

# Certificate of Analysis

Thankstohemp.com.au  
 ISO 22000 certified  
 CCP certified; GMP certified

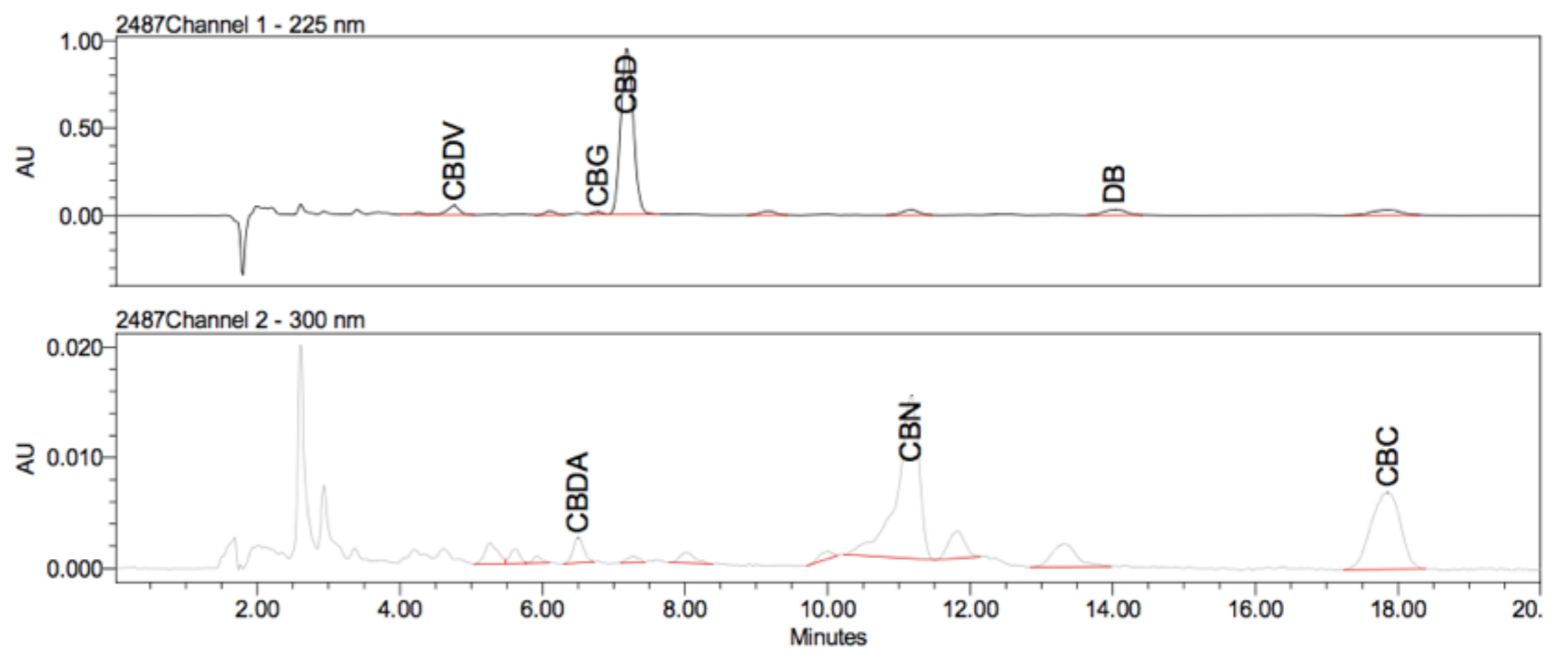
Responsible Supervisor:  
 Sample received:  
 Date analysis began:  
 Date sample report produced:  
 ID Number when available:  
 Sample Mass

Jasper K.  
 Batch 1616 Date samples  
 21-October 2019  
 21-October 2019  
 25-October 2019  
 1 g

