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|  | INB/SERV/0001 | Issue: 2 | Effective date: 15.07.2020 |
| | GC-MS TEST REPORT | | |
| | Lab Ref. No: UKM-INBIO-2021-NA-0097 | | |

Sample name : Lemon_gritz
Sample description : Pure *Citrus x Limon* oil / Origin from USA
Date of sample analysed : 16/7/2021

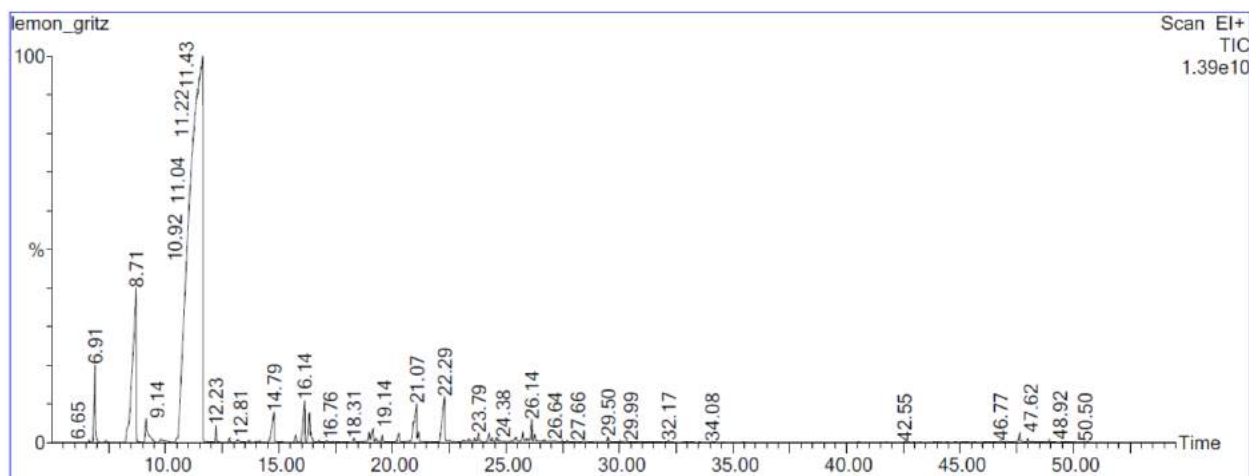




Figure 1. Representative chromatogram of Lemon EO

Table 1. List of component detected in Lemon EO using GC-MS

| RT | Compound Name | Composition % |
|--------|---|---------------|
| 6.654 | alpha-Sabinene | 0.02 |
| 6.907 | (-)-alpha-Pinene | 1.614 |
| 7.377 | Camphene | 0.049 |
| 8.709 | alpha-pinene | 8.481 |
| 9.142 | Myrcene | 0.906 |
| 9.791 | Cyclopropane, 1,1-dimethyl-2-(3-methyl-1,3-butadienyl)- | 0.204 |
| 11.662 | D-Limonene | 77.228 |
| 12.231 | gamma-Terpinolene | 0.25 |
| 12.814 | Linalool oxide | 0.07 |
| 13.192 | 1-Octanol | 0.108 |
| 13.486 | Isoterpinolene | 0.009 |
| 13.684 | 1,2-Oxolinalool | 0.038 |
| 13.988 | 1-Pentanol, 5-cyclopropylidene- | 0.024 |
| 14.164 | alpha-Pinene epoxide | 0.031 |
| 14.792 | linalool | 1.166 |
| 15.136 | 1,6-Heptadiene, 3,3-dimethyl- | 0.015 |
| 15.753 | trans-p-Mentha-2,8-dienol | 0.174 |

