



**ORELAP Cert No. 4092-004**  
**OLCC No. 1002158CD2E**

**Oregon Compliant Marijuana Potency Analysis by  
 High Performance Liquid Chromatography**

Testing Accreditation #: 4092-004

Test Certificate #: 119738-001

**Client Name, Sample Details**  
**Pistil Pioneers**  
 Blachly, OR 97412  
**Sample:** Cannatonic  
**License:** 020-10005453F9C  
**Type:** Usable Marijuana  
**Method:** FE04U  
**Metrc Test Pkg#:** 1A4010300009665000000551  
**Metrc Source Pkg#:** 1A4010300009665000000509  
**\*\*\*Water Activity:** 0.525  
**\*\*\*Moisture:** 11.32%

**Test Conditions**  
**Prepsheet ID#:** ORP191104a  
**Scale:** XS205-OR1  
**Temp:** 21.8 °C  
**Baro PE:** 1005 hPa  
**Analyst:** HRM  
**Technician:** EDT

**Sample ID#:** 119738  
**Lot #:** HRVCT\_10819  
**Batch #:** 119738  
**Batch Weight (g):** 6810  
**Harvest/Process Date:** 10/08/2019  
**Serving Size (g):** 1  
**Date Received:** 10/30/2019  
**Test Date:** 11/04/2019



Test Compounds	THC	THCA	CBD	CBDA	CBN	CBG	CBC	THCV*	CBDV	Total Cannabinoids*	Total THC	Total CBD	Calc Max Total Cannabinoids*
Amount (%)	N/D	0.71	0.51	21.07	N/D	0.09	N/D	N/D	N/D	22.37	0.62	18.99	19.70
Amount (mg/g)	N/D	7.07	5.10	210.68	N/D	0.88	N/D	N/D	N/D	223.73	6.20	189.87	196.95
Amount per Serving (mg)	N/D	7.07	5.10	210.68	N/D	0.88	N/D	N/D	N/D	223.73	Serving Size~ (g):		1.00
LOQ (mg/g)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		%Decarb.	THC	CBD
±%RPD	68.63	5.73	+/-5%	5.13	+/-5%	5.41	+/-5%	+/-5%	+/-5%			0	0

LOQ = Limit of Quantitation; %RPD = Relative Percent Deviation; %RSD = Relative Standard Deviation; N/D = Not Detected

\*Designates values that are not currently included in the accredited scope of Iron Laboratories.

\*\*\* Designates tests that use the method FE-45.

Total THC and CBD is the calculated sum of THC or CBD and the amount of THC or CBD derived from THCA or CBDA, respectively. These values are calculated by applying a molar correction factor of 0.877 to the THCA or the CBDA value. Calc Max Total Cannabinoids is the sum of Total THC, Total CBD, CBN, CBG, CBC, THCV, and CBDV.

%Decarb. THC and CBD refers to the percentage of THC or CBD relative to THCA or CBDA, respectively.

SOP FE-01-OR9 was used in accordance with OAR 333-007 for sampling. All marijuana items are sampled and tested in accordance with OAR 333-007-0300 to 333-007-490 and OAR 333-064-0100 to 333-064-0110.

This certificate shall not be reproduced except in full, without written approval of Iron Laboratories, LLC.

Himashi Mead, Technical Manager



Joseph Rutkowski, Quality Manager

Iron Labs Oregon complies with 2009 TNI Environmental Laboratory Standards.

Tested by Iron Laboratories Oregon, 71 Centennial Loop Suite D Eugene, OR 97401



**ORELAP Cert No. 4092-004**  
**OLCC No. 1002158CD2E**

**Oregon Compliant QC Report**

Testing Accreditation #: 4092-004

Test Certificate #: 119738-001

**Client Name, Sample Details**  
**Pistil Pioneers**  
 Blachly, OR 97412  
**Sample:** Cannatonic  
**License:** 020-10005453F9C  
**Type:** Usable Marijuana  
**Method:** FE04U  
**Metrc Test Pkg#:** 1A4010300009665000000551  
**Metrc Source Pkg#:** 1A4010300009665000000509  
**\*\*\*Water Activity:** 0.525  
**\*\*\*Moisture:** 11.32%

