PLANT THERAPY
100% PURE ESSENTIAL OILS

# GC/MS BATCH NUMBER: BG0100

**ESSENTIAL OIL**: BLUE CYPRESS
**BOTANICAL NAME**: CALLITRIS INTRATROPICA
**ORIGIN**: AUSTRALIA

| KEY CONSTITUENTS PRESENT IN THIS BATCH OF BLUE CYPRESS OIL | % |
|---|---|
| GUAIOL | 17.1 |
| BULNESOL | 10.4 |
| DIHYDROCOLUMELLARIN | 9.7 |
| γ-EUDESMOL | 7.5 |
| β-EUDESMOL | 6.2 |
| α-EUDESMOL | 5.5 |
| β-SELINENE | 2.6 |
| α-SELINENE | 2.4 |
| CALLITRIN | 1.5 |
| ELEMOL | 1.4 |
| VALERIANOL | 1.3 |
| 8,9-DEHYDRO -CYCLOISOLONGIFOLENE | 1.3 |
| α-DIHYDROAGAROFURAN | 1.3 |
| CALLITRISIN | 1.2 |
| γ-SELINENE | 1.0 |
| EUDESMA-7-EN-4-OL | 1.0 |

Comments from Robert Tisserand: A complex and woody Blue Cypress oil, high in anti-inflammatory and antimicrobial sesquiterpene alcohols.

Pyrenessences Analyses
*Analyse d'huiles essentielles et autres matières premières d'origine naturelle*

**CUSTOMER :**

**PLANT THERAPY**
**126 Locust Street South**
**Twin Falls, ID 83 301**
**USA**

| | |
|---|---|
| **Sample nature:** | ESSENTIAL OIL |
| **Botanical species:** | CALLITRIS INTRATROPICA |
| **Reference name:** | BLUE CYPRESS |
| **Batch number:** | BG0100 |
| **Origin:** | AUSTRALIA |
| **Part:** | WOOD/BARK |
| **Pyrenessences reference:** | E007 |
| **Date of reception:** | 06/15/2015 |
| **Date analysis:** | 06/16/2015 |
| **Packaging:** | Amber flask of 5 ml – ambient temperature |
| **Analysis:** | Classic |

