



**PLANT THERAPY**  
100% PURE ESSENTIAL OILS

**GC/MS BATCH NUMBER: CA0102**

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**ESSENTIAL OIL:** CINNAMON CASSIA  
**BOTANICAL NAME:** CINNAMOMUM CASSIA  
**ORIGIN:** CHINA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF CINNAMON CASSIA OIL	%
(E)-CINNAMALDEHYDE	78.3
(E)-oMETHOXYCINNAMALDEHYDE	10.1
(E)-CINNAMYL ACETATE	2.0
COUMARIN	1.9

Comments from Robert Tisserand: Sweet, spicy cinnamon-like odor profile. Ten of 11 key ISO constituents are within range, with phenylethyl alcohol marginally high - not a concern.

**Date :** August 15, 2017

*SAMPLE IDENTIFICATION*

**Internal code :** 17H14-PTH12-1-SM

**Customer identification :** Cassia - China - CA010273R

**Type :** Essential oil

**Source :** *Cinnamomum cassia*

**Customer :** Plant Therapy

*ANALYSIS*

**Method :** PC-PA-001-15E06, "Analysis of the composition of a liquid essential oil by GC-FID" (in French).

Identifications double-checked by GC-MS

**Analyst :** Sylvain Mercier, M. Sc., chimiste

**Analysis date :** 2017-08-15

Checked and approved by :

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Alexis St-Gelais, M. Sc., chimiste 2013-174

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IDENTIFIED COMPOUNDS

Identification	Column: BP5			Column: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
<i>cis</i> -Hex-3-en-1-ol	2.48	864	0.01	0.01	1338	5.86	Aliphatic alcohol
Styrene	2.90	895	0.11	0.12	1196	3.69	Phenylpropanoid
$\alpha$ -Pinene	3.42	927	0.07	0.08	949	1.24	Monoterpene
Camphene	3.71	944	0.05	0.05	997	1.55	Monoterpene
Benzaldehyde	4.21	973	0.94	0.91	1437	7.79	Simple phenolic
<i>para</i> -Cymene	5.14	1025	0.02	0.03	1213	3.95	Monoterpene
Limonene	5.17	1027	0.03	0.03	1142	3.02	Monoterpene
1,8-Cineole	5.23	1031	0.01	0.01	1146	3.08	Monoterp. ether
Salicylaldehyde	5.68	1055	0.23	0.22	1580	12.34	Simple phenolic
Acetophenone	6.09	1077	0.03	0.02	1557	11.49	Simple phenolic
Phenylethyl alcohol	7.16	1123	0.67	0.70	1812	26.04	Simple phenolic
Hydrocinnamaldehyde	8.47	1170	0.56				Phenylpropanoid
3-Methylbenzofuran	8.61	1176	0.09				Phenylpropanoid
Borneol	8.66	1177	0.06	0.05	1614	13.88	Monoterp. alcohol
Terpinen-4-ol	8.80	1182	0.02	0.06	1527	10.35	Monoterp. alcohol
$\alpha$ -Terpineol	9.45	1203	0.02	0.06	1619	14.15	Monoterp. alcohol
( <i>Z</i> )-Cinnamaldehyde	10.50	1226	0.51	0.44	1772	23.34	Phenylpropanoid
Hydrocinnamyl alcohol	11.17	1241	0.06	0.09	1949	34.84	Phenylpropanoid
<i>o</i> -Anisaldehyde	11.38	1245	0.57	0.58	1832	27.54	Simple phenolic
Phenylethyl acetate	11.93	1257	0.14	0.13	1722	19.94	Phenolic ester
( <i>E</i> )-Cinnamaldehyde	13.93	1300	78.25	79.03	1920	33.50	Phenylpropanoid
( <i>E</i> )-Cinnamyl alcohol	15.44	1323	0.15	0.17	2174	42.28	Phenylpropanoid
$\alpha$ -Copaene	17.73	1357	0.29	0.25	1433	7.67	Sesquiterpene
Unknown (m/z = 91, 121 (75), 108 (64), 164 (43))	18.87	1375	0.30	0.24	1967	35.64	Phenylpropanoid
$\beta$ -Caryophyllene	20.60	1400	0.14	0.14	1520	10.09	Sesquiterpene
<i>trans</i> - $\alpha$ -Bergamotene	22.17	1419	0.06	0.06	1529	10.44	Sesquiterpene
$\alpha$ -Humulene	23.41	1434	0.02	0.03	1583	12.48	Sesquiterpene
Coumarine	23.88*	1439	1.92	1.88	2273	44.67	Coumarin
allo-Aromadendrene	23.88*	1439	[1.92]	0.09	1562	11.66	Sesquiterpene
( <i>E</i> )-Cinnamyl acetate	25.08	1454	1.96	2.03	2044	38.57	Phenylpropanoid ester
$\gamma$ -Muuroleone	25.55	1459	0.22	0.14	1611	13.71	Sesquiterpene
$\alpha$ -Curcumene	26.44	1470	0.03	0.03	1698	18.31	Sesquiterpene
$\alpha$ -Muuroleone	27.65*	1484	0.51	0.09	1644	15.47	Sesquiterpene
Ethyl ( <i>E</i> )-cinnamate	27.65*	1484	[0.51]	0.09	2016	37.67	Phenylpropanoid ester
( <i>Z</i> )-Cinnamic acid	27.65*	1484	[0.51]	0.18	2404	47.53	Phenylpropanoid
$\gamma$ -Cadinene	28.69	1497	0.05	0.05	1668	16.76	Sesquiterpene
$\beta$ -Bisabolene	28.86	1499	0.06	0.05	1658	16.21	Sesquiterpene
$\delta$ -Cadinene	29.36	1506	0.09				Sesquiterpene
<i>trans</i> - $\gamma$ -Bisabolene	30.24	1518	0.05	0.06	1684	17.62	Sesquiterpene

