

## Sample:

---

Client: | Nature's Gift  
Sample: | Lime (Citrus aurantifolia)  
Batch # | ME-15926  
Cas Number | 8008-26-2  
Type: | Essential Oil

---

## Conclusion:

- No adulterants, diluents, or contaminants were detected via this method.
- Limonene and gamma-Terpinene concentrations are slightly higher than normal but no synthetic markers are present suggesting this is natural variation. Deceiving co-elution value of Limonene (actual value closer to 59%).



X *Adam Christen*

---

Validated By:

Essential Validation Services

747 SW 2nd Ave, Gainesville, FL 32601

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

## Summary of Analyses

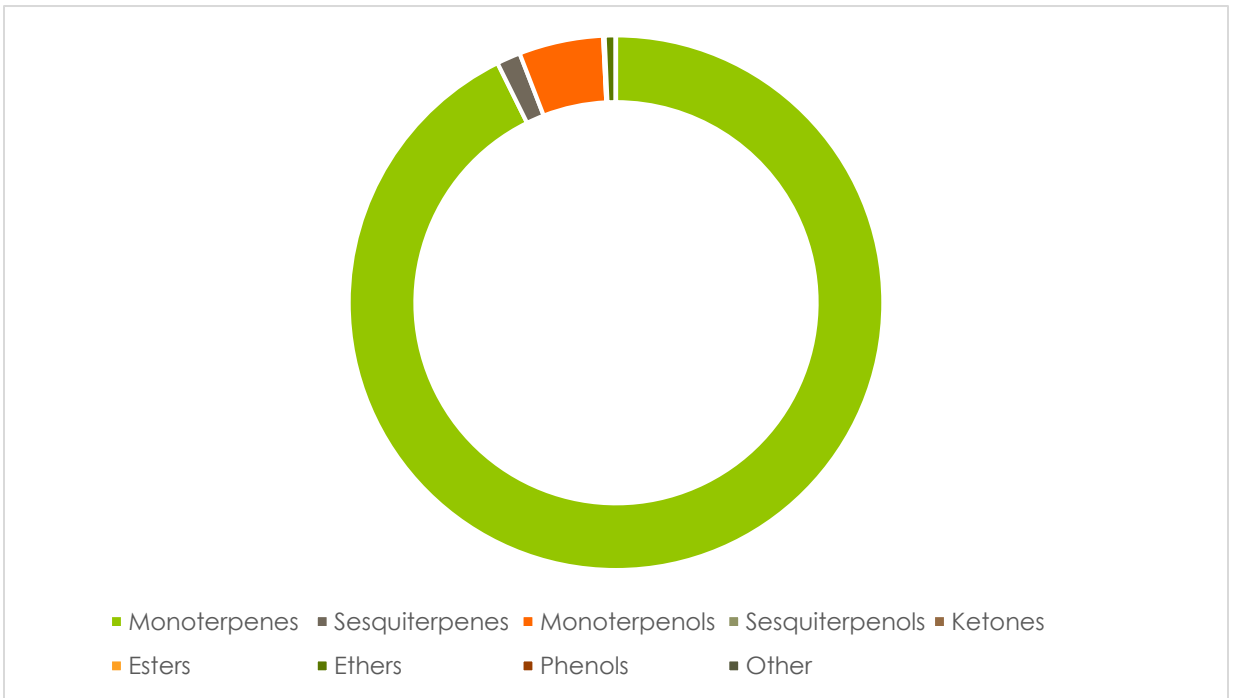
---

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



Main Compounds	Percentages
Limonene	65.82%
gamma-Terpinene	13.65%
Terpinolene	6.21%
alpha-Terpineol	3.62%
alpha-Terpinene	2.74%
beta-Pinene	1.64%
alpha-Pinene	0.82%
Myrcene	0.66%

