



# CERTIFICATE OF ANALYSIS

Sample Name: Nano Technology Tincture  
 Steep Hill ID: HI76769  
 Batch ID: JP041719HY1  
 State ID:  
 Sample Type: Tincture  
 Date Received: 11/11/2019  
 Date Reported: 12/17/2019  
 Density: 1.21 g/mL

Customer: Himiko Organics LLC  
 4348 Waialae ave 924  
 Honolulu, HI 96816

## OVERALL BATCH SUMMARY: N/A

| Residual Pesticides | Microbial Impurities | Mycotoxins | Heavy Metals | Moisture | Residual Solvents | Foreign Material |
|---------------------|----------------------|------------|--------------|----------|-------------------|------------------|
| NT                  | NT                   | NT         | NT           | NT       | NT                | NT               |

### Cannabinoid Results – Standard Potency 12/17/2019

Standard potency analysis utilizing Ultra High Performance Liquid Chromatography (UHPLC; HI-SOP-024)

| Analyte | %    | mg/g | mg/mL | LOD mg/g | LOQ mg/g |
|---------|------|------|-------|----------|----------|
| CBD     | 0.68 | 6.8  | 8.2   | 0.0098   | 0.0103   |
| CBDA    | ND   | ND   | ND    | 0.0098   | 0.0177   |
| CBG     | ND   | ND   | ND    | 0.0098   | 0.0113   |
| CBN     | ND   | ND   | ND    | 0.0098   | 0.0098   |
| THC     | ND   | ND   | ND    | 0.0098   | 0.0098   |
| THCA    | ND   | ND   | ND    | 0.0098   | 0.023    |
| Total   | 0.68 | 6.8  | 8.2   |          |          |

| Total THC    | Total CBD |
|--------------|-----------|
| Not Detected | 0.68 %    |
| Not Detected | 6.8 mg/g  |
| Not Detected | 8.2 mg/mL |

Total THC = [THCA x 0.877] + [THC]  
 Total CBD = [CBDA x 0.877] + [CBD]

### Cannabinoid Results – Extended Cannabinoids NT

Extended cannabinoid analysis utilizing Ultra High Performance Liquid Chromatography (UHPLC; HI-SOP-024)

| Analyte | %  | mg/g | mg/mL | LOD mg/g | LOQ mg/g |
|---------|----|------|-------|----------|----------|
| CBC     | NT | NT   | NT    | NT       | NT       |
| CBD     | NT | NT   | NT    | NT       | NT       |
| CBDA    | NT | NT   | NT    | NT       | NT       |
| CBDV    | NT | NT   | NT    | NT       | NT       |
| CBDVA   | NT | NT   | NT    | NT       | NT       |
| CBG     | NT | NT   | NT    | NT       | NT       |
| CBN     | NT | NT   | NT    | NT       | NT       |
| THC     | NT | NT   | NT    | NT       | NT       |
| Δ8-THC  | NT | NT   | NT    | NT       | NT       |
| THCA    | NT | NT   | NT    | NT       | NT       |
| THCV    | NT | NT   | NT    | NT       | NT       |
| THCVA   | NT | NT   | NT    | NT       | NT       |
| Total   | NT | NT   | NT    | NT       | NT       |



Nelson Lazaga, Ph.D  
 Laboratory Director  
 Date: 12/17/2019

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**Residual Pesticides Results**

NT

 Residual pesticide analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MSMS; HI-SOP-025) - Limit units:  $\mu\text{g/g} = \text{ppm}$ 

