



Essential Validation Services



Sample:

Client: | Artisan Aromatics
Sample: | Lemongrass (Cymbopogon flexuosus)
Batch # | Lemongrass Sample Report
Cas Number | 8007-02-1
Type: | Essential Oil

Conclusion:

- No adulterants, diluents, or contaminants were detected via this method.
- This oil meets the expected profile for genuine essential oil of Lemongrass (Cymbopogon flexuosus).



X

Validated By:

Essential Validation Services

747 SW 2nd Ave, Gainesville, FL 32601

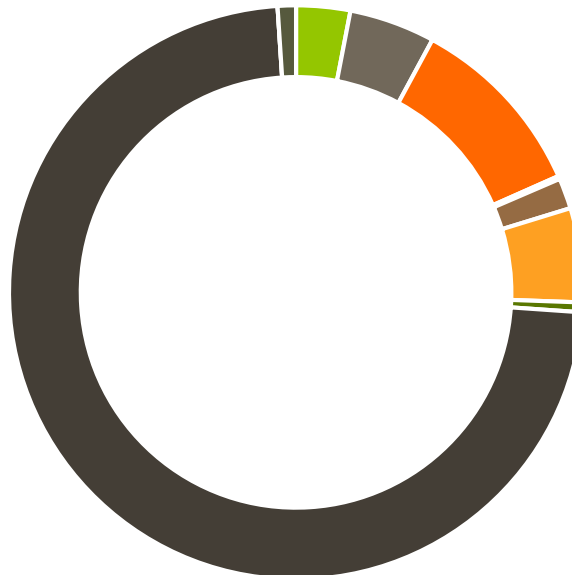
Phone: 317-361-5044 E-mail: Adam@essentialvalidationservices.com

Summary of Analyses

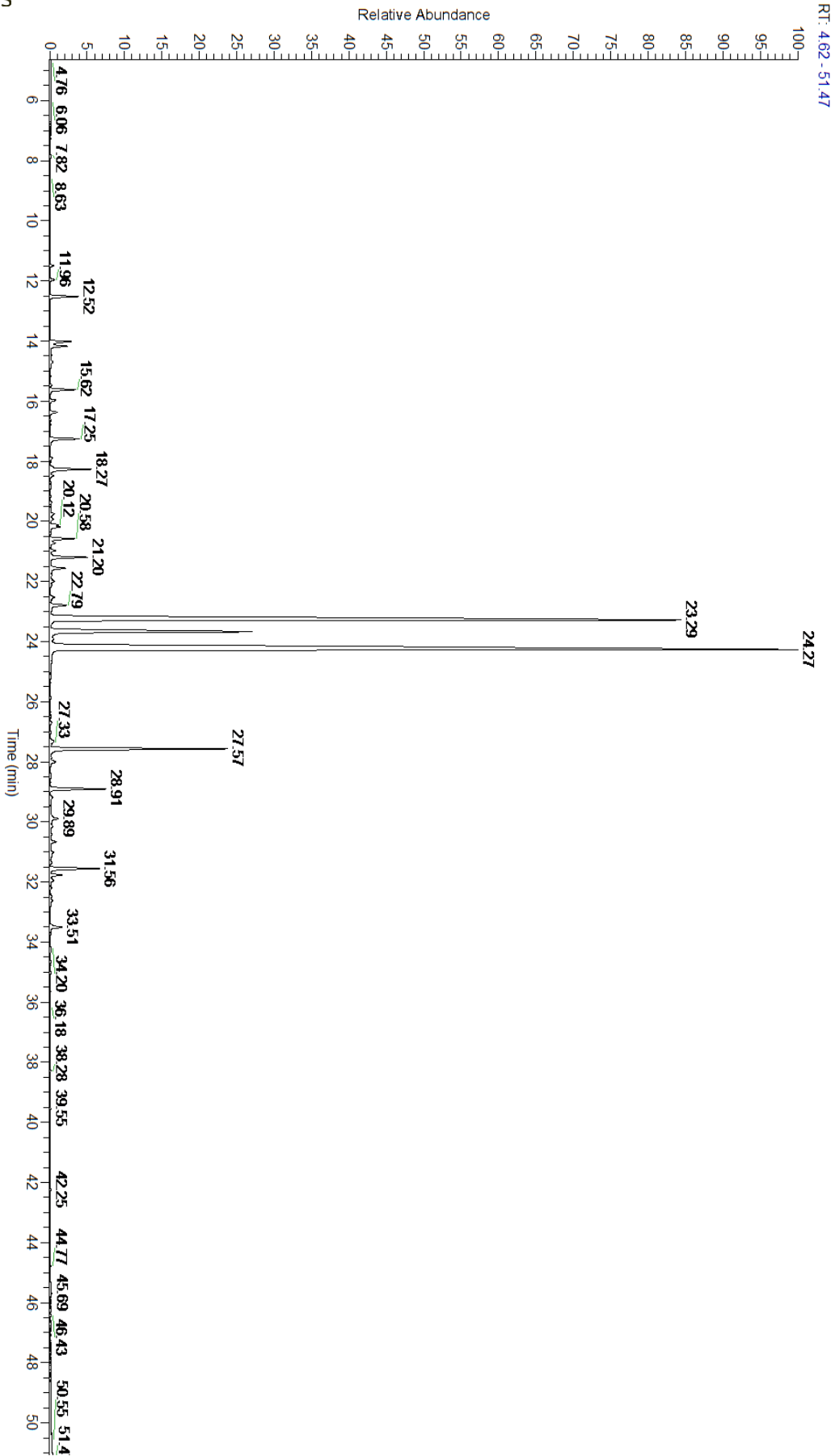
A fresh sample of Lemongrass (Cymbopogon flexuosus) Essential Oil (10 uL in .5to.5 mL Hexane + ETOH) was prepared and analyzed via split injection GC/EI-MS.