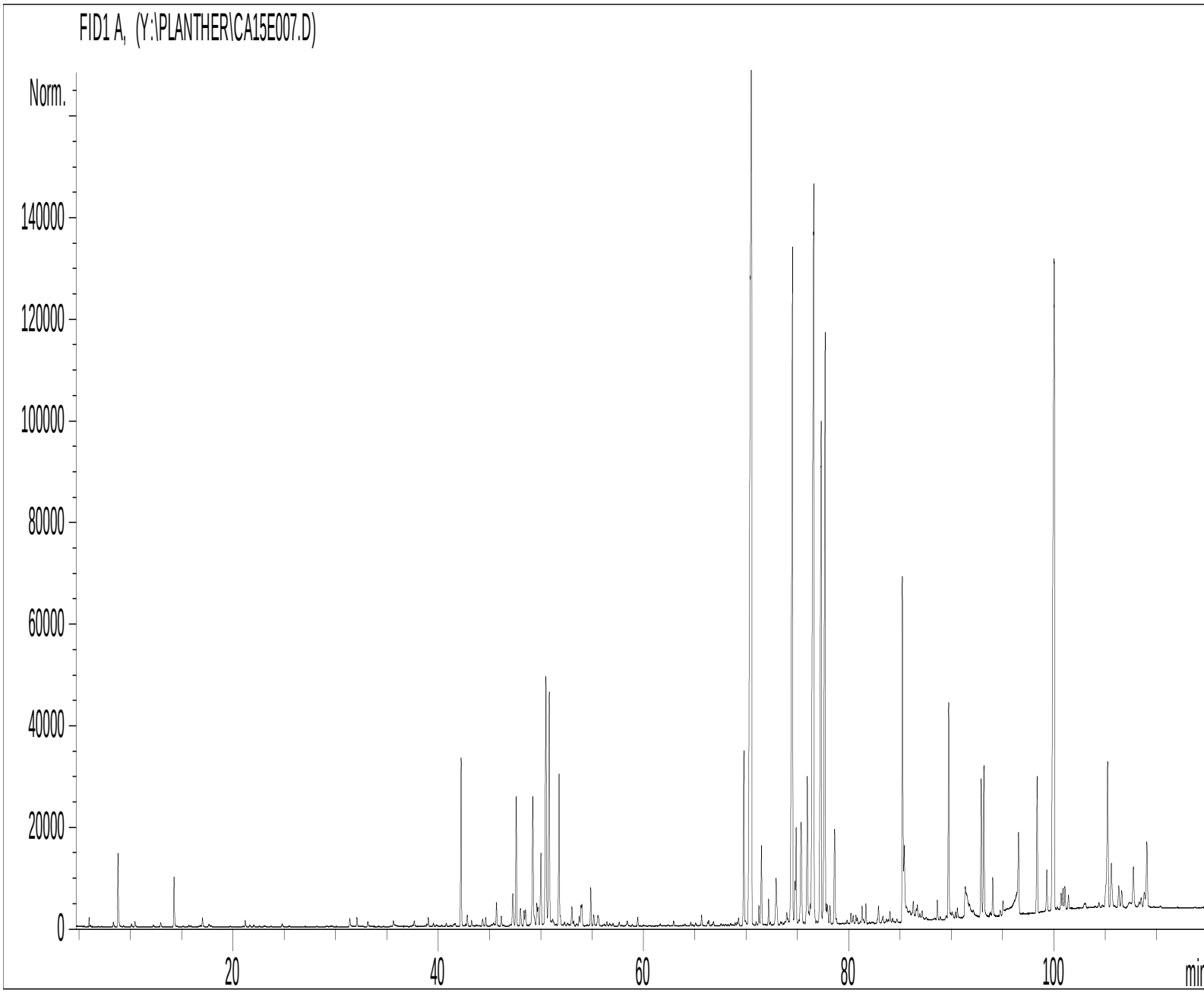
**Validated report by :** **Daniel DANTIN**

## GAS CHROMATOGRAPHY norm NF ISO 11024

### Analysis conditions :

CPG 7890 / MS 5975 – Column : VF WAX polar 60 m × 0,25 mm × 0,5 µm
CPG 5890 FID - Column : INNOWAX polar 60 m × 0,25 mm × 0,5 µm
Temperature program : 6 mn to 60 °C –2 °C/mn→250 °C - 20mn to 250 °C
Carrier gas He : 23 psis/MS – 30 psis/FID
Sample injection / split : 1 µl of 10 % solution in hexane,
Mass range : 30 to 350, Oil components are identified by a combination of retention times (our own database) and mass spectra library NKS 75 000 records,
Percentages are calculated from GC/FID peaks areas without using corrections factors,

