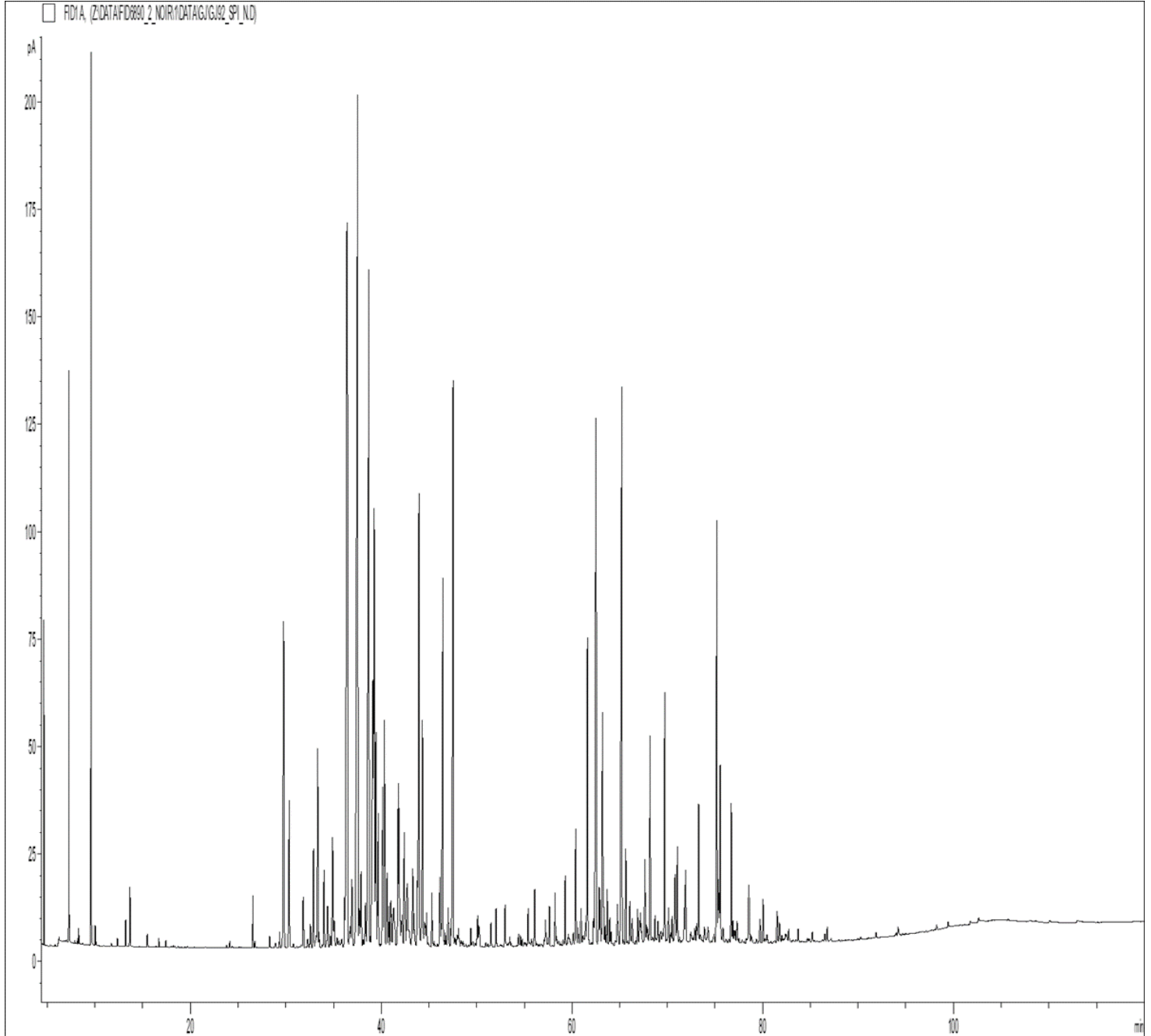


GCMS ANALYSIS

PRODUCT NAME: SPIKENARD ORGANIC ESSENTIAL OIL – 50053

DATE: September 12, 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: SPIKENARD ORGANIC ESSENTIAL OIL – 50053

