

CERTIFICATE OF ANALYSIS

SAMPLE NAME		Mentha piperita	
FORM		Essential oil	
CUSTOMER NAME		Sacred Soul Holistics	
CERTIFICATION DATE		21 May 2019	
CUSTOMER REFERENCE		19529	
ARL JOB #	A190980	LAB REF. #	ARL1902533
ANALYSIS	GCMS - Compositional (LEVEL 1)	METHOD	ARL-TM101

TEST	RESULTS	TEST METHOD
	Area %	
α -pinene	0.99	ARL-TM101-3*
sabinene	0.44	
β -pinene	1.15	
myrcene	0.66	
octan-3-ol	0.39	
α -terpinene	0.10	
p-cymene	0.14	
limonene	4.26	
1,8-cineole	1.54	
cis- β -ocimene	0.09	
trans- β -ocimene	0.05	
γ -terpinene	0.16	
terpinolene	0.11	
linalool	0.26	
iso-pulegol	1.14	
menthone	15.43	
iso-menthone	7.76	
neo-menthol	4.57	
menthol	42.60	
iso-menthol	1.10	
α -terpineol	0.57	
cis-3-hexenyl pentanoate	0.55	
pulegone	1.33	
piperitone	0.88	
neo menthyl acetate	0.29	
menthyl acetate	7.66	
β -bourbonene	0.28	
decyl acetate	0.11	
longifolene	0.06	
caryophyllene	1.35	
β -copaene	0.13	
trans- β -farnesene	0.14	
cis-muurolo-4 (14), 5-diene	1.24	
bicyclgermacrene	0.28	
δ -cadinene	0.10	

* Assay by GC (FID detection –area percent report)