| Main Compounds | Percentages |
|-------------------------|-------------|
| Geranial | 40.00% |
| Neral | 30.00% |
| Geraniol | 7.59% |
| Geranyl acetate | 5.15% |
| beta-Caryophyllene | 1.72% |
| gamma-Cadinene | 1.55% |
| Linalool | 1.30% |
| (E)-Isocitral | 1.18% |
| 4-Nonanone | 0.92% |
| Camphene | 0.84% |
| Limonene | 0.76% |
| (Z)-Isocitral | 0.73% |
| 6-Methyl-5-hepten-2-one | 0.69% |

| Monoterpenes | Sesquiterpenes | Monoterpenols | Sesquiterpenols | Ketones |
|--------------|----------------|---------------|-----------------|---------|
| 3.04% | 4.84% | 10.48% | 0.17% | 1.73% |
| Esters | Ethers | Aldehydes | Phenols | Other |
| 5.30% | 0.55% | 72.86% | 0.00% | 1.03% |



- Monoterpenes ■ Sesquiterpenes ■ Monoterpenols
- Sesquiterpenols ■ Ketones ■ Esters
- Ethers ■ Phenols ■ Other





| Total Percentage | | 98.97% | | | |
|------------------|-------|------------|-------------------------|---------|----------------------|
| Peak Number | RT | Area % | Compound Name | RI | Chemical Family |
| 1 | 11.49 | 0.09% | Tricyclene | 923.00 | Monoterpene |
| 2 | 11.96 | 0.14% | alpha-Pinene | 936.10 | Monoterpene |
| 3 | 12.52 | 0.84% | Camphene | 950.30 | Monoterpene |
| 4 | 14.02 | 0.69% | 6-Methyl-5-hepten-2-one | 982.00 | Aliphatic Ketone |
| 5 | 14.18 | 0.55% | Myrcene | 989.20 | Monoterpene |
| 6 | 14.69 | 0.11% | Octanal | 998.00 | Aliphatic Aldehyde |
| 7 | 15.47 | 0.05% | para-Cymene | 1024.30 | Monoterpene |
| 8 | 15.62 | 0.76% | Limonene | 1029.50 | Monoterpene |
| 9 | 15.62 | Co-Eluting | 1,8-Cineole | 1031.80 | Monoterpene Ether |
| 10 | 15.97 | 0.17% | (Z)-beta-Ocimene | 1037.80 | Monoterpene |
| 11 | 16.37 | 0.21% | (E)-beta-Ocimene | 1047.70 | Monoterpene |
| 12 | 17.25 | 0.92% | 4-Nonanone | 1073.00 | Aliphatic Ketone |
| 13 | 17.90 | 0.07% | Terpinolene | 1092.10 | Monoterpene |
| 14 | 18.27 | 1.30% | Linalool | 1099.00 | Monoterpenol |
| 15 | 18.48 | 0.11% | alpha-Pinene epoxide | 1101.00 | Monoterpene |
| 16 | 19.37 | 0.05% | Alloocimene | 1129.90 | Monoterpene |
| 17 | 19.92 | 0.11% | exo-Isocitral | 1143.00 | Monoterpene Aldehyde |
| 18 | 20.12 | 0.22% | trans-Chrysanthemal | 1152.00 | Monoterpene Aldehyde |
| 19 | 20.18 | 0.32% | Citronellal | 1154.50 | Monoterpene Aldehyde |
| 20 | 20.58 | 0.73% | (Z)-Isocitral | 1163.50 | Monoterpene Aldehyde |
| 21 | 20.72 | 0.18% | Borneol | 1168.71 | Monoterpenol |