**Test Conditions**  
**Prepsheet ID#:** ORP191104a  
**Scale:** XS205-OR1  
**Temp:** 21.8 °C  
**Baro PE:** 1005 hPa  
**Analyst:** HRM  
**Technician:** EDT

**Sample ID#:** 119738  
**Lot #:** HRVCT\_10819  
**Batch #:** 119738  
**Batch Weight (g):** 6810  
**Harvest/Process Date:** 10/08/2019  
**Serving Size (g):** 1  
**Date Received:** 10/30/2019  
**Test Date:** 11/04/2019



Target Compound Name	Method Blank (µg/g)	LCS Spike (µg/g)	LCS Amount (µg/g)	Percent Recovery (%) LCS	LCS Duplicate Amount (µg/g)	Percent Recovery (%) LCSD	Relative Percent Difference (%)	QC Flag
Cannabidivarin (CBDV)	N.D.	N.D.	N.D.	0.00	N.D.	0.00	0.00%	
Cannabidiolic Acid (CBDA)	N.D.	1.29	1.33	103.10	1.40	108.53	5.13%	
Cannabigerol (CBG)	N.D.	0.16	0.18	112.50	0.19	118.75	5.41%	
Cannabidiol (CBD)	N.D.	N.D.	N.D.	0.00	N.D.	0.00	0.00%	
Δ9-Tetrahydrocannabivarin (THCV)	N.D.	N.D.	N.D.	0.00	N.D.	0.00	0.00%	
Cannabinol (CBN)	N.D.	0.10	0.07	70.00	0.07	70.00	0.00%	
Δ9-Tetrahydrocannabinol (THC)	N.D.	3.31	3.13	94.56	6.40	193.35	68.63%	
Cannabichromene (CBC)	N.D.	0.08	0.11	137.50	0.11	137.50	0.00%	
Tetrahydrocannabinolic acid (THCA)	N.D.	18.31	16.95	92.57	17.95	98.03	5.73%	

N.D. = Not Detected

LR = indicates compound recovery of matrix spike was outside the methods acceptable limits. (70-130%) Low recovery should be scrutinized for possible fail as it could indicate more compound present than is detected.

I = indicates that an amount of an interfering compound greater than the methods limit of detection was detected in the method blank sample. May indicate contamination of analytical system or consumables.

Q = indicates that the relative percent difference of two identically prepared Matrix Spike samples for a target analyte was greater than 20%

HR = indicates compound recovery of matrix spike was outside the methods acceptable limits. (70-130%) high recoveries should be scrutinized for passing as more compound may be detected than is actually present in the sample.

SOP FE-01-OR9 was used in accordance with OAR 333-007 for sampling. All marijuana items are sampled and tested in accordance with OAR 333-007-0300 to 333-007-490 and OAR 333-064-0100 to 333-064-0110.

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**ORELAP Cert No. 4092-004**  
**OLCC No. 1002158CD2E**

**Oregon Compliant Pesticide Analysis by  
 Mass Spectrometer**

Testing Accreditation #: 4092-004

Test Certificate #: 119738-001

**Client Name, Sample Details**  
**Pistil Pioneers**  
 Blachly, OR 97412  
**Sample:** Cannatonic  
**License:** 020-10005453F9C  
**Type:** Usable Marijuana  
**Method:** FE-52 (EN 15662 & AOAC 2007.01)  
**Metric Test Pkg#:** 1A4010300009665000000551  
**Metric Source Pkg#:** 1A4010300009665000000509

**Test Conditions**  
**Prepsheet ID#:** ORPS191112a  
**Scale:** Veritas-OR1  
**Temp:** 21.8 °C  
**Baro Pressure:** 1001 hPa  
**Analyst:** JER  
**Technician:** HRM

**Sample ID#:** 119738  
**Lot #:** HRVCT\_10819  
**Batch #:** 119738  
**Batch Weight (g):** 6810  
**Harvest/Process Date:** 10/08/2019  
**Serving Size (g):** 1  
**Date Received:** 10/30/2019  
**Test Date:** 11/16/2019