## CBD 20.16% Cannabinoid Profile:

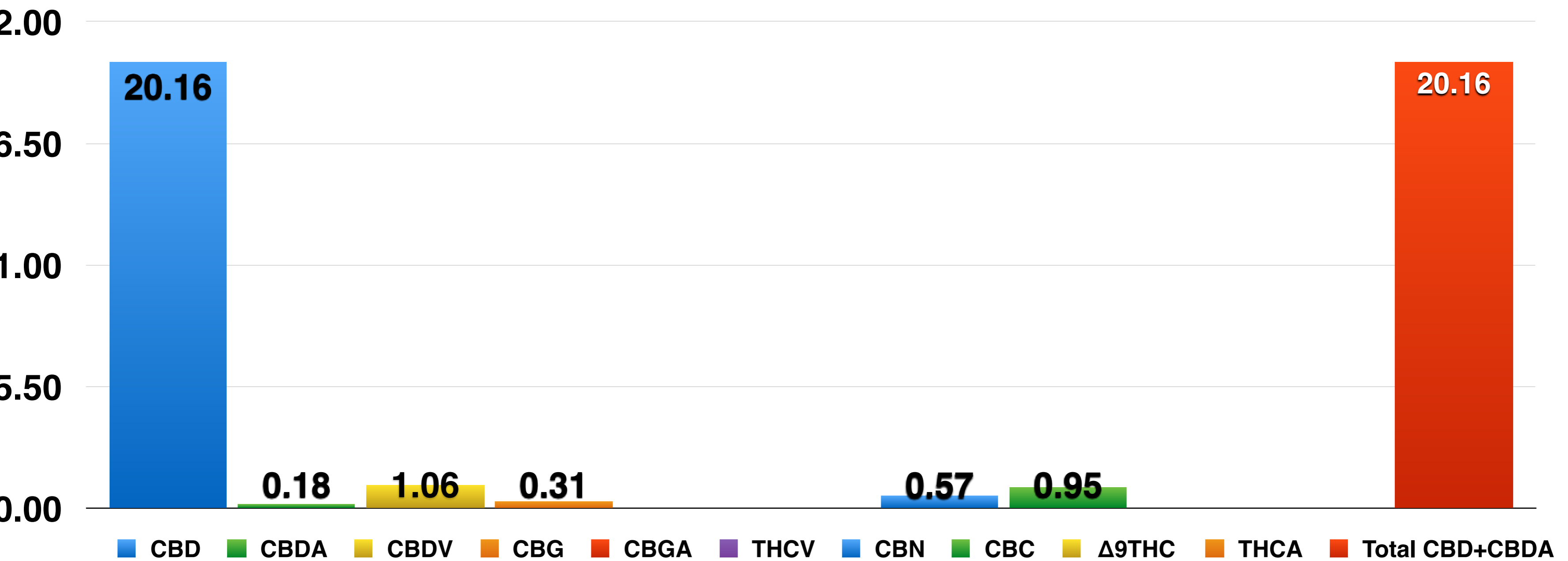
Method: HPLC-UV

Component	Mass (%)	Amount (mg/g)
CBD	20.16	201.60
CBDA	0.18	1.80
CBDV	1.06	10.60
CBG	0.31	3.10
CBGA	<LOQ	<LOQ
THCV	<LOQ	<LOQ
CBN	0.57	5.70
CBC	0.95	9.50
Δ9THC	<LOQ	<LOQ
THCA	<LOQ	<LOQ
Total CBD	20.16	201.60



LOQ - Limit of Quantitation (LOQ=0.03%, LOD=0.006%)

