

Sample Information

Analyzed by : Dr. Robert S. Pappas
 Analyzed : 1/7/2019 8:32:13 PM
 Sample Type : Essential Oil
 Sample Name : Ravensara Oil, Madagascar
 Sample ID : Barefut-0103
 Injection Volume : 0.10
 Instrument ID : GC-3

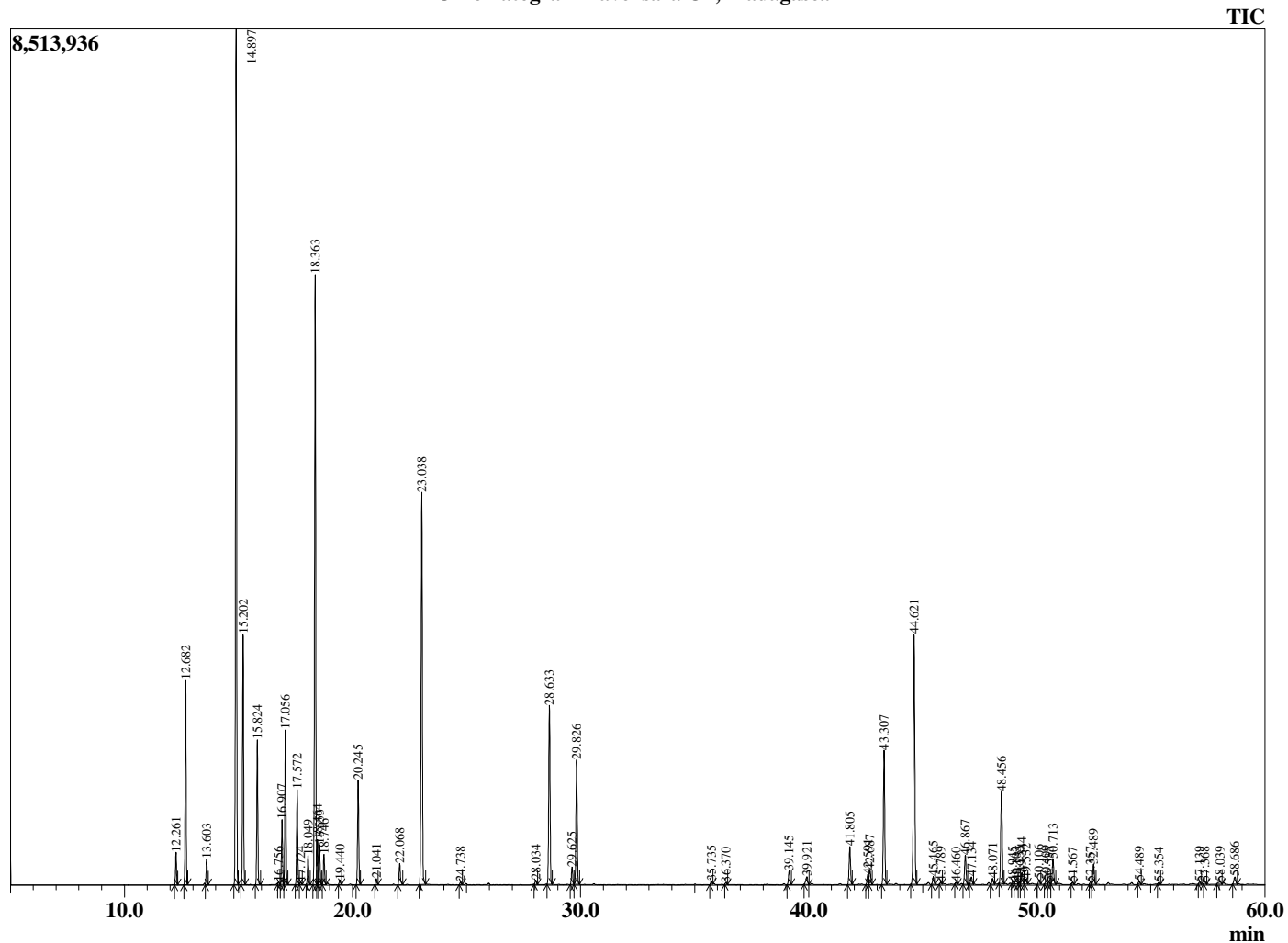


Peak Report TIC

| R.Time | Name | Area% |
|--------|-----------------------------|--------|
| 12.261 | alpha-Thujene | 0.64 |
| 12.682 | alpha-Pinene | 4.11 |
| 13.603 | Camphene | 0.53 |
| 14.897 | Sabinene | 18.55 |
| 15.202 | beta-Pinene | 5.36 |
| 15.824 | Myrcene | 3.09 |
| 16.756 | Pseudolimonene | 0.05 |
| 16.907 | alpha-Phellandrene | 1.44 |
| 17.056 | delta-3-Carene | 3.45 |
| 17.572 | alpha-Terpinene | 2.13 |
| 17.724 | ortho-Cymene | 0.06 |
| 18.049 | para-Cymene | 0.68 |
| 18.363 | Limonene | 14.15 |
| 18.464 | beta-Phellandrene | 1.01 |
| 18.553 | 1,8-Cineole | 0.89 |
| 18.746 | cis-beta-Ocimene | 0.69 |
| 19.440 | trans-beta-Ocimene | 0.11 |
| 20.245 | gamma-Terpinene | 2.47 |
| 21.041 | trans-Sabinene hydrate | 0.15 |
| 22.068 | Terpinolene | 0.57 |
| 23.038 | Linalool | 10.10 |
| 24.738 | cis-para-Menth-2-en-1-ol | 0.06 |
| 28.034 | Borneol | 0.11 |
| 28.633 | Terpinen-4-ol | 4.75 |
| 29.625 | alpha-Terpineol | 0.47 |
| 29.826 | Estragole | 3.27 |
| 35.735 | Bornyl acetate | 0.09 |
| 36.370 | Unidentified | 0.05 |
| 39.145 | delta-Elementene | 0.40 |
| 39.921 | alpha-Cubebene | 0.28 |
