



## Laboratory Test Report

SAMPLE NAME : Basil Linalool  
CLIENT NAME : Plant Therapy  
CLIENT LOT # : B10110R  
APRC LOT# : PT221109A

Column : ZB5 (60 m length × 0.25 mm inner diameter × 0.25 µm film thicknes  
Instrument : Shimadzu GCMS-QP2010 Ultra  
Carrier gas : Helium 80 psi  
Temperature ramp : 2 degrees Celsius per minute up to 260-degree Celsius  
Split ratio : 30:1  
Sample preparation : 5% w/v solution with Dichloromethane

Interpretation on this sample

The analysis of Basil sample meets the standard chemical profile of *Ocimum basilicum* essential oil.

Analyzed by : Dr Prabodh Satyal  
Reviewed by : Ambika Poudel

Issued Date : 11/10/2022

## Physical Analysis Report

### PRODUCT INFORMATION

Analyzed by : Dr. Prabodh Satyal  
Analyzed : 11/10/2022 11:03:25 AM  
Sample Type : Essential Oil  
Sample Name : Basil Linalool  
Company Name : Plant Therapy  
Client Lot# : B10110R  
APRC Lot# : PT221109A

### Organoleptic Information

Appearance	Clear, mobile liquid
Color	Clear
Aroma	Sweet, floral, herbaceous, basilic

### Physical Constants Information (at 20 °C)

Tests	Observed Value
Optical Rotation	-10.72°
Refractive Index	1.47641
Specific Gravity	0.90068

#### Comments:

Observed physical constants of this Basil essential oil.

Prepared by : Ambika Poudel  
Reviewed by: Sunita Timsina

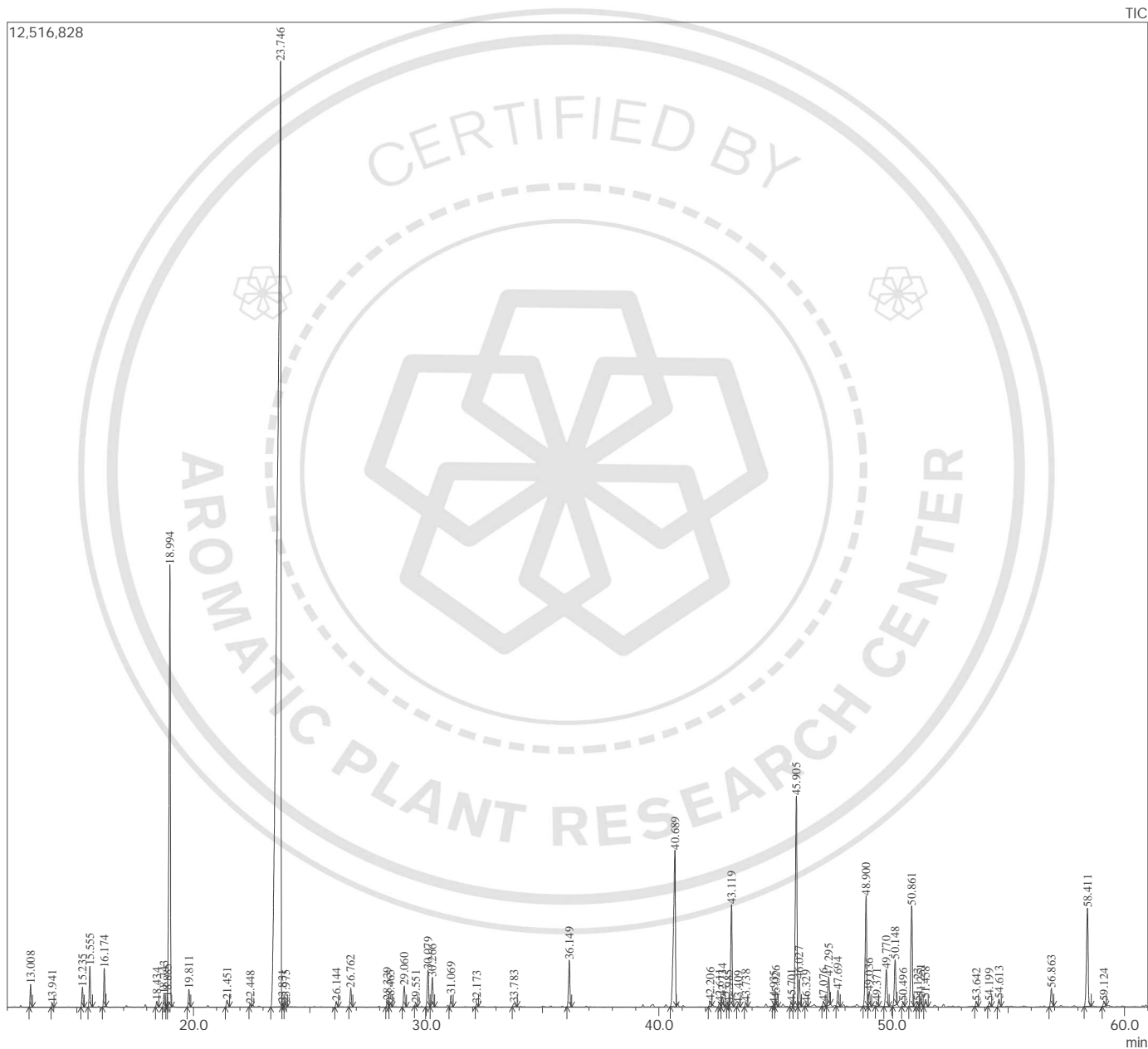
Date: 11/10/2022  
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## GCMS Analysis