## Cannabinoids as Percent of Total Mass

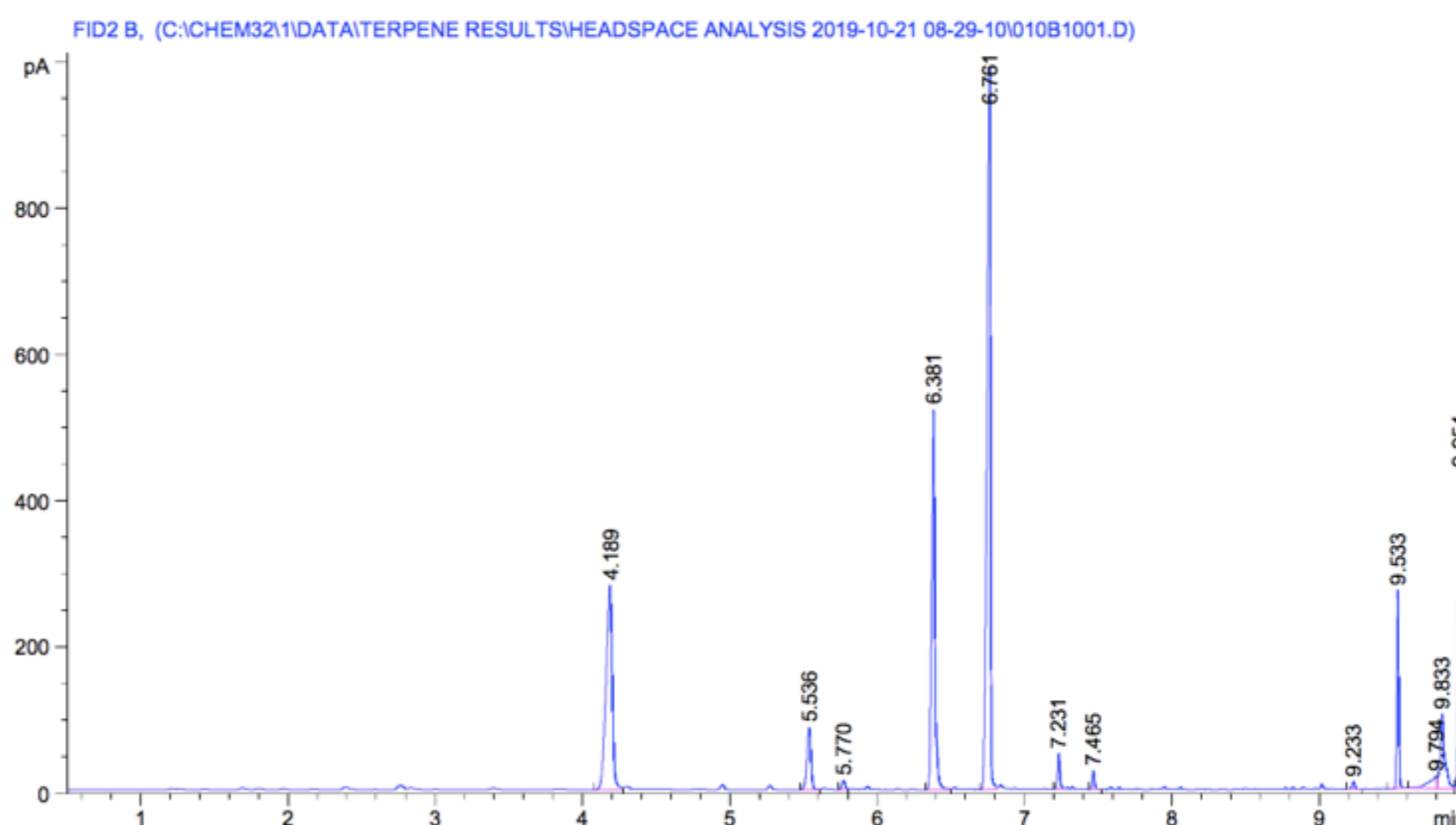


## Terpenoid Profile:

Component	Amount %
$\beta$ -Caryophyllene	0.24
$\alpha$ -Humulene	ND
Caryophyllene oxide	ND
Myrcene	0.41
$\alpha$ -Pinene	0.43
Terpinolene	ND
Humulene epoxide II	ND
Limonene	0.83
$\beta$ -Pinene	ND
E- $\beta$ -Ocimene	ND
Sabinene	ND
Linalool	0.12

