IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Turtle Bear Holdings, LLC
Serial No.: 18/114,381
Filing or 371(c) Date: February 27, 2023
Entitled: Psilocybin Compositions

Confirmation No.: 9425
Group No.:
Examiner:

THIRD-PARTY PRE-ISSUANCE SUBMISSION

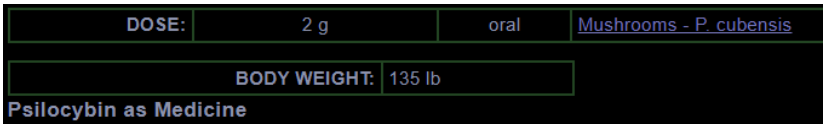
Examiner:

The following documents, which are also identified in the Form PTO/SB/429 filed herewith, are submitted for your consideration as being of potential relevance to the examination of the present application

1. U.S. Pat. App. Pub. No. 2008/0194553 "Use of Compounds That Are Able To Increase The Serum Igf-1 Level For The Preparation Of A Therapeutical Composition For Treatment Of Various Disease States Associated With A Reduced Igf-1 Serum Level In Humans And Animals" (Published August 14, 2008)
2. PSILOLOVER333, "Virgin Beauty Blossoming Consciousness Mushrooms - P. cubensis" January 13, 2016; retrieved from Erowid Experience Vaults. https://erowid.org/experiences/exp.php?ID=107678, retrieved January 13, 2016
3. WIECZOREK (2015) "Chapter 5 - Bioactive Alkaloids of Hallucinogenic Mushrooms" Studies in Natural Products Chemistry. 46: 133-168
4. CARTZ (1994) "Extraction and analysis of indole derivatives from fungal biomass" Journal of Basic Microbiology. 34(1): 17-22
5. MATTILA (2001) "Contents of vitamins, mineral elements, and some phenolic compounds in cultivated mushrooms" Journal of Agricultural and Food Chemistry. 49(5): 2343-2348
6. EROWID, "Psilocybin, Psilocin, and Magic Mushroom Dosage" January 18, 2013; retrieved from Erowid; retrieved from Web Archives. https://web.archive.org/web/20130118160500/https:/erowid.org/plants/mushrooms/mushrooms_dose.shtml, retrieved January 18, 2013
7. U.S. Pat. App. Pub. No. 2010/0028469 "Extracts of Cranberry And Methods Of Using Thereof" (Published February 4, 2010)
8. CHYCHO, "The Boundary Salvia divinorum, Fasting & Mushrooms - P. cubensis" April 9, 2007; retrieved from Erowid; retrieved from Web Archives. https://web.archive.org/web/20220916125803/https:/www.erowid.org/experiences/exp.php?ID=53239, retrieved April 9, 2007
9. Intl. Pat. Doc. No. WO2016001922 "METHODS, DEVICES AND SYSTEMS FOR PULMONARY DELIVERY OF ACTIVE AGENTS" (Published January 7, 2016)
10. U.S. Pat. App. Pub. No. 2014/0220150 "Integrative Fungal Solutions For Protecting Bees And Overcoming Colony Collapse Disorder (CCD): Methods And Compositions" (Published August 7, 2014)

Attached hereto is a claim chart providing a concise description of the relevance of each reference in the document list of the elements of the presently pending claims.