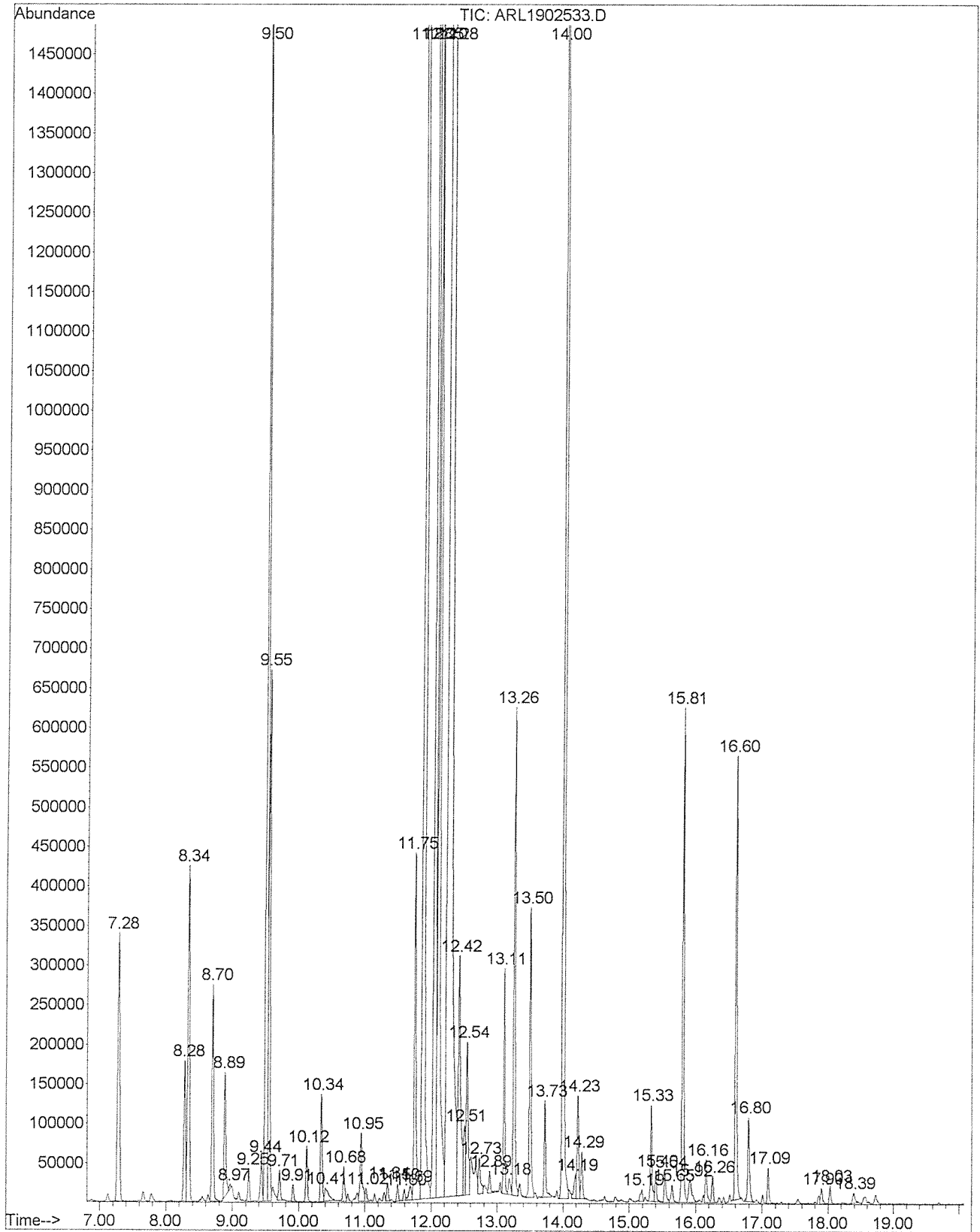


Ms Anastasia Whitehall
LABORATORY ASSISTANT



Ashley Dowell
MANAGER - ARL

File :D:\Data\190506\ARL1902533.D
Operator : Anastasia Whitehall
Acquired : 6 May 2019 15:01 using AcqMethod GCMS-COMPOSITIONAL.
Instrument : Instrument #1
Sample Name: Mentha piperita 19529
Misc Info :
Vial Number: 4



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Library Search Report

Data Path : W:\SCPS\Analytical\LabDATA\GCMS-3\Data\190506\
Data File : ARL1902533.D
Acq On : 6 May 2019 15:01
Operator : Anastasia Whitehall
Sample : Mentha piperita 19529
Misc :
ALS Vial : 4 Sample Multiplier: 1

Search Libraries: C:\Database\ESSOILS.L Minimum Quality: 60
C:\Database\ADAMS.L Minimum Quality: 60
C:\Database\NIST14.L

Unknown Spectrum: Apex
Integration Events: Chemstation Integrator - AUTOINT1.E

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
1	7.283	0.99	C:\Database\ESSOILS.L PINENE-A	2	000080-56-8	96
2	8.282	0.44	C:\Database\ESSOILS.L SABINENE	3	003387-41-5	94
3	8.338	1.15	C:\Database\ESSOILS.L PINENE-B	4	000127-91-3	96
4	8.701	0.66	C:\Database\ESSOILS.L MYRCENE	5	000123-35-3	96
5	8.888	0.39	C:\Database\ESSOILS.L OCTAN-3-OL	638	000589-98-0	91
7	9.247	0.10	C:\Database\ESSOILS.L TERPINENE-A	7	000099-86-5	97
8	9.438	0.14	C:\Database\ESSOILS.L CYMENE-P	8	000099-87-6	94
9	9.506	4.26	C:\Database\ESSOILS.L LIMONENE	9	000138-86-3	94
10	9.547	1.54	C:\Database\ESSOILS.L CINEOLE-1,8	11	000470-82-6	99
11	9.704	0.09	C:\Database\ESSOILS.L OCIMENE-CIS-B	38	003338-55-4	91
12	9.914	0.05	C:\Database\ESSOILS.L OCIMENE-TRANS-B	39	003779-61-1	98
13	10.119	0.16	C:\Database\ESSOILS.L TERPINENE-G	12	000099-85-4	96
16	10.681	0.11	C:\Database\ESSOILS.L TERPINOLENE	13	000586-62-9	96
17	10.946	0.26	C:\Database\ESSOILS.L LINALOOL	35	000078-70-6	83
23	11.751	1.14	C:\Database\ESSOILS.L PULEGOL-ISO	99	059905-53-2	98
24	11.882	15.43	C:\Database\ESSOILS.L MENTHONE	74	000089-80-5	98
25	12.050	7.76	C:\Database\ESSOILS.L MENTHONE-ISO	75	000004-04-1	98
26	12.106	4.57	C:\Database\ESSOILS.L MENTHOL - NEO	882	015356-70-4	64