| Analyte             | Pass/Fail | $\mu\text{g/g}$ | Limit | LOD $\mu\text{g/g}$ | LOQ $\mu\text{g/g}$ | Analyte            | Pass/Fail | $\mu\text{g/g}$ | Limit | LOD $\mu\text{g/g}$ | LOQ $\mu\text{g/g}$ |
|---------------------|-----------|-----------------|-------|---------------------|---------------------|--------------------|-----------|-----------------|-------|---------------------|---------------------|
| Abamectin B1a       | NT        | NT              | NT    | NT                  | NT                  | Hexythiazox        | NT        | NT              | NT    | NT                  | NT                  |
| Acephate            | NT        | NT              | NT    | NT                  | NT                  | Imazalil           | NT        | NT              | NT    | NT                  | NT                  |
| Acequinocyl         | NT        | NT              | NT    | NT                  | NT                  | Imidacloprid       | NT        | NT              | NT    | NT                  | NT                  |
| Acetamiprid         | NT        | NT              | NT    | NT                  | NT                  | Kresoxim-methyl    | NT        | NT              | NT    | NT                  | NT                  |
| Aldicarb            | NT        | NT              | NT    | NT                  | NT                  | Malathion          | NT        | NT              | NT    | NT                  | NT                  |
| Azoxystrobin        | NT        | NT              | NT    | NT                  | NT                  | Metalaxyl          | NT        | NT              | NT    | NT                  | NT                  |
| Bifenazate          | NT        | NT              | NT    | NT                  | NT                  | Methiocarb         | NT        | NT              | NT    | NT                  | NT                  |
| Bifenthrin          | NT        | NT              | NT    | NT                  | NT                  | Methomyl           | NT        | NT              | NT    | NT                  | NT                  |
| Boscalid            | NT        | NT              | NT    | NT                  | NT                  | Methyl Parathion   | NT        | NT              | NT    | NT                  | NT                  |
| Carbaryl            | NT        | NT              | NT    | NT                  | NT                  | MGK-264            | NT        | NT              | NT    | NT                  | NT                  |
| Carbofuran          | NT        | NT              | NT    | NT                  | NT                  | Myclobutanil       | NT        | NT              | NT    | NT                  | NT                  |
| Chlorantraniliprole | NT        | NT              | NT    | NT                  | NT                  | Naled              | NT        | NT              | NT    | NT                  | NT                  |
| Chlorfenapyr        | NT        | NT              | NT    | NT                  | NT                  | Oxamyl             | NT        | NT              | NT    | NT                  | NT                  |
| Chlorpyrifos        | NT        | NT              | NT    | NT                  | NT                  | Paclobotrazol      | NT        | NT              | NT    | NT                  | NT                  |
| Clofentezine        | NT        | NT              | NT    | NT                  | NT                  | Permethrin         | NT        | NT              | NT    | NT                  | NT                  |
| Cyfluthrin          | NT        | NT              | NT    | NT                  | NT                  | Phosmet            | NT        | NT              | NT    | NT                  | NT                  |
| Cypermethrin        | NT        | NT              | NT    | NT                  | NT                  | Piperonyl Butoxide | NT        | NT              | NT    | NT                  | NT                  |
| Diazinon            | NT        | NT              | NT    | NT                  | NT                  | Prallethrin        | NT        | NT              | NT    | NT                  | NT                  |
| Dichlorvos          | NT        | NT              | NT    | NT                  | NT                  | Propiconazole      | NT        | NT              | NT    | NT                  | NT                  |
| Dimethoate          | NT        | NT              | NT    | NT                  | NT                  | Propoxur           | NT        | NT              | NT    | NT                  | NT                  |
| Ethoprophos         | NT        | NT              | NT    | NT                  | NT                  | Pyrethrins         | NT        | NT              | NT    | NT                  | NT                  |
| Etofenprox          | NT        | NT              | NT    | NT                  | NT                  | Pyridaben          | NT        | NT              | NT    | NT                  | NT                  |
| Etoxazole           | NT        | NT              | NT    | NT                  | NT                  | Spinosad           | NT        | NT              | NT    | NT                  | NT                  |
| Fenpyroximate       | NT        | NT              | NT    | NT                  | NT                  | Spiromesifen       | NT        | NT              | NT    | NT                  | NT                  |
| Fipronil            | NT        | NT              | NT    | NT                  | NT                  | Spirotetramat      | NT        | NT              | NT    | NT                  | NT                  |
| Flonicamid          | NT        | NT              | NT    | NT                  | NT                  | Tebuconazole       | NT        | NT              | NT    | NT                  | NT                  |
| Fludioxonil         | NT        | NT              | NT    | NT                  | NT                  | Thiacloprid        | NT        | NT              | NT    | NT                  | NT                  |