Compound	MRL (µg/g)	LOD (µg/g)	Status (µg/g)	Compound	MRL (µg/g)	LOD (µg/g)	Status (µg/g)
Aldicarb	0.400	0.123	Pass/<LOD	Abamectin****	0.500	0.123	Pass/<LOD
Acephate	0.400	0.123	Pass/<LOD	Acequinocyl	2.000	0.247	Pass/<LOD
Acetamiprid	0.200	0.123	Pass/<LOD	Azoxystrobin	0.200	0.123	Pass/<LOD
Bifenazate	0.200	0.123	Pass/<LOD	Bifenthrin	0.200	0.123	Pass/<LOD
Boscalid	0.400	0.123	Pass/<LOD	Carbaryl	0.200	0.123	Pass/<LOD
Carbofuran	0.200	0.123	Pass/<LOD	Chlorantraniliprole	0.200	0.123	Pass/<LOD
Chlorfenapyr	1.000	0.494	Pass/<LOD	Chlorpyrifos	0.200	0.123	Pass/<LOD
Clofentazine	0.200	0.123	Pass/<LOD	Cyfluthrin**	1.000	0.494	Pass/<LOD
Cypermethrin***	1.000	0.494	Pass/<LOD	Daminozide	1.000	0.123	Pass/<LOD
DDVP (Dichlorvos)	1.000	0.247	Pass/<LOD	Diazinon	0.200	0.123	Pass/<LOD
Dimethoate	0.200	0.123	Pass/<LOD	Ethoprophos	0.200	0.123	Pass/<LOD
Etofenprox	0.400	0.123	Pass/<LOD	Etoxazole	0.200	0.123	Pass/<LOD
Fenoxycarb	0.200	0.123	Pass/<LOD	Fenpyroximate	0.400	0.123	Pass/<LOD
Fipronil	0.400	0.123	Pass/<LOD	Flonicamid	1.000	0.123	Pass/<LOD
Fludioxonil	0.400	0.123	Pass/<LOD	Hexythiazox	1.000	0.123	Pass/<LOD
Imazalil	0.200	0.123	Pass/<LOD	Imidacloprid	0.400	0.123	Pass/<LOD
Kresoxim Methyl	0.400	0.123	Pass/<LOD	Malathion	0.200	0.123	Pass/<LOD
Metalaxyl	0.200	0.123	Pass/<LOD	Methiocarb	0.200	0.123	Pass/<LOD
Methomyl	0.400	0.123	Pass/<LOD	Methyl Parathion	0.200	0.123	Pass/<LOD
MGK-264‡	0.200	0.123	Pass/<LOD	Myclobutanil	0.200	0.123	Pass/<LOD
Naled	0.500	0.123	Pass/<LOD	Oxamyl	1.000	0.123	Pass/<LOD
Paclobutrazol	0.400	0.123	Pass/<LOD	Permethrin†	0.200	0.123	Pass/<LOD
Phosmet	0.200	0.123	Pass/<LOD	Piperonyl Butoxide	2.000	0.123	Pass/<LOD
Prallethrin	0.200	0.123	Pass/<LOD	Propiconazole	0.400	0.123	Pass/<LOD
Propoxur	0.200	0.123	Pass/<LOD	Pyrethrins*	1.000	0.123	Pass/<LOD
Pyridaben	0.200	0.123	Pass/<LOD	Spinosad*****	0.200	0.123	Pass/<LOD
Spiromesifen	0.200	0.123	Pass/<LOD	Spirotetramat	0.200	0.123	Pass/<LOD
Spiroxamine‡	0.400	0.123	Pass/<LOD	Tebuconazole	0.400	0.123	Pass/<LOD
Thiacloprid	0.200	0.123	Pass/<LOD	Thiamethoxam	0.200	0.123	Pass/<LOD
Trifloxystrobin	0.200	0.123	Pass/<LOD				

\* Pyrethrins are reported as the sum of Jasmolin I, Cinerin I, and Pyrethrin I  
 \*\* Cyfluthrins are reported as the sum of isomers Cyfluthrin I, II, III, and IV  
 \*\*\* Cypermethrins are reported as the sum of isomers Cypermethrin I, II, III, and IV  
 \*\*\*\* Abamectin is reported as the sum of Avermectin B1a and Avermectin B1b  
 \*\*\*\*\* Spinosad is reported as the sum of Spinosyn A and Spinosyn D  
 † Permethrin and Prallethrin are reported as the sum of cis and trans isomers  
 ‡ MGK-264 and Spiroximine are reported as the sum of isomers I and II  
 MRL - Maximum Residue Limit; LOD - Limit of Detection

SOP FE-01-OR9 was used in accordance with OAR 333-007 for sampling. All marijuana items are sampled and tested in accordance with OAR 333-007-0300 to 333-007-490 and OAR 333-064-0100 to 333-064-0110.