Peak	RT (min)	Compound name	%
1	7,26	alpha-PINENE	1,36
2	7,32	alpha-THUYENE	0,07
3	9,62	<b>beta-PINENE</b>	<b>2,84</b>
4	10,03	SABINENE	0,06
5	13,23	LIMONENE	0,10
6	13,68	1,8-CINEOLE	0,22
7		beta-PHELLANDRENE	
8	15,49	gamma-TERPINENE	0,05
9	26,57	4-METHYLPENTYL VALERATE	0,23
10	28,31	SESQUITERPENE	0,07
11	29,37	ALIPHATIC ESTER	0,07
12	29,79	<b>beta-PATCHOULENE</b>	<b>1,97</b>
13	29,85	SESQUITERPENE	0,07
14	30,37	DAUCENE	0,84
15	31,85	alpha-GURJUNENE	0,30
16	32,31	SESQUITERPENE	0,06
17	32,59	GURJUNENE ISOMER	0,15
18	32,91	BENZYL ESTER	0,54
19	33,37	beta-MAALIENE	1,27
20	33,50	AROMATIC COMPOUND Mw=190	0,08
21	34,02	MAALIENE ISOMER	0,46
22	34,40	alpha-cis-BERGAMOTENE	0,28
23	34,70	SESQUITERPENE Mw=202	0,07
24	34,93	2-ARISTOLENE	0,69
25	35,08	BERGAMOTENE ISOMER	0,19
26	35,39	SESQUITERPENE	0,07
27	35,60	SESQUITERPENE	0,06
28	35,90	METHYL THYMOL ETHER	0,08
29	36,19	alpha-trans-BERGAMOTENE	0,28
30	36,43	<b>CALARENE ISOMER</b>	<b>7,58</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.

GCMS ANALYSIS (cont'd,)

PRODUCT NAME: SPIKENARD ORGANIC ESSENTIAL OIL – 50053

Peak	RT (min)	Compound name	%
31	36,49	SESQUITERPENE	0,22
32	36,69	SESQUITERPENE	0,09
33	36,78	2-UNDECANONE	0,12
34	36,93	SESQUITERPENE	0,44
35	37,53	<b>3,7-GUAIADIENE</b>	<b>8,00</b>
36	37,71	SESQUITERPENE	0,33
37	37,85	SESQUITERPENE	0,28
38	37,88	COPACAMPHENE	0,28
39	38,34	GURJUNENE ISOMER	0,32
40	38,70	<b>beta-GURJUNENE</b>	<b>5,51</b>
41	38,82	SESQUITERPENE	0,05
42	39,11	<b>alpha-PATCHOULENE</b>	<b>2,32</b>
43	39,26	<b>SEYCHELLENE</b>	<b>3,36</b>
44	39,43	9,10-DEHYDRO-ISOLONGIFOLENE	1,52
45		COMPOUND Mw=222	
46	39,69	ALLO-AROMADENDRENE	0,87
47	40,17	SESQUITERPENE Mw=202	0,94
48	40,35	SESQUITERPENE Mw=202	1,25
49	40,62	ISOVALERIANIC ACID	0,38
50	40,80	FARNESENE ISOMER	0,19
51	40,99	ZONARENE	0,23
52	41,07	alpha-HUMULENE	0,15
53	41,15	E-beta-FARNESENE	0,09
54	41,26	CALAMENENE ISOMER	0,14
55	41,34	SESQUITERPENE	0,19
56	41,38	gamma-SELINENE	0,11
57	41,78	cis-4,5-MUROLADIENE	0,86
58	41,88	SESQUITERPENE	0,66
59	41,93	AROMATIC COMPOUND Mw=220	0,17
60	42,09	SESQUITERPENE Mw=202	0,07

