



Aromatic Plant Research Center

We provide uncompromising
quality control for your products.

Customer: doTERRA International

Lot Number: 182706

Date Filled: 9/27/2018

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 Wild Orange lot revealed no contaminants or adulteration.

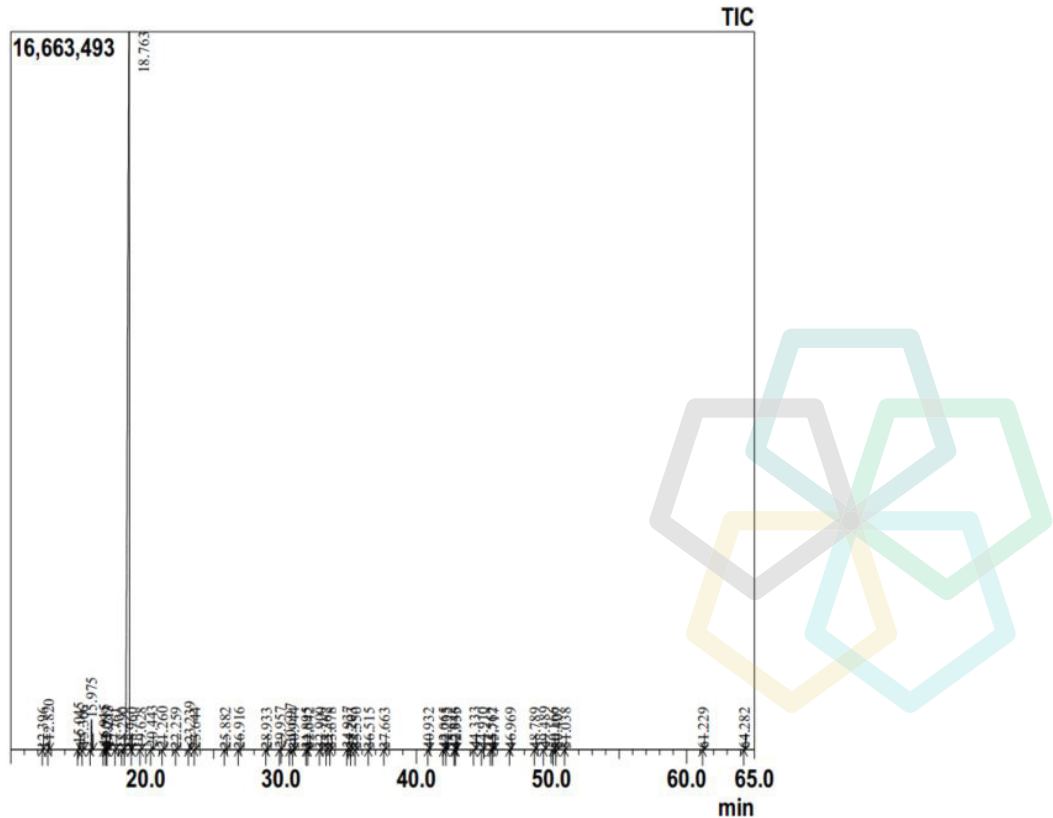
The sample meets the expected chemical profile for authentic essential oils of *Citrus sinensis*.



Wild Orange Essential Oil

Customer: doTERRA International
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Chromatogram



Peak Report

Ret.Time	Compound Name	Area %	Ret.Time	Compound Name	Area %	Ret.Time	Compound Name	Area %
12.396	alpha-Thujene	0.01	29.957	alpha-Terpineol	0.08	45.717	trans-beta-Bergamotene	0.02
12.82	alpha-Pinene	0.38	30.697	n-Decanal	0.26	46.969	trans-beta-Farnesene	0.01
15.045	Sabinene	0.25	30.944	Octyl acetate	0.01	48.789	Germacrene D	0.01
15.366	beta-Pinene	0.12	31.895	Nerol	0.01	49.489	Valencene	0.06
15.975	Myrcene	1.5	32.042	Citronellol	0.02	50.166	trans, trans-alpha-Farnesene	0.01
16.915	n-Octanal	0.15	32.9	Neral	0.03	50.407	beta-Bisabolene	0.02
17.089	alpha-Phellandrene	0.03	33.362	Carvone	0	51.038	delta-Cadinene	0.01
17.213	delta-3-Carene	0.14	33.678	Geraniol	0.01	61.229	beta-Sinensal	0.01
17.761	alpha-Terpinene	0.01	34.937	Geranial	0.06	64.282	alpha-Sinensal	0.01
18.29	para-Cymene	0.03	35.203	n-Decanol	0.01			
18.783	Limonene	95.86	35.55	Penilaldehyde	0.01			
18.96	cis-beta-Ocimene	0.01	36.515	Limonen-10-ol	0.01			
19.628	trans-beta-Ocimene	0.02	37.663	Undecanal	0.01			
20.443	gamma-Terpinene	0.14	40.932	Neryl acetate	0.02			
21.26	n-Octanol	0.05	42.065	alpha-Copaene	0.02			
22.259	Terpinolene	0.03	42.235	Geranyl acetate	0.01			
23.239	Linalool	0.34	42.846	beta-Cubebene	0.01			
23.644	n-Nonanal	0.03	42.955	beta-Elmene	0.01			
25.882	trans-Limonene oxide	0.02	44.333	Dodecanal	0.05			
26.916	Citronellal	0.04	44.91	beta-Caryophyllene	0.02			
28.933	Terpinen-4-ol	0.01	45.562	beta-Copaene	0.02			

Area Total: 100

Comments:

The analysis of this Wild Orange lot revealed no contaminants or adulteration. The sample meets the expected chemical profile for authentic essential oils of *Citrus sinensis*.

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