**Mycotoxin Results**

NT

 Mycotoxin analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MS; HI-SOP-025) - Limit units:  $\mu\text{g/kg} = \text{ppb}$ 

| Analyte          | Pass/Fail | $\mu\text{g/kg}$ | Limit | LOD $\mu\text{g/kg}$ | LOQ $\mu\text{g/kg}$ |
|------------------|-----------|------------------|-------|----------------------|----------------------|
| Aflatoxin B1     | NT        | NT               | NT    | NT                   | NT                   |
| Aflatoxin B2     | NT        | NT               | NT    | NT                   | NT                   |
| Aflatoxin G1     | NT        | NT               | NT    | NT                   | NT                   |
| Aflatoxin G2     | NT        | NT               | NT    | NT                   | NT                   |
| Ochratoxin A     | NT        | NT               | NT    | NT                   | NT                   |
| Total Aflatoxins | NT        | NT               | NT    | NT                   | NT                   |

**Heavy Metals Results**

NT

 Heavy metals analysis utilizing Atomic Absorption Spectroscopy (AAS; HI-SOP-015) - Limit units:  $\mu\text{g/g} = \text{ppm}$ 

| Analyte | Pass/Fail | $\mu\text{g/g}$ | Limit | LOD $\mu\text{g/g}$ | LOQ $\mu\text{g/g}$ |
|---------|-----------|-----------------|-------|---------------------|---------------------|
| Arsenic | NT        | NT              | NT    | NT                  | NT                  |
| Cadmium | NT        | NT              | NT    | NT                  | NT                  |
| Lead    | NT        | NT              | NT    | NT                  | NT                  |
| Mercury | NT        | NT              | NT    | NT                  | NT                  |

**Residual Solvents Results**

NT

 Residual solvents and processing chemicals analysis utilizing Headspace Gas Chromatography – Mass Spectrometry (HS-GC-MS; HI-SOP-010) - Limit units:  $\mu\text{g/g} = \text{ppm}$ 

| Analyte      | Pass/Fail | $\mu\text{g/g}$ | Limit | LOD $\mu\text{g/g}$ | LOQ $\mu\text{g/g}$ | Analyte         | Pass/Fail | $\mu\text{g/g}$ | Limit | LOD $\mu\text{g/g}$ | LOQ $\mu\text{g/g}$ |
|--------------|-----------|-----------------|-------|---------------------|---------------------|-----------------|-----------|-----------------|-------|---------------------|---------------------|
| Acetone      | NT        | NT              | NT    | NT                  | NT                  | Isobutane       | NT        | NT              | NT    | NT                  | NT                  |
| Acetonitrile | NT        | NT              | NT    | NT                  | NT                  | Isopropanol     | NT        | NT              | NT    | NT                  | NT                  |
| Benzene      | NT        | NT              | NT    | NT                  | NT                  | Methanol        | NT        | NT              | NT    | NT                  | NT                  |
| Butanes      | NT        | NT              | NT    | NT                  | NT                  | n-Pentane       | NT        | NT              | NT    | NT                  | NT                  |
| Chloroform   | NT        | NT              | NT    | NT                  | NT                  | Tetrahydrofuran | NT        | NT              | NT    | NT                  | NT                  |
| Ethanol      | NT        | NT              | NT    | NT                  | NT                  | Toluene         | NT        | NT              | NT    | NT                  | NT                  |
| Heptanes     | NT        | NT              | NT    | NT                  | NT                  | Total Xylenes   | NT        | NT              | NT    | NT                  | NT                  |
| n-Hexane     | NT        | NT              | NT    | NT                  | NT                  |                 |           |                 |       |                     |                     |



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 Laboratory Director  
 Date: 12/17/2019

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**Terpenoid Results - Standard Terpenes** NT

