

CERTIFICATE OF ANALYSIS



Order #: 32774
Order Name: Koi Spectrum
 Cartridge 250 mg
Batch#: O024_190411
Received: 07/02/2019
Completed: 07/08/2019



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



Sample



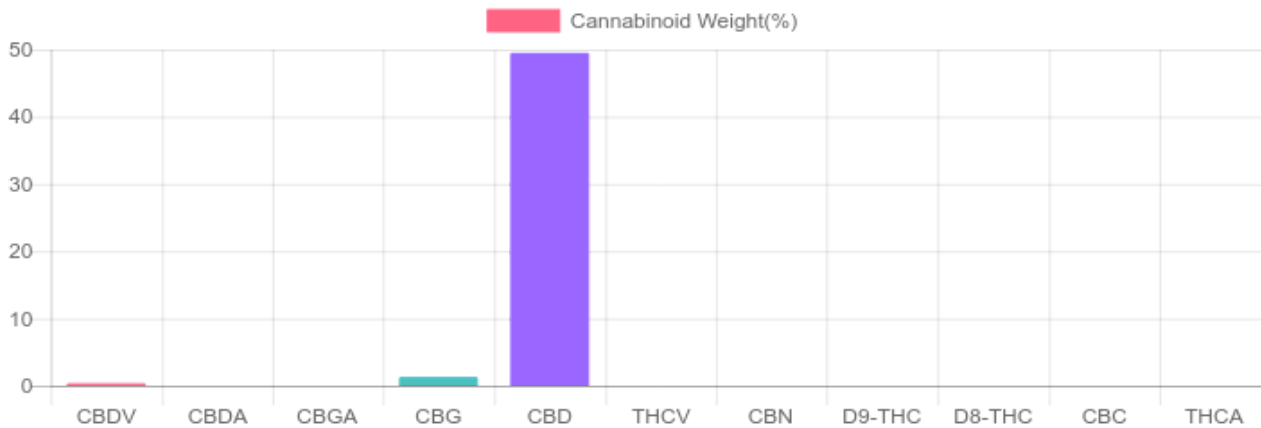
N/D
D9-THC

49.503%
Total CBD

Cannabinoids Test

GSL SOP 400 **PREPARED:** 07/02/2019 18:23:37 **UPLOADED:** 07/03/2019 17:54:33

cannabinoids		weight(%)	mg/g
DELTA-9-TETRAHYDROCANNABINOL	D9-THC	N/D	N/D
TETRAHYDROCANNABINOLIC ACID	THCA	N/D	N/D
CANNABIDIOL	CBD	49.503%	495.028
CANNABIDIOLIC ACID	CBDA	N/D	N/D
CANNABIDIVARIN	CBDV	0.366%	3.662
CANNABICHROMENE	CBC	N/D	N/D
CANNABINOL	CBN	N/D	N/D
CANNABIGEROL	CBG	1.291%	12.911
CANNABIGEROLIC ACID	CBGA	N/D	N/D
DELTA-8-TETRAHYDROCANNABINOL	D8-THC	N/D	N/D
TETRAHYDROCANNABIVARIN	THCV	N/D	N/D
TOTAL D9-THC		N/D	N/D
TOTAL CBD*		49.503%	495.028
TOTAL CANNABINOIDS		51.160%	511.601



Reporting Limit 10 ppm
 *Total CBD = CBD + CBDA x 0.877
 N/D - Not Detected, B/LOQ - Below Limit of Quantification


Notes

255.8mg cannabinoids per 500mg cartridge



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 Dylan Swart, Lab Director

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TERPENES: TOTAL (0.185%)

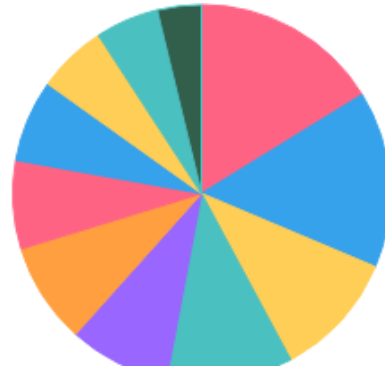
Headspace GCMS - Shimadzu GCMS QP2020 with HS20

