



Laboratory Test Report

SAMPLE NAME : Cinnamon Cassia
CLIENT NAME : Plant Therapy
CLIENT LOT # : CA0108R
APRC LOT# : PT230524A

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 this Cassia batch sample meets the expected chemical profile of pure essential oil of Cinnamomum cassia.

Analyzed by : Dr Prabodh Satyal
Reviewed by : Ambika Poudel

Issued Date : 5/25/2023

Physical Analysis Report

PRODUCT INFORMATION

Analyzed by : Dr. Prabodh Satyal
Analyzed : 5/25/2023 2:28:07 AM
Sample Type : Essential Oil
Sample Name : Cinnamon Cassia
Client Name : Plant Therapy
Client Lot# : CA0108R
APRC Lot# : PT230524A

Organoleptic Information

Appearance	Clear mobile liquid
Color	Yellow
Aroma	Spicy, cinnamon, woody

Physical Constants Information (at 20 °C)

Tests	Observed Value	ISO Range †
Optical Rotation	+7.6°	NA
Refractive Index	1.60697	1.600 0 to 1.614 0
Specific Gravity	1.05641	1.052 to 1.070

†ISO 3216, 2nd edition, 1997-06-01

Comments:

The physical constant of Cinnamon Cassia essential oil complies with the ISO range.

Prepared by : Sawyer Ashcroft
Reviewed by: Ambika Poudel

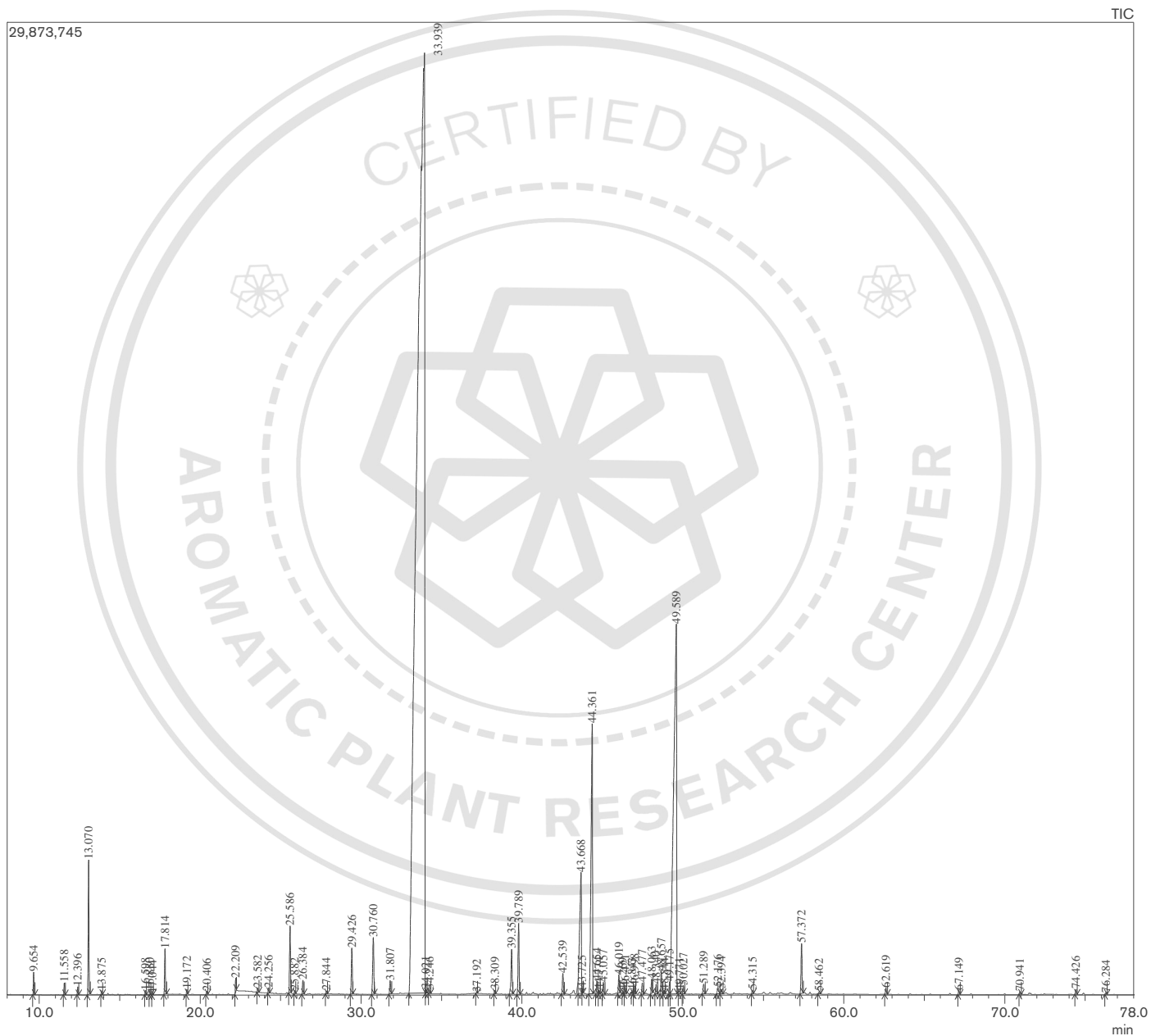
Date: 5/25/2023
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GCMS Analysis

