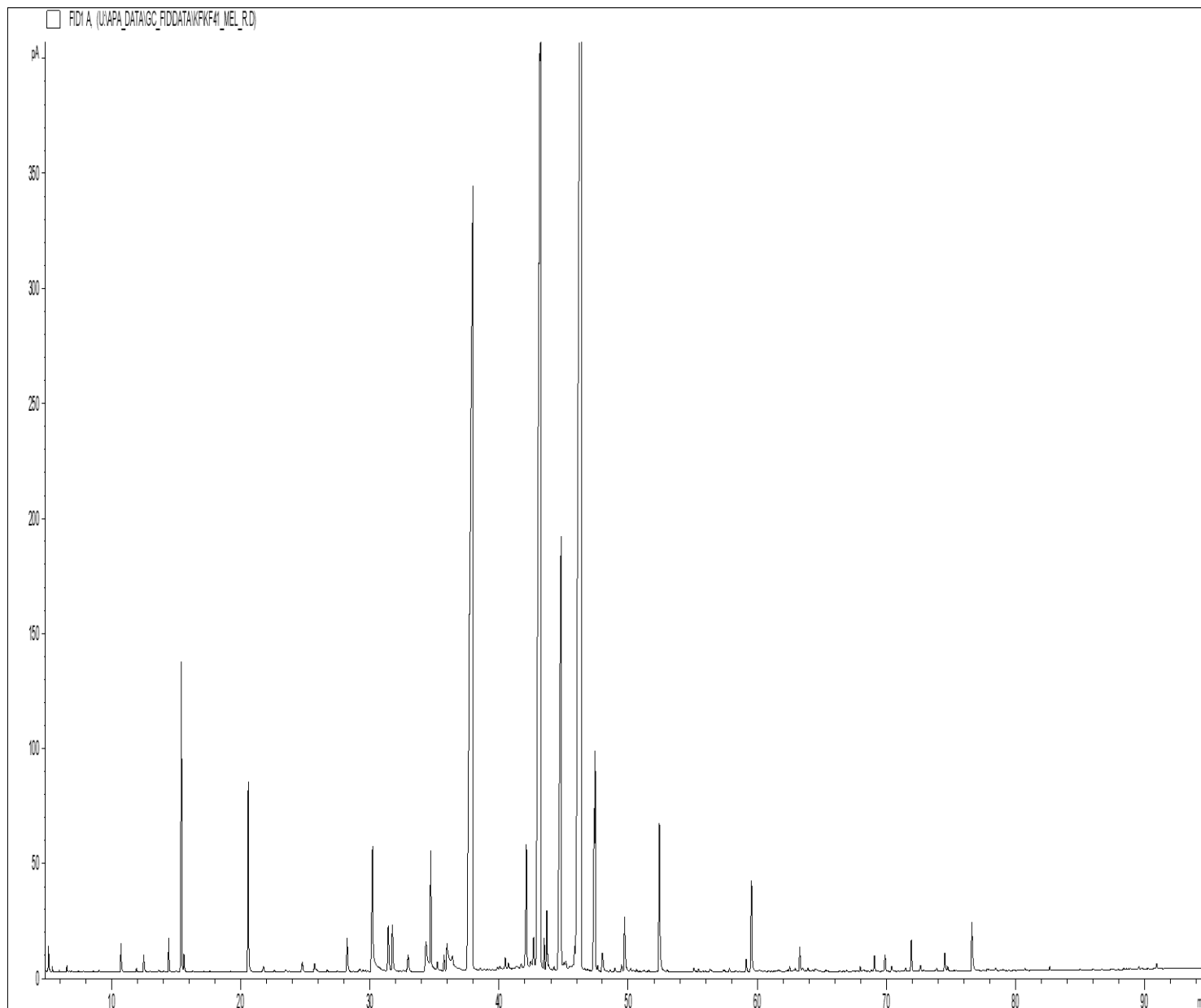


GCMS ANALYSIS

PRODUCT NAME: MELISSA LEAF (BULGARIA) ESSENTIAL OIL - 11326

DATE: September 14, 2023



*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: MELISSA LEAF (BULGARIA) ESSENTIAL OIL - 11326**

