



# *Essential Validation Services*



## Sample:

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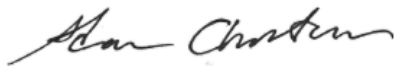
Client: | Be Kind Botanicals  
Sample: | Pink Grapefruit (Citrus x paradisi)  
Batch # | GP180301  
CAS Number | 8016-20-4  
Type: | Essential Oil

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## Conclusion:

- No adulterants, diluents, or contaminants were detected via this method.
- This oil meets the expected profile for genuine essential oil of Pink Grapefruit (Citrus x paradisi).

X



Validated By:



Essential Validation Services

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## Summary of Analyses

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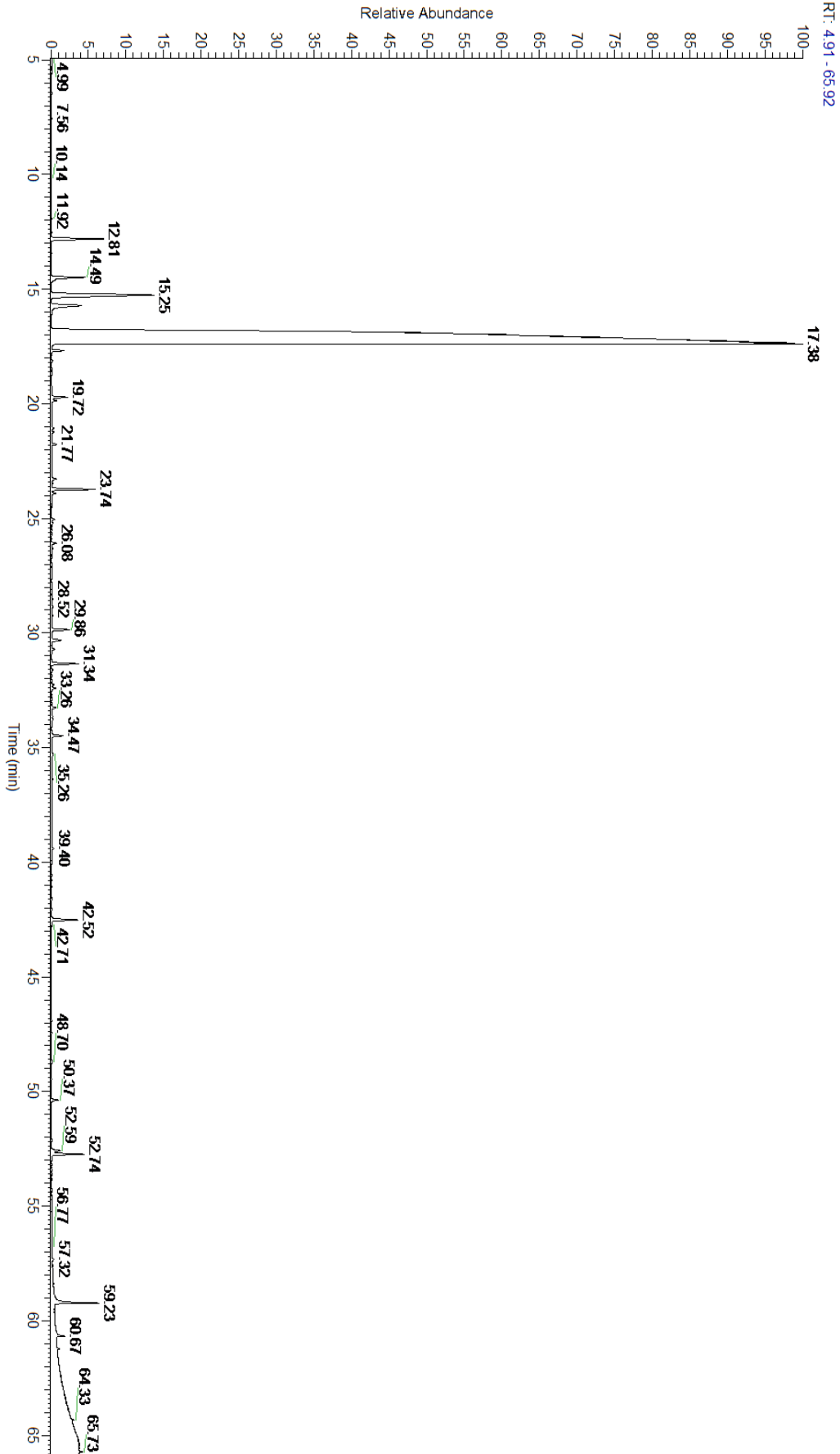
A fresh sample of Pink Grapefruit (Citrus x paradisi) Essential Oil (10 uL in .5to.5 mL Hexane + ETOH) was prepared and analyzed via split injection GC/EI-MS.