**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: SPIKENARD ORGANIC ESSENTIAL OIL – 50053

Peak	RT (min)	Compound name	%
61	42,18	SESQUITERPENE	0,20
62	42,41	CALARENE	0,61
63	42,47	gamma-MUUROLENE	0,21
64	42,71	LEDENE	0,27
65	42,74	CALAMENENE ISOMER	0,38
66	42,89	SESQUITERPENE	0,06
67	42,93	COMPOUND Mw=220	0,07
68	43,30	beta-CHAMIGRENE	0,45
69	43,44	PATCHOULENE ISOMER	0,21
70	43,79	alpha-BULNESENE	0,37
71	43,96	<b>VALENCENE</b>	<b>3,15</b>
72	44,20	SESQUITERPENE Mw=202	0,10
73	44,31	beta-SELINENE	1,36
74	44,55	cis-alpha-BISABOLENE	0,16
75	44,59	SESQUITERPENE Mw=202	0,11
76	44,76	BICYCLOGERMACRENE	0,20
77	45,32	beta-CURCUMENE	0,29
78	46,15	delta-CADINENE	0,36
79	46,28	gamma-CADINENE	0,08
80	46,45	<b>7-epi-alpha-SELINENE</b>	<b>2,38</b>
81	46,72	delta-SELINENE	0,06
82	47,01	beta-SESQUIPELLANDRENE	0,22
83	47,06	alpha-CURCUMENE	0,08
84	47,30	SESQUITERPENE Mw=202	0,10
85	47,53	<b>EUDESMA-2,4,11-TRIENE ISOMER</b>	<b>3,79</b>
86	47,95	COMPOUND Mw=220	0,05
87	48,10	COMPOUND Mw=222	0,13
88	49,39	SESQUITERPENE Mw=202	0,09
89	50,10	GERMACRENE B	0,20
90	50,23	SESQUITERPENE Mw=202	0,11

**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: SPIKENARD ORGANIC ESSENTIAL OIL – 50053

Peak	RT (min)	Compound name	%
91	50,26	DIHYDRO-beta-IONONE	0,09
92	51,50	BENZENEMETHANOL alpha-METHYL ACETATE	0,14
93	52,04	MYRTENIC ESTER	0,21
94	52,98	AROMATIC COMPOUND Mw=222	0,23
95	54,40	AROMATIC COMPOUND Mw=220	0,07
96	54,59	AROMATIC COMPOUND Mw=186	0,06
97	55,40	COMPOUND Mw=222	0,22
98	56,08	beta-IONONE	0,34
99	57,10	AROMATIC COMPOUND Mw=220	0,05
100	57,21	COMPOUND Mw=222	0,13
101	57,25	AROMATIC COMPOUND Mw=218	0,07
102	57,62	FUROPALGON ISOMER	0,22
103	58,22	METHYL OCTAHYDROANTHRACENE Mw=200	0,29
104	58,37	SESQUITERPENOL	0,07
105	59,28	MAALIOL	0,37
106	59,61	EUDESMOL ISOMER	0,06
107	59,71	SESQUITERPENIC EPOXIDE	0,06
108	60,15	COMPOUND Mw=236	0,07
109	60,39	CAROTOL	0,71
110	60,64	HIMACHALOL ISOMER	0,09
111	60,94	LEDOL	0,20
112	61,15	SESQUITERPENIC EPOXIDE	0,06
113	61,42	SESQUITERPENOL Mw=222	0,15
114	61,61	CEDRENE OXIDE	1,83
115	62,25	CADALENE ISOMER	0,11
116	62,50	<b>SPIROJATAMOL</b>	<b>3,56</b>
117	62,84	LONGICAMPHLINONE ISOMER Mw=206	0,32
118	62,96	COMPOUND Mw=252	0,24
119	63,20	SPIROJATAMOL ISOMER	1,60
120	63,28	GLOBULOL	0,19