U.S.S.N. 18/114,381 Pending Claims	References
1. A method for reducing symptoms of depression in a subject in need thereof, the method comprising: administering a dosage form comprising: 0.1 to 10 mg of baeocystin, norbaeocystin, salts thereof, or combinations thereof; and 1 to 50 mg of niacin; sufficient to reduce the symptoms of depression in the subject.	1. U.S. Pat. App. Pub. No. 2008/0194553 "Use of Compounds That Are Able To Increase The Serum Igf-1 Level For The Preparation Of A Therapeutical Composition For Treatment Of Various Disease States Associated With A Reduced Igf-1 Serum Level In Humans And Animals" (Published August 14, 2008) From **claim 1** "**A method, comprising: using one or more compounds** that are capable of activating the hypothalamus in an individual to increase the serum level of Growth Hormone Releasing Hormone (GHRH), which in turn leads to an increase in the secretion of growth hormone (GH) and the subsequent rise of the serum level of insulin-like growth factor 1 (IGF-1) **for the preparation of a therapeutical composition for the treatment of** serious fatigue and exhaustion symptoms, burn-out, chronic fatigue syndrome, **depression**, Alzheimer disease, irritated bowel syndrome, osteoporosis, type 2 diabetes, or for anti-aging therapy, immune therapy and for stimulating recovery after physical exercise in humans or for stimulating growth and the immune system in animals." From **claim 2** "**The method as claimed in claim 1, wherein the compound is a compound that, when administered to a human or animal individual** to be treated, leads to an increased level of indole acetic acid(IAA) in the human or animal body in comparison to the level of indole acetic acid in the same human or animal body prior to administration of the compound." From **claim 5** "**The method as claimed in claim 1, wherein the compound is** a precursor of indole acetic acid selected from the group consisting of tryptophan, 4-hydroxytryptophan, 4-methoxy-tryptophan, 5-hydroxytryptophan, 5-methoxytryptophan, 6-hydroxytryptophan, 6-methoxytryptophan, 7-hydroxy-tryptophan, 7-methoxytryptophan, hypaphorine, tryptamine, 4-hydroxytryptamine, 4-methoxytryptamine, psilocin (4-hydroxy, dimethyl tryptamine), psilocybin (4-phosphate, dimethyl- tryptamine), **baeocystin**, serotonin (5hydroxytryptamine), 5-methoxytryptamine, bufotenine (dimethylserotonine),O-methylbufotenine, melatonin, 6-hydroxytryptamine, 6-methoxy-tryptamine, 7-hydroxytryptamine, 7-methoxytryptamine, indole butyric acid and indole-3-pyruvate." From **claim 6** "**The method as claimed in claim 3, wherein the compound is an analogue of the compounds listed in claim 3** or a metabolite of indole acetic acid that can be converted back into a

	compound as listed in claim 3, **and selected from the group consisting of** indole, indole-3-acetaldehyde, indole-3ethanol, indole-3-aldehyde, indol-3-methanol, indole-3-carboxylic acid, 3-methylindole (skatole); indole-3acetaldoxime, 3-aminomethylindole, N-methylaminomethylindole, gramine (N-dimethylaminomethylindole), indoxyls (indicans), indoleninones, 3-methylene-2-oxindole, abrine, isotan B, isatin, indican, indigo, indurubin, indigotins, 3-indolyl-methyl (skatolyl), **niacin**, 2-oxindole-3-acetic acid, 3-methylene-2-oxindole, oxindole-3-methanol, oxindole-3-aldehyde, oxindole-3-carboxylic acid and 3-methyloxindole." From **claim 14** "The method as claimed in claim 2, **wherein the composition comprises 1 to 100 mg, of the active ingredient.**" 3. WIECZOREK (2015) "Chapter 5 - Bioactive Alkaloids of Hallucinogenic Mushrooms" Studies in Natural Products Chemistry. 46: 133-168 From **page 134** "**In nature, indoles are probably the most often occurring heterocyclic compounds, having medicinal importance** [3]. Two simple indole alkaloids: psilocin (3-[2 (dimethylamino) ethyl]-4-indolol) and psilocybin ([3-(2-dimethylaminoethyl)-1H-indol-4-yl] dihydrogen phosphate) are present in many mushroom species. **These mushrooms are called hallucinogenic, psychedelic, entheogenic, magic, medicinal, neurotropic, psychoactive, sacred, or saint mushrooms** [4]. Also other analogs of psilocybin, known as **baeocystin, norbaeocystin**, bufotenin, and aeruginascin, **were found in hallucinogenic mushrooms. Hallucinogenic compounds were chemically identified in mushrooms belonging to various genera**, e.g., Agrocybe, Conocybe, Galerina, Gymnopilus, Hypholoma, Inocybe, Panaeolus, **Psilocybe**, Pholiotina, Pluteus, and Weraroa [5]." 2. PSILOLOVER333, "Virgin Beauty Blossoming Consciousness Mushrooms - P. cubensis" January 13, 2016; retrieved from Erowid Experience Vaults. https://erowid.org/experiences/exp.php?ID=107678, retrieved January 13, 2016 

