



GC/MS BATCH NUMBER: CX0101

ESSENTIAL OIL: CINNAMON CASSIA ORGANIC

BOTANICAL NAME: CINNAMOMUM CASSIA

ORIGIN: CHINA

| KEY CONSTITUENTS PRESENT IN THIS BATCH OF CINNAMON CASSIA ORGANIC OIL | % |
|---|------|
| (E)-CINNAMALDEHYDE | 85.1 |
| E)-o-METHOXYCINNAMALDEHYDE | 6.6 |

Date : July 17, 2017

SAMPLE IDENTIFICATION

Internal code : 17G14-PTH26-1-DM

Customer identification : Cassia Organic - China - CX010169R

Type : Essential oil

Source : *Cinnamomum cassia*

Customer : Plant Therapy

ANALYSIS

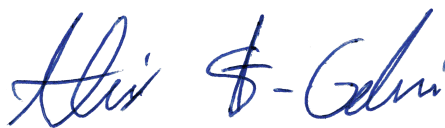
Method : PC-PA-001-15E06, "Analysis of the composition of a liquid essential oil by GC-FID" (in French).

Identifications double-checked by GC-MS

Analyst : Sylvain Mercier, M. Sc., chimiste

Analysis date : 2017-07-17

Checked and approved by :



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. | |
| Styrene | 2.91 | 898 | 0.03 | 0.02 | 1181 | 3.12 | Phenylpropanoid |
| Benzaldehyde | 4.21 | 976 | 0.84 | 0.76 | 1429 | 6.74 | Simple phenolic |
| para-Cymene | 5.15 | 1029 | 0.02 | 0.02 | 1202 | 3.39 | Monoterpene |
| Limonene | 5.18 | 1031 | 0.01 | 0.01 | 1138 | 2.57 | Monoterpene |
| Salicylaldehyde | 5.69 | 1059 | 0.19 | 0.14 | 1569 | 10.38 | Simple phenolic |
| Acetophenone | 6.10 | 1081 | 0.05 | 0.07 | 1562 | 10.11 | Simple phenolic |
| Phenylethyl alcohol | 7.18 | 1127 | 0.82 | 0.91 | 1798 | 21.72 | Simple phenolic |
| 2-Methylbenzofuran | 7.53 | 1140 | 0.05 | | | | Phenylpropanoid |
| Hydrocinnamaldehyde | 8.49 | 1175 | 0.59 | | | | Phenylpropanoid |
| 3-Methylbenzofuran | 8.63 | 1180 | 0.15 | | | | Phenylpropanoid |
| Terpinen-4-ol | 8.82 | 1187 | 0.02 | 0.08 | 1527 | 9.01* | Monoterp. alcohol |
| (Z)-Cinnamaldehyde | 10.52 | 1230 | 0.41 | 0.37 | 1768 | 19.77 | Phenylpropanoid |
| Hydrocinnamyl alcohol | 11.19 | 1245 | 0.16 | 0.18 | 1953 | 32.41 | Phenylpropanoid |
| o-Anisaldehyde | 11.42 | 1250 | 0.76 | 0.73 | 1828 | 23.69 | Simple phenolic |
| Phenylethyl acetate | 11.96 | 1262 | 0.03 | 0.03 | 1735 | 17.80 | Phenolic ester |
| (E)-Cinnamaldehyde | 14.03 | 1305 | 85.05 | 85.55 | 1914 | 29.66 | Phenylpropanoid |
| α-Ylangene | 17.08 | 1352 | 0.03 | 0.04 | 1418 | 6.56 | Sesquiterpene |
| α-Copaene | 17.77 | 1362 | 0.37 | 0.42 | 1436 | 6.87 | Sesquiterpene |
| Unknown (m/z = 91, 121 (75), 108 (64), 164 (43)) | 18.92 | 1380 | 0.31 | 0.28 | 2036 | 36.14* | Phenylpropanoid |
| β-Caryophyllene | 20.65 | 1405 | 0.09 | 0.08 | 1518 | 8.79 | Sesquiterpene |
| trans-α-Bergamotene | 22.04 | 1421 | 0.03 | [0.08] | 1527 | 9.01* | Sesquiterpene |
| α-Humulene | 23.33 | 1437 | 0.08 | 0.09 | 1595 | 11.36 | Sesquiterpene |
| Coumarine | 23.81 | 1443 | 0.71 | 6.73 | 2293 | 43.60* | Coumarin |
| (E)-Cinnamyl acetate | 25.02 | 1457 | 0.28 | [0.28] | 2036 | 36.14* | Phenylpropanoid ester |
| γ-Murolene | 25.56 | 1464 | 0.22 | 0.24 | 1608 | 11.81 | Sesquiterpene |
| α-Curcumene | 26.49 | 1475 | 0.04 | 0.05 | 1705 | 16.28 | Sesquiterpene |
| (E)-Cinnamic acid | 27.45 | 1486 | 0.29 | 0.39 | 2714 | 52.03 | Phenylpropanoid |
| α-Murolene | 27.70 | 1489 | 0.12 | 0.12 | 1660 | 13.95 | Sesquiterpene |
| γ-Cadinene | 28.74 | 1502 | 0.06 | 0.48 | 1666 | 14.27* | Sesquiterpene |
| β-Bisabolene | 28.91 | 1505 | 0.09 | 0.11 | 1649 | 13.37 | Sesquiterpene |
| δ-Cadinene | 29.41 | 1511 | 0.18 | 0.18 | 1673 | 14.64 | Sesquiterpene |
| trans-γ-Bisabolene | 30.29 | 1524 | 0.13 | [0.48] | 1666 | 14.27* | Sesquiterpene |
| (E)-o-Methoxycinnamaldehyde | 32.63 | 1556 | 6.63 | [6.73] | 2293 | 43.60* | Phenylpropanoid |
| Spathulenol | 33.88 | 1574 | 0.02 | [0.28] | 2036 | 36.14* | Sesquiterp. alcohol |
| Benzyl benzoate | 42.27 | 1776 | 0.05 | 0.03 | 2487 | 47.74 | Phenolic ester |
| Total identified | | | 98.60% | 97.83% | | | |

