

Analytical Report	
Title	Myrth Egyptian Essential Oil Profile by GC-MS
Report No.	SE-37270-1
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 **Myrth Egyptian** essential oil sample.

Samples

The sample arrived as clear liquid with characteristic odor labeled as "Myrth Egyptian".

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

Report SE-37270-1 Myrth Egyptian

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

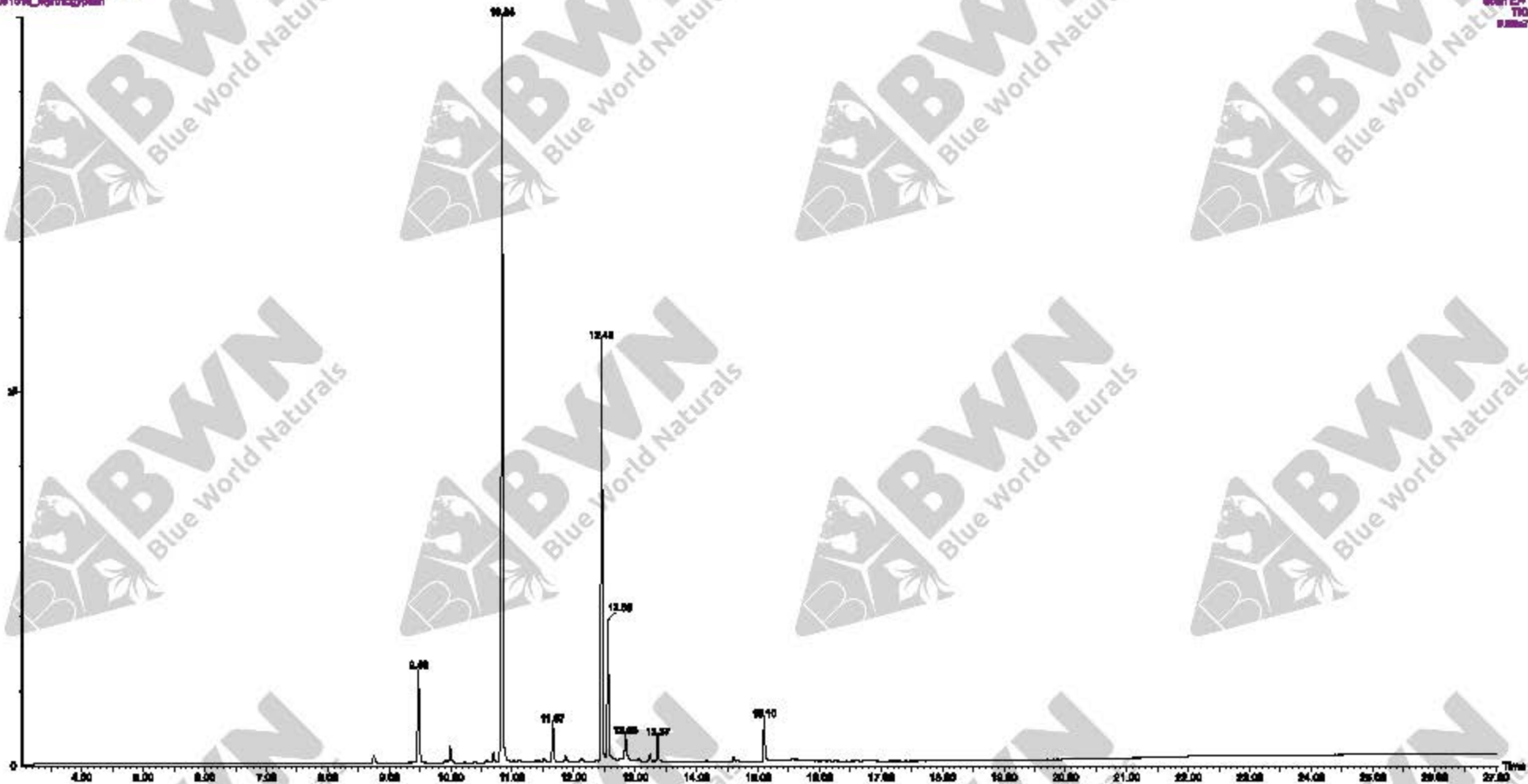
1 <http://chemdata.nist.gov/mass-spc/amdis/>

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

APPENDIX I
Myrth Egyptian
GC-MS Chromatogram

Sample "Myrth Egyptian"

Myrth Egyptian on DB-3
0910%_NorthEgyptian



0.001270
0.0002

APPENDIX II
Myrth Egyptian
Identified Compounds

Myrth Egyptian

CAS	Name	R.T.	Area
20307840	Cyclohexene, 4-ethenyl-4-methyl-3-(1-methylethenyl)-1-(1-methylethyl)-, (3R-trans)-	8.73	0.65%
515-13-9	Cyclohexane, 1-ethenyl-1-methyl-2,4-bis(1-methylethenyl)-	9.455	6.50%
EPA-152688	1,8-Nonadiene, 2-methyl-5,7-dimethylene-	9.904	0.23%
339154915	1-Elementene or isomer	9.976	1.13%
26560145	1,3,6,10-Dodecatetraene, 3,7,11-trimethyl-, (Z,E)-	10.564	0.14%
23986745	1,6-Cyclodecadiene, 1-methyl-5-methylene-8-(1-methylethyl)-, [s-(E,E)]-	10.676	0.61%
17910097	Benzofuran, 6-ethenyl-4,5,6,7-tetrahydro-3,6-dimethyl-5-isopropenyl-, trans-	10.818	44.61%
26184883	2-Furanmethanol, tetrahydro- $\alpha,\alpha,5$ -trimethyl-5-(4-methyl-3-cyclohexen-1-yl)-, [2S-[2 $\alpha,5\beta$ (R*)]]-	11.497	0.20%
339154915	1-Elementene or isomer	11.645	2.56%
40087614	1,3-trans-5-cis-octatriene	11.849	0.36%
109746136	1,4-Methanophthalazine, 1,4,4a,5,6,7,8,8a-octahydro-9,9-dimethyl-, (1 $\alpha,4\alpha,4a\alpha,8a\alpha$)-	12.101	0.15%
N/A	4,4'-Dimethyl-2,2'-dimethylenebicyclohexyl-3,3'-diene or isomer	12.436	25.60%
N/A	4,4'-Dimethyl-2,2'-dimethylenebicyclohexyl-3,3'-diene or isomer	12.538	8.36%
110823682	Cyclohexane, 1-ethenyl-1-methyl-2,4-bis(1-methylethenyl)-	12.825	1.55%
639996	Cyclohexanemethanol, 4-ethenyl- $\alpha,\alpha,4$ -trimethyl-3-(1-methylethenyl)-, [1R-(1 $\alpha,3\alpha,4\beta$)]-	12.825	1.73%
20303600	β -Elemenone	13.228	0.50%
EPA-294644	Preg-4-en-3-one, 17 α -hydroxy-17 β -cyano-	13.347	1.59%
19912868	5-Benzofuranacetic acid, 6-ethenyl-4,5,6,7-tetrahydro-3,6-dimethyl- α -methylene-, methyl ester	14.579	0.32%
EPA-221907	Tricyclo[3.1.0.0(2,4)]hexane, 3,3,6,6-tetracyclopropyl-	14.632	0.17%
EPA-211173	4,4'-Dimethyl-2,2'-dimethylenebicyclohexyl-3,3'-diene	15.078	3.05%