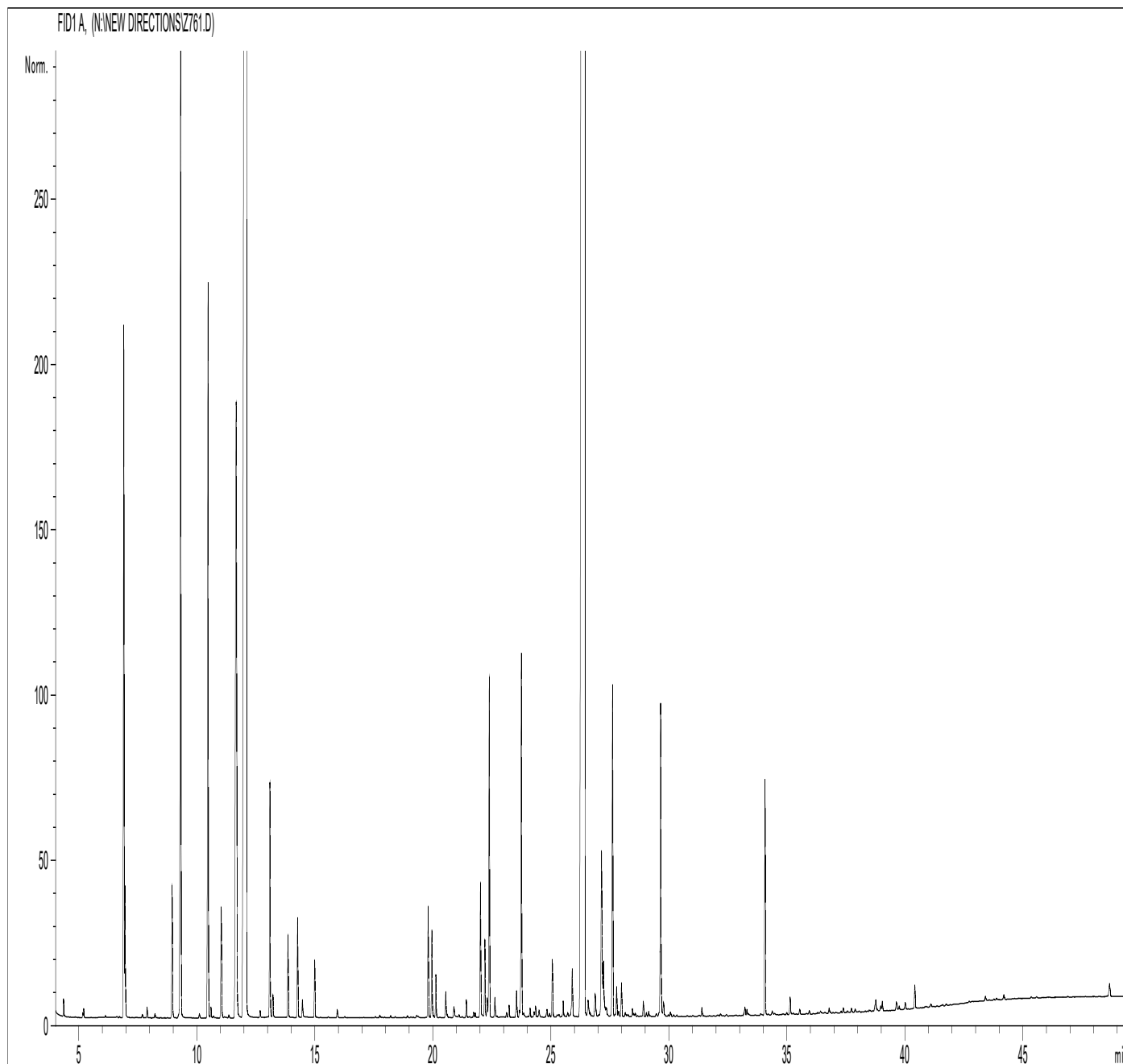


GCMS ANALYSIS

PRODUCT NAME: CARDAMOM ESSENTIAL OIL - 11020

DATE: October 03, 2019



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: CARDAMOM ESSENTIAL OIL - 11020

Peak	RT (min)	Compound	%
1	4,36	ACETONE	0,04
2	5,17	2-METHYL BUTANAL	0,01
3	5,22	ISOVALERALDEHYDE	0,02
4	6,92	alpha-PINENE	1,87
5	6,98	alpha-THUYENE	0,34
6	7,69	alpha-FENCHENE	0,01
7	7,89	CAMPHENE	0,03
8	8,23	HEXANAL	0,01
9	8,95	beta-PINENE	0,42
10	9,32	SABINENE	3,73
11	10,11	delta3-CARENE	0,01
12	10,48	beta-MYRCENE	2,28
13	10,60	alpha-PHELLANDRENE	0,03
14	10,72	psi-LIMONENE	0,01
15	11,04	alpha-TERPINENE	0,38
16	11,36	2,3-DEHYDRO-1,8-CINEOLE	0,01
17	11,67	LIMONENE	3,36
18	12,10	1,8-CINEOLE	32,65
19	12,68	cis-beta-OCIMENE	0,02
20	13,09	gamma-TERPINENE	0,70
21	13,22	trans-beta-OCIMENE	0,07
22	13,86	p-CYMENE	0,25
23	14,26	TERPINOLENE	0,31
24	14,47	OCTANAL	0,06
25	14,99	1,3,7-NONATRIENE, 4,8-DIMETHYL-	0,17
26	15,95	5-HEPTEN-2-ONE, 6-METHYL-	0,03
27	17,75	PERILLENE	0,01
28	18,21	alpha-p-DIMETHYLSTYRENE	0,01
29	18,92	LIMONENE cis-EPOXIDE	0,01
30	19,31	ACETIC ACID	0,02