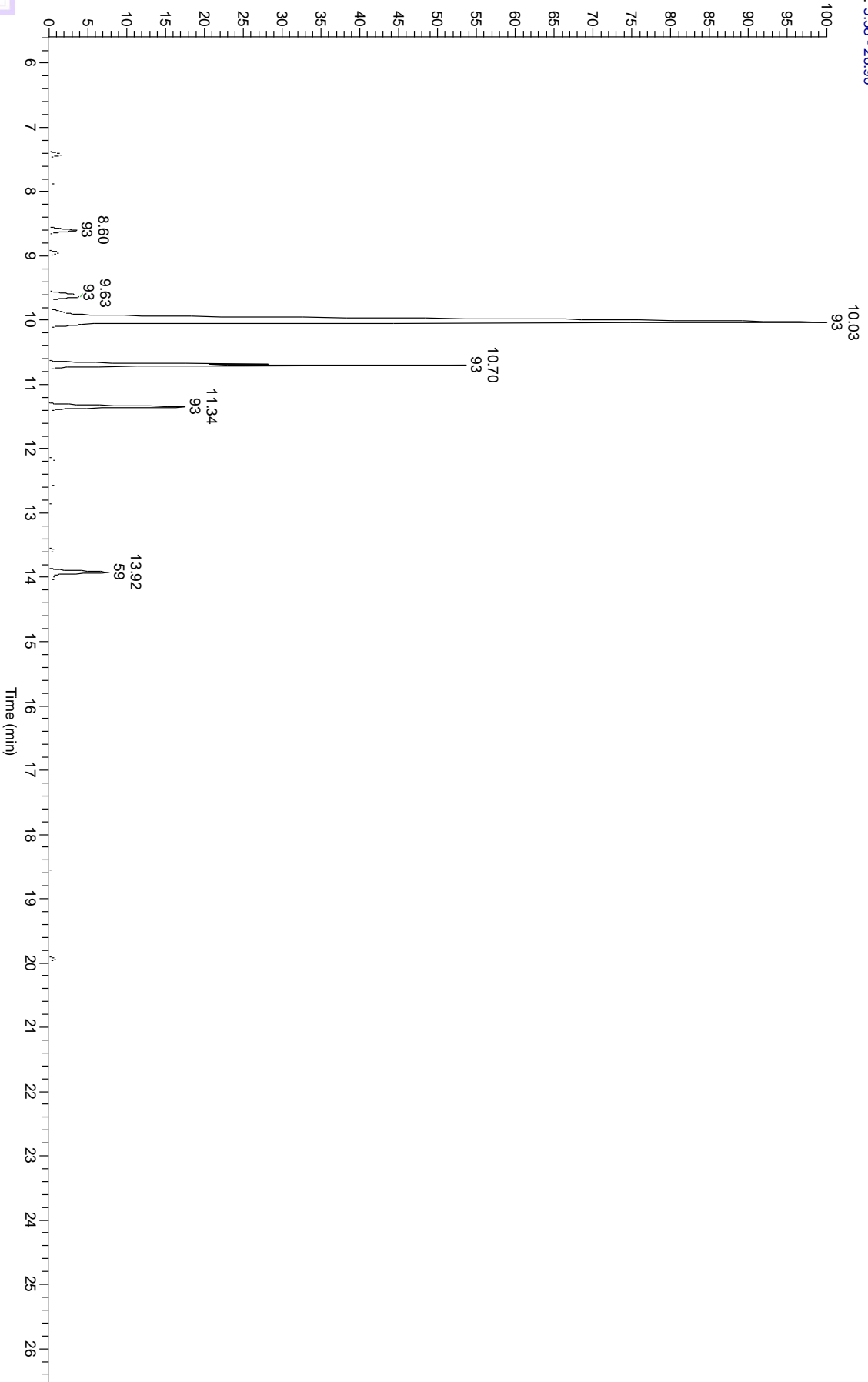
Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
92.83%	1.44%	5.11%	0.04%	0.01%
Esters	Ethers	Aldehydes	Phenols	Other
0.04%	0.67%	0.00%	0.00%	0.01%