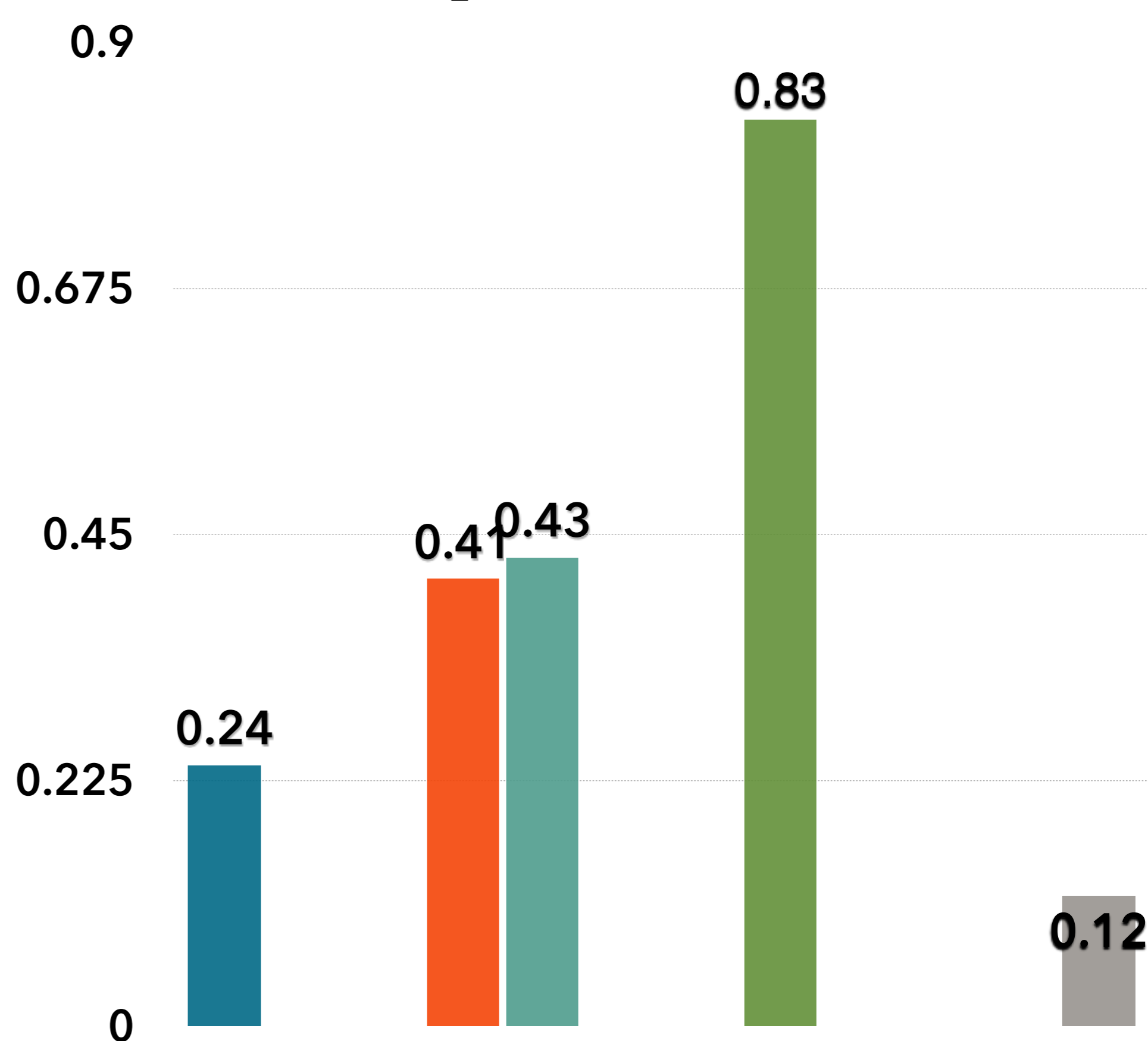
ND - Not Detected

## Method: HS-GC-FID



## Terpenoid Distribution

- $\beta$ -Caryophyllene
- $\alpha$ -Humulene
- Caryophyllene oxide
- Myrcene
- $\alpha$ -Pinene
- Terpinolene
- Humulene epoxide II
- Limonene
- $\beta$ -Pinene
- E- $\beta$ -Ocimene
- Sabinene
- Linalool