Peak	RT (min)	Compound name	%
1	4.84	METHYLETHYL-METHYL-CYCLOPENTANE ISOMER	0.01
2	5.00	BUTANAL, 2-METHYL-	0.07
3	5.09	ISOVALERALDEHYDE	0.09
4	5.38	FURAN, 2-ETHYL-	0.02
5	6.51	alpha-PINENE	0.04
6	9.00	beta-PINENE	0.01
7	10.71	beta-MYRCENE	0.19
8	11.90	1,8-CINEOLE, 2,3-DEHYDRO-	0.03
9	12.47	LIMONENE	0.15
10	12.95	1,8-CINEOLE	0.01
11	13.64	2-HEXENAL	0.02
12	14.39	cis-beta-OCIMENE	0.23
13	15.01	gamma-TERPINENE	0.01
14	15.39	trans-beta-OCIMENE	2.13
15	15.58	3-OCTANONE	0.16
16	16.24	p-CYMENE	0.01
17	17.58	ISOBUTYL ANGELATE	0.01
18	20.56	5-HEPTEN-2-ONE, 6-METHYL-	1.42
19	21.74	ROSE cis-OXIDE	0.07
20	22.59	ROSE trans-OXIDE	0.02
21	23.47	3-HEXEN-1-OL	0.04
22	23.73	NONANAL	0.01
23	24.76	ROSEFURAN	0.12
24	25.07	HEXYL METHYLPROPIONATE	0.02
25	25.70	PHOTOCITRAL ISOMER	0.08
26	25.83	cis-p-MENTHANE-8-OL	0.05
27	26.27	trans-p-MENTHANE-8-OL	0.02
28	26.69	PERILLENE	0.03
29	27.46	LINALOOL cis-OXIDE	0.02
30	28.22	1-OCTEN-3-OL	0.33

**Disclaimer & Caution:**

Please refer to all relevant technical information specific to the product, prior to use, The information contained in this document is obtained from current and reliable sources, New Directions Aromatics Inc, provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy, Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose, The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties, As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained, The liability of New Directions Aromatics Inc, is limited to the value of the goods and does not include any consequential loss, New Directions Aromatics Inc, shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon, New Directions Aromatics Inc, shall not be responsible for any damages resulting from use of or reliance upon this information, In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario, Canada

**GCMS ANALYSIS (cont'd.)**

**PRODUCT NAME: MELISSA LEAF (BULGARIA) ESSENTIAL OIL - 11326**

Peak	RT (min)	Compound name	%
31	28.69	ALIPHATIC ESTER	0.02
32	29.21	alpha-CUBEENE	0.05
33	29.45	5-HEPTEN-2-OL, 6-METHYL-	0.02
34	29.63	trans-THUYANOL	0.02
35	29.80	NERYL OXIDE	0.02
36	30.10	ISOGERANIAL	0.29
37	30.18	CITRONELLAL	1.38
38	31.41	alpha-COPAENE	0.55
39	31.72	EXO-ISOCITRAL	0.49
40	32.30	alpha-BOURBONENE	0.02
41	32.54	BENZALDEHYDE	0.02
42	32.94	beta-BOURBONENE	0.21
43	34.00	beta1-CUBEENE	0.53
44	34.07	Z-ISOCITRAL	0.50
45	34.70	LINALOOL	0.76
46	35.20	LINALYL ACETATE	0.06
47	35.73	METHYL CITRONELLATE	0.16
48	35.96	E-ISOCITRAL	1.14
49	36.37	epsilon-CADINENE	0.11
50	37.60	beta-CUBEENE	0.51
51		beta-ELEMENE	
52	37.95	<b>beta-CARYOPHYLLENE</b>	<b>17.43</b>
53	38.15	ROSEFURAN OXIDE	0.02
54	38.53	LAVANDULYL ACETATE	0.02
55	39.87	CITRONELLYL FORMATE	0.02
56	40.04	CADINA-3,5-DIENE	0.04
57	40.47	ALLO-AROMADENDRENE	0.09
58	40.71	METHYL NERATE	0.05
59	41.29	MELONOL	0.04
60	41.71	ZONARENE	0.04