| 22 | 20.97 | 0.14% | Rose furan epoxide | 1174.25 | Monoterpene Ether |
| 23 | 21.20 | 1.18% | (E)-Isocitral | 1183.57 | Monoterpene Aldehyde |
| 24 | 21.20 | Co-Eluting | Terpinen-4-ol | 1180.57 | Monoterpenol |
| 25 | 21.56 | 0.59% | alpha-Terpineol | 1191.71 | Monoterpenol |
| 26 | 21.79 | 0.06% | gamma-Terpineol | 1198.50 | Monoterpenol |
| 27 | 21.99 | 0.19% | Decanal | 1206.57 | Aliphatic Aldehyde |
| 28 | 22.52 | 0.16% | cis-Carveol | 1232.25 | Monoterpenol |
| 29 | 22.79 | 0.53% | Citronellol | 1229.25 | Monoterpenol |
| 30 | 22.95 | 0.07% | Nerol | 1230.67 | Monoterpenol |
| 31 | 23.29 | 30.00% | Neral | 1246.57 | Monoterpene Aldehyde |
| 32 | 23.67 | 7.59% | Geraniol | 1255.29 | Monoterpenol |
| 33 | 23.93 | 0.12% | Piperitone | 1258.50 | Monoterpene Ketone |
| 34 | 24.27 | 40.00% | Geranial | 1272.00 | Monoterpene Aldehyde |
| 35 | 26.70 | 0.04% | Citronellyl acetate | 1357.83 | Monoterpene Ester |
| 36 | 27.03 | 0.02% | Neryl acetate | 1362.90 | Monoterpene Ester |
| 37 | 27.33 | 0.16% | alpha-Ylangene | 1371.33 | Sesquiterpene |
| 38 | 27.43 | 0.04% | alpha-Bourbonene | 1375.20 | Sesquiterpene |
| 39 | 27.57 | 5.15% | Geranyl acetate | 1378.50 | Monoterpene Ester |
| 40 | 27.86 | 0.04% | beta-Bourbonene | 1388.70 | Sesquiterpene |
| 41 | 28.01 | 0.20% | beta-Elemene | 1389.20 | Sesquiterpene |
| 42 | 28.91 | 1.72% | beta-Caryophyllene | 1427.14 | Sesquiterpene |
| 43 | 29.17 | 0.10% | trans-alpha-Bergamotene | 1435.00 | Sesquiterpene |



| | | | | | |
|----|-------|-------|------------------------|---------|---------------------|
| 44 | 29.89 | 0.33% | alpha-Humulene | 1461.43 | Sesquiterpene |
| 45 | 30.67 | 0.16% | Germacrene D | 1484.71 | Sesquiterpene |
| 46 | 31.01 | 0.10% | epi-Cubebol | 1493.67 | Sesquiterpenol |
| 47 | 31.56 | 1.55% | gamma-Cadinene | 1515.29 | Sesquiterpene |
| 48 | 31.77 | 0.36% | delta-Cadinene | 1524.14 | Sesquiterpene |
| 49 | 31.95 | 0.15% | trans-gamma-Bisabolene | 1535.65 | Sesquiterpene |
| 50 | 32.19 | 0.03% | alpha-Cadinene | 1537.86 | Sesquiterpene |
| 51 | 32.48 | 0.04% | Elemol | 1538.00 | Sesquiterpenol |
| 52 | 32.62 | 0.09% | Geranyl butyrate | 1558.00 | Monoterpene Ester |
| 53 | 33.51 | 0.41% | Caryophyllene oxide | 1594.86 | Sesquiterpene Ether |
| 54 | 34.65 | 0.03% | 1,10-di-epi-Cubenol | 1612.29 | Sesquiterpenol |
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