

Analytical Report	
Title	Grapefruit Pink Essential Oil Profile by GC-MS
Report No.	SE-37270-14
Issue Date	August 31, 2015
Notebook reference	III-29-75
Contributors:	
Quote No.	
Requester	Blue 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 "Grapefruit Pink lot 11065-b46-1".

Experimental:

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

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

Report SE-37270-14 Grapefruit Pink

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
Grapefruit Pink
GC-MS Chromatogram

Sample "Grapefruit Pink"

GrapefruitPink005-2 lot 11868-6-02-1
081091_GrapefruitPink



4.47
4.47

APPENDIX II
Grapefruit Pink
Identified Compounds

Grapefruit Pink

CAS Name
80-56-8 alpha-pinene
3387415 Bicyclo[3.1.0]hexane, 4-methylene-1-(1-methylethyl)-
123353 β -Myrcene or isomer
123353 β -Myrcene or isomer
138863 Limonene
28973979 1,6,10-Dodecatriene, 7,11-dimethyl-3-methylene-, (Z)-

R.T.	Area
3.191	0.3
3.655	0.3
3.804	1.3
3.888	0.0
4.417	98.1
9.936	0.1