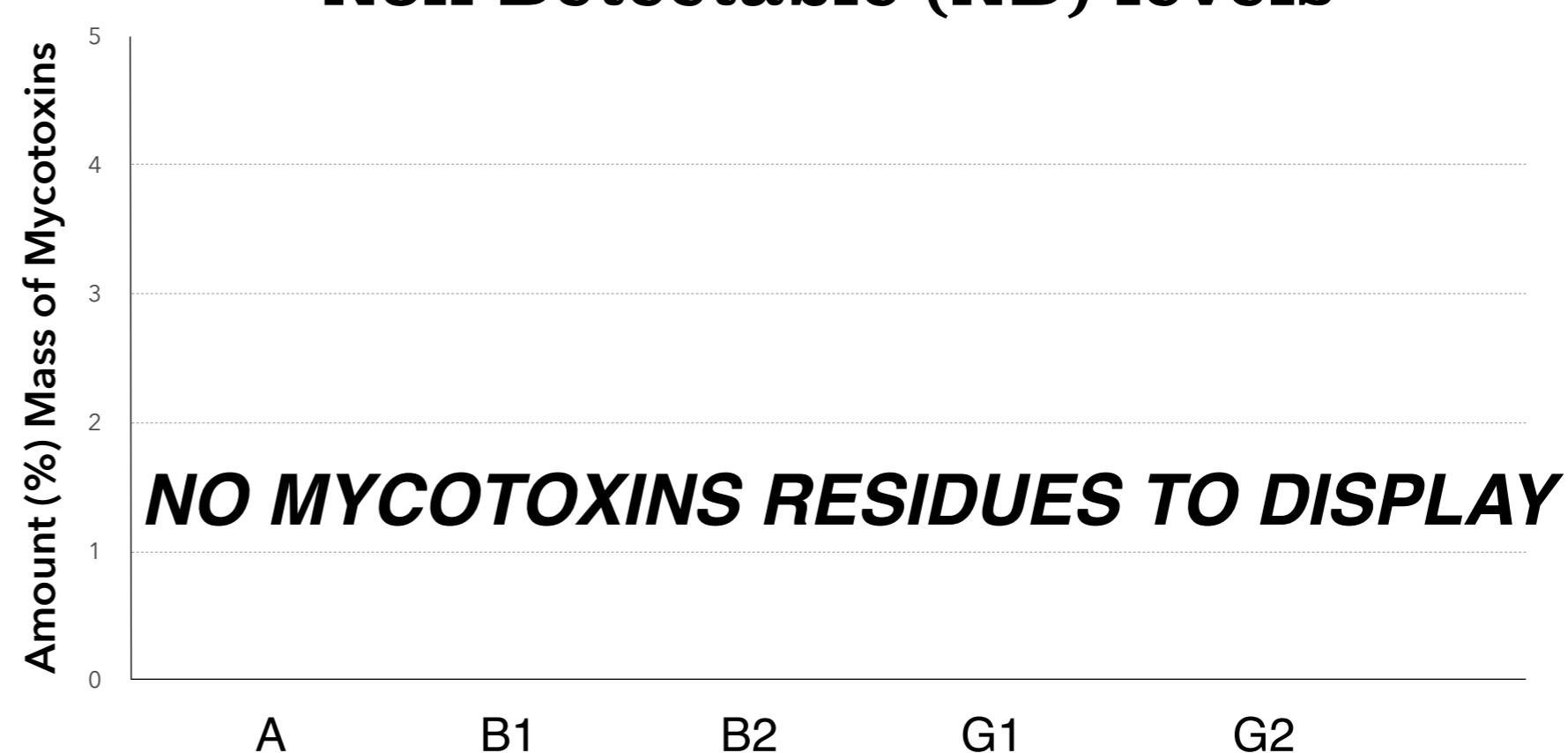


### Microbial Profile:

Component	CFU	Results
<i>Listeria m.</i>	1 g	ND*
<i>Escherichia c.</i>	1 g	ND*
<i>Salmonella</i>	25 g	ND*
Yeast	1 g	ND*
Mould	1 g	ND*

\*ND - Not detected

### All Mycotoxins at Non Detectable (ND) levels



### Nutrition Facts

Component	%
Moisture and volatile matter content	2.23
Protein content	0.31
Total fat content	97.20
Carbohydrates content	ND*
Total Fiber content	ND*
Total sugars content	ND*
Total ash content	ND*