GSL SOP 404
Prepared: 07/02/2019 21:13:43
Uploaded: 07/03/2019 18:51:23

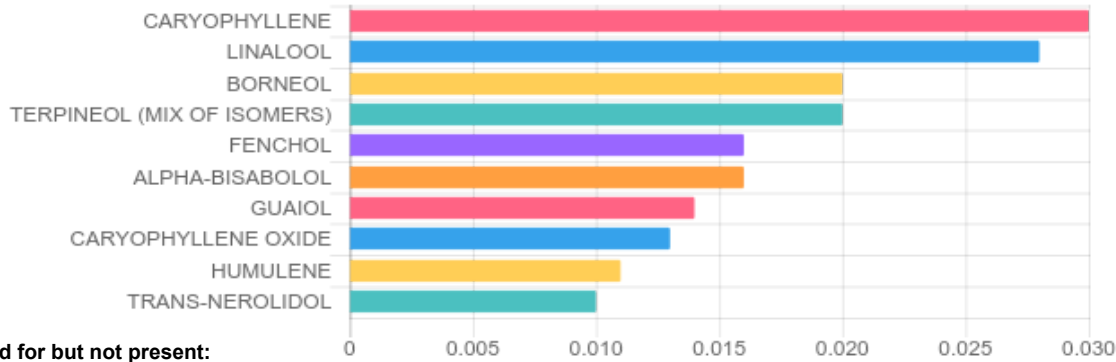
Terpene	Results (%)	LOQ (%)	LOD (%)
ALPHA-BISABOLOL	0.016%	0.0067%	0.0063%
BORNEOL	0.020%	0.0067%	0.0063%
CARYOPHYLLENE	0.030%	0.0067%	0.0063%
CARYOPHYLLENE OXIDE	0.013%	0.0067%	0.0063%
EUCALYPTOL	B/LOQ	0.0067%	0.0063%
FENCHOL	0.016%	0.0067%	0.0063%
FENCHONE	B/LOQ	0.0067%	0.0063%
GUAJOL	0.014%	0.0067%	0.0063%
HUMULENE	0.011%	0.0067%	0.0063%

Terpene	Results (%)	LOQ (%)	LOD (%)
LINALOOL	0.028%	0.0067%	0.0063%
TERPINEOL (MIX OF ISOMERS)	0.020%	0.0067%	0.0063%
TRANS-NEROLIDOL	0.010%	0.0067%	0.0063%

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, GAMMA-TERPINENE, TERPINOLENE, SABINENE HYDRATE, ISOPULEGOL, CAMPHOR, ISOBORNEOL, MENTHOL, GAMMA-TERPINEOL, NEROL, GERANIOL, PULEGONE, GERANYL ACETATE, ALPHA-CEDRENE, VALENCENE, CIS-NEROLIDOL, CEDROL



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 Batch#: 0024_190411
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PESTICIDE ANALYSIS:

