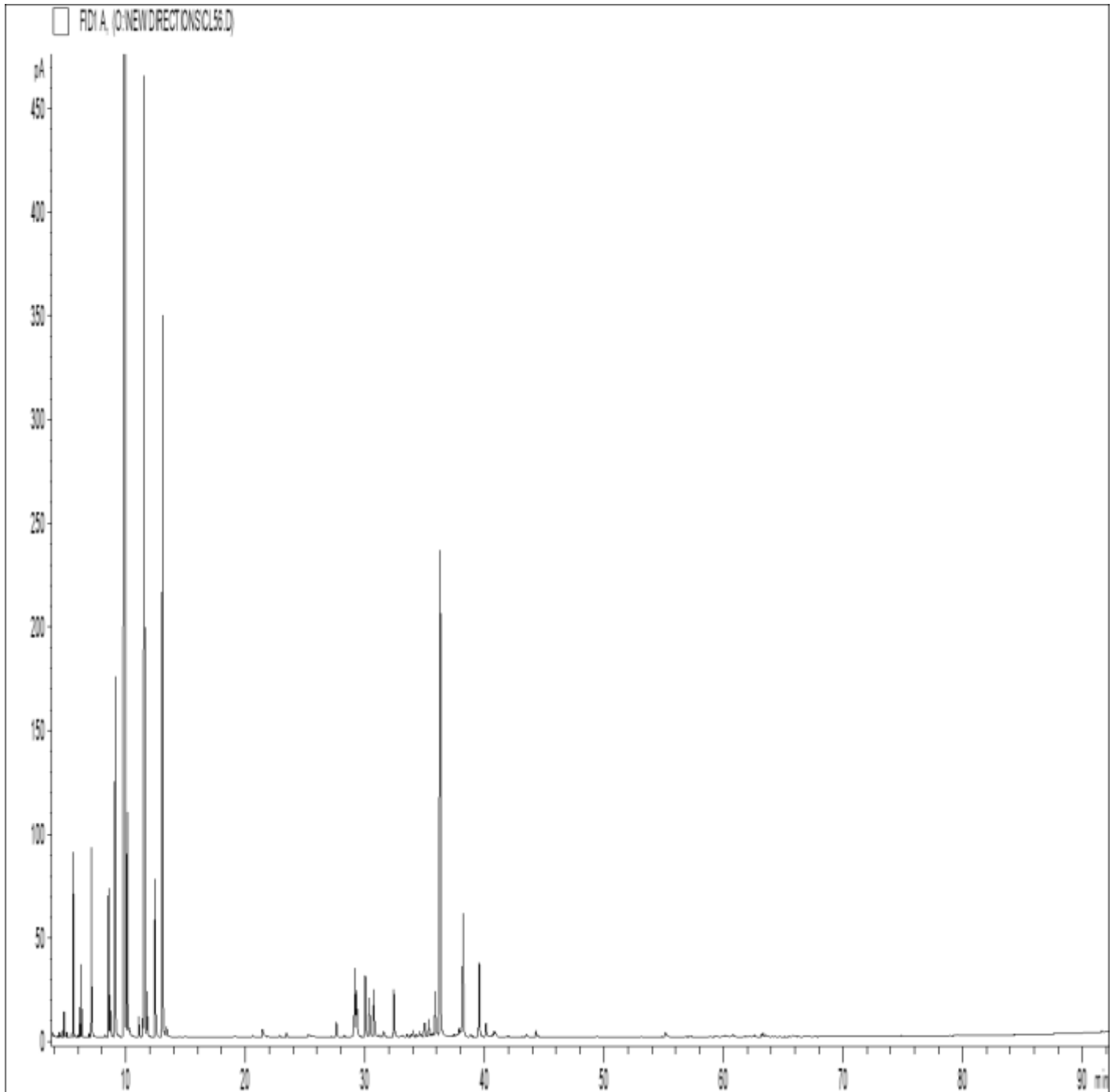




# NEW DIRECTIONS AROMATICS

## GCMS ANALYSIS

PRODUCT NAME: LIME (KEY LIME) PERU ESSENTIAL OIL - 11318  
DATE: September 14, 2020



*Due to volume turnover, this report is not lot specific. It is representative of the quality of this oil produced by the manufacturer of this product. Specific lots may vary slightly as is the case in natural products.*

GCMS ANALYSIS (cont'd.)

