2-en-1-ol	0.02	45.367	beta-Caryophyllene	1.88
			46.01	beta-Copaene	0.03
			47.389	trans-beta-Farnesene	0.19
			47.639	alpha-Humulene	0.08
			49.24	Germacrene D	1.18
			50.128	Bicyclogermacrene	0.21
			50.319	gamma-Amorphene	0.05
			51.477	delta-Cadinene	0.05
			56.087	Viridiflorol	0.1
			Area Total: 100		

Comments:

The analysis of this Peppermint lot revealed no contaminants or adulteration.

The sample meets the expected chemical profile for authentic essential oils of *Mentha piperita*.

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