Sample Information

Analyzed by : Dr. Prabodh Satyal
Analyzed : 5/25/2023 2:28:07 AM
Sample Type : Essential Oil
Sample Name : Cinnamon Cassia
Client Name : Plant Therapy
Client Lot# : CA0108R
APRC Lot# : PT230524A
Injection Volume : 0.30

Chromatogram



Peak Report

Peak#	R.Time	Name	Area%
1	9.654	Styrene	0.14
2	11.558	alpha-Pinene	0.08
3	12.396	Camphene	0.05
4	13.070	Benzaldehyde	1.01
5	13.875	beta-Pinene	0.03
6	16.598	para-Cymene	0.03
7	16.880	Limonene	0.03
8	17.044	1,8-Cineole	0.01
9	17.814	Salicylaldehyde	0.37
10	19.172	Acetophenone	0.04
11	20.406	ortho-Guaiacol	0.03
12	22.209	Phenyl ethyl alcohol	0.09
13	23.582	ortho-Vinyl anisole	0.04
14	24.256	3-Methyl benzofuran	0.05
15	25.586	Benzenepropanal	0.63
16	25.882	Pyruphenone	0.03
17	26.384	2-Methyl benzofuran	0.13
18	27.844	alpha-Terpineol	0.03
19	29.426	cis-Cinnamaldehyde	0.45
20	30.760	ortho-Anisaldehyde	0.66
21	31.807	2-Phenyl ethyl acetate	0.13
22	33.939	trans-Cinnamaldehyde	74.10
23	34.021	Bornyl acetate	0.03
24	34.246	trans-Anethole	0.03
25	37.192	delta-Elementene	0.01
26	38.309	Eugenol	0.04
27	39.355	alpha-Hydroxy cinnamic acid	0.53
28	39.789	alpha-Copaene	0.73
29	42.539	beta-Caryophyllene	0.21
30	43.668	Coumarin	2.15
31	43.725	Aromadendrene	0.03
32	44.361	trans-Cinnamyl acetate	4.05
33	44.654	meta-Methoxy cinnamaldehyde	0.14
34	44.774	alpha-Humulene	0.04
35	45.057	allo-Aromadendrene	0.12
36	46.019	trans-Cadina-1(6),4-diene	0.18
37	46.269	alpha-Amorphene	0.02
38	46.421	ar-Curcumene	0.06
39	46.843	beta-Selinene	0.02
40	46.998	Viridiflorene	0.08
41	47.477	alpha-Murolene	0.11
42	48.063	beta-Bisabolene	0.14
43	48.340	gamma-Cadinene	0.10
44	48.657	delta-Cadinene	0.24
45	48.844	trans-Calamenene	0.04
46	49.175	trans-gamma-Bisabolene	0.11
47	49.589	trans-ortho-Methoxy cinnamaldehyde	11.44
48	49.771	alpha-Cadinene	0.03
49	50.027	Calcorene+Bisabolene	0.08
50	51.289	trans-Nerolidol	0.14
51	52.176	Spathulenol	0.11
52	52.394	Caryophyllene oxide	0.06
53	54.315	Tetradecanal	0.03
54	57.372	Unidentified	0.52
55	58.462	alpha-Bisabolol	0.03
56	62.619	Benzyl benzoate	0.07
57	67.149	Phenyl ethyl octanoate	0.04
58	70.941	Ent-rosa-5,15-diene	0.02
59	74.426	13-epi-Dolabradiene	0.05
60	76.284	beta-Kaurene	0.02
			100.00

Allergen Report

PRODUCT INFORMATION

Analyzed by : Dr. Prabodh Satyal
 Sample Name : Cinnamon Cassia
 APRC Lot# : PT230524A

Analyzed : 5/25/2023 2:28:07 AM
 Client Name : Plant Therapy
 Clinet Lot# : CA0108R