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27	12.275	42.60	C:\Database\ESSOILS.L MENTHOL	124	015356-70-4	98
28	12.421	1.10	C:\Database\ESSOILS.L ISO-MENTHOL	669	000490-99-3	91
30	12.544	0.57	C:\Database\ESSOILS.L TERPINEOL - A	19	1000157-89-9	80
33	13.106	0.55	C:\Database\ESSOILS.L CIS -3 - HEXENYL PENTANOATE	671	000093-93-1	91
35	13.255	1.33	C:\Database\ESSOILS.L PULEGONE	113	000089-82-7	98
36	13.499	0.88	C:\Database\ESSOILS.L PIPERITONE	53	000089-81-6	91
37	13.727	0.29	C:\Database\ESSOILS.L NEO MENTHYL ACETATE	672	002230-87-7	87
38	14.000	7.66	C:\Database\ESSOILS.L MENTHYL ACETATE	125	000089-48-5	91
43	15.332	0.28	C:\Database\ESSOILS.L BOURBONENE - BETA	213	005208-59-3	91
45	15.538	0.11	C:\Database\ADAMS.L 24.94 Decyl acetate	572	000112-17-4	86
46	15.647	0.06	C:\Database\ESSOILS.L LONGIFOLENE	676	000475-20-7	96
47	15.807	1.35	C:\Database\ESSOILS.L CARYOPHYLLENE	27	000087-44-5	99
48	15.916	0.13	C:\Database\ESSOILS.L COPAENE BETA	677	018252-44-3	92
49	16.159	0.14	C:\Database\ESSOILS.L FARNESENE - TRANS-BETA	200	028973-97-9	95
51	16.605	1.24	C:\Database\ESSOILS.L MUUROLA-4(14),5-DIENE - CIS	684	000096-96-1	93
52	16.795	0.28	C:\Database\ESSOILS.L BICYCLOGERMACRENE	215	024703-35-3	87
53	17.091	0.10	C:\Database\ESSOILS.L CADINENE-D	25	000483-76-1	91

GCMS-COMPOSITIONAL.M Mon May 20 14:33:52 2019

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Library Search Report

Data Path : D:\Data\190506\
 Data File : ARL1902533.D
 Acq On : 6 May 2019 15:01
 Operator : Anastasia Whitehall
 Sample : Mentha piperita 19529
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Search Libraries: C:\Database\ESSOILS.L Minimum Quality: 60
 C:\Database\ADAMS.L Minimum Quality: 60
 C:\Database\NIST14.L

Unknown Spectrum: Apex
 Integration Events: Chemstation Integrator - AUTOINT1.E

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
1	7.28	0.99	C:\Database\ESSOILS.L			
			PINENE-A	2	000080-56-8	96
			TRICYCLENENE	56	000508-32-7	91
			OCIMENE-CIS-B	38	003338-55-4	64
2	8.28	0.44	C:\Database\ESSOILS.L			
			PELLANDRENE - BETA	374	000555-10-2	94
			SABINENE	3	003387-41-5	94
			PINENE-B	4	000127-91-3	86
3	8.34	1.15	C:\Database\ESSOILS.L			
			PINENE-B	4	000127-91-3	96
			TRICYCLENENE	56	000508-32-7	91
			MYRCENE	5	000123-35-3	81
4	8.70	0.66	C:\Database\ESSOILS.L			
			MYRCENE	5	000123-35-3	96
			PELLANDRENE - BETA	374	000555-10-2	43
			GERANYL ISO-BUTANOATE	1261	002345-26-8	38
5	8.89	0.39	C:\Database\ESSOILS.L			
			OCTAN-3-OL	638	000589-98-0	91
			OCTAN-3-OL	41	000589-98-0	39
			CYCLOHEXANE - ETHYL	987	001678-91-7	4
6	8.97	0.01	C:\Database\ESSOILS.L			
			P-MENTHA 1, (7) 8 DIENE (PSEUDO-LIMONENE)	507	000499-97-8	60
			CARENE - DELTA-3	303	013466-78-9	43
			PINENE-B	4	000127-91-3	43
7	9.25	0.10	C:\Database\ESSOILS.L			
			TERPINENE-A	7	000099-86-5	97
			TERPINOLENE	13	000586-62-9	96
			P - MENTHA 2,4 DIENE (ISOTERPINOLENE)	505	000586-63-0	87
8	9.44	0.14	C:\Database\ESSOILS.L			
			CYMENE-P	8	000099-87-6	94
			CYCLOHEPTA 1,3,5 TRIENE, 3,7,7 TRI	1459	003479-89-8	91
			MEHTYL			
			M-CYMENE	519	000535-77-3	70
9	9.51	4.26	C:\Database\ESSOILS.L			
			LIMONENE	9	000138-86-3	94
			CYCLOPROPANE, 1,1 DIMETHYL, 2 (3-METHYL 1,3 BUTADIENYL)	1362	068998-21-0	42
			P-MENTHA 1, (7) 8 DIENE (PSEUDO-LIMONENE)	507	000499-97-8	38
10	9.55	1.54	C:\Database\ESSOILS.L			
			CINEOLE-1,8	11	000470-82-6	99