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GCMS ANALYSIS (cont'd,)

PRODUCT NAME: CARDAMOM ESSENTIAL OIL - 11020

Peak	RT (min)	Compound	%
31	19,80	trans-THUYANOL	0,34
32	19,95	TERPENIC COMPOUND	0,28
33	19,99	ELEMENE ISOMER	0,01
34	20,12	OCTYL ACETATE	0,14
35	20,54	ALIPHATIC ALCOHOL	0,08
36	20,61	YLANGENE	0,01
37	20,89	DECANAL	0,05
38	21,41	2-HYDROXY-4-METHYL AMYL, METHYL ESTER	0,05
39	21,72	E-SOLANONE	0,02
40	21,79	Cis-4-DECENAL	0,02
41	22,02	LINALOOL	0,43
42	22,20	cis-THUYANOL	0,25
43	22,30	1-OCTANOL	0,06
44	22,39	LINALYL ACETATE	1,06
45	22,62	trans-p-MENTH-2-EN-1-OL	0,07
46	23,12	ALIPHATIC ESTER	0,02
47	23,22	BORNYL ACETATE	0,04
48	23,54	beta-ELEMENE	0,11
49	23,67	2-UNDECANONE	0,02
50	23,75	TERPINENE-4-OL	1,14
51	23,85	beta-CARYOPHYLLENE	0,03
52	24,12	beta-TERPENYL ACETATE	0,03
53	24,28	ALIPHATIC ESTER	0,02
54	24,35	cis-p-MENTH-2-EN-1-OL	0,04
55	24,49	GURJUNENE ISOMER	0,04
56	24,83	GERMACRENE A	0,04
57	24,94	SESQUITERPENE	0,02
58	25,06	delta-TERPENYL ACETATE	0,20
59	25,27	cis-VERBENOL	0,01
60	25,34	ALIPHATIC ESTER	0,01

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GCMS ANALYSIS (cont'd,)

PRODUCT NAME: CARDAMOM ESSENTIAL OIL - 11020

Peak	RT (min)	Compound	%
61	25,52	delta-TERPINEOL	0,07
62	25,71	cis-PIPERITOL	0,02
63	25,87	gamma-TERPINEOL	0,03
64	25,90	NERAL	0,18
65	26,35	alpha-TERPINEOL	1,62
66	26,44	TERPENYL ACETATE	41,14
67	26,57	METHYL 2-DECENOATE	0,08
68	26,66	FORMATE DE GERANYLE	0,03
69	26,87	GERMACRENE D	0,11
70	27,03	beta-BISABOLENE	0,01
71	27,10	GERANIAL	0,20
72	27,14	beta-SELINENE	0,52
73	27,22	alpha-SELINENE	0,23
74	27,35	trans-PIPERITOL	0,05
75	27,61	GERANYL ACETATE	1,08
76	27,78	TERPENIC ESTER	0,11
77	27,87	delta-CADINENE	0,02
78	27,99	gamma-CADINENE	0,11
79	28,15	7-epi-alpha-SELINENE	0,02
80	28,26	MENTHADIENOL ISOMERE	0,01
81	28,45	4-DECEN-1-OL	0,03
82	28,51	MYRTENOL + SESQUITERPENE	0,02
83	28,57	NEROL	0,02
84	28,91	TERPENIC ESTER	0,06
85	29,04	2-TRIDECANONE	0,02
86	29,15	GERANYL PROPIONATE	0,03
87	29,47	trans-CARVEOL	0,02
88	29,65	GERANIOL	1,03
89	29,77	GERMACRENE B	0,07
90	30,06	E-GERANYL ACETONE	0,03

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GCMS ANALYSIS (cont'd,)

PRODUCT NAME: CARDAMOM ESSENTIAL OIL - 11020

Peak	RT (min)	Compound	%
91	31,39	5-DODECEN-1-OL ACETATE	0,03
92	33,22	SESQUITERPENIC EPOXIDE	0,04
93	33,31	ALIPHATIC ALCOHOL	0,02
94	34,07	NEROLIDOL	0,74
95	34,38	CAPRYLIC ACID	0,02
96	35,14	METHYL CINNAMATE	0,07
97	35,55	CYCLOHEX-2-ENOL, 1-METHYL-4-ACETOXY-1-METHYLETHYL-	0,02
98	35,95	Cis-1,2-DIHYDROXY-p-MENTH-2-ENE	0,02
99	36,79	ACETOXY KETONIC COMPOUND	0,02
100	37,39	METHYL ACETOXYMETHYLCYCLOHEXENOL ISOMER	0,02
101	37,73	DITERPENE Mw=272	0,02
102	37,90	AROMATIC COMPOUND	0,02
103	38,77	FARNESYL ACETATE	0,06
104	38,98	SESQUITERPENOL	0,02
105	39,05	CARVONE ACETONE Mw=210	0,04
106	39,64	TRICOSANE + ALIPHATIC ALCOHOL	0,03
107	39,75	COMPOUND Mw=152	0,02
108	40,02	GERANIC ACID	0,03
109	40,42	FARNESOL	0,09
110	41,10	COMPOUND Mw=152	0,02
111	44,20	PHTHALIDE N-BUTYL	0,03
112	48,67	AROMATIC COMPOUND Mw=284	0,07
		TOTAL	99,93

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