

Supplementary Figure S1. Morphology of isolated colonies. Isolate F2 exhibited a white to pale cream color with a cottony or powdery texture. Under the microscope, after staining with lactophenol blue, F2 showed small, single-celled, oval or globose conidia produced on short, zig-zag conidiophores. The conidia were often arranged in dense clusters, giving the colony a globular appearance. Isolate F12, on the other hand, appeared green to olive in color with a granular texture. After two weeks of incubation on PDA, the colonies developed a powdery appearance due to conidia formation. Microscopic ex-amination revealed that the conidia of F12 were cylindrical to elliptical and were borne on distinct, branched conidiophores, typically arranged in dense, brush-like clusters.

Supplementary Table S1. Total terpenes concentration (g) of Congo durban (THC dominant) cannabis plants using USP <621> chromatography and HPLC-DAD quantification. Bb, *B. bassiana* 1 x10^7 conidia ml^{-1}.

Terpenes	**Ct**	**I-W**	**I-I**	**I-B**	**N-B**
a-Pinene	2.81	2.33	2.86	3.14	2.79
b-Myrcene	0.50	0.47	0.60	0.58	0.49
b-Pinene	1.80	1.63	1.54	2.48	1.86
b-Caryophyllene	0.09	0.10	0.01	0.11	0.00
Farnesene	0.48	0.45	0.48	0.45	0.46
δ-Limonene	0.00	0.00	0.09	0.00	0.09
a-Cedrene	0.03	0.00	0.00	0.03	0.00
a-Bisabolol	0.10	0.12	0.10	0.13	0.12
Terpineol	0.11	0.08	0.09	0.13	0.17
Linalool	0.00	0.00	0.00	0.00	0.05
trans-Nerolidol	0.86	0.00	0.68	1.25	0.88
Isoborneol	0.06	0.90	0.05	1.33	0.05
Valencene	0.04	0.00	0.35	0.00	0.27
cis-Nerolidol	0.00	3.67	0.00	5.23	0.00
Ocimene	0.00	0.02	0.00	0.02	0.06
Geranyl Acetate	0.35	0.41	0.30	0.48	0.31
(+)-Pulegone	0.02	0.05	0.00	0.00	0.04
Camphene	0.00	0.00	0.03	0.00	0.00
Camphor	0.02	0.00	0.00	0.00	0.00
Cedrol	0.02	0.02	0.02	0.02	0.03
Eucalyptol	0.64	0.16	0.51	0.16	0.55
Fenchol	0.00	0.02	0.00	0.02	0.02
Fenchone	1.63	0.00	1.75	0.02	1.82
Ɣ-Terpinene	0.03	0.02	0.00	0.02	0.02
Geraniol	0.02	0.02	0.00	0.00	0.00
Total	9.62	10.48	9.45	15.60	10.08

Supplementary Table S2. Total terpenes concentration (g) of Perseid (CBD dominant) cannabis plants using USP <621> chromatography and HPLC-DAD quantification. Bb, *B. bassiana* 1 x10^7 conidia ml^{-1}.

Terpenes	Ct	I-W	I-I	I-B	N-B
a-Pinene	0.53	0.01	0.30	0.80	0.77
b-Myrcene	0.34	0.02	0.13	0.36	0.42
b-Pinene	0.21	0.02	0.12	0.31	0.30
Guaiol	0.15	0.06	0.02	0.14	0.19
b-Caryophyllene	0.11	0.02	0.09	0.17	0.18
Farnesene	0.11	0.00	0.08	0.16	0.18
δ-Limonene	0.11	0.00	0.03	0.12	0.15
a-Cedrene	0.11	0.00	0.00	0.04	0.11
a-Bisabolol	0.06	0.00	0.02	0.03	0.10
Terpineol	0.10	0.00	0.08	0.10	0.10
Linalool	0.07	0.00	0.05	0.06	0.07
trans-Nerolidol	0.07	0.02	0.01	0.04	0.07
Isoborneol	0.04	0.27	0.00	0.00	0.06
Valencene	0.02	0.00	0.00	0.01	0.06
cis-Nerolidol	0.00	0.00	0.00	0.02	0.05
Ocimene	0.00	0.00	0.02	0.00	0.02
Geranyl Acetate	0.02	0.00	0.01	0.05	0.01
(+)-Pulegone	0.01	0.00	0.00	0.00	0.01
Camphene	0.02	0.00	0.02	0.00	0.01
Caryophyllene Oxide	0.00	0.00	0.01	0.00	0.00
Cedrol	0.00	0.00	0.01	0.01	0.00
Eucalyptol	0.02	0.00	0.00	0.01	0.00
Fenchol	0.00	0.00	0.10	0.12	0.00
Geraniol	0.00	0.00	0.04	0.01	0.00
Isopulegol	0.04	0.00	0.00	0.03	0.00
Menthol	0.02	0.00	0.00	0.01	0.00
Nerol	0.00	0.02	0.01	0.00	0.00
p-Cymene	0.00	0.00	0.00	0.01	0.00
Total	2.12	0.44	1.19	2.64	2.87

Supplementary Table S3. Total terpenes concentration (g) of GCC (CBD ≈ THC) cannabis plants using USP <621> chromatography and HPLC-DAD quantification. Bb, *B. bassiana* 1 x10^7 conidia ml^{-1}.

Terpenes	**Ct**	**I-W**	**I-I**	**I-B**	**N-B**
a-Pinene	0.41	0.64	0.12	0.34	0.59
b-Myrcene	1.27	2.24	1.01	1.90	2.09
b-Pinene	0.28	0.39	0.17	0.38	0.33
Guaiol	1.12	0.93	0.67	0.96	0.93
b-Caryophyllene	0.29	0.33	0.26	0.24	0.25
Farnesene	0.73	0.59	0.47	0.64	0.50
δ-Limonene	0.38	0.65	0.32	0.55	0.56
a-Cedrene	0.23	0.23	0.00	0.24	0.04
a-Bisabolol	1.98	0.44	0.34	0.36	0.48
Terpineol	0.19	0.25	0.14	0.33	0.24
Linalool	0.22	0.28	0.12	0.25	0.32
trans-Nerolidol	0.02	0.04	0.04	0.00	0.01
Isoborneol	0.13	0.06	0.12	0.13	0.05
Valencene	0.05	0.24	0.18	0.05	0.25
Ocimene	0.00	0.03	0.00	0.00	1.46
Geranyl Acetate	0.09	0.03	0.00	0.08	0.05
(+)-Pulegone	0.04	0.14	0.06	0.00	0.00
Camphene	0.03	0.02	0.01	0.05	0.04
Cedrol	0.02	0.00	0.00	0.03	0.00
Eucalyptol	0.03	0.02	0.07	0.03	0.04
Fenchol	0.00	0.00	0.21	0.00	0.28
Fenchone	0.00	0.00	0.00	0.00	0.02
Y-Terpinene	0.16	0.28	0.19	0.20	0.00
Geraniol	0.02	0.00	0.10	0.00	0.04
Isopulegol	0.00	0.00	0.00	0.00	0.00
Menthol	0.00	0.00	0.03	0.00	0.02
Nerol	0.00	0.00	0.03	0.00	0.00
Total	7.68	7.85	4.67	6.76	8.60