### Sample Information

Analyzed by : Dr. Prabodh Satyal  
Analyzed : 11/10/2022 11:03:25 AM  
Sample Name : Basil Linalool  
Sample Type : Essential Oil  
Client Name : Plant Therapy  
Client Lot# : B10110R  
APRC Lot# : PT221109A  
Injection Volume : 0.30

### Chromatogram



## Peak Report

Peak#	R.Time	Name	Area%
1	13.008	alpha-Pinene	0.38
2	13.941	Camphene	0.07
3	15.235	Sabinene	0.35
4	15.555	beta-Pinene	0.74
5	16.174	Myrcene	0.67
6	18.434	para-Cymene	0.12
7	18.743	Limonene	0.30
8	18.885	beta-Phellandrene	0.08
9	18.994	1,8-Cineole	9.60
10	19.811	trans-beta-Ocimene	0.34
11	21.451	cis-Sabinene hydrate	0.17
12	22.448	Terpinolene	0.06
13	23.746	Linalool	55.00
14	23.831	Hotrienol	0.07
15	23.975	1-Octen-3-yl acetate	0.07
16	26.144	trans-Myroxide	0.12
17	26.762	Camphor	0.39
18	28.339	delta-Terpineol	0.13
19	28.465	Borneol	0.08
20	29.060	Terpinen-4-ol	0.46
21	29.551	3-cis-Hexenyl butyrate	0.05
22	30.079	alpha-Terpineol	0.82
23	30.266	Methyl chavicol	0.64
24	31.069	Octyl acetate	0.26
25	32.173	Citronellol	0.06
26	33.783	Geraniol	0.11
27	36.149	Bornyl acetate	1.02
28	40.689	Eugenol	4.93
29	42.206	alpha-Copaene	0.12
30	42.611	cis-beta-Elementene	0.11
31	42.734	beta-Bourbonene	0.25
32	42.985	beta-Cubebene	0.07
33	43.119	trans-beta-Elementene	2.47
34	43.409	epi-Cubebene isomer	0.07
35	43.738	Methyl eugenol	0.09
36	44.935	beta-Ylangene	0.07
37	45.026	beta-Caryophyllene	0.17
38	45.701	beta-Copaene	0.13
39	45.905	trans-alpha-Bergamotene	5.50
40	46.027	alpha-Guaiene	0.67
41	46.329	cis-beta-Farnesene	0.06
42	47.076	trans-beta-Farnesene	0.12
43	47.295	alpha-Humulene	0.66
44	47.694	cis-Muurolo-4(14),5-diene	0.37
45	48.900	Germacrene D	2.69
46	49.036	trans-beta-Bergamotene	0.35
47	49.371	beta-Selinene	0.10
48	49.770	Bicyclogermacrene	0.97
49	50.148	alpha-Bulnesene	1.06
50	50.496	beta-Bisabolene	0.11
51	50.861	gamma-Cadinene	2.52
52	51.123	delta-Cadinene	0.12
53	51.251	trans-Calamenene	0.23
54	51.458	beta-Sesquiphellandrene	0.19
55	53.642	trans-Nerolidol	0.11
56	54.199	Ledol isomer	0.11
57	54.613	Spathulenol	0.19
58	56.863	1,10-Di-epi-cubenol	0.45
59	58.411	epi-alpha-Cadinol	2.65
60	59.124	alpha-Cadinol	0.12
			100.00