| 41.805 | alpha-Copaene | 1.08 |
| 42.591 | beta-Cubebene | 0.28 |
| 42.687 | beta-Elementene | 0.43 |
| 43.307 | Methyleugenol | 3.63 |
| 44.621 | beta-Caryophyllene | 7.42 |
| 45.465 | trans-alpha-Bergamotene | 0.21 |
| 45.789 | Aromadendrene | 0.06 |
| 46.460 | cis-Murrola-3,5-diene | 0.05 |
| 46.867 | alpha-Humulene | 0.87 |
| 47.134 | Alloaromadendrene | 0.21 |
| 48.071 | trans-Cadina-1(6),4-diene | 0.16 |
| 48.456 | Germaene D | 2.75 |
| 48.945 | beta-Selinene | 0.06 |
| 49.103 | trans-Muurolo-4(14),5-diene | 0.11 |
| 49.255 | Methyl isoeugenol | 0.07 |
| 49.344 | Bicyclogermacrene | 0.38 |
| 49.532 | alpha-Muuroloene | 0.14 |
| 50.106 | beta-Bisabolene | 0.12 |
| 50.409 | gamma-Cadinene | 0.10 |
| 50.535 | Cubebol | 0.07 |
| 50.713 | delta-Cadinene | 0.74 |
| 51.567 | trans-Cadine-1,4-diene | 0.05 |
| 52.357 | Elemicin | 0.06 |
| 52.489 | Elemol | 0.59 |
| 54.489 | Caryophyllene oxide | 0.08 |
| 55.354 | Guaiol | 0.05 |
| 57.139 | 1-epi-Cubenol | 0.06 |
| 57.368 | gamma-Eudesmol | 0.06 |
| 58.039 | epi-alpha-Cadinol | 0.12 |
| 58.686 | epi-alpha-Cadinol | 0.27 |
| | | 100.00 |

This report is valid for 1 year from the analyzed date.

Chromatogram Ravensara Oil, Madagascar



Comments:

The analysis of this Ravensara, Madagascar batch sample meets the expected chemical profile for authentic essential oil of *Ravensara aromatica*. No contamination or adulteration was detected.