**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: SPIKENARD ORGANIC ESSENTIAL OIL – 50053

Peak	RT (min)	Compound name	%
121	63,49	AROMATIC COMPOUND	0,10
122	63,69	VIRIDIFLOROL	0,29
123	63,95	FUROPOLARGON	0,14
124	64,09	SPIROJATAMOL ISOMER	0,06
125	64,76	EUDESMA-5-EN-11-alpha-OL	0,24
126	64,81	SPIROJATAMOL ISOMER	0,07
127	65,22	<b>VALERANONE</b>	<b>4,24</b>
128	65,63	SPATHULENOL	0,51
129	66,06	SESQUITERPENONE	0,26
130	66,31	SESQUITERPENOL	0,19
131	66,88	SESQUITERPENIC EPOXIDE	0,19
132	67,09	BISNORSESQUITERPENESQUELENONE ISOMER	0,12
133	67,18	SESQUITERPENIC EPOXIDE	0,17
134	67,30	SESQUITERPENIC EPOXIDE	0,08
135	67,64	BISNORSESQUITERPENE-1,4,5-ESQUEL-7-EN-9-ONE	0,52
136	67,81	gamma-EUDES MOL	0,09
137	67,91	T-CADINOL	0,08
138	68,19	<b>PATCHOULOL</b>	<b>1,26</b>
139	68,70	alpha-MUUROLOL	0,13
140	69,00	SESQUITERPENONE	0,15
141	69,31	delta-CADINOL	0,05
142	69,51	COMPOUND Mw=236	0,07
143	69,72	VALERENAL	1,40
144	70,11	COMPOUND Mw=218	0,25
145	70,35	alpha-EUDES MOL	0,05
146	70,49	alpha-NOOTKATOL	0,15
147	70,72	beta-EUDES MOL	0,06
148	70,80	alpha-CADINOL	0,44
149	71,04	PATCHOULYL ACETATE	0,57
150	71,77	EUDESMA-7(11)-EN-4-OL	0,20

**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: SPIKENARD ORGANIC ESSENTIAL OIL – 50053**

Peak	RT (min)	Compound name	%
151	71,91	beta-NOOTKATOL	0,42
152	72,44	AROMATIC COMPOUND Mw=234	0,06
153	72,87	AROMATIC COMPOUND	0,09
154	73,07	SESQUITERPENIC EPOXIDE	0,12
155	73,27	PATCHOULYL ACETATE ISOMER	0,73
156	73,88	CALAMENIC COMPOUND Mw=216	0,11
157	74,25	SESQUITERPENIC EPOXIDE	0,10
158	74,87	CALAMENIC COMPOUND Mw=216	0,09
159	75,18	<b>SESQUITERPENIC EPOXIDE</b>	<b>2,54</b>
160	75,34	SESQUITERPENONE	0,47
161	75,54	CALAMENIC COMPOUND Mw=216	0,98
162	75,82	EREMOPHILONE	0,07
163	76,69	COMPOUND Mw=218	0,75
164	76,86	CALAMENIC COMPOUND Mw=216	0,10
165	77,10	SESQUITERPENIC EPOXIDE	0,05
166	77,32	COMPOUND Mw=248	0,16
167	78,54	VALERENAL ISOMER	0,29
168	78,60	SESQUITERPENIC EPOXIDE	0,29
169	79,70	ZIERONE	0,13
170	80,02	SESQUITERPENIC EPOXIDE	0,28
171	80,42	AROMATIC COMPOUND	0,08
172	81,49	COMPOUND Mw=216	0,19
173	81,74	COMPOUND Mw=280	0,14
174	82,38	CALAMENIC COMPOUND Mw=216	0,06
175	82,71	CALAMENIC COMPOUND Mw=216	0,08
176	83,73	AROMATIC COMPOUND	0,08
177	85,20	SESQUITERPENONE	0,07
178	86,77	ISOEUGENYL ACETATE	0,08
179	94,20	CALAMENIC COMPOUND	0,07
		<b>TOTAL</b>	<b>97,59</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