### Chromatographic profile (GC/FID)



## Identification results 1 : BLUE CYPRESS AUSTRALIA BATCH N° BG0100

| Peak | RT (min) | COMPONENT name | % | Norm (%) | Allergens (%) |
|---|---|---|---|---|---|
| 1 | 6,0 | ETHYL ALCOHOL | 0,04 | | |
| 2 | 8,4 | TRICYCLENE | 0,03 | | |
| 3 | 8,8 | α-PINENE | 0,47 | | |
| 4 | 9,0 | α-THUYENE | 0,03 | | |
| 5 | 9,4 | TOLUENE | 0,01 | | |
| 6 | 10,2 | α-FENCHENE | 0,02 | | |
| 7 | 10,5 | CAMPHENE | 0,04 | | |
| 8 | 12,4 | β-PINENE | 0,01 | | |
| 9 | 13,0 | SABINENE | 0,03 | | |
| 10 | 14,3 | Δ3-CARENE | 0,37 | | |
| 11 | 15,2 | α-PHELLANDRENE | 0,01 | | |
| 12 | 15,8 | o-CYMENE | 0,01 | | |
| 13 | 16,0 | α-TERPINENE | 0,01 | | |
| 14 | 16,9 | ISOSYLVESTRENE | 0,01 | | |
| 15 | 17,0 | LIMONENE | 0,06 | | 0,06 |
| 16 | 17,7 | β-PHELLANDRENE + 1,8-CINEOLE | 0,03 | | |
| 17 | 19,9 | γ-TERPINENE | 0,01 | | |
| 18 | 21,0 | m-CYMENE | 0,01 | | |
| 19 | 21,2 | p-CYMENE | 0,05 | | |
| 20 | 21,6 | ISOTERPINOLENE | 0,02 | | |
| 21 | 22,0 | TERPINOLENE | 0,02 | | |
| 22 | 34,8 | PINOL | 0,03 | | |
| 23 | 31,4 | DIMETHYLSTYRENE ISOMER | 0,08 | | |
| 24 | 32,1 | α,p-DIMETHYLSTYRENE | 0,08 | | |
| 25 | 33,1 | FURFURAL | 0,05 | | |
| 26 | 35,6 | β-PATCHOULENE | 0,05 | | |
| 27 | 35,7 | α-CAMPHOLENE ALDEHYDE | 0,03 | | |
| 28 | 37,5 | CAMPHOR | 0,01 | | |
| 29 | 37,7 | PINOCAMPHONE | 0,05 | | |
| 30 | 39,0 | ARISTOLENE ISOMER | 0,09 | | |
| 31 | 39,5 | ISOPINOCAMPHONE | 0,03 | | |
| 32 | 39,8 | Trans-p-MENTH-2-EN-1-OL | 0,03 | | |
| 33 | 40,8 | PINOCARVONE | 0,03 | | |
| 34 | 41,6 | SESQUITERPENE | 0,06 | | |
| 35 | 42,2 | β-ELEMENE | 0,79 | | |
| 36 | 42,3 | α-GUAIENE | 0,50 | | |
| 37 | 42,8 | β-CARYOPHYLLENE | 0,13 | | |
| 38 | 43,3 | β-GUAIENE | 0,06 | | |
| 39 | 44,3 | THUYOPSENE | 0,07 | | |
| 40 | 44,6 | MYRTENAL | 0,08 | | |
| 41 | 45,4 | SESQUITERPENE | 0,08 | | |
| 42 | 45,7 | Trans-PINOCARVEOL | 0,21 | | |
| 43 | 46,2 | CHAMIGRENE ISOMER | 0,09 | | |
| 44 | 46,4 | ISOBORNEOL | 0,02 | | |
| 45 | 47,3 | α-HUMULENE + SESQUITERPENE AZULENIQUE | 0,39 | | |