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			1,3 DI METHOXY PYROGALLOL	470	000091-10-1	30
			PIPERITOL - TRANS	203	016721-39-4	12
11	9.70	0.09	C:\Database\ESSOILS.L			
			CARENE - DELTA-3	303	013466-78-9	95
			OCIMENE-CIS-B	38	003338-55-4	91
			PINENE-A	2	000080-56-8	90
12	9.91	0.05	C:\Database\ESSOILS.L			
			OCIMENE-TRANS-B	39	003779-61-1	98
			CARENE - DELTA-3	303	013466-78-9	87
			BETA TERPINENE	501	000099-84-3	87
13	10.12	0.16	C:\Database\ESSOILS.L			
			TERPINENE-G	12	000099-85-4	96
			TRICYCLENE	56	000508-32-7	93
			PELLANDRENE-A	6	000099-83-2	87
14	10.34	0.33	C:\Database\ESSOILS.L			
			SABINENE - HYDRATE CIS	205	015826-82-1	74
			LIMONENE	9	000138-86-3	60
			SABINENE HYDRATE - TRANS	14	017699-16-0	52
15	10.40	0.10	C:\Database\ESSOILS.L			
			LINALOOL OXIDE - CIS FURANOID	214	005989-33-3	91
			LINALOOL OXIDE - TRANS FURANOID	228	034995-77-2	86
			MYRCENOL	1284	000543-39-5	25
16	10.68	0.11	C:\Database\ESSOILS.L			
			TERPINOLENE	13	000586-62-9	96
			CARENE DELTA - 2	1165	000554-61-0	87
			TERPINENE-A	7	000099-86-5	80
17	10.95	0.26	C:\Database\ESSOILS.L			
			LINALOOL	35	000078-70-6	83
			LINALYL ISOBUTANOATE	1101	000078-35-3	49
			LINALYL ACETATE	1262	000115-95-7	49
18	11.02	0.04	C:\Database\ESSOILS.L			
			AMYL - ISO - VALERATE	327	025415-62-7	78
			BUTANOIC ACID 2 METHYL,2 METHYLBUTYL	578	002445-78-5	50
			AMYL-ISO VALERATE-ISO	181	000659-70-1	33
19	11.34	0.06	C:\Database\NIST14.L			
			Cyclohexene, 3-methyl-6-(1-methyl-ethylidene)-	16239	000586-63-0	41
			Spiro[2.4]heptane, 1,5-dimethyl-6-methylene-	16222	062238-24-8	38
			2-Azacyclopropa[cd]pentalene, octahydro-2-methyl-	10428	016967-61-6	30
20	11.50	0.05	C:\Database\NIST14.L			
			Cyclohexanol, 5-methyl-2-(1-methyl-ethyl)-, [1S-(1.alpha.,2.beta.,5.beta.)]-	29313	023283-97-8	43
			Phytol	155851	000150-86-7	38
			(2E)-Dodec-2-en-1-yl methyl ether	63550	1000334-06-3	38
21	11.60	0.03	C:\Database\ESSOILS.L			
			CIS P 2,8 MENTHADIENOL	446	1000139-65-2	72
			VERBENOL - TRANS	1007	001820-09-3	43
			TRANS-P-2,8 MENTHADIENOL	445	1000122-21-1	40
22	11.68	0.07	C:\Database\ESSOILS.L			
			SABINOL - CIS	1158	003310-02-9	64
			PELLANDRENE EPOXIDE - ALPHA	377	072138-69-3	64
			PINOCARVEOL - TRANS	259	000547-61-5	45
23	11.75	1.14	C:\Database\ESSOILS.L			
			PULEGOL - ISO-ISO	173	000014-14-1	99