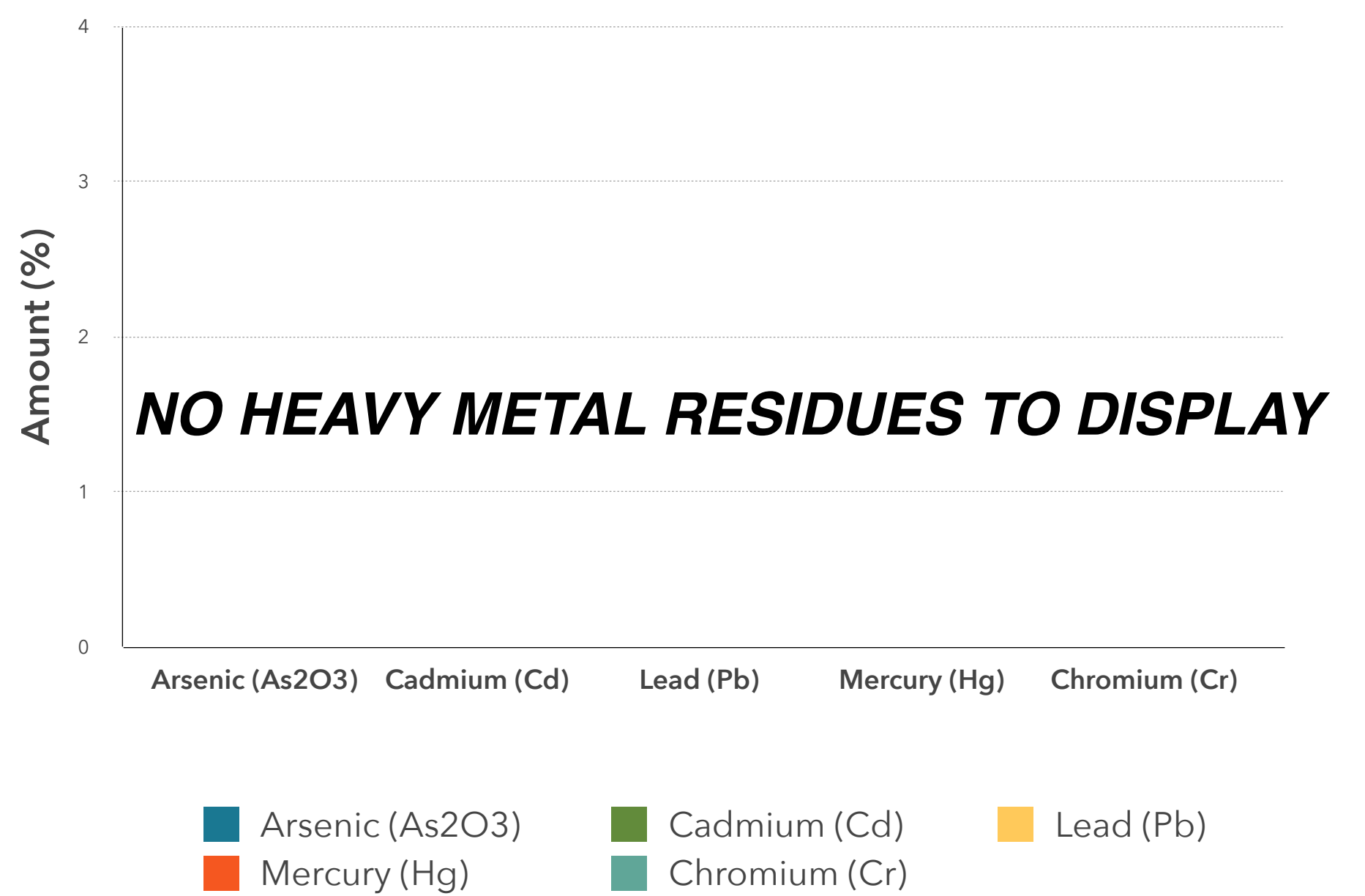
\*ND - Not detected

### Heavy Metals Profile:

Component	Mass (%)	Amount (ppm)	Limit** (ppm)
Arsenic (As <sub>2</sub> O <sub>3</sub> )	ND*	< 0.1	< 0.1
Cadmium (Cd)	ND*	< 0.1	< 0.1
Lead (Pb)	ND*	< 0.1	< 0.1
Mercury (Hg)	ND*	< 0.1	< 0.1
Chromium (Cr)	ND*	< 1	< 1
Tin (Sn)	ND*	< 10	< 10