	From **webpage** "At fourteen years old **I was diagnosed with major depressive disorder**, generalized anxiety, and Hashimoto's Disease… After being let down by modernized medicine I decided to teach myself about what was wrong with my body and my mind. **I found many stories about psilocybin and LSD being used to treat/cure depression and anxiety**… I was sitting alone in the next room when one of my sister's friends walked in with an ounce of **potent psilocybe cubensis**. I eagerly offered him some money in exchange for **2 grams of his fungi** and he was pleased to oblige… Then, comforter to sheets, sheets to skin, skin to psilocybin energy, psilocybin energy to brain, brain to **depression-killing lessons**. I was shown how ignorant I had been… Psilocybin will change the world if only we as a society decide to harness it with graciousness. The strength that it holds in curing us of our ego driven world is profound! All we must do is recognize the virgin beauty that is our world and accept it by blossoming our consciousness." 4. CARTZ (1994) "Extraction and analysis of indole derivatives from fungal biomass" Journal of Basic Microbiology. 34(1): 17-22 From **page 18** "Extraction: **Samples (0.01 -0.1 g) of dried ground mushrooms were extracted with 5 to 20 ml of methanol for 0.5 to 12 hours by using a magnetic stirrer at room temperature**. Under equal conditions the mixtures with aqueous acetic acid (CASALE 1985) and aqueous ethanol (psilocin) and methanol (psilocybin) (KYSILKA and WURST 1990. WURST *et al*. 1992) were used for extraction of the same batch of mushrooms." From **page 19** "In this investigation the **extraction of** psilocin, psilocybin and **baeocystin** with pure methanol was not completely after 30 min in all species and even 6 hours in analysis of **P. cubensis** and G. purpuratus. But the full extraction of the alkaloids from all mushrooms was reached after 12 hours. After this time no traces of indole derivatives could be detected after subsequent extraction of the fungal material with aqueous solutions of ethanol/methanol or acetic acid as well as with chloroform for psilocin. **Baeocystin as incompletely methylated counterpart and possible precursor of psilocybin (GARTZ 1989a) was found in all species by using methanol but in some cases only in very small amounts (Table 1).**"

Table 1
Amount of indole alkaloids in fruiting bodies of different species by using pure methanol as solvent

Species	Psilocybin	Psilocin	Baeocystin
	(%, dry weight)		
P. semilanceata	0.98	–	0.34
P. bohemica	0.85	0.02	0.04
P. bohemica (cultivated)	0.93	0.04	0.02
P. cubensis	0.63	0.11	0.02
G. purpuratus	0.34	0.29	0.05
I. aeruginascens	0.40	–	0.21
P. cyanescens	0.32	0.51	0.02

5. MATTILA (2001) "Contents of vitamins, mineral elements, and some phenolic compounds in cultivated mushrooms" Journal of Agricultural and Food Chemistry. 49(5): 2343-2348

From **abstract** "**The aim of the study was to determine the contents of mineral elements** (Ca, K, Mg, Na, P, Cu, Fe, Mn, Cd, Pb, and Se), vitamins (B1, B2, B12, C, D, folates, and **niacin**), and certain phenolic compounds (flavonoids, lignans, and phenolic acids) **in the cultivated mushrooms** Agaricus bisporus/white, Agaricus bisporus/brown, Lentinus edodes, and Pleurotus ostreatus. Selenium, toxic heavy metals (Cd, Pb), and other mineral elements were analyzed by ETAAS, ICP-MS, and ICP methods, respectively; vitamins were detected by microbiological methods (folates, niacin, and vitamin B12) or HPLC methods (other vitamins), and phenolic compounds were analyzed by HPLC (flavonoids) or GC-MS methods (lignans and phenolic acids)."

