

Analytical Report	
Title	Eucalyptus Globulus Essential Oil Profile by GC-MS
Report No.	SE-37270-10
Issue Date	August 31, 2015
Notebook reference	III-29-75
Contributors:	
Quote No.	
Requester	World Naturals LLC

Primary Aim

To identify GC amendable volatile organic compounds present in submitted **Cardamom** essential oil sample.

Samples

The sample arrived as clear liquid with characteristic odor labeled as "Eucalyptus Globulus lot 11053-a43".

Experimental:

1. Oil was dissolved in methanol to concentration of ~0.1%, 1 ul injected into the GC injector port.
2. GC conditions:

Injector temperature:	250 C
Initial oven temperature:	80 C
Ramp	10 C/min
Final temperature	220 C
Final temperature hold	5 min

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3. MS parameters

Ionization and ion polarity	EI+
Scan rate	2 scans/sec
Mass range	35-350 Da
Ion source temperature	150C
Transfer line temperature	280C

4. GC-MS analysis. Waters/Micromass Quatro GC mass spectrometer interfaced to a ThermoElectron Trace gas chromatograph was utilized for the analysis. 30m 0.25 mm ID DB-5 column was used to separate components. Carrier gas was helium at 1.1 ml/min with split ratio of 50.

5. Data treatment.

For each sample, a set of target components was identified with the aid of the AMDIS software¹. The components were identified using the NIST mass spectral library².

Deliverables

1. GC-MS chromatogram. GC-MS chromatogram is shown in Appendix I.

2. Appendix II lists library search results.

- RT Retention Time, time in minutes at which the compound elutes out of column
- CAS. CAS registry number or EPA number.
- Name. IUPAC or common name of identified compound.
- Area. Peak area of a component in %% to total ion count

1 <http://chemdata.nist.gov/mass-spc/amdis/>

2 <http://www.nist.gov/srd/nist1a.cfm>

APPENDIX I
Eucalyptus Globulus
GC-MS Chromatogram

Sample "Eucalyptus Globulus"

BlueWorldNaturals
081019_EucalyptusGlobulus



081019
T10
4.80min

APPENDIX II
Eucalyptus Globulus
Identified Compounds

Eucaliptus Globulus

CAS	Name	R.T.	Area
127913	beta-Pinene	3.747	0.3
123353	β -Myrcene	3.811	0.2
99832	α -Phellandrene	4.093	0.0
527844	Benzene, 1-methyl-2-(1-methylethyl)-	4.338	1.9
138863	Limonene	4.399	4.1
470826	Eucalyptol	4.478	92.8
99854	1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)-	4.801	0.4
29765853	2-Cyclopenten-1-one, 2,3,5-trimethyl-4-methylene-	5.213	0.0
5947364	Bicyclo[3.1.1]heptan-3-ol, 6 β -dimethyl-2-methylene-	6.112	0.1
562743	3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)-	6.654	0.2
80262	3-Cyclohexene-1-methanol, α,α -4-trimethyl-, acetate	8.937	0.0