

# CERTIFICATE OF ANALYSIS

## ISO/IEC 17025:2017 ACCREDITATION #103104



Order #: 31210  
 Order Name: Koi Naturals  
 Natural 500 mg  
 Batch#: 9075NAT500  
 Received: 05/17/2019  
 Completed: 05/23/2019



Koi CBD LLC  
 14631 Best Ave  
 Norwalk California, 90650  
 (877) 774-4779  
 morgan@koicbd.com



### Sample



N/D  
 D9-THC

1.643%  
 Total CBD

### Cannabinoids Test

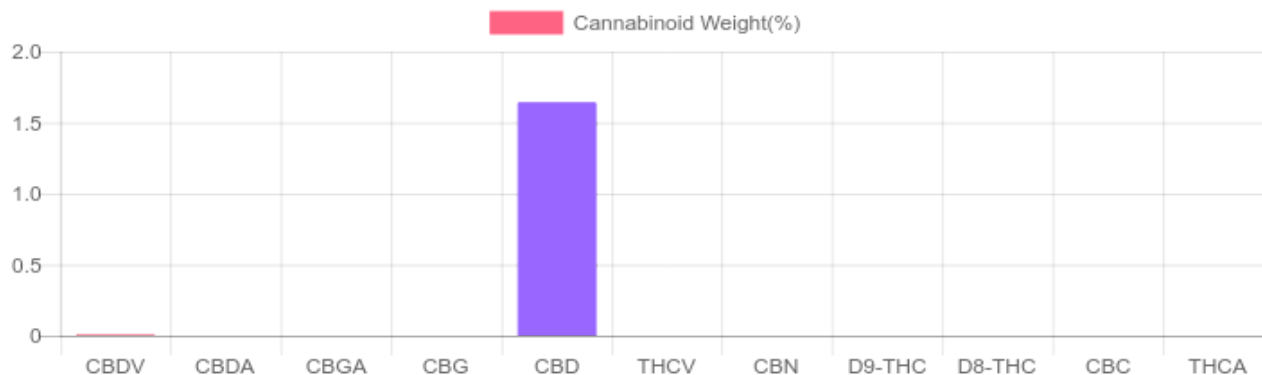
SHIMADZU INTEGRATED UPLC-PDA

GSL SOP 400

PREPARED: 05/17/2019 21:58:28

UPLOADED: 05/20/2019 11:25:27

Cannabinoids	LOQ	weight(%)	mg/g
D9-THC	10 PPM	N/D	N/D
THCA	10 PPM	N/D	N/D
CBD	10 PPM	1.643%	16.427
CBDA	20 PPM	N/D	N/D
CBDV	20 PPM	0.008%	0.084
CBC	10 PPM	N/D	N/D
CBN	10 PPM	N/D	N/D
CBG	10 PPM	N/D	N/D
CBGA	20 PPM	N/D	N/D
D8-THC	10 PPM	N/D	N/D
THCV	10 PPM	N/D	N/D
TOTAL D9-THC		N/D	N/D
TOTAL CBD*		1.643%	16.427
TOTAL CANNABINOIDS		1.651%	16.511



Reporting Limit 10 ppm

\*Total CBD = CBD + CBDA x 0.877

N/D - Not Detected, B/LOQ - Below Limit of Quantification

Dr. Andrew Hall, Ph.D., Chief Scientific Officer

Ben Witten, MS, MT., Lab Director

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### TERPENES: TOTAL (0.000%)

Headspace GCMS - Shimadzu GCMS QP2020 with HS20

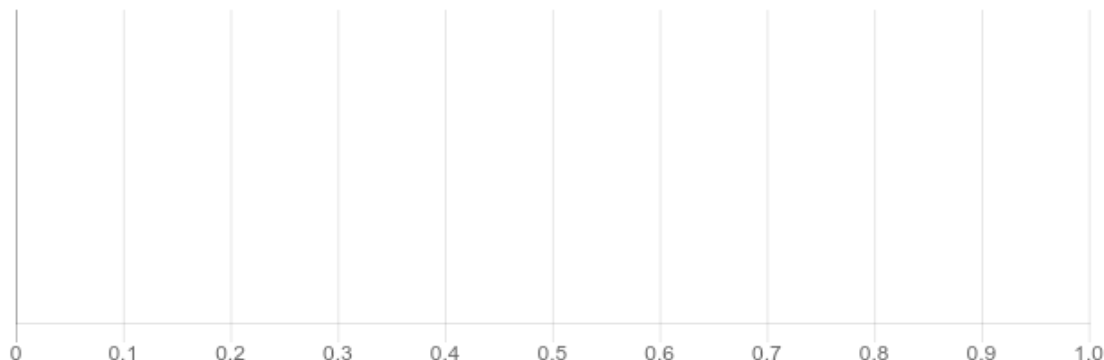
GSL SOP 404

Uploaded: 05/20/2019 16:15:34

Terpene	Results (%)	LOQ (%)	LOD (%)
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### Terpenes Breakdown