## Identification results 2 : BLUE CYPRESS AUSTRALIA BATCH N° BG0100

| Peak | RT (min) | COMPONENT name | % | Norm (%) | Allergens (%) |
|---|---|---|---|---|---|
| 46 | 47,6 | γ-SELINENE | 1,03 | | |
| 47 | 48,0 | 4,5-di-epi-ARISTOLOCHENE | 0,19 | | |
| 48 | 48,3 | α-TERPINEOL | 0,12 | | |
| 49 | 48,5 | BORNEOL | 0,18 | | |
| 50 | 49,2 | α-DIHYDROAGAROFURAN | 1,25 | | |
| 51 | 49,3 | GURJUNENE ISOMER | 0,10 | | |
| 52 | 49,6 | VERBENONE | 0,19 | | |
| 53 | 49,7 | EREMOPHILENE | 0,17 | | |
| 54 | 50,0 | α-BULNESENE | 0,74 | | |
| 55 | 50,5 | **β-SELINENE** | **2,56** | | |
| 56 | 50,8 | **α-SELINENE** | **2,38** | | |
| 57 | 51,2 | GUAIENE ISOMER | 0,11 | | |
| 58 | 51,5 | SESQUITERPENE | 0,03 | | |
| 59 | 51,8 | CYCLOISOLONGIFOLENE, 8,9-DEHYDRO | 1,28 | | |
| 60 | 51,9 | SESQUITERPENE | 0,09 | | |
| 61 | 52,3 | β-DIHYDROAGAROFURAN | 0,07 | | |
| 62 | 52,6 | ISOAROMADENDRENE | 0,06 | | |
| 63 | 53,0 | δ-SELINENE | 0,24 | | |
| 64 | 53,7 | SELINADIENE ISOMER | 0,09 | | |
| 65 | 54,0 | SELINA-3,7-DIENE | 0,35 | | |
| 66 | 54,5 | SESQUITERPENE | 0,02 | | |
| 67 | 54,9 | SELINA-3,7-DIENE ISOMER | 0,30 | | |
| 68 | 55,2 | SESQUITERPENE Mw=204 | 0,11 | | |
| 69 | 55,7 | COMPONENT Mw=220 | 0,18 | | |
| 70 | 56,4 | Trans-CARVEOL | 0,04 | | |
| 71 | 56,7 | m-CYMENE-8-OL | 0,04 | | |
| 72 | 57,0 | CALAMENENE | 0,03 | | |
| 73 | 57,6 | TERPENIC ALCOHOL Mw=154 | 0,04 | | |
| 74 | 58,4 | GRANDISOL Mw=154 | 0,08 | | |
| 75 | 58,9 | SESQUITERPENIC EPOXIDE | 0,02 | | |
| 76 | 59,4 | SESQUITERPENIC EPOXIDE | 0,07 | | |
| 77 | 62,9 | SESQUITERPENOL Mw=222 | 0,04 | | |
| 78 | 65,7 | AROMATIC COMPONENT Mw=218 | 0,09 | | |
| 79 | 66,4 | AROMATIC COMPONENT Mw=216 | 0,07 | | |
| 80 | 69,3 | SESQUITERPENOL Mw=2220,09 | 0,01 | | |
| 81 | 69,8 | ELEMOL | 1,39 | | |
| 82 | 70,5 | **GUAIOL** | **17,05** | | |
| 83 | 71,0 | SESQUITERPENOL | 0,02 | | |
| 84 | 71,3 | ELEMOL ISOMER | 0,12 | | |
| 85 | 71,5 | 7-epi-α-EUDESMOL | 0,65 | | |
| 86 | 72,2 | 10-epi-γ-EUDESMOL | 0,21 | | |
| 87 | 72,9 | EUDESMOL ISOMER | 0,41 | | |
| 88 | 73,0 | SESQUITERPENOL Mw=222 | 0,13 | | |
| 89 | 73,4 | SESQUITERPENOL Mw=222 | 0,04 | | |
| 90 | 74,0 | SESQUITERPENOL Mw=222 | 0,13 | | |