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Joseph Rutkowski, Quality Manager



Hfmashi Mead, Technical Manager

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**ORELAP Cert No. 4092-004**  
**OLCC No. 1002158CD2E**

**Oregon Compliant Pesticide QC Report**

Testing Accreditation #: 4092-004

Test Certificate #: 119738-001

**Client Name, Sample Details**  
**Pistil Pioneers**  
 Blachly, OR 97412  
**Sample:** Cannatonic  
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**Test Conditions**  
**Prepsheet ID#:** ORPS191112a  
**Scale:** Veritas-OR1  
**Temp:** 21.8 °C  
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**Technician:** HRM

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**Date Received:** 10/30/2019  
**Test Date:** 11/16/2019



Target Compound Name	Method Blank (µg/g)	QC Spike (µg/g)	Matrix Spike (µg/g)	Matrix Spike Duplicate (µg/g)	MS recovery%	MSD recovery%	Relative Percent Difference (%)	QC Flag
Acephate	N.D.	1	1.01	0.988	101.00	98.80	2.20	
Acequinocyl	N.D.	1	1.03	0.855	103.00	85.50	18.57	
Acetamiprid	N.D.	1	1.15	1.12	115.00	112.00	2.64	
Aldicarb	N.D.	1	1.02	0.959	102.00	95.90	6.16	
Avermectin B1a	N.D.	0.97	1.24	1.07	127.84	110.31	14.72	
Azoxystrobin	N.D.	1	1.08	1.1	108.00	110.00	1.83	
Bifenazate	N.D.	1	0.894	0.905	89.40	90.50	1.22	
Bifenthrin	N.D.	1	1.12	1.07	112.00	107.00	4.57	
Boscalid	N.D.	1	0.992	0.952	99.20	95.20	4.12	
Carbaryl	N.D.	1	1.1	1.02	110.00	102.00	7.55	
Carbofuran	N.D.	1	1.3	1.2	130.00	120.00	8.00	
Chlorantraniliprole	N.D.	1	1.12	1.03	112.00	103.00	8.37	
Chlorfenapyr	N.D.	1	0	0	0.00	0.00	0.00	
Chlorpyrifos	N.D.	1	1.05	0.934	105.00	93.40	11.69	
Clofentezine	N.D.	1	1.01	0.933	101.00	93.30	7.93	
Cyfluthrin	N.D.	1	1.32	1.12	132.00	112.00	16.39	HR
Cypermethrin	N.D.	1	1.1	1.13	110.00	113.00	2.69	
Daminoside	N.D.	1	0.953	0.821	95.30	82.10	14.88	
Diazanone	N.D.	1	1.12	1.03	112.00	103.00	8.37	
Dichlorvos	N.D.	1	1.09	1.15	109.00	115.00	5.36	
Dimethoate	N.D.	1	1.24	1.17	124.00	117.00	5.81	
Ethoprophos	N.D.	1	1.11	1.08	111.00	108.00	2.74	
Etofenprox	N.D.	1	1.14	1.06	114.00	106.00	7.27	
Etoxazole	N.D.	1	1.12	1.07	112.00	107.00	4.57	
Fenoxycarb	N.D.	1	1.06	0.968	106.00	96.80	9.07	
Fenpyroximate	N.D.	1	1.36	1.15	136.00	115.00	16.73	HR
Fipronil	N.D.	1	0	0	0.00	0.00	0.00	
Flonicamid	N.D.	1	1.26	1.27	126.00	127.00	0.79	
Fludioxonil	N.D.	1	0	0	0.00	0.00	0.00	
Hexythiazox	N.D.	1	0.974	0.902	97.40	90.20	7.68	
Imazalil	N.D.	1	1.21	1.12	121.00	112.00	7.73	
Imidacloprid	N.D.	1	1.27	1.2	127.00	120.00	5.67	
Kresoxim-methyl	N.D.	1	1.01	0.964	101.00	96.40	4.66	
Malathion	N.D.	1	1.06	0.947	106.00	94.70	11.26	
Metalaxyl	N.D.	1	1.17	1.08	117.00	108.00	8.00	
Methiocarb	N.D.	1	1.12	1.11	112.00	111.00	0.90	
Methomyl	N.D.	1	1.04	0.979	104.00	97.90	6.04	
MGK-264	N.D.	1	1.08	1.15	108.00	115.00	6.28	
Myclobutanil	N.D.	1	1.2	1.1	120.00	110.00	8.70	
Naled (dibrom)	N.D.	1	0.772	0.83	77.20	83.00	7.24	