ESSENTIAL VALIDATION SERVICES | 747 SW 2<sup>ND</sup> AVE GAINESVILLE, FLORIDA 32601 | 317-361-5044



RT: 5.58 - 26.90



ESSENTIAL VALIDATION SERVICES | 747 SW 2ND AVE GAINESVILLE, FLORIDA 32601 | 317-361-5044

Total Percentage	99.86%				
Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	6.63	0.01%	Bornylene	902.00	Other
2	7.11	0.01%	Tricyclene	927.71	Monoterpenes
3	7.25	0.01%	alpha-Thujene	935.43	Monoterpenes
4	7.42	0.82%	alpha-Pinene	940.00	Monoterpenes
5	7.86	0.45%	Camphene	951.57	Monoterpenes
6	8.43	0.22%	Sabinene	975.71	Monoterpenes
7	8.43	Co-Eluting	beta-Phellandrene	1033.57	Monoterpenes
8	8.6	1.64%	beta-Pinene	979.00	Monoterpenes
9	8.8	0.01%	6-Methyl-5-hepten-2-one	986.20	Ketones
10	8.95	0.66%	Myrcene	990.57	Monoterpenes
11	9.36	0.24%	alpha-Phellandrene	1006.43	Monoterpenes
12	9.63	2.74%	alpha-Terpinene	1019.29	Monoterpenes
13	10.03	65.82%	Limonene	1032.00	Monoterpenes
14	10.03	Co-Eluting	1,8-Cineole	1033.29	Ethers
15	10.03	Co-Eluting	para-Cymene	1025.71	Monoterpenes
16	10.4	0.34%	(E)-beta-Ocimene	1049.00	Monoterpenes
17	10.7	13.65%	gamma-Terpinene	1063.71	Monoterpenes
18	10.87	0.01%	1-Octanol	1075.14	Monoterpenols
19	11.34	6.21%	Terpinolene	1089.43	Monoterpenes
20	11.56	0.08%	cis-Sabinene hydrate	1099.57	Monoterpenols
21	11.72	0.10%	Linalool	1101.14	Monoterpenols
22	12.17	0.38%	alpha-Fenchol	1117.14	Monoterpenols
23	12.36	0.05%	cis-Limonene oxide	1134.00	Ethers
24	12.55	0.33%	trans-Limonene oxide	1138.00	Ethers
25	12.73	0.08%	cis-B-Terpineol	1144.00	Monoterpenols
26	12.88	0.25%	Terpinen-1-ol	1156.00	Monoterpenols
27	13.29	0.07%	beta-Terpineol	1160.00	Monoterpenols
28	13.4	0.15%	Borneol	1168.71	Monoterpenols
29	13.58	0.37%	Terpinen-4-ol	1180.57	Monoterpenols
30	13.78	0.02%	p-Cymen-8-ol	1186.43	Monoterpenes
31	13.92	3.62%	alpha-Terpineol	1191.71	Monoterpenols
32	15.66	0.01%	cis-B-Terpinyl acetate	1284.00	Esters
33	16.72	0.02%	delta-Elemene	1335.83	Sesquiterpenes
34	17.21	0.03%	Neryl acetate	1365.57	Esters
35	17.8	0.02%	beta-Elemene	1388.30	Sesquiterpenes
36	18.22	0.02%	Cedr-8-ene	1400.00	Sesquiterpenes
37	18.39	0.18%	beta-Caryophyllene	1427.14	Sesquiterpenes
38	18.58	0.27%	trans-alpha-Bergamotene	1435.00	Sesquiterpenes
39	18.93	0.02%	(Z)-beta-Farnesene	1453.40	Sesquiterpenes
40	19.07	0.05%	alpha-Humulene	1461.43	Sesquiterpenes
41	19.36	0.04%	beta-Chamigrene	1477.00	Sesquiterpenes
42	19.61	0.12%	Germacrene D	1484.71	Sesquiterpenes