Main Compounds	Percentages
Limonene (Co-Eluting)	90.20%
Myrcene	2.32%
alpha-Pinene	0.76%
Auraptene	0.68%
Octanal	0.66%
Sabinene	0.57%
Decanal	0.55%

Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
94.03%	0.90%	0.27%	0.04%	0.41%
Esters	Ethers	Aldehydes	Phenols	Other
0.29%	0.09%	1.56%	0.00%	2.40%



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



Total Percentage		98.37%			
Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	12.54	0.01%	alpha-Thujene	927.80	Monoterpene
2	12.81	0.76%	alpha-Pinene	936.10	Monoterpene
3	13.44	0.00%	Camphene	950.30	Monoterpene
4	14.49	0.57%	Sabinene	973.00	Monoterpene
5	15.25	2.32%	Myrcene	989.20	Monoterpene
6	15.71	0.66%	Octanal	998.00	Aliphatic Aldehyde
7	17.15	90.20%	Limonene	1029.50	Monoterpene
8	17.17	Co-Eluting	beta-Phellandrene	1030.00	Monoterpene
9	17.23	Co-Eluting	1,8-Cineole	1031.80	Monoterpene Ether
10	17.68	0.14%	(E)-beta-Ocimene	1047.70	Monoterpene
11	18.12	0.01%	gamma-Terpinene	1054.00	Monoterpene
12	19.30	0.01%	Terpinolene	1092.10	Monoterpene
13	19.72	0.20%	Linalool	1099.00	Monoterpenol
14	19.86	0.08%	Nonanal	1104.00	Aliphatic Aldehyde
15	20.87	0.01%	Alloocimene	1129.90	Monoterpene
16	21.07	0.04%	cis-Limonene oxide	1136.00	Monoterpene Ether
17	21.23	0.03%	trans-Limonene oxide	1138.10	Monoterpene Ether
18	21.77	0.06%	Citronellal	1154.50	Monoterpene Aldehyde
19	22.77	0.01%	Terpinen-4-ol	1180.57	Monoterpenol
20	23.27	0.07%	alpha-Terpineol	1191.71	Monoterpenol
21	23.74	0.55%	Decanal	1206.57	Aliphatic Aldehyde
22	23.91	0.05%	Octyl acetate	1211.00	Aliphatic Ester
23	25.05	0.04%	Neral	1246.57	Monoterpene Aldehyde
24	25.20	0.02%	Carvone	1248.14	Monoterpene Ketone
25	26.08	0.06%	Geranial	1272.00	Monoterpene Aldehyde
26	26.31	0.03%	Perilla aldehyde	1281.00	Monoterpene Aldehyde
27	27.33	0.01%	Undecanal	1305.29	Sesquiterpene Aldehyde
28	28.52	0.03%	delta-Elemene	1335.83	Sesquiterpene
29	28.85	0.03%	alpha-Terpinyl acetate	1353.00	Monoterpene Ether
30	29.24	0.01%	Neryl acetate	1362.90	Monoterpene Ester
31	29.86	0.22%	Geranyl acetate	1379.20	Monoterpene Ester
32	30.31	0.16%	beta-Elemene	1389.20	Sesquiterpene
33	30.71	0.04%	Dodecanal	1397.80	Aliphatic Aldehyde
34	31.34	0.36%	beta-Caryophyllene	1427.14	Sesquiterpene
35	31.62	0.02%	beta-Copaene	1445.00	Sesquiterpene
36	32.26	0.03%	(Z)-beta-Farnesene	1453.40	Sesquiterpene
37	32.41	0.06%	alpha-Humulene	1461.43	Sesquiterpene
38	33.26	0.06%	Germacrene D	1484.71	Sesquiterpene
39	33.63	0.02%	Bicyclogermacrene	1490.71	Sesquiterpene
40	34.47	0.16%	delta-Cadinene	1524.14	Sesquiterpene
41	35.26	0.04%	Elemol	1538.00	Sesquiterpenol
42	39.40	0.04%	beta-Sinensal	1688.20	Sesquiterpene Aldehyde
43	42.52	0.39%	Nootkatone	1807.00	Sesquiterpene Ketone