GSL SOP 401

PREPARED: 07/02/2019 17:53:03

UPLOADED: 07/03/2019 18:55:23

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

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
CYLFLUTHRIN	2.000	N/D	0.003	0.001
CYPERMETHRIN	1.000	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	0.003	0.001
ACEPHATE	0.100	N/D	0.003	0.001
ACEQUINOCYL	0.100	N/D	0.003	0.001
ACETAMIPRID	0.100	N/D	0.003	0.001
ALDICARB	0.100	N/D	0.003	0.001
AZOXYSTROBIN	0.100	N/D	0.003	0.001
BIFENAZATE	0.100	N/D	0.003	0.001
BIFENTHRIN	3.000	N/D	0.003	0.001
BOSCALID	0.100	N/D	0.003	0.001
CARBARYL	0.500	N/D	0.003	0.001
CARBOFURAN	0.100	N/D	0.003	0.001
CHLORANTRANILIPROLE	10.000	N/D	0.003	0.001
CHLORPYRIFOS	0.100	N/D	0.003	0.001
CLOFENTEZINE	0.100	N/D	0.003	0.001
DAMINOZIDE	0.100	N/D	0.003	0.001
DIAZANON	0.100	N/D	0.003	0.001
DICHLORVOS	0.100	N/D	0.003	0.001
DIMETHOATE	0.100	N/D	0.003	0.001
DIMETHOMORPH	2.000	N/D	0.003	0.001
ETHOPROPHOS	0.100	N/D	0.003	0.001
ETOFENPROX	0.100	N/D	0.003	0.001
ETOXAZOLE	0.100	N/D	0.003	0.001
FENHEXAMID	0.100	N/D	0.003	0.001
FENOXYCARB	0.100	N/D	0.003	0.001
FENPYROXIMATE	0.100	N/D	0.003	0.001
FIPRONIL	0.100	N/D	0.003	0.001
FLONICAMID	0.100	N/D	0.003	0.001
FLUDIOXONIL	0.100	N/D	0.003	0.001
HEXYTHIAZOX	0.100	N/D	0.003	0.001

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
IMAZALIL	0.100	N/D	0.003	0.001
IMIDACLOPRID	5.000	N/D	0.003	0.001
KRESOXIM-METHYL	0.100	N/D	0.003	0.001
MALATHION	0.500	N/D	0.003	0.001
METALAXYL	2.000	N/D	0.003	0.001
METHIOCARB	0.100	N/D	0.003	0.001
METHOMYL	1.000	N/D	0.003	0.001
MEVINPHOS	0.100	N/D	0.003	0.001
MYCLOBUTANIL	0.100	N/D	0.003	0.001
NALED	0.100	N/D	0.003	0.001
OXAMYL	0.500	N/D	0.003	0.001
PACLOBUTRAZOL	0.100	N/D	0.003	0.001
PERMETHRINS	0.500	N/D	0.003	0.001
PHOSMET	0.100	N/D	0.003	0.001
PIPERONYL BUTOXIDE	3.000	N/D	0.003	0.001
PRALLETHRIN	0.100	N/D	0.003	0.001
PROPICONAZOLE	0.100	N/D	0.003	0.001
PROPOXUR	0.100	N/D	0.003	0.001
PYRETHRINS (PYRETHRIN I)	0.500	N/D	0.003	0.001
PYRIDABEN	0.100	N/D	0.003	0.001
SPINETORAM	0.100	N/D	0.003	0.001
SPINOSAD	0.100	N/D	0.003	0.001
SPIROMESIFEN	0.100	N/D	0.003	0.001
SPIROTETRAMAT	0.100	N/D	0.003	0.001
SPIROXAMINE	0.100	N/D	0.003	0.001
TEBUCONAZOLE	0.100	N/D	0.003	0.001
THIACLOPRID	0.100	N/D	0.003	0.001
THIAMETHOXAM	5.000	N/D	0.003	0.001
TRIFLOXYSTROBIN	0.100	N/D	0.003	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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RESIDUAL SOLVENTS:

Headspace GCMS - Shimadzu GCMS QP2020 with HS20

GSL SOP 405

Prepared: 07/02/2019 21:15:40

Uploaded: 07/03/2019 17:26:05

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
TRICHLOROETHENE	0	N/D	0	0
XYLENES	2,170	N/D	130	20



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Mycotoxin Analysis:

LC-MS - Shimadzu LCMS-8060
GSL SOP 401

Uploaded: 07/03/2019 15:20:08

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

Microbial Analysis:

PCR - Agilent AriaMX

Test	Test Method Used	Device Used	LOD	Allowable Amount	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

Water Activity:

HD-3A Water Activity Meter - GSL SOP 407

Uploaded: 07/02/2019 22:44:23

Water

0.77

Filth and Foreign Materials Analysis:

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

Uploaded: 07/02/2019 23:43:05

No foreign materials detected.



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