PRODUCT NAME: LIME (KEY LIME) PERU ESSENTIAL OIL - 11318

Peak	RT (min)	Compound name	%
1	4,44	NONANE	0,02
2	4,73	METHYL HEXATRIENE	0,04
3	4,84	METHYL HEXATRIENE ISOMER	0,18
4	5,06	METHYL HEXATRIENE ISOMER + BORNYLENE	0,05
5	5,41	TRICYCLEN	0,02
6	5,60	<b>alpha-PINENE</b>	<b>1,15</b>
7	5,61	alpha-THUYENE	0,01
8	6,00	METHYL CYCLOHEXADIENE ISOMER	0,02
9	6,13	alpha-FENCHENE	0,21
10	6,28	CAMPHENE	0,52
11	6,92	TERPENE ISOMER	0,03
12	7,11	<b>beta-PINENE</b>	<b>1,48</b>
13	7,12	DEHYDROXYLINALOOL OXIDE A	0,30
14	-	<b>SABINENE</b>	<b>Nd</b>
15	7,43	TERPENE ISOMER	0,01
16	8,25	gamma-PYRONENE	0,02
17	8,30	TERPENE ISOMER	0,02
18	8,56	<b>beta-MYRCENE</b>	<b>1,20</b>
19	8,69	alpha-PHELLANDRENE	0,40
20	8,74	psi-LIMONENE	0,09
21	9,07	1,4-CINEOLE	1,81
22	9,11	<b>alpha-TERPINENE</b>	<b>3,15</b>
23	9,38	1,8-CINEOLE, 2,3-DEHYDRO-	0,04
24	9,94	<b>LIMONENE</b>	<b>43,75</b>
25	10,11	1,8-CINEOLE	2,07
26	10,30	beta-PHELLANDRENE	0,15
27	10,48	1,3,8-p-MENTHATRIENE	0,03
28	11,09	Cis-beta-OCIMENE	0,21
29	11,40	OCIMENE QUINTOXYDE Mw=154	0,17
30	11,56	<b>gamma-TERPINENE</b>	<b>11,37</b>

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: LIME (KEY LIME) PERU ESSENTIAL OIL - 11318

Peak	RT (min)	Compound name	%
31	11,78	Trans-beta-OCIMENE	0,53
32	12,45	<b>p-CYMENE</b>	<b>1,83</b>
33	13,09	<b>TERPINOLENE</b>	<b>8,41</b>
34	13,41	TERPINOLENE ISOMER	0,19
35	13,65	OCTANAL	0,02
36	14,48	1,3,7-NONATRIENE, 4,8-DIMETHYL-	0,01
37	14,95	TRIDECANE	0,01
38	15,04	PINOL	0,01
39	19,08	MENTHATRIENIC COMPOUND	0,04
40	20,63	AROMATIC COMPOUND	0,04
41	21,44	alpha-p-DIMETHYLSTYRENE	0,23
42	21,88	4,8-TERPINOLENE EPOXIDE	0,03
43	22,86	SESQUITERPENE	0,03
44	23,45	delta-ELEMENE	0,07
45	25,26	DECANAL	0,11
46	27,19	beta-PINOCAMPHONE	0,01
47	27,62	LINALOOL	0,22
48	28,27	alpha-cis-BERGAMOTENE	0,04
49	29,15	TERPINENE-1-OL	1,01
50	29,31	<b>FENCHOL</b>	<b>0,83</b>
51	30,04	<b>alpha-trans-BERGAMOTENE</b>	<b>0,90</b>
52	30,39	<b>beta-CARYOPHYLLENE</b>	<b>0,67</b>
53	30,76	TERPINENE-4-OL	0,78
54	31,19	SESQUITERPENE	0,03
55	31,37	SESQUITERPENE	0,01
56	31,57	COMPOUND Mw=154	0,13
57	32,43	Cis-beta-TERPINEOL	0,69
58	33,18	GERMACRENE A	0,03
59	33,51	SESQUITERPENE	0,05
60	33,87	beta-SANTALENE	0,04