From **page 2344** "**Vitamins. Cultivated mushrooms were good sources of several vitamins (Table 1), particularly** riboflavin, **niacin**, and folates."

From **page 2345**

Table 1. Vitamin Contents of Analyzed Cultivated Mushrooms (mg or μg/100 g)[a]

	mushroom							
	Agaricus bisporus/white		Agaricus bisporus/brown		Lentinus edodes		Pleurotus ostreatus	
vitamin	fw	dw	fw	dw	fw	dw	fw	dw
vitamin C, mg	1.3	17	1.6	21	2.1	25	1.6	20
vitamin B_1, mg	0.05	0.6	0.05	0.6	0.05	0.6	0.07	0.9
vitamin B_2, mg	0.39	5.1	0.33	4.2	0.15	1.8	0.20	2.5
folates, μg	35	450	46	590	25	300	51	640
niacin, mg	3.3	43	4.1	53	2.6	31	5.2	65
vitamin B_{12}, μg	0.06	0.8	0.05	0.6	0.07	0.8	0.05	0.6
vitamin D, μg	<0.02		<0.02		0.1	1	0.02	0.3
dry matter, %	7.7		7.8		8.4		8.0	

[a] fw, fresh weight; dw, dry weight.

6. EROWID, "Psilocybin, Psilocin, and Magic Mushroom Dosage" January 18, 2013; retrieved from Erowid; retrieved from Web Archives.

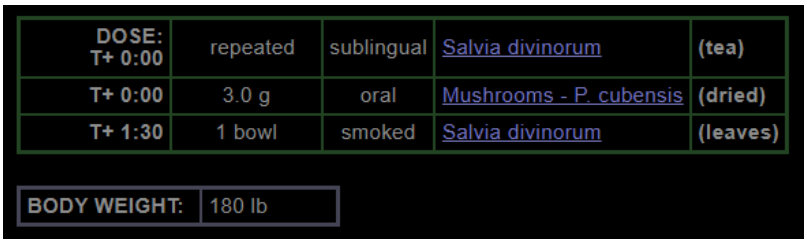
	https://web.archive.org/web/20130118160500/https:/erowid.org/plants/mushrooms/mushrooms_dose.shtml, retrieved January 18, 2013 From **website** "**Psilocybe cubensis is a medium strength psilocybian mushroom consisting of approximately .63% psilocybin and .60% psilocin in dried wild mushrooms**. Indoor cultivated mushrooms tend to have higher concentrations. Note that potency of mushrooms can vary greatly from one batch to the next. **The following chart shows approximate oral dosages for (dried) Psilocybe cubensis in grams**." **Oral P. cubensis Dosages** Threshold: .25 g: 1/100 oz Light: .25 - 1 g: 1/100 - 1/28oz Common: 1 - 2.5 g: 1/28 - 1/10oz Strong: 2.5 - 5 g: 1/10 - 1/6oz Heavy: 5 + g: 1/6oz +
2. The method of claim 1, wherein the dosage form further comprises 0.1 to 10 mg of *psilocybin, psilocin*, salts thereof, or combinations thereof.	4. CARTZ (1994) "Extraction and analysis of indole derivatives from fungal biomass" Journal of Basic Microbiology. 34(1): 17-22 From **page 18** "Extraction: **Samples (0.01 -0.1 g) of dried ground mushrooms were extracted with 5 to 20 ml of methanol for 0.5 to 12 hours by using a magnetic stirrer at room temperature**. Under equal conditions the mixtures with aqueous acetic acid (CASALE 1985) and aqueous ethanol (psilocin) and methanol (psilocybin) (KYSILKA and WURST 1990. WURST *et al*. 1992) were used for extraction of the same batch of mushrooms." From **page 19** "In this investigation the **extraction of psilocin, psilocybin** and baeocystin with pure methanol was not completely after 30 min in all species and even 6 hours in analysis of **P. cubensis** and G. purpuratus. But the full extraction of the alkaloids from all mushrooms was reached after 12 hours. After this time no traces of indole derivatives could be detected after subsequent extraction of the fungal material with aqueous solutions of ethanol/methanol or acetic acid as well as with chloroform for psilocin. **Baeocystin as incompletely methylated counterpart and possible precursor of psilocybin (GARTZ 1989a) was found in all species by using methanol but in some cases only in very small amounts (Table 1).**"