### Top Terpenes Results:



### Tested for but not present:

ALPHA-PINENE, CAMPHENE, SABINENE, BETA-MYRCENE, BETA-PINENE, ALPHA-PHELLANDRENE, 3-CARENE, ALPHA-TERPINENE, TRANS-BETA-OCIMENE, LIMONENE, CIS-BETA-OCIMENE, EUCALYPTOL, GAMMA-TERPINENE, TERPINOLENE, SABINENE HYDRATE, LINALOOL, FENCHONE, FENCHOL, ISOPULEGOL, CAMPHOR, ISOBORNEOL, MENTHOL, BORNEOL, TERPINEOL (MIX OF ISOMERS), GAMMA-TERPINEOL, NEROL, GERANIOL, PULEGONE, GERANYL ACETATE, ALPHA-CEDRENE, CARYOPHYLLENE, HUMULENE, VALENCENE, CIS-NEROLIDOL, TRANS-NEROLIDOL, GUAJOL, CARYOPHYLLENE OXIDE, CEDROL, ALPHA-BISABOLOL

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### PESTICIDE ANALYSIS:

GSL SOP 401

PREPARED: 05/17/2019 20:59:46

UPLOADED: 05/23/2019 19:50:09

GCMS-MS - Shimadzu GCMS-TQ8040

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
CAPTAN	0.700	N/D	0.003	0.001
CHLORDANE	0.100	N/D	0.003	0.001
CHLORFENAPYR	0.100	N/D	0.003	0.001
COUMAPHOS	0.100	N/D	0.003	0.001
CYFLUTHRIN	2.000	N/D	0.003	0.001

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
CYPERMETHRIN	1.000	N/D	0.003	0.001
FIPRONIL	0.100	N/D	0.003	0.001
FLUDIOXONIL	0.100	N/D	0.003	0.001
PARATHION-METHYL	0.100	N/D	0.003	0.001
PENTACHLORONITROBENZENE	0.100	N/D	0.003	0.001

LCMS-MS - Shimadzu LCMS-8060

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
ABAMECTIN B1A	0.100	N/D	0.005	0.001
ACEPHATE	0.100	N/D	0.001	0.001
ACEQUINOCYL	0.100	N/D	0.001	0.001
ACETAMIPRID	0.100	N/D	0.005	0.001
ALDICARB	0.100	N/D	0.005	0.001
AZOXYSTROBIN	0.100	N/D	0.001	0.001
BIFENAZATE	0.100	N/D	0.005	0.001
BIFENTHRIN	3.000	N/D	0.005	0.001
BOSCALID	0.100	N/D	0.005	0.001
CARBARYL	0.500	N/D	0.003	0.001
CARBOFURAN	0.100	N/D	0.001	0.001
CHLORANTRANILIPROLE	10.000	N/D	0.005	0.005
CHLORPYRIFOS	0.100	N/D	0.001	0.001
CLOFENTEZINE	0.100	N/D	0.001	0.001
DAMINOZIDE	0.100	N/D	0.005	0.001
DIAZANON	0.100	N/D	0.001	0.001
DICHLORVOS	0.100	N/D	0.005	0.001
DIMETHOATE	0.100	N/D	0.001	0.001
DIMETHOMORPH	2.000	N/D	0.005	0.001
ETHOPROPHOS	0.100	N/D	0.001	0.001
ETOFENPROX	0.100	N/D	0.001	0.001
ETOXAZOLE	0.100	N/D	0.010	0.005
FENHEXAMID	0.100	N/D	0.005	0.001
FENOXYCARB	0.100	N/D	0.005	0.001
FENPYROXIMATE	0.100	N/D	0.001	0.001
FLONICAMID	0.100	N/D	0.025	0.010
HEXYTHIAZOX	0.100	N/D	0.005	0.001
IMAZALIL	0.100	N/D	0.005	0.001

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
IMIDACLOPRID	5.000	N/D	0.005	0.001
KRESOXIM-METHYL	0.100	N/D	0.010	0.005
MALATHION	0.500	N/D	0.005	0.001
METALAXYL	2.000	N/D	0.001	0.001
METHIOCARB	0.100	N/D	0.005	0.001
METHOMYL	1.000	N/D	0.001	0.001
MEVINPHOS	0.100	N/D	0.001	0.001
MYCLOBUTANIL	0.100	N/D	0.005	0.001
NALED	0.100	N/D	0.005	0.001
OXAMYL	0.500	N/D	0.001	0.001
PACLOBUTRAZOL	0.100	N/D	0.005	0.001
PERMETHRINS	0.500	N/D	0.005	0.001
PHOSMET	0.100	N/D	0.005	0.001
PIPERONYL	3.000	N/D	0.001	0.001
BUTOXIDE				
PRALLETHRIN	0.100	N/D	0.005	0.005
PROPICONAZOLE	0.100	N/D	0.010	0.005
PROPOXUR	0.100	N/D	0.001	0.001
PYRETHRINS				
(PYRETHRIN I)	0.500	N/D	0.005	0.005
PYRIDABEN	0.100	N/D	0.005	0.001
SPINETORAM	0.100	N/D	0.001	0.001
SPINOSAD	0.100	N/D	0.001	0.001
SPIROMESIFEN	0.100	N/D	0.005	0.001
SPIROTETRAMAT	0.100	N/D	0.001	0.001
SPIROXAMINE	0.100	N/D	0.001	0.001
TEBUCONAZOLE	0.100	N/D	0.005	0.001
THIACLOPRID	0.100	N/D	0.001	0.001
THIAMETHOXAM	5.000	N/D	0.001	0.001
TRIFLOXYSTROBIN	0.100	N/D	0.001	0.001