## Allergen Report

### PRODUCT INFORMATION

**Analyzed by** : Dr. Prabodh Satyal  
**Sample Name** : Basil Linalool  
**Client Name** : Plant Therapy

**Analyzed** : 11/10/2022 11:03:25 AM  
**Client Lot#** : B10110R  
**APRC Lot#**: PT221109A

EU COSMETIC ALLERGEN DECLARATIONS			
7th Amendment Ref #	Ingredient	CAS#	Result (%)
74	AMYL CINNAMIC ALCOHOL	101-85-9	ND
67	AMYL CINNAMIC ALDEHYDE	122-40-7	ND
80	ANISYL ALCOHOL	105-13-5	ND
68	BENZYL ALCOHOL	100-51-6	ND
85	BENZYL BENZOATE	120-51-4	ND
81	BENZYL CINNAMATE	103-41-3	ND
75	BENZYL SALICYLATE	118-58-1	ND
69	CINNAMIC ALCOHOL	104-54-1	ND
76	CINNAMIC ALDEHYDE	104-55-2	ND
70	CITRAL	5392-40-5	ND
86	CITRONELLOL	106-22-9	0.06
77	COUMARIN	91-64-5	ND
88	LIMONENE	5989-27-5	0.30
71	EUGENOL	97-53-0	4.93
82	FARNESOL	4602-84-0	ND
78	GERANIOL	106-24-1	0.11
87	HEXYL CINNAMICALDEHYDE	101-86-0	ND
72	HYDROXYCITRONELLAL	107-75-5	ND
73	ISOEUGENOL	97-54-1	ND
83	LILIAL	80-54-6	ND
84	LINALOOL	78-70-6	55.00
79	LYRAL	31906-04-4	ND
89	METHYL HEPTINE CARBONATE	111-12-6	ND
90	G-METHYL IONONE	127-51-5	ND
91	OAKMOSS	90028-68-5	ND
92	TREEMOSS	90028-67-4	ND
-	ESTROGOLE	140-67-0	ND
102	METHYL EUGENOL	93-15-2	0.09
360	SAFROLE	94-59-7	ND