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|--------|---|-------|
| 16.142 | Limonene oxide, cis- | 1.143 |
| 16.351 | Limonene oxide, trans- | 0.603 |
| 16.424 | (E)-p-2,8-Menthadien-1-ol | 0.132 |
| 16.475 | L-Pinocarveol | 0.045 |
| 16.758 | (S)-cis-Verbenol | 0.022 |
| 17.117 | (R)-(+)-Citronellal | 0.031 |
| 17.264 | 2,6-Dimethylbicyclo[3.2.1]octane | 0.009 |
| 17.415 | 2(10)-Pinen-3-one, (ñ)- | 0.014 |
| 17.576 | 1,4-Dimethyl-3-cyclohexenyl methyl ketone | 0.013 |
| 18.049 | 1,4-Dimethyl-3-cyclohexenyl methyl ketone | 0.011 |
| 18.31 | 2-Isopropenyl-5-methylhex-4-enal | 0.096 |
| 18.585 | Cryptone | 0.016 |
| 18.831 | p-Menth-1(7)-en-2-one | 0.014 |
| 18.981 | trans-p-Mentha-2,8-dienol | 0.12 |
| 19.143 | L-perillyl alcohol | 0.273 |
| 19.282 | cis-Carveol | 0.06 |
| 19.561 | Decanal | 0.117 |
| 20.306 | cis-Carveol | 0.274 |
| 20.526 | cis-Geraniol | 0.01 |
| 20.76 | 3,7-dimethyloct-2-en-1-ol | 0.028 |
| 21.072 | cis-Geraniol | 1.586 |
| 21.179 | Carvone | 0.209 |
| 21.457 | Piperitone | 0.01 |
| 21.637 | trans-Geraniol | 0.013 |
| 22.294 | trans-Citral | 1.765 |
| 22.419 | 1-Decanol | 0.042 |
| 23.086 | p-Menth-1(7),8(10)-dien-9-ol | 0.017 |
| 23.369 | trans-2-Caren-4-ol | 0.06 |
| 23.618 | Isopinocarveol | 0.06 |
| 23.791 | (1R,4R)-p-Mentha-2,8-diene, 1-hydroperoxide | 0.172 |
| 24.264 | (1R,4R)-p-Mentha-2,8-diene, 1-hydroperoxide | 0.18 |
| 24.381 | 4,4-Dimethylpent-2-enal | 0.045 |
| 24.591 | Farnesol | 0.078 |
| 24.866 | Ocimene | 0.014 |
| 25.236 | Limonene-1,2-diol | 0.018 |
| 25.442 | alpha-Limonene diepoxide | 0.11 |
| 25.75 | (Z)-p-mentha-1,8-dien-2-hydroperoxide | 0.193 |

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|--------|---|-------|
| 26.135 | Nerol acetate | 0.337 |
| 26.278 | (E)-p-mentha-6,8-dien-2-hydroperoxide | 0.129 |
| 26.718 | 4(axial)-n-Propyl-trans-3-oxabicyclo[4.4.0]decane | 0.008 |
| 27.474 | beta-Cubebene | 0.024 |
| 27.661 | Limonene | 0.011 |
| 28.413 | Bicyclo[3.1.0]hexane-6-methanol, 2-hydroxy-1,4,4-trimethyl- | 0.03 |
| 29.228 | Chamigren | 0.013 |
| 29.496 | Valencene | 0.093 |
| 29.994 | Limonene dioxide | 0.009 |
| 30.182 | Limonene dioxide | 0.01 |
| 30.336 | delta-Cadinene | 0.033 |
| 31.33 | Elemol | 0.01 |
| 32.174 | Caryophyllene oxide | 0.033 |
| 35.45 | beta-Sinensal | 0.009 |
| 46.767 | 4-(2,2,6-Trimethyl-bicyclo[4.1.0]hept-1-yl)-butan-2-one | 0.031 |
| 47.465 | (7,7-Dimethyl-2-oxobicyclo[2.2.1]hept-1-yl)methanesulfonic acid, methyl ester | 0.015 |
| 47.622 | Dihydronopol | 0.188 |
| 47.978 | Dihydronopol | 0.061 |
| 48.173 | (+)-Camphor-10-sulfonyl chloride | 0.021 |
| 48.921 | Dihydronopol | 0.028 |

Findings/Summary : **No adulterant, contaminant or diluent were detected using GC-MS**

Analyzed by



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Verified by



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