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			PULEGOL-ISO	99	059905-53-2	98
			PULEGOL - NEO-ISO-ISO	174	021290-09-5	91
24	11.88	15.43	C:\Database\ESSOILS.L			
			MENTHONE	74	000089-80-5	98
			MENTHONE-ISO	75	000004-04-1	96
			4 HYDROXY CINEOLE	428	000053-53-1	12
25	12.05	7.76	C:\Database\ESSOILS.L			
			MENTHONE-ISO	75	000004-04-1	98
			MENTHONE	74	000089-80-5	98
			CYCLOHEXANONE, 3 - METHYL	1215	000591-24-2	4
26	12.11	4.57	C:\Database\ESSOILS.L			
			MENTHOL - NEO	882	015356-70-4	64
			MENTHOL	124	015356-70-4	62
			ISO-MENTHOL	669	000490-99-3	53
27	12.27	42.60	C:\Database\ESSOILS.L			
			MENTHOL	124	015356-70-4	98
			MENTHOL - NEO	882	015356-70-4	91
			CYCLOPENTANE, 1METHYL 3-(2-METHYLP ROPENYL)	710	075873-01-7	76
28	12.42	1.10	C:\Database\ESSOILS.L			
			MENTHOL - NEO	882	015356-70-4	91
			ISO-MENTHOL	669	000490-99-3	91
			MENTHOL	124	015356-70-4	72
29	12.51	0.23	C:\Database\ESSOILS.L			
			MENTHOL - NEO	882	015356-70-4	90
			MENTHOL	124	015356-70-4	83
			ISO-MENTHOL	669	000490-99-3	70
30	12.54	0.57	C:\Database\ESSOILS.L			
			TERPINEOL - A	19	1000157-89-9	80
			PINENE-B	4	000127-91-3	49
			OCIMENOL, CIS	658	000091-91-1	47
31	12.73	0.15	C:\Database\NIST14.L			
			Acetic acid, octyl ester	41247	000112-14-1	59
			Chloroacetic acid, octyl ester	70004	005451-98-9	50
			1-Heptanol, 2,4-dimethyl-, (R,R)-(+)-	21741	018450-73-2	47
32	12.88	0.07	C:\Database\NIST14.L			
			Cyclohexanol, 1-butyl-	29204	005445-30-7	38
			Cyclohexanol, 1-(aminomethyl)-	13271	004000-72-0	35
			9-Methylbicyclo[3.3.1]nonane	17318	025107-01-1	30
33	13.11	0.55	C:\Database\ESSOILS.L			
			CIS -3 - HEXENYL PENTANOATE	671	000093-93-1	91
			CIS -3- HEXENYL BUTANOATE	778	016491-36-4	53
			CIS - 3 - HEXENYL TIGLATE	1180	067883-79-8	33
34	13.18	0.06	C:\Database\NIST14.L			
			Hexyl n-valerate	52723	001117-59-5	64
			Butanoic acid, 3-methyl-, hexyl es ter	52820	010032-13-0	52
			Butanoic acid, 3-methyl-, hexyl es ter	52809	010032-13-0	46
35	13.26	1.33	C:\Database\ESSOILS.L			
			PULEGONE	113	000089-82-7	98
			DECADIENAL 2E,4E	1157	025152-84-5	40
			BETA - THUJONE	478	000471-15-8	25
36	13.50	0.88	C:\Database\ESSOILS.L			
			PIPERITONE	53	000089-81-6	91
			CARVENONE	238	000499-74-1	16
			PYROCATECHOL (1,2 BENZENEDIOL)	1384	000120-80-9	10