## Identification results 3 : BLUE CYPRESS AUSTRALIA BATCH N° BG0100

| Peak | RT (min) | COMPONENT name | % | Norm (%) | Allergens (%) |
|---|---|---|---|---|---|
| 91 | 74,5 | **γ-EUDESMOL** | **7,49** | | |
| 92 | 74,7 | SESQUITERPENOL Mw=222 | 0,31 | | |
| 93 | 74,9 | GUAIOL ISOMER | 0,64 | | |
| 94 | 75,4 | SESQUITERPENOL Mw=222 | 1,25 | | |
| 95 | 75,6 | SESQUITERPENOL Mw=222 | 0,01 | | |
| 96 | 76,0 | VALERIANOL ISOMER | 1,29 | | |
| 97 | 76,6 | **BULNESOL** | **10,38** | | |
| 98 | 77,3 | **α-EUDESMOL** | **5,53** | | |
| 99 | 77,7 | **β-EUDESMOL** | **6,17** | | |
| 100 | 77,8 | SESQUITERPENIC COMPONENT Mw=238 | 0,11 | | |
| 101 | 77,9 | EUDESMOL ISOMER | 0,14 | | |
| 102 | 78,1 | AROMATIC COMPONENT Mw=248 | 0,14 | | |
| 103 | 78,6 | EUDESMA-7-EN-4-OL | 1,01 | | |
| 104 | 80,2 | SESQUITERPENONE Mw=218 | 0,07 | | |
| 105 | 80,4 | SESQUITERPENOL Mw=220 | 0,06 | | |
| 106 | 80,7 | SESQUITERPENOL Mw=220 | 0,11 | | |
| 107 | 81,3 | AROMATIC COMPONENT Mw=248 | 0,18 | | |
| 108 | 81,7 | AROMATIC COMPONENT Mw=248 | 0,15 | | |
| 109 | 82,9 | CHRYSANTHEMIC ACID Mw=168 | 0,18 | | |
| 110 | 83,3 | SESQUITERPENOL Mw=220 | 0,08 | | |
| 111 | 84,0 | AROMATIC COMPONENT | 0,10 | | |
| 112 | 84,7 | CHAMAZULENE Mw=184 | 0,03 | | |
| 113 | 85,2 | **FURANIC COMPONENT** | **2,99** | | |
| 114 | 85,4 | AROMATIC COMPONENT Mw=216 | 0,77 | | |
| 115 | 86,3 | SESQUITERPENOL Mw=220 | 0,12 | | |
| 116 | 86,7 | SESQUITERPENOL Mw=222 | 0,14 | | |
| 117 | 87,2 | SESQUITERPENOL Mw=220 | 0,06 | | |
| 118 | 88,6 | DITERPENE Mw=272 | 0,16 | | |
| 119 | 89,7 | SESQUITERPENOL Mw=220 | 1,75 | | |
| 120 | 90,4 | AROMATIC COMPONENT | 0,04 | | |
| 121 | 90,6 | DIONE COMPONENT | 0,08 | | |
| 122 | 91,4 | 3-OXAOCTAN-2-ONE-7-ISOPROPYLIDENE, E | 0,85 | | |
| 123 | 92,9 | SESQUITERPENOL Mw=220 | 1,13 | | |
| 124 | 93,2 | SESQUITERPENOL Mw=220 | 1,22 | | |
| 125 | 93,8 | SESQUITERPENOL Mw=220 | 0,03 | | |
| 126 | 94,0 | AROMATIC COMPONENT Mw=218 | 0,30 | | |
| 127 | 95,0 | CALLITRIN ISOMER | 0,09 | | |
| 128 | 96,5 | CALLITRIN Mw=234 | 1,49 | | |
| 129 | 98,4 | CALLITRISIN Mw=232 | 1,19 | | |
| 130 | 99,3 | CALLITRISIN ISOMER | 0,39 | | |
| 131 | 100,0 | **DIHYDROCOLUMELLARIN Mw=234** | **9,72** | | |
| 132 | 100,7 | DIHYDROCOLUMELLARIN ISOMER Mw=234 | 0,11 | | |
| 133 | 100,9 | FURANIC COMPONENT Mw=234 | 0,13 | | |
| 134 | 101,1 | COLUMELLARIN ISOMER Mw=232 | 0,16 | | |
| 135 | 101,4 | DIHYDROCALLITRISIN ISOMER Mw=234 | 0,11 | | |

## Identification results 4 : BLUE CYPRESS AUSTRALIA BATCH N° BG0100

| Peak | RT (min) | COMPONENT name | % | Norm (%) | Allergens (%) |
|---|---|---|---|---|---|
| 136 | 103,1 | FURANIC COMPONENT Mw=234 | 0,09 | | |
| 137 | 105,3 | FURANIC COMPONENT Mw=234 | 1,78 | | |
| 138 | 105,6 | COLUMELLARIN Mw=232 | 0,55 | | |
| 139 | 106,3 | DIHYDROCOLUMELLARIN ISOMER Mw=234 | 0,21 | | |
| 140 | 106,6 | FURANIC COMPONENT Mw=234 | 0,17 | | |
| 141 | 107,7 | FURANIC COMPONENT Mw=232 | 0,42 | | |
| 142 | 108,5 | FURANIC COMPONENT Mw=234 | 0,07 | | |
| 143 | 108,8 | FURANIC COMPONENT Mw=234 | 0,09 | | |
| 144 | 109,1 | CALLITRISIN ISOMER Mw=232 | 0,55 | | |
| | | **TOTAL** | **99,24** | | **0,06** |