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: LIME (KEY LIME) PERU ESSENTIAL OIL - 11318

Peak	RT (min)	Compound name	%
61	34,02	Z-OCIMENOL	0,10
62	34,33	ISOBORNEOL	0,04
63	34,58	alpha-HUMULENE	0,08
64	34,68	delta-TERPINEOL	0,04
65	35,00	gamma-SELINENE	0,31
66		E-beta-FARNESENE	
67	35,35	p-MENTH-8-EN-OL ISOMER	0,26
68	35,54	E-OCIMENOL	0,04
69	35,70	SESQUITERPENE	0,07
70	35,89	CALARENE	0,28
71	35,90	<b>BORNEOL</b>	<b>0,40</b>
72	36,06	gamma-CURCUMENE	0,06
73	36,30	<b>alpha-TERPINEOL</b>	<b>6,90</b>
74	36,61	<b>gamma-TERPINEOL</b>	<b>1,18</b>
75	36,62	GURJUNENE ISOMER	0,01
76	37,08	GERMACRENE D	0,01
77	37,36	SESQUITERPENE	0,02
78	37,50	EREMOPHILENE	0,05
79	37,71	DODECANAL	0,05
80	37,89	beta-SELINENE	0,16
81	38,00	cis-p-MENTHA-1,2-DIEN-8-OL	0,07
82	38,07	NERYL ACETATE	0,09
83	38,22	<b>beta-BISABOLENE</b>	<b>1,88</b>
84	38,84	beta-CURCUMENE	0,05
85	39,57	E,E-alpha-FARNESENE	1,10
86	40,12	delta-SELINENE	0,21
87	40,18	GERANYL ACETATE	0,07
88	40,49	1-DECANOL	0,01
89	40,68	SELINA-4,7-DIENE	0,04
90	40,82	alpha-PANASINSEN	0,09

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: LIME (KEY LIME) PERU ESSENTIAL OIL - 11318

Peak	RT (min)	Compound name	%
91	40,93	trans-alpha-BISABOLENE	0,09
92	43,16	4-ETHYL-GUAIACOL	0,01
93	43,49	GERMACRENE B	0,06
94	44,33	p-CYMENE-8-OL	0,09
95	44,47	GERANIOL	0,03
96	49,42	TETRADECANAL	0,02
97	55,14	CARYOPHYLLENOL	0,08
98	55,28	JUNEOL	0,03
99	57,27	AROMATIC COMPOUND	0,02
100	58,88	SESQUITERPENOL	0,01
101	59,37	SESQUITERPENOL	0,01
102	59,86	SESQUITERPENOL	0,01
103	59,96	PENTADECANAL	0,01
104	60,13	SESQUITERPENOL	0,03
105	60,80	10-epi-gamma-EUDESMOL	0,04
106	61,75	SESQUITERPENOL	0,01
107	62,43	SESQUITERPENOL	0,01
108	62,62	SESQUITERPENOL	0,04
109	63,18	alpha-BISABOLOL	0,04
110	63,30	HIMACHALOL ISOMER	0,06
111	63,55	AROMATIC COMPOUND Mw=166	0,04
112	63,69	SESQUITERPENOL	0,02
113	65,80	NORBORNANOL DIMETHYL METHYLPENTENYL	0,03
114	79,55	AROMATIC COMPOUND	0,02
		<b>TOTAL</b>	<b>100,00</b>

Nd : Not detected (&lt; 33 ppm)

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