Oxamyl	N.D.	1	1.3	1.26	130.00	126.00	3.13	
Paclobutrazol	N.D.	1	1.19	1.15	119.00	115.00	3.42	
Parathion-methyl	N.D.	1	0	0	0.00	0.00	0.00	
Permethrins	N.D.	1	1.2	1.14	120.00	114.00	5.13	
Phosmet	N.D.	1	1.04	0.946	104.00	94.60	9.47	
Piperonyl butoxide	N.D.	1	1.01	0.944	101.00	94.40	6.76	
Prallethrin	N.D.	1	1.12	0.956	112.00	95.60	15.80	
Propiconazole	N.D.	1	0.99	0.891	99.00	89.10	10.53	
Propoxur	N.D.	1	1.02	1.05	102.00	105.00	2.90	
Pyrethrin	N.D.	0.65	0.656	0.629	100.92	96.77	4.20	
Pyridaben	N.D.	1	1.1	0.967	110.00	96.70	12.87	
SpinosynA	N.D.	0.84	0.905	0.911	107.74	108.45	0.66	
SpinosynD	N.D.	0.16	0.228	0.227	142.50	141.88	0.44	
Spiromesifen	N.D.	1	0.0212	0.828	2.12	82.80	190.01	
Spirotetramat	N.D.	1	0.946	0.94	94.60	94.00	0.64	
Spiroxamine	N.D.	1	1.2	1.15	120.00	115.00	4.26	
Tebuconazole	N.D.	1	1.03	0.996	103.00	99.60	3.36	
Thiacloprid	N.D.	1	1.27	1.2	127.00	120.00	5.67	
Thiamethoxam	N.D.	1	1.17	1.13	117.00	113.00	3.48	
Trifloxystrobin	N.D.	1	1.12	1.06	112.00	106.00	5.50	

N.D. = Not Detected

I = indicates that an amount of an interfering compound greater than the methods limit of detection was detected in the method blank sample. May indicate contamination of analytical system or consumables.

Q = indicates that the relative percent difference of two identically prepared Matrix Spike samples for a target analyte was greater than 20%

R = indicates compound recovery of matrix spike was outside the methods acceptable limits. (70-130%) Low recovery could indicate there is actually more compound present than detected; while high recoveries should be scrutinized for possible fails as more compound may be detected than is actually residual on the sample.

