



Aromatic Plant Research Center

We provide uncompromising
quality control for your products.

Customer: doTERRA International

Lot Number: 1921213

Date Filled: 7/31/2019

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 Copaiba lot revealed no contaminants or adulteration.

The sample meets the expected chemical profile for authentic essential oils of *Copaifera species*.



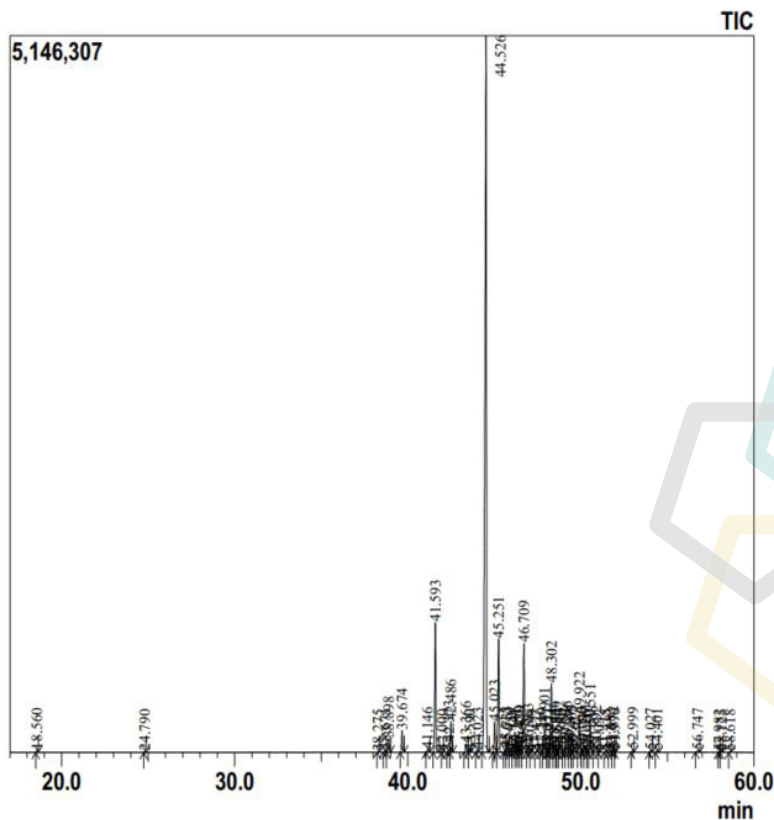
Copaiba Essential Oil

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Chromatogram



Peak Report

Ret.Time	Compound Name	Area %	Ret.Time	Compound Name	Area %	Ret.Time	Compound Name	Area %
18.56	cis-beta-Ocimene	0.1	46.283	trans-Muurolo-3,5-diene	0.04	49.922	beta-Bisabolene	2.24
24.79	allo-Ocimene	0.04	46.42	cis-Muurolo-4,5-diene	0.16	50.09	cis-gamma-Bisabolene	0.19
38.275	nonane-Bicyclo	0.03	46.479	trans-beta-Farnesene	0.27	50.261	delta-Amorphene	0.42
38.671	Bicycloelemene	0.11	46.709	alpha-Humulene	6.47	50.4	Copaiba Sesquiterpenoid 2	0.07
38.898	delta-Elemene	0.79	46.963	Alloaromadendrene	0.39	50.551	delta-Cadinene	1.54
39.674	alpha-Cubebene	1.22	47.099	cis-Muurolo-4(14),5-diene	0.03	50.892	beta-Sesquiphellandrene	0.42
41.146	alpha-Ylangene	0.2	47.427	Elemene isomer	0.06	51.032	trans-gamma-Bisabolene	0.04
41.593	alpha-Copaene	7.26	47.71	cis-Cadina-1(6),4-diene	0.13	51.415	trans-Cadina-1,4-diene	0.07
42	cis-beta-Elemene	0.03	47.901	trans-Cadina-1(6),4-diene	1.45	51.682	alpha-Cadinene	0.12
42.373	beta-Cubebene	0.58	48.057	gamma-Curcumene	0.1	51.872	trans-alpha-Bisabolene	0.22
42.486	trans-beta-Elemene	1.79	48.171	alpha-Amorphene	0.13	51.97	alpha-Calcorene	0.05
43.366	Cyperene	0.53	48.302	Germacrene D	4.1	52.999	Germacrene B	0.16
43.59	alpha-Gurjunene	0.07	48.446	cis-cis-alpha-Farnesene	0.53	54.027	Caryophyllenyl alcohol	0.15
44.023	cis-alpha-Bergamotene	0.14	48.58	Copaiba Sesquiterpenoid 1	0.02	54.401	Caryophyllene oxide	0.11
44.526	beta-Caryophyllene	55.41	48.634	delta-Selinene	0.05	56.747	Humulene-1,6-dien-3-ol	0.14
45.023	gamma-Elemene	1.91	48.802	beta-Selinene	0.58	57.982	epi-alpha-Murolol	0.04
45.251	trans-alpha-Bergamotene	6.73	48.992	trans-Muurolo-4(14),5-diene	0.22	58.125	delta-Cadinol	0.05
45.615	Aromadendrene	0.15	49.206	Bicyclogermacrene	0.75	58.618	alpha-Cadinol	0.05
45.733	cis-beta-Farnesene	0.26	49.371	alpha-Muurolo	0.51			
45.95	beta-Humulene	0.11	49.465	cis-alpha-Bisabolene	0.23			
46.141	epi-beta-Santalene	0.09	49.627	beta-Cadinene	0.18			

Area Total: 100

Comments:

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