(E)-o-Methoxycinnamaldehyde	32.69	1553	10.08	10.21	2303	45.37	Phenylpropanoid
Caryophyllene oxide	33.90*	1570	0.18	0.04	1846	28.60	Sesquiterp. ether
(E)-Nerolidol	33.90*	1570	[0.18]	0.14	1983	36.40	Sesquiterp. alcohol
Spathulenol	34.00	1571	0.08				Sesquiterp. alcohol
β-Bisabolol	38.93	1672	0.03	0.04	2069	39.35	Sesquiterp. alcohol
α-Bisabolol	39.50	1686	0.22	0.17	2130	41.15	Sesquiterp. alcohol
Benzyl benzoate	42.26	1770	0.09	0.09	2483	49.13	Phenolic ester
Phenylethyl benzoate	44.77	1856	0.05	0.05	2566	50.76	Phenolic ester
<b>Total identified</b>			<b>98.73%</b>	<b>98.70%</b>			

\*: Two or more compounds are coeluting on this column

[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

Note: no correction factor was applied

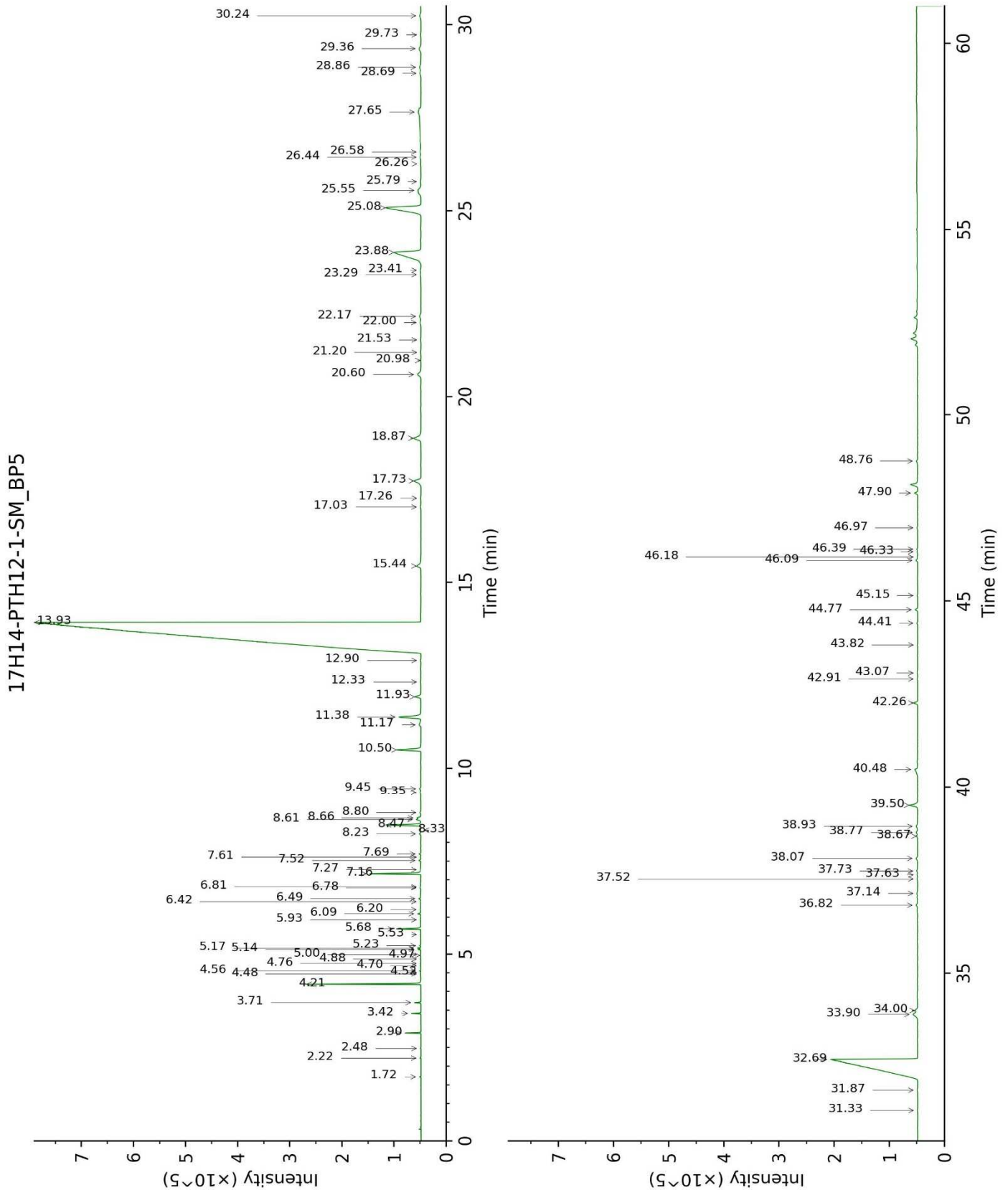
#### OTHER DATA

**Physical aspect :** Yellow liquid

**Refractive index :** 1.6060 ± 0.0003 (20 °C)

#### CONCLUSION

No adulterant, contaminant or diluent were detected using this method.



17H14-PTH12-1-SM\_WAX

