



# Aromatic Plant Research Center

We provide uncompromising  
quality control for your products.

**Customer:** doTERRA International

**Lot Number:** 191646

**Date Filled:** 6/13/2019

**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*.



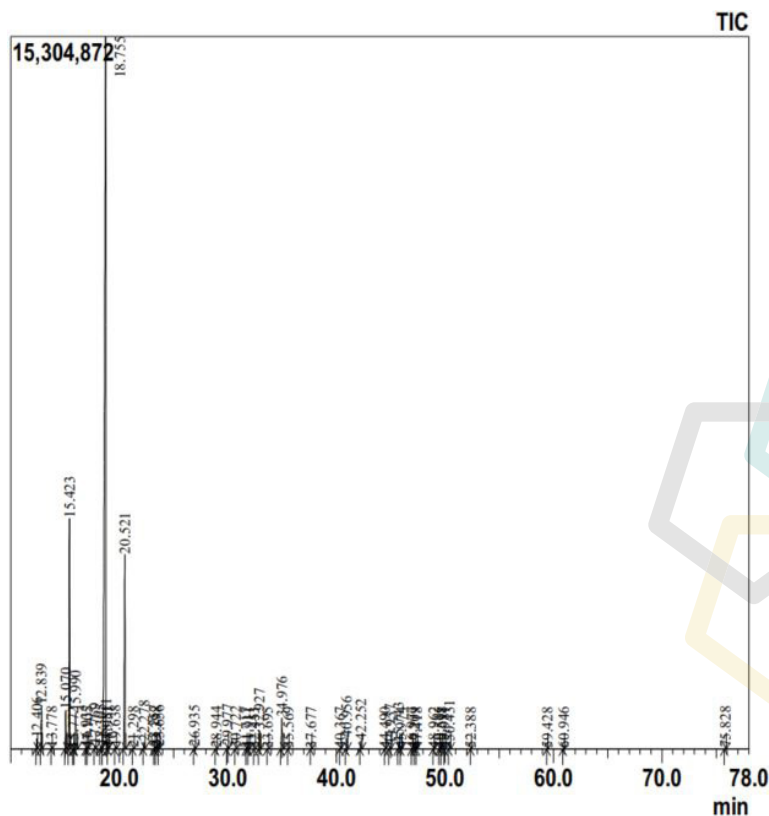
# Lemon Essential Oil

Customer: doTERRA International

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## Chromatogram



## Peak Report

Ret.Time	Compound Name	Area %						
12.406	alpha-Thujene	0.36	26.935	Citronellal	0.08	47.418	beta-Santalene	0.01
12.839	alpha-Pinene	1.55	28.944	Terpinen-4-ol	0.03	48.962	cis-cis-alpha-Farnesene	0.01
13.778	Camphene	0.04	29.977	alpha-Terpineol	0.14	49.515	Valencene	0.01
15.07	Sabinene	1.55	30.722	n-Decanal	0.04	49.698	Bicyclogermacrene	0.03
15.423	beta-Pinene	9.95	31.717	Citronellol	0.01	49.981	cis-alpha-Bisabolene	0.03
15.772	6-methyl-Hept-5-en-2-one	0.01	31.911	Nerol	0.03	50.431	beta-Bisabolene	0.39
15.99	Myrcene	1.44	32.453	epoxy-Geraniol	0.02	52.388	trans-alpha-Bisabolene	0.01
16.932	n-Octanal	0.07	32.927	Neral	0.89	59.428	cis-eudesmane-4-on-11-ol	0.01
17.105	alpha-Phellandrene	0.03	33.695	Geraniol	0.02	60.946	alpha-Bisabolol	0.01
17.769	alpha-Terpinene	0.17	34.976	Geraniol	1.54	75.828	Citropten	0.04
18.305	para-Cymene	0.18	35.569	Pinilaldehyde	0.01			
18.755	Limonene	69.51	37.677	Undecanal	0.02			
18.811	beta-Phellandrene	0.03	40.367	Citronellyl acetate	0.02			
18.951	cis-beta-Ocimene	0.04	40.956	Neryl acetate	0.56			
19.638	trans-beta-Ocimene	0.1	42.252	Geranyl acetate	0.41			
20.521	gamma-Terpinene	9.6	44.49	cis-alpha-Bergamotene	0.01			
21.298	cis-Sabinene hydrate	0.04	44.937	beta-Caryophyllene	0.15			
22.278	Terpinolene	0.31	45.743	trans-alpha-Bergamotene	0.26			
23.257	Linalool	0.1	45.974	Isocaryophyllene	0.01			
23.398	trans-Sabinene hydrate	0.03	46.977	trans-beta-Farnesene	0.01			
23.656	n-Nonanal	0.09	47.209	alpha-Humulene	0.01			
							Area Total:	100

Area Total: 100

### 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*.

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