	Table 1 Amount of indole alkaloids in fruiting bodies of different species by using pure methanol as solvent **Species** / **Psilocybin** / **Psilocin** / **Baeocystin** (%, dry weight) *P. semilanceata* 0.98 – 0.34 *P. bohemica* 0.85 0.02 0.04 *P. bohemica* (cultivated) 0.93 0.04 0.02 *P. cubensis* 0.63 0.11 0.02 *G. purpuratus* 0.34 0.29 0.05 *I. aeruginascens* 0.40 – 0.21 *P. cyanescens* 0.32 0.51 0.02 6. EROWID, "Psilocybin, Psilocin, and Magic Mushroom Dosage" January 18, 2013; retrieved from Erowid; retrieved from Web Archives. https://web.archive.org/web/20130118160500/https:/erowid.org/plants/mushrooms/mushrooms_dose.shtml, retrieved January 18, 2013 From **website** "**Psilocybe cubensis is a medium strength psilocybian mushroom consisting of approximately .63% psilocybin and .60% psilocin in dried wild mushrooms**. Indoor cultivated mushrooms tend to have higher concentrations. Note that potency of mushrooms can vary greatly from one batch to the next. **The following chart shows approximate oral dosages for (dried) Psilocybe cubensis in grams**." **Oral P. cubensis Dosages** Threshold .25 g 1/100 oz Light .25 - 1 g 1/100 - 1/28oz Common 1 - 2.5 g 1/28 - 1/10oz Strong 2.5 - 5 g 1/10 - 1/6oz Heavy 5 + g 1/6oz +
3. The method of claim 1, wherein the dosage form further comprises one or more pharmaceutically acceptable excipients comprising selected from buffering agents, antimicrobial preservatives, antioxidants, suspension agents, a tablet or capsule diluent, or a tablet disintegrant.	1. U.S. Pat. App. Pub. No. 2008/0194553 "Use of Compounds That Are Able To Increase The Serum Igf-1 Level For The Preparation Of A Therapeutical Composition For Treatment Of Various Disease States Associated With A Reduced Igf-1 Serum Level In Humans And Animals" (Published August 14, 2008) From **[0032]** "The composition of the invention is preferably in the form of a **capsule**, but other dosage forms, preferably oral dosage forms, such as **tablets, oral suspensions**, oral emulsions, oral fluids, powders, lozenges, pastilles, pills, etc., are also possible. The composition may for example take the form of a food supplement or a pharmaceutical composition."