N/D = Not Detected, A/LOQ = Above LOQ Level, B/LOQ = Below LOQ Level, B/LOD = Below LOD Level

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Ben Witten, MS, MT., Lab Director

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### RESIDUAL SOLVENTS:

Headspace GCMS - Shimadzu GCMS QP2020 with HS20

GSL SOP 405

Uploaded: 05/20/2019 14:36:55

Residual Solvent	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
ACETONE	5,000	N/D	140	20
ACETONITRILE	410	N/D	25	1
BENZENE	1	N/D	1	0.5
BUTANE	5,000	N/D	50	10
CHLOROFORM	1	N/D	1	0.5
DICHLOROETHANE	1	N/D	1	0.5
DICHLOROMETHANE	1	N/D	1	0.5
ETHANOL	5,000	N/D	140	20
ETHYL ACETATE	5,000	N/D	140	20
ETHYL ETHER	5,000	N/D	140	20
ISOPROPYL ALCOHOL	5,000	N/D	140	20
METHANOL	3,000	N/D	100	20
N-HEPTANE	5,000	N/D	140	20
N-HEXANE	290	N/D	18	10
PENTANE	5,000	N/D	140	20
PROPANE	5,000	N/D	20	1
TOLUENE	890	N/D	53	1
TRICHLOROETHANE	0	N/D	1	0.5
XYLENES	2,170	N/D	130	20

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### Microbial Analysis:

Microbial Analysis GSL SOP 406

Uploaded: 05/23/2019 12:24:48

PCR - Agilent AriaMX

Test	Test Method Used	Device Used	LOD	Allowable Criteria	Actual Result	Pass/Fail
STEC E. COLI*	USP 61/62†	ARIAMX PCR	2 COPIES OF DNA	PRESENCE / ABSENT	BELOW LOD	PASS
SALMONELLA*	USP 61/62†	ARIAMX PCR	5 COPIES OF DNA	PRESENCE / ABSENT	BELOW LOD	PASS
ASPERGILLUS	USP 61/62†	ARIAMX PCR	ASP_LOD***	PRESENCE / ABSENT	BELOW LOD	PASS
YEAST AND MOLD	USP 61/62†	ARIAMX PCR	363.05518 CFU/G**	1,000	BELOW THRESHOLD	PASS
TOTAL AEROBIC BACTERIA	USP 61/62†	ARIAMX PCR	0.25316 CFU/G**	10,000	BELOW THRESHOLD	PASS
COLIFORM	USP 61/62†	ARIAMX PCR	3.41539 CFU/G**	100	BELOW THRESHOLD	PASS
ENTEROBACTERIACEAE	USP 61/62†	ARIAMX PCR	0.32951 CFU/G**	100	BELOW THRESHOLD	PASS

† USP 61 (enumeration of bacteria TAC, TYM, and ENT/Coliform), USP 62 (identifying specific species E.coli Aspergillus etc)

\* STEC and Salmonella run as Multiplex

\*\* CFU/g Calculation based on Select Category Type Gummy MIP/Extract Flower matrix

\*\*\* Flavus = 2 Copies of DNA / Fumigatis = 2 Copies of DNA Niger = 20 Copies of DNA / Terrus = 10 copies of DNA

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### Mycotoxin Analysis:

LC-MS - Shimadzu LCMS-8060  
GSL SOP 401

Uploaded: 05/21/2019 13:58:47

Analyte	Action Lvl (ppb)	Results (ppb)
AFLATOXIN B1	20	N/D
AFLATOXIN B2	20	N/D
AFLATOXIN G1	20	N/D
AFLATOXIN G2	20	N/D
OCHRATOXIN A	20	N/D

LOQ is 4ppb, LOD is 1ppb

### Water Activity:

HD-3A Water Activity Meter - GSL SOP 407

Uploaded: 05/23/2019 18:39:34

**Water**

0.48

### Heavy Metals Analysis:

ICP-MS - Shimadzu ICPMS-2030  
GSL SOP 403

Uploaded: 05/24/2019 14:24:42

Metal	Action Level (ppb)	Result (ppb)
ARSENIC (AS)	200	B/LOQ
CADMIUM (CD)	200	B/LOQ
MERCURY (HG)	100	B/LOQ
LEAD (PB)	500	B/LOQ

Lower Limit of Quantitation (LOQ) is 75 ppb

### Filth and Foreign Materials Analysis:

Microscope - Amscope Simul-Focal Trinocular Stereo Zoom Microscope - GSL SOP 409

Uploaded: 05/20/2019 16:16:08

No foreign materials detected.

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