\*ND: Not Detected or <LOD

**Prepared by:** Sujan Timsina  
**Reviewed by:** Ambika Poudel

**Date:** 11/10/2022  
**Date:** 11/10/2022

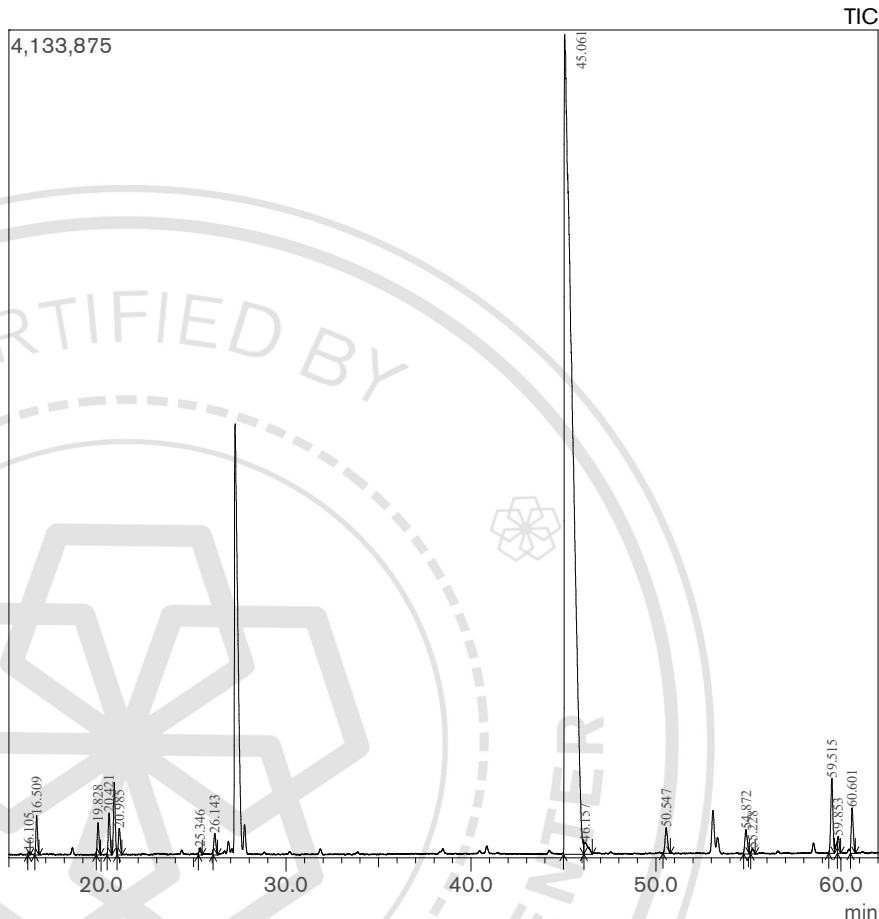
## Chiral GCMS Analysis Report

### Sample Information

Analyzed By : Dr. Prabodh Satyal  
 Analyzed : 11/10/2022 4:28:57 AM  
 Sample Type : Essential Oil  
 Sample Name : Basil linalool  
 Client Name : Plant Therapy  
 Client Lot# : B10110R  
 APRC Lot# : PT221109A  
 Injection Volume : 0.30

Peak Report TIC

R.Time	Name	Area%
16.105	alpha-Pinene	0.07
16.509	alpha-Pinene	0.91
19.828	Sabinene	0.78
20.421	beta-Pinene	1.08
20.985	beta-Pinene	0.72
25.346	Limonene	0.19
26.143	Limonene	0.61
45.061	Linalool	89.13
46.157	Linalool	0.74
50.547	Camphor	0.87
54.872	Terpinen-4-ol	0.84
55.228	Terpinen-4-ol	0.17
59.515	Bornyl acetate	2.21
59.853	alpha-Terpineol	0.41
60.601	alpha-Terpineol	1.27



Enantiomeric Components Distribution	
Compounds	Content D:L
alpha-Pinene	(+)92.61: (-)7.39
Sabinene	(+)100: (-)0
beta-Pinene	(+)59.86: (-)40.14
Limonene	(+)75.77: (-)24.23
Linalool	(+)0.82: (-)99.18
Camphor	(+)100: (-)0
Terpinen-4-ol	(+)82.97: (-)17.03
Bornyl acetate	(+)0: (-)100
alpha-Terpineol	(+)75.81: (-)24.19