Standard terpene analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MS; HI-SOP-024)

| Analyte             | %  | mg/g | mg/mL | LOD mg/g | LOQ mg/g |
|---------------------|----|------|-------|----------|----------|
| Caryophyllene Oxide | NT | NT   | NT    | NT       | NT       |
| β-Caryophyllene     | NT | NT   | NT    | NT       | NT       |
| Citronellol         | NT | NT   | NT    | NT       | NT       |
| α-Humulene          | NT | NT   | NT    | NT       | NT       |
| Linalool            | NT | NT   | NT    | NT       | NT       |
| β-Myrcene           | NT | NT   | NT    | NT       | NT       |
| Total               | NT | NT   | NT    | NT       | NT       |

**Terpenoid Results - Extended Terpenes** NT

Extended terpene analysis utilizing Gas Chromatography – Mass Spectrometry (GC-MS)

| Analyte             | %  | mg/g | mg/mL | LOD mg/g | LOQ mg/g |
|---------------------|----|------|-------|----------|----------|
| α-Bisabolol         | NT | NT   | NT    | NT       | NT       |
| Camphene            | NT | NT   | NT    | NT       | NT       |
| 3-Carene            | NT | NT   | NT    | NT       | NT       |
| Caryophyllene Oxide | NT | NT   | NT    | NT       | NT       |
| β-Caryophyllene     | NT | NT   | NT    | NT       | NT       |
| Eucalyptol          | NT | NT   | NT    | NT       | NT       |
| Geraniol            | NT | NT   | NT    | NT       | NT       |
| Guaiol              | NT | NT   | NT    | NT       | NT       |
| Humulene            | NT | NT   | NT    | NT       | NT       |
| p-Isopropyltoluene  | NT | NT   | NT    | NT       | NT       |
| Isopulegol          | NT | NT   | NT    | NT       | NT       |
| Limonene            | NT | NT   | NT    | NT       | NT       |
| Linalool            | NT | NT   | NT    | NT       | NT       |
| β-Myrcene           | NT | NT   | NT    | NT       | NT       |
| Nerolidol           | NT | NT   | NT    | NT       | NT       |
| Ocimene             | NT | NT   | NT    | NT       | NT       |
| α-Pinene            | NT | NT   | NT    | NT       | NT       |
| β-Pinene            | NT | NT   | NT    | NT       | NT       |
| α-Terpinene         | NT | NT   | NT    | NT       | NT       |
| γ-Terpinene         | NT | NT   | NT    | NT       | NT       |
| Terpinolene         | NT | NT   | NT    | NT       | NT       |
| Total               | NT | NT   | NT    | NT       | NT       |

**Microbial Impurities Results** NT

 Microbiological screening utilizing PathogenDx and TEMPO (HI-SOP-008 + HI-SOP-007) - **Limit units: CFU/g**

| Analyte               | Pass/Fail | Result | Limit | LOQ |
|-----------------------|-----------|--------|-------|-----|
| Aspergillus flavus    |           | NT     | NT    | NT  |
| Aspergillus fumigatus |           | NT     | NT    | NT  |
| Aspergillus niger     |           | NT     | NT    | NT  |
| Salmonella            |           | NT     | NT    | NT  |
| Aerobic               |           | NT     | NT    | NT  |
| Coliform              |           | NT     | NT    | NT  |
| Enterobacteria        |           | NT     | NT    | NT  |
| General E. coli       |           | NT     | NT    | NT  |
| Yeast & Mold          |           | NT     | NT    | NT  |

**Moisture Results** NT

 Moisture content analysis utilizing Moisture Balance (MB; HI-SOP-033) - **Limit units: %**

| Analyte  | Pass/Fail | %  | Limit |
|----------|-----------|----|-------|
| Moisture |           | NT | NT    |

**Foreign Material Results** NT

Foreign material analysis utilizing visual inspection with 10x magnification (HI-SOP-016)

| Analyte           | Pass/Fail |
|-------------------|-----------|
| Visual Inspection | NT        |

 LOD: Limit of Detection  
 LOQ: Limit of Quantitation  
 NT: Not Tested  
 ND: Not Detected



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Page 3 of 3