**Disclaimer & Caution:**

Please refer to all relevant technical information specific to the product, prior to use, The information contained in this document is obtained from current and reliable sources, New Directions Aromatics Inc, provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy, Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose, The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties, As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained, The liability of New Directions Aromatics Inc, is limited to the value of the goods and does not include any consequential loss, New Directions Aromatics Inc, shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon, New Directions Aromatics Inc, shall not be responsible for any damages resulting from use of or reliance upon this information, In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario, Canada

**GCMS ANALYSIS (cont'd,)**

**PRODUCT NAME: MELISSA LEAF (BULGARIA) ESSENTIAL OIL - 11326**

Peak	RT (min)	Compound name	%
61	42.11	alpha-HUMULENE	1.09
62	42.43	cis-4,5-MUUROLADIENE	0.05
63	42.66	E-beta-FARNESENE	0.25
64	43.22	<b>NERAL</b>	<b>22.32</b>
65	43.49	gamma-MUUROLENE	0.22
66	43.70	METHYL GERANATE	0.48
67	43.83	SESQUITERPENE	0.09
68	44.80	<b>GERMACRENE D</b>	<b>6.01</b>
69	45.03	VALENCENE	0.08
70	45.18	PIPERITONE	0.07
71	45.85	alpha-MUUROLENE	0.16
72	46.35	<b>GERANIAL</b>	<b>29.99</b>
73	46.61	trans-PIPERITOL	0.06
74	46.85	trans-ISOPIPERITENOL	0.04
75	47.25	E,E-alpha-FARNESENE	0.25
76	47.35	delta-CADINENE	0.90
77	47.44	GERANYL ACETATE	1.59
78	47.63	gamma-CADINENE	0.07
79	48.00	CITRONELLOL	0.24
80	48.59	p-MENTHA-1,5-DIEN-8-OL	0.02
81	48.96	CADINA-1,4-DIENE	0.04
82	49.48	alpha-AMORPHENE	0.06
83	49.72	NEROL	0.57
84	50.17	cis-ISOGERANIOL	0.04
85	50.38	trans-ISOGERANIOL	0.02
86	50.64	beta-DAMASCENONE	0.02
87	51.22	3,5,7-OCTATRIENE-2-OL, E,E-2,6-DIMETHYL-	0.02
88	51.58	trans-CALAMENENE	0.01
89	52.41	GERANIOL	1.48
90	53.02	E-GERANYL ACETONE	0.01

**Disclaimer & Caution:**

Please refer to all relevant technical information specific to the product, prior to use, The information contained in this document is obtained from current and reliable sources, New Directions Aromatics Inc, provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy, Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose, The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties, As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained, The liability of New Directions Aromatics Inc, is limited to the value of the goods and does not include any consequential loss, New Directions Aromatics Inc, shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon, New Directions Aromatics Inc, shall not be responsible for any damages resulting from use of or reliance upon this information, In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario, Canada