*: 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

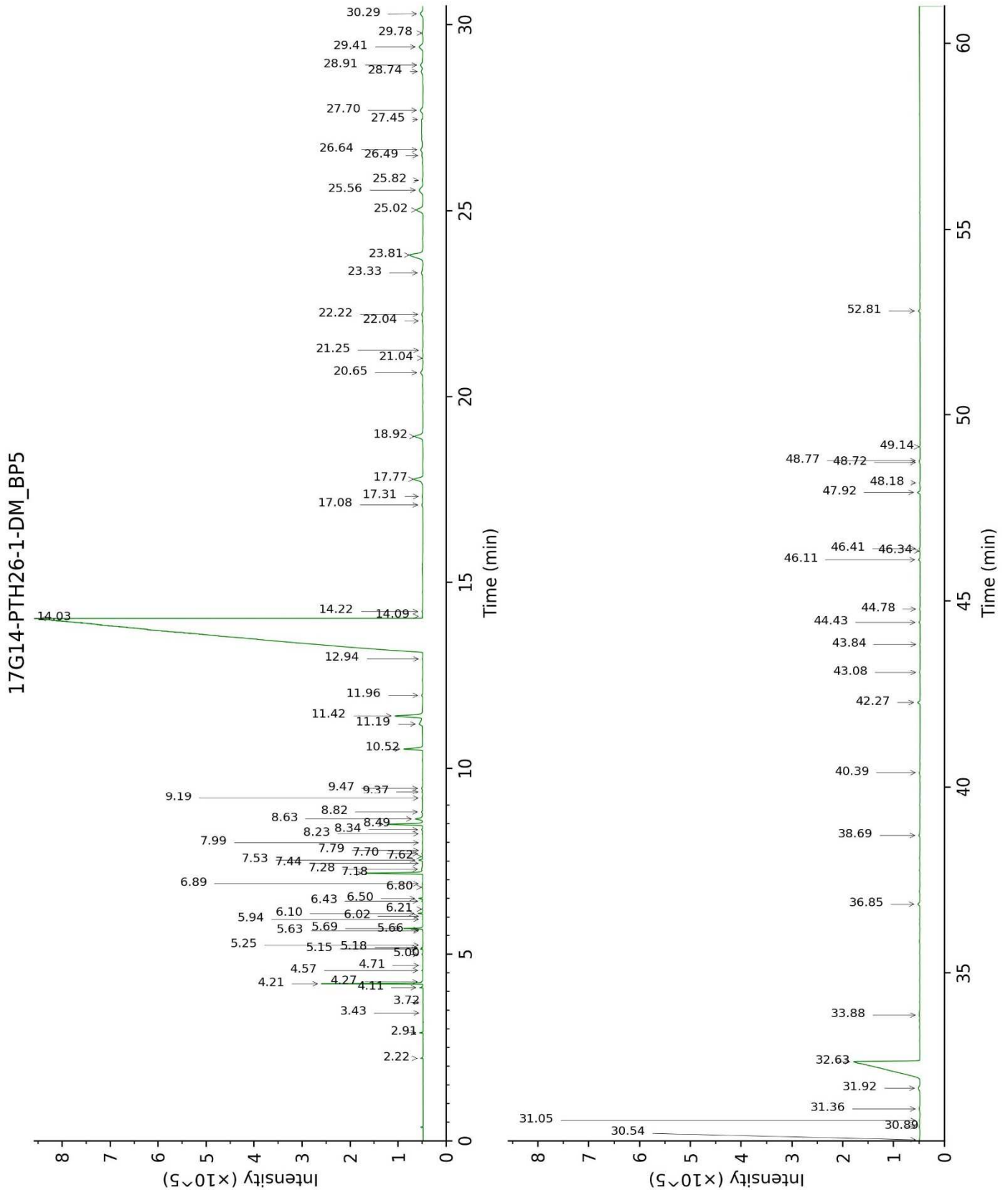
OTHER DATA

Physical aspect : Yellow liquid

Refractive index : 1.6095 ± 0.0003 (20 °C)

CONCLUSION

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



17G14-PTH26-1-DM_WAX