	From **claim 17** "**Therapeutical composition comprising a suitable diluent, carrier or excipient** and one or more compounds as listed in claim 3." From **claim 1** "**A method, comprising: using one or more compounds** that are capable of activating the hypothalamus in an individual to increase the serum level of Growth Hormone Releasing Hormone (GHRH), which in turn leads to an increase in the secretion of growth hormone (GH) and the subsequent rise of the serum level of insulin-like growth factor 1 (IGF-1) **for the preparation of a therapeutical composition for the treatment of** serious fatigue and exhaustion symptoms, burn-out, chronic fatigue syndrome, **depression**, Alzheimer disease, irritated bowel syndrome, osteoporosis, type 2 diabetes, or for anti-aging therapy, immune therapy and for stimulating recovery after physical exercise in humans or for stimulating growth and the immune system in animals." From **claim 2** "**The method as claimed in claim 1, wherein the compound is a compound that, when administered to a human or animal individual** to be treated, leads to an increased level of indole acetic acid(IAA) in the human or animal body in comparison to the level of indole acetic acid in the same human or animal body prior to administration of the compound." From **claim 5** "**The method as claimed in claim 1, wherein the compound is** a precursor of indole acetic acid selected from the group consisting of tryptophan, 4-hydroxytryptophan, 4-methoxy-tryptophan, 5-hydroxytryptophan, 5-methoxytryptophan, 6-hydroxytryptophan, 6-methoxytryptophan, 7-hydroxy-tryptophan, 7-methoxytryptophan, hypaphorine, tryptamine, 4-hydroxytryptamine, 4-methoxytryptamine, psilocin (4-hydroxy, dimethyl tryptamine), psilocybin (4-phosphate, dimethyl- tryptamine), **baeocystin**, serotonin (5hydroxytryptamine), 5-methoxytryptamine, bufotenine (dimethylserotonine),O-methylbufotenine, melatonin, 6-hydroxytryptamine, 6-methoxy-tryptamine, 7-hydroxytryptamine, 7-methoxytryptamine, indole butyric acid and indole-3-pyruvate." From **claim 6** "**The method as claimed in claim 3, wherein the compound is an analogue of the compounds listed in claim 3** or a metabolite of indole acetic acid that can be converted back into a compound as listed in claim 3, **and selected from the group consisting of** indole, indole-3-acetaldehyde, indole-3ethanol, indole-3-aldehyde, indol-3-methanol, indole-3-carboxylic acid, 3-methylindole

	(skatole); indole-3acetaldoxime, 3-aminomethylindole, N-methylaminomethylindole, gramine (N-dimethylaminomethylindole), indoxyls (indicans), indoleninones, 3-methylene-2-oxindole, abrine, isotan B, isatin, indican, indigo, indurubin, indigotins, 3-indolyl-methyl (skatolyl), **niacin**, 2-oxindole-3-acetic acid, 3-methylene-2-oxindole, oxindole-3-methanol, oxindole-3-aldehyde, oxindole-3-carboxylic acid and 3-methyloxindole." From **claim 14** "The method as claimed in claim 2, **wherein the composition comprises 1 to 100 mg, of the active ingredient.**"
4. The method of claim 1, wherein the dosage form further comprises one or more extracts of: *Bacopa monnieri, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Lavandula spica, Scutellaria lateriflora, Avena sativa, Avena byzantine, Salvia divinorum, Banisteriopsis caapi, Psychotria* species, *Tabernan the iboga, Voacanga africana, Tabernaemontana undulate, Lophophora williamsii, Ipomoea tricolor, Argyreia nervosa, Cannabis sativa, Cannabis indica, Cannabis ruderalis*, or combinations thereof.	9. Intl. Pat. Doc. No. WO2016001922 "METHODS, DEVICES AND SYSTEMS FOR PULMONARY DELIVERY OF ACTIVE AGENTS" (Published January 7, 2016) From **claim 1** "**A method of pulmonary delivering to a subject at least a first pharmacologically active agent and a second pharmacologically active agent, at least one of which being in at least one plant material**, the method comprising independently delivering the agents to the subject using a metered dose inhaler device configured to vaporize at least a first pre-determined vaporized amount of said first agent and at least a second pre-determined vaporized amount of said second agent upon controllably heating said at least one plant material, wherein said heating is effected such that said first pre-determined vaporized amount is delivered to the subject successively, concomitantly and/or at least partially overlapping with said second pre-determined vaporized amount, and wherein each of said pre-determined vaporized amounts of each of said agents induces in the subject independently at least one pharmacokinetic effect and/or at least one pharmacodynamic effect." From **claim 51** "The method of any one of claims 1-2 and 26-50, wherein said at least one plant is selected from the group consisting of **Cannabis sativa, Cannabis indica, Cannabis ruderalis**, Acacia spp, Amanita muscaria, Yage, Atropa belladonna, Areca catechu, Brugmansia spp., Brunfelsia latifolia, Desmanthus illinoensis, **Banisteriopsis caapi**, Trichocereus spp., Theobroma cacao, Capsicum spp., Cestrum spp., Erythroxylum coca, Solenostemon scutellarioides, Arundo donax, Coffea arabica, Datura spp., Desfontainia spp., Diplopterys cabrerana, Ephedra sinica, Claviceps purpurea, Paullinia cupana, **Argyreia nervosa**, Hyoscyamus niger, **Tabernanthe iboga**, Lagochilus inebriens, Justicia pectoralis, Sceletium tortuosum, Piper methysticum, Catha edulis, Mitragyna speciosa, Leonotis leonurus, Nymphaea spp., Nelumbo spp., Sophora secundiflora, Mucuna