\*ND - Not detected, \*\*Codex STAN 193-1995, GB 2762, EC No. 1881/2006, FDA

### All Heavy Metals at Non Detectable (ND) levels



### Conclusions:

**No heavy metal residues detected.**

**No flammable residues detected.**

**No chemical residues detected.**

**Pesticide Analysis: Our tests looked for residue of nearly 300 known pesticides finding no evidence of any over detectable limits.**

The Lab tests our products thoroughly. Nearly 300 of the below pesticides concentrations were measured and we are proud to say that all tests measured below our detectable limits. Most tests have a threshold of 0.01 mg/k, while only a handful of tests have a threshold value of <0.05 mg/kg. Not a single test of our products went over detectable threshold limits.

#### PESTICIDES MEASURED

Acrinathrin Azoxystrobin Biphenin Bitertanol Biphenyl  
 Bromopropylate Bromuconazole Bupirimate Cadusafos Captafol Captan  
 Chlorphenson Chlorfenapyr Chlorfenvinphos Chlorothalonil Chlorprophame 3,5-  
 Dichloraniline Chlorpyrifos Chlorpyrifos-methyl Chlorthal-dimethyl Cyfluthrin  
 Cypermethrin Cyproconazole Cyprodinil Clomazone o,p-DDE P,P-DDE o,p-  
 DDD P,P-DDD o,p-DDT p,p-DDT Deltamethri Diazinon Diclofop-methyl Dieldrin  
 Dichlobenil Dichlofluanid Dichlorvos Dicloran Dicofol Dicrotophos Diethofencarb  
 Diflubenzuron Dimetachlor Diniconazole Dodemorph Diphenylamine Alpha-  
 Endosulfan Beta-Endosulfan Endosulfan-sulphate Ethion Etofumesate  
 Ethoprophos Ehtoxyquin Etoxazole Etridiazole Etrimphos Famoxadone  
 Fenarimol Fenazaquin Fenchlorphos Fenhexamid Fenithion Fenpropidin  
 Fenpropimorph Fenvalerate Formothion Fipronil Fipronil-sulfone Fludioxonil  
 Flusilazole Flutriafol Folpet Fuberidazole Furathiocarb Hexaconazole HCB Alpha-  
 HCH Beta-HCH Delta-HCH Heptachlor Heptachlor-epoxidceis Heptachlor-  
 epoxidtreans Iprodione Iprovalicarb Lambda- cyhalothrin Lindane  
 Mecarbam Metalaxv Metazachlor Methidathion Metribuzin Mevinphos  
 Myclobutanil Nuarimol Orthophenylphenol Oxadixyl Paclobutrazol Parathion  
 Parathion-methyl Paraoxon-methyl Paraoxon-ethyl Penconazole Pendimethaline  
 Permethrin Phenthoate Phorate Procymidone Profenofos Propiconazole  
 Propyzamide Pyrazophos Pyrethrins Pyridaben Pyrimethanil Pyriproxyfen  
 Quinoxifen Quitozene Pentachloraniline Phosphamidon Pyrifenox Prometryn  
 Propanil Propoxur Proquinazid Prothiofos Simazine Spiroxamine T au-fluvalinate  
 T ebuconazole T ebufenpyrad T ecnazene T efluthrin T erbuthylazine T  
 etraconazole T etradifon T etramethrine T olclofos-methyl T olyfluanid Transfluthrin  
 Triadimephon Triadimenol Trialate Trifloxystrobin Triflumizole Vinclozolin DDT  
 isomersum Heptachlor (heptachloard heptachloer poxidsum) Trifluraline  
 Chlorobenzilate 3-Chloraniline Abamectin (AvermectinBla and AvermectinBib  
 sum) Acetamiprid Aldicarb Aldikarbsulphone Aldicarb-sulphoxide Azinphos-ethyl  
 Azinphos-methyl Benalaxyl Benfuracarb Boscalid Buprofezin Carbaryl Carbendazim  
 Carbofuran 3-hydroksicarbofuran Carbosulfan Chloridazon Cymoxanil Clofentezin  
 Clothianidin Demeton-S-methyl Demeton-S-methylsulfoxid Diafenthion  
 Difenconazole Dimethoate Dimethomorph Diuron EPN Epoxiconazole Ethirimol  
 Etofenprox Fenamidone Fenbuconazole Fenbutatinoxid Fenoxycarb Fenpyroximate  
 Fenpropathrin Fensulfathion Fenthion Fenthionsulphone  
 Fenthionsulphoxide Fluazinam Flufenoxuron Fluquinconazole Fonofos  
 Formetanate Fosthiazate Hexythiazox Imazalil Imidacloprid Indoxacarb  
 Isofenphos Methacrifos Isofenphos-methyl Krezoxim-methyl Linuron Lufenuron  
 Malaixon Malathion Mepanipirim Mepronil Metamitron Metconazole  
 Methamidophos Methiocarb Methiocarb-sulphone Methiocarb-sulfoxide Methomyl  
 Methoxyfenozide Metobromuron Monocrotophos Monolinuron Omethoate  
 Oxamyl Pencycuron Phenmedipham Phosalone Phosmet Phosmeot xon  
 Phoxim Pymetrozine Piperonylbutoxide Pyraclostrobin Pyridaphenthion  
 Pyridate Pyrifenox Pirimicarb Pirimicarbdesmethyl Pirimiphos-methyl Primisulfuron-  
 methyl Prochloraz Propamocarb Propargite Prothioconazole  
 Prothioconazole-desthio Quinalphos SpinosynA SpinosynD Sulfotep T ebufenozide T  
 eflubenzuron Thiabendazole Thiacloprid Thiamethoxam Thiodicar Thiophanate-  
 methyl Tralkoxydim Triazophos Trichlorfon Triflumuron Triforine  
 Triticonazole Zoxamide Acephate Amitraz Fenamiphos Fenamiphosulphone  
 Fenamiphosulfoxid Nitempiram Fenthionoxonsulphone Fenthionoxonsulfoxid  
 Kumapho Piriphenox Mehibuzine DEET