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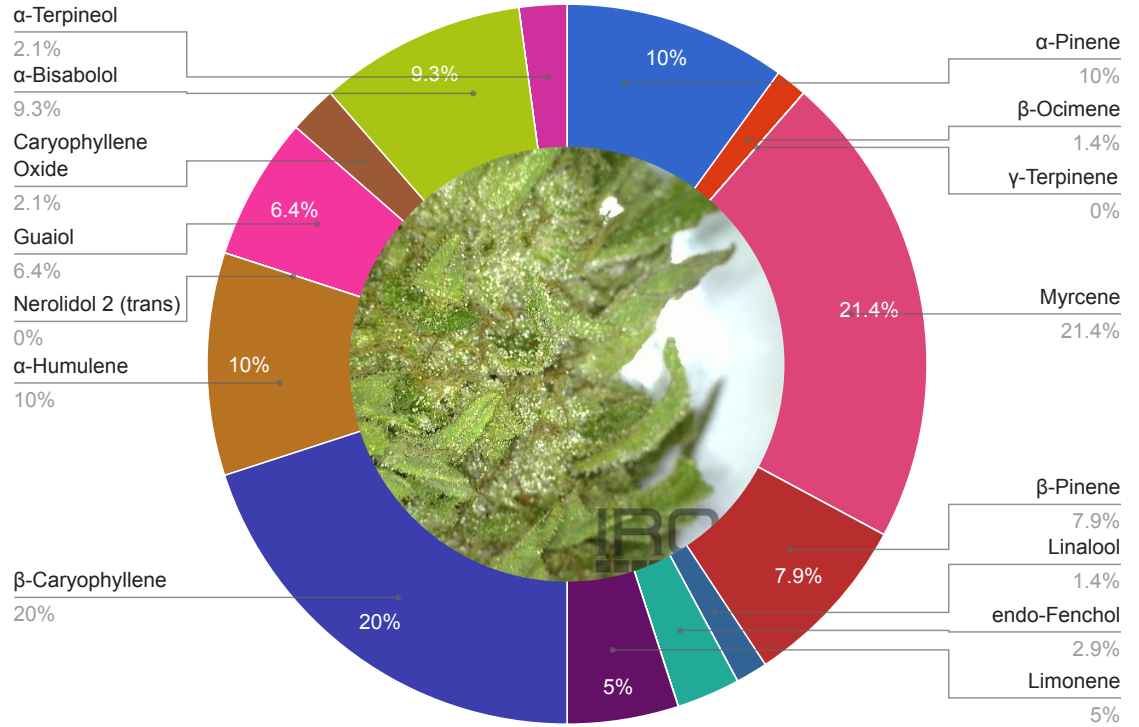
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**Client Name, Sample Details**  
**Pistil Pioneers**  
 Blachly, OR 97412  
**Sample:** Cannatonic  
**License:** 020-10005453F9C  
**Type:** Usable Marijuana  
**Method:** SOP FE-44-OR3  
**Metrc Test Pkg#:**  
 1A4010300009665000000551  
**Metrc Source Pkg#:**  
 1A4010300009665000000509

**Test Conditions**  
**Scale:** XS205-OR1  
**Temp:** 21.7 °C  
**Baro Pressure:** 1009 hPa  
**Analyst:** HRM  
**Technician:** HRM

**Sample ID#:** 119738  
**Lot #:** HRVCT\_10819  
**Batch #:** 119738  
**Batch Weight (g):** 6810  
**Harvest/Process Date:** 10/08/2019  
**Serving Size (g):** 1  
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α-Pinene (0.14%)	β-Ocimene (0.02%)	Camphene (0.00%)	Eucalyptol (1,8-Cineol) (0.00%)	Sabinene (0.00%)
γ-Terpinene (0.00%)	Myrcene (0.30%)	α-Terpinolene (0.00%)	β-Pinene (0.11%)	Linalool (0.02%)
Δ3-Carene (0.00%)	Fenchone (0.00%)	α-Terpinene (0.00%)	endo-Fenchol (0.04%)	α-Ocimene (0.00%)
Isopulegol (0.00%)	Limonene (0.07%)	Geraniol (0.00%)	p-Cymene (0.00%)	β-Caryophyllene (0.28%)
α-Humulene (0.14%)	Nerolidol 1 (cis) (0.00%)	Nerolidol 2 (trans) (0.00%)	Guaiol (0.09%)	Caryophyllene Oxide (0.03%)
α-Bisabolol (0.13%)	α-Phellandrene (0.00%)	α-Terpeneol (0.03%)	Valence (0.00%)	

**Predominant Terpenes**

0.30% Myrcene	Peppery, spicy balsam	0.28% β-Caryophyllene	Sweet, woody, spicy, clove
0.14% α-Pinene	Fresh camphor, sweet, pine, earthy, woody	0.14% α-Humulene	Woody, oceanic-watery, spicy clove
0.13% α-Bisabolol	Fruity, nutty, coconut	0.11% β-Pinene	Woody, fresh pine, hay

Total: 1.400%

Value in parenthesis indicates percentage of terpene present in the total sample (weight percentage, wt/wt%).  
 Value in doughnut slice indicates individual terpene abundance with respect to the total terpenes detected.

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