**GCMS ANALYSIS (cont'd.)**

**PRODUCT NAME: MELISSA LEAF (BULGARIA) ESSENTIAL OIL - 11326**

Peak	RT (min)	Compound name	%
91	55.09	Epi-CUBEBOL	0.03
92	55.46	SESQUITERPENOL	0.02
93	56.32	alpha-CALACORENE	0.02
94	56.43	HUMULENE EPOXIDE	0.02
95	57.38	beta-IONONE	0.02
96	57.84	CUBEBOL	0.03
97	58.32	SESQUITERPENIC OXIDE	0.02
98	59.14	ISOCARYOPHYLLENE OXIDE	0.11
99	59.55	CARYOPHYLLENE OXIDE	0.84
100	60.17	AROMATIC COMPOUND	0.04
101	61.59	AROMATIC COMPOUND	0.03
102	62.33	TERPENIC COMPOUND	0.02
103	62.50	EPOXY-6,7-HUMULENE	0.06
104	62.81	TERPENIC COMPOUND	0.02
105	62.94	NEROLIDOL	0.03
106	63.29	GERMACRENE D-4-OL	0.21
107	63.52	Epi-CUBENOL	0.06
108	63.73	JUNEOL	0.01
109	63.92	CUBENOL	0.05
110	64.25	SESQUITERPENOL	0.03
111	64.50	SESQUITERPENOL	0.06
112	65.30	AROMATIC COMPOUND	0.02
113	67.96	PENTADECANONE, TRIMETHYL-	0.04
114	68.19	MINT SULFIDE	0.03
115	68.82	EUGENOL	0.01
116	69.06	T-CADINOL	0.14
117	69.89	alpha-MUUROLOL	0.14
118	70.40	delta-CADINOL	0.05
119	71.48	GERANYL-alpha-TERPINENE	0.03
120	71.92	alpha-CADINOL	0.25

**Disclaimer & Caution:**

Please refer to all relevant technical information specific to the product, prior to use, The information contained in this document is obtained from current and reliable sources, New Directions Aromatics Inc, provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy, Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose, The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties, As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained, The liability of New Directions Aromatics Inc, is limited to the value of the goods and does not include any consequential loss, New Directions Aromatics Inc, shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon, New Directions Aromatics Inc, shall not be responsible for any damages resulting from use of or reliance upon this information, In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario, Canada

**GCMS ANALYSIS (cont'd.)**

**PRODUCT NAME: MELISSA LEAF (BULGARIA) ESSENTIAL OIL - 11326**

Peak	RT (min)	Compound name	%
121	72.63	CITRONELLIC ACID	0.06
122	72.89	ALIPHATIC ESTER	0.01
123	73.89	SESQUITERPENIC OXIDE	0.03
124	74.52	NERIC ACID	0.17
125	74.75	CARYOPHYLLA-2,6-DIEN-5-alpha-OL	0.05
126	75.24	SESQUITERPENIC OXIDE	0.01
127	75.38	SESQUITERPENONE	0.02
128	76.61	GERANIC ACID	0.51
129	77.82	AROMATIC COMPOUND	0.02
130	77.94	AROMATIC COMPOUND	0.02
131	78.45	AROMATIC COMPOUND	0.03
132	79.04	SESQUITERPENIC OXIDE	0.02
133	80.74	COMPOUND Mw=220	0.02
134	82.65	AROMATIC COMPOUND	0.03
135	85.00	SESQUITERPENIC OXIDE	0.01
136	86.05	AROMATIC COMPOUND	0.01
137	88.39	COMPOUND Mw=220	0.02
138	89.55	PHYTOL	0.03
139	89.77	AROMATIC COMPOUND	0.02
140	90.93	AROMATIC COMPOUND	0.04
141	94.82	COMPOUND Mw=220	0.01
142	96.46	SESQUITERPENIC OXIDE	0.02
143	100.56	PALMITIC ACID	0.05
		<b>TOTAL</b>	<b>99.87</b>

**Disclaimer & Caution:**

Please refer to all relevant technical information specific to the product, prior to use, The information contained in this document is obtained from current and reliable sources, New Directions Aromatics Inc, provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy, Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose, The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties, As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained, The liability of New Directions Aromatics Inc, is limited to the value of the goods and does not include any consequential loss, New Directions Aromatics Inc, shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon, New Directions Aromatics Inc, shall not be responsible for any damages resulting from use of or reliance upon this information, In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario, Canada