**Our microbiology analysis is standardized after the following protocols:**

**ISO 6579:2003**

**ISO 11290-1:2003**

**ISO 16649-2:2002**

**ISO 21527-2:2008**

#### Note on Cannabinoid Testing:

All cannabinoids in their acid forms (ending in "-A") are convertible to their non-acid forms via a decarboxylation process (heating). The components lose mass through this process. To find the total theoretical active cannabinoids, one multiplies the acid forms by 87.7%. For example, CBD-A can be converted to active CBD using the formula:  $CBD-A \times 0.877 = CBD$ . In this case, the Max CBD for the sample is:  $Max\ CBD\ (\%) = (\%CBD-A \times 0.877) + \%CBD$ . The same calculation assay is valid for THC-A. This method has been validated according to the principles of the International Conference on Harmonisation.

#### Chromatographic Analysis:

Analysis of cannabinoids content was performed using Waters 2695 (Milford, MA, USA) separation module equipped with auto injector, sample cooler, vacuum degasser and column heater units. Separation of all cannabinoids was accomplished on YMC PRO C18 (150 x 4 mm I.D., S-3 $\mu$ m) RP column coupled with C18 precolumn maintained at 30 °C by a CTO-20AC column oven.

Isocratic elution consisted of acetonitrile:water (4:1) was done in 20 min. The flow rate was maintained at 0.8 ml/min. The cannabinoids were monitored using dual absorbance detector Waters 2487 (Milford, MA, USA). The injection volume of 1 mg/ml sample was 10  $\mu$ l. Data evaluation was performed using Clarity software.

Quantification of cannabinoids was obtained from linear regression equation of calibration curve of individual reference standard by plotting concentration versus the area ratio.

Analysis of terpenes was performed using GC-HS system equipped with auto injector. Separation was accomplished on Rx624Sil, 30m, 0.25  $\mu$ m ID column.