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37	13.73	0.29	C:\Database\ESSOILS.L NEO MENTHYL ACETATE MENTHYL ACETATE ISO MENTHYL ACETATE	672 125 673	002230-87-7 000089-48-5 020777-45-1	87 83 83
38	14.00	7.66	C:\Database\ESSOILS.L MENTHYL ACETATE NEO MENTHYL ACETATE P - MENTH - 3 - ENE	125 672 502	000089-48-5 002230-87-7 000500-00-5	91 91 87
39	14.19	0.09	C:\Database\ESSOILS.L NONANYL ACETATE DODECYL ACETATE (LAURYL ACETATE) DECANOL	661 1387 473	000143-13-5 000112-66-3 000112-30-1	76 47 46
40	14.22	0.31	C:\Database\ESSOILS.L MENTHYL ACETATE P - MENTH - 3 - ENE ISO MENTHYL ACETATE	125 502 673	000089-48-5 000500-00-5 020777-45-1	91 90 74
41	14.28	0.13	C:\Database\ESSOILS.L NEO ISO ISO PULEGYL ACETATE CARYOPHYLLA 4(14), 8(15) DIEN - 5 - OL ALPHA CHAMIGRENE, ALPHA	674 876 1408	109010-10-8 147235-15-2 019912-83-5	83 42 40
42	15.19	0.05	C:\Database\ESSOILS.L COPAENE - ALPHA CUBEBENE-ALPHA MUUROLENE - GAMMA	257 31 395	003856-25-5 017699-14-8 030021-74-0	93 91 78
43	15.33	0.28	C:\Database\ESSOILS.L BOURBONENE - BETA DECADIENAL 2E,4E CYCLOSEYCHELLENE	213 1157 1148	005208-59-3 025152-84-5 052617-34-2	91 9 4
44	15.40	0.08	C:\Database\ESSOILS.L GERMACRENE A ELEMENE - B CALLITRIN ISOMER	593 151 598	028387-44-2 110823-68-2 000086-86-1	93 74 25
45	15.54	0.11	C:\Database\ADAMS.L 24.94 Decyl acetate 20.69 Nonanyl acetate<n-> 16.30 Octanol acetate	572 1171 1204	000112-17-4 000143-13-5 000112-14-1	86 72 47
46	15.65	0.06	C:\Database\ESSOILS.L LONGIFOLENE CIS ALPHA BISABOLENE VALENCENE	676 500 1259	000475-20-7 029837-07-8 004630-07-3	96 91 86
47	15.81	1.35	C:\Database\ESSOILS.L CARYOPHYLLENE CARYOPHYLLENE - GAMMA CARYOPHYLLENE, 2-EPI BETA	27 188 1270	000087-44-5 000118-65-0 182368-70-3	99 95 87
48	15.92	0.13	C:\Database\ESSOILS.L CUBEBENE - BETA COPAENE BETA MUUROLA-4(14),5-DIENE - CIS	346 677 684	013744-15-5 018252-44-3 000096-96-1	93 92 83
49	16.16	0.14	C:\Database\ESSOILS.L FARNESENE - TRANS-BETA LAVENDULYL ACETATE GERANYL LINALOATE	200 47 829	028973-97-9 020777-39-3 000047-47-2	95 47 42
50	16.26	0.08	C:\Database\ESSOILS.L HUMULENE LINALYL ACETATE GERANYL ISO-BUTANOATE	29 1262 1261	006753-98-6 000115-95-7 002345-26-8	76 59 52

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51	16.60	1.24	C:\Database\ESSOILS.L			
			COPAENE BETA	677	018252-44-3	94
			MUUROLA-4(14),5-DIENE - CIS	684	000096-96-1	93
			CADINENE-G	68	039029-41-9	93
52	16.80	0.28	C:\Database\ESSOILS.L			
			BICYCLOGERMACRENE	215	024703-35-3	87
			ELEMENE - DELTA	360	020307-84-0	83
			FARNESENE Z,E ALPHA	496	026560-14-5	64
53	17.09	0.10	C:\Database\ESSOILS.L			
			CADINENE-D	25	000483-76-1	91
			AMORPHENE - DELTA	929	189165-79-5	90
			7-ALPHA-H, 10-BETA-H CADINAL(6),4 DIENE	405	016729-00-3	72
54	17.90	0.05	C:\Database\NIST14.L			
			Caryophyllene oxide	83536	001139-30-6	86
			Caryophyllene oxide	83535	001139-30-6	53
			Cyclohexane, 1,5-diethenyl-3-methy 1-2-methylene-, (1.alpha.,3.alpha. ,5.alpha.)-	33554	074742-35-1	38
55	18.03	0.06	C:\Database\ESSOILS.L			
			VIRIDIFLOROL	24	000552-02-3	93
			SELINENE - B	148	1000152-04-3	92
			MAALIENE - GAMMA	493	000643-29-8	90
56	18.39	0.04	C:\Database\ADAMS.L			
		34.16	Hexenyl phenyl acetate<3Z->	814	042436-07-7	78
		24.61	Hexenyl 2-methyl-2-pentenoat e<3Z->	1972	076649-17-7	40
		23.65	Hexenyl hexenoate<3Z->	2042	031501-11-8	9

GCMS-COMPOSITIONAL.M Fri May 10 15:45:22 2019

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