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	0.07
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	74.10
70	CITRAL	5392-40-5	ND
86	CITRONELLOL	106-22-9	ND
77	COUMARIN	91-64-5	2.15
88	D-LIMONENE	5989-27-5	0.03
71	EUGENOL	97-53-0	0.04
82	FARNESOL	4602-84-0	ND
78	GERANIOL	106-24-1	ND
87	HEXYL CINNAMICALDEHYDE	101-86-0	ND
72	HYDROXYCITRONELLAL	107-75-5	ND
73	ISOEUGENOL	97-54-1	ND
83	LILIAL (aka BUTYLPHENYL PROPRIONAL or HEXYL- CINNAMALDEHYDE)	80-54-6	ND
84	LINALOOL	78-70-6	ND
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
-	ESTRAGOLE (Methyl chavicol)	140-67-0	ND
102	METHYL EUGENOL	93-15-2	ND
360	SAFROLE	94-59-7	ND

*ND: Not Detected or Area% less than 0.001%

Prepared by : Sunita Timsina
 Reviewed by : Ambika Poudel

Date : 5/25/2023
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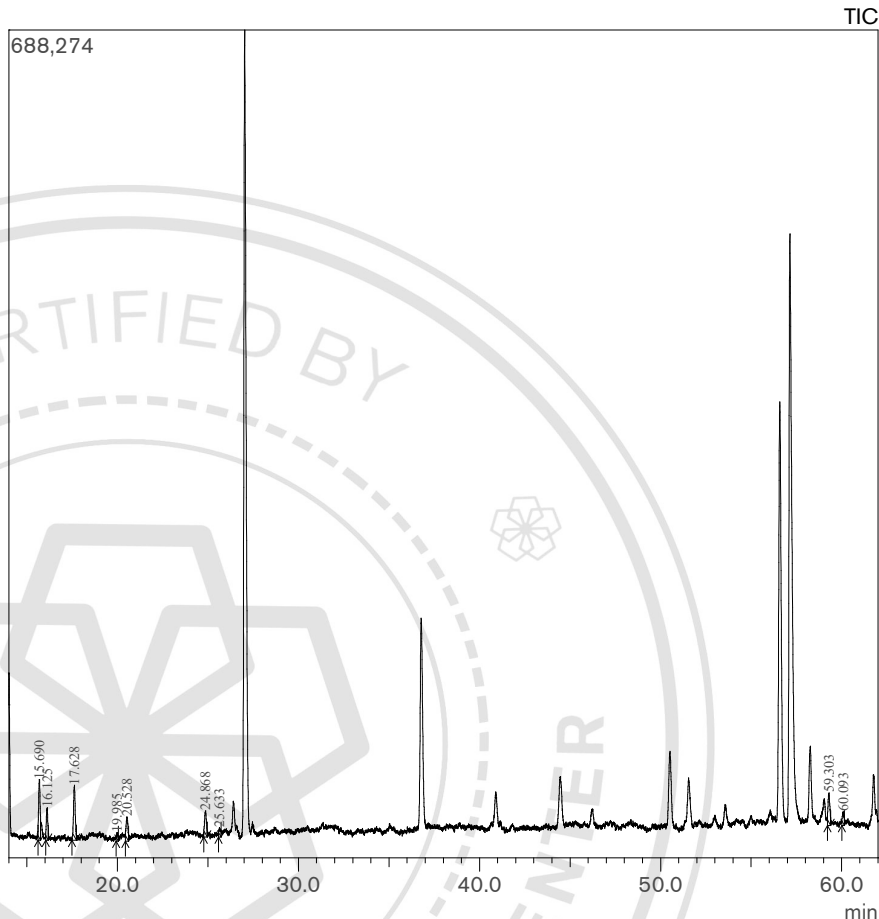
Chiral GCMS Analysis Report

Sample Information

Analyzed By : Dr. Prabodh Satyal
 Analyzed : 5/25/2023 2:36:37 AM
 Sample Type : Essential Oil
 Sample Name : Cinnamon Cassia
 Client Name : Plant Therapy
 Client Lot# : CA0108R
 APRC Lot# : PT230524A
 Injection Volume : 0.30

Peak Report TIC

R.Time	Name	Area%
15.690	alpha-Pinene	20.59
16.125	alpha-Pinene	10.91
17.628	Camphene	21.82
19.985	beta-Pinene	2.65
20.528	beta-Pinene	10.18
24.868	Limonene	11.08
25.633	Limonene	3.47
59.303	alpha-Terpineol	13.94
60.093	alpha-Terpineol	5.38
		100.00



Enantiomeric Components Distribution	
Compounds	Content D:L
alpha-Pinene	(+)34.62: (-)65.38
Camphene	(+)0: (-)100
beta-Pinene	(+)20.64: (-)79.36
Limonene	(+)23.85: (-)76.15
alpha-Terpineol	(+)27.84: (-)72.16