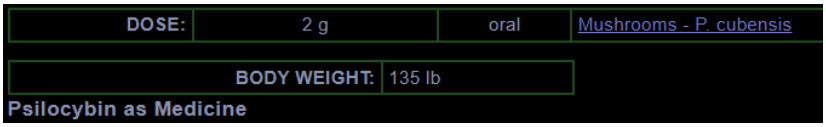
	pruriens, Mandragora officinarum, Mimosa tenuiflora, **Ipomoea** violacea, Psilocybe spp., Panaeolus spp., Myristica fragrans, Turbina corymbosa, Passiflora incarnata, **Lophophora williamsii**, Phalaris spp., Duboisia hopwoodii, Papaver somniferum, **Psychotria viridis**, spp., **Salvia divinorum**, Combretum quadrangulare, Trichocereus pachanoi, Heimia salicifolia, Stipa robusta, Solandra spp., Hypericum perforatum, Peganum harmala, Tabernaemontanaspp, **Camellia sinensis**, Nicotiana tabacum, rusticum, Virola theidora, **Voacanga africana**, Lactuca virosa, Artemisia absinthium, Ilex paraguariensis, Anadenanthera spp., Corynanthe yohimbe, Calea zacatechichi, Coffea spp. (Rubiaceae), a Sapindaceae, Camellia spp., Malvaceae spp., Aquifoliaceae spp., Hoodia, spp. Chamomilla recutita, Passiflora incarnate, **Camellia sinensis**, Mentha piperita, Mentha spicata, Rubus idaeus, Eucalyptus globulus, Lavandula officinalis, Thymus vulgaris, Melissa officinalis, Aloe Vera, Angelica, Anise, Ayahuasca (**Banisteriopsis caapi**), Barberry, Black Horehound, Blue Lotus, Burdock, Camomille/Chamomile, Caraway, Cat's Claw, Clove, Comfrey, Corn Silk, Couch Grass, Damiana, Damiana, Dandelion, Ephedra, Eucalyptus, Evening Primrose, Fennel, Feverfew, Fringe Tree, Garlic, Ginger, Ginkgo, Ginseng, Goldenrod, Goldenseal, Gotu Kola, Green Tea, Guarana, Hawthorn, Hops, Horsetail, Hyssop, Kola Nut, Kratom, Lavender, Lemon Balm, Licorice, Lion's Tail (Wild Dagga), Maca Root, Marshmallow, Meadowsweet, Milk Thistle, Motherwort, Passion Flower, Passionflower, Peppermint, Prickly Poppy, Purslane, Raspberry Leaf, Red Poppy, Sage, Saw Palmetto, Sida Cordifolia, Sinicuichi (Mayan Sun Opener), Spearmint, Sweet Flag, Syrian Rue (Peganum harmala), Thyme, Turmeric, Valerian, Wild Yam, Wormwood, Yarrow, Yerba Mate, Yohimbe, and any part and any combination thereof." From **page 76 line 29 - page 77 line 1** "**In some embodiments, the active agent is** a terpenoid, alkaloid or **cannabinoid**. For example, **in some embodiments, the active agent is** a diterpenoid such as, but not limited to **salvinorin A from salvia**. In other embodiments, the active agent is an alkaloid such as, but not limited to, benzoylmethylecgonine from the coca plant, or **the active agent is a tryptamine such as psylocibin from mushrooms**." From **page 23 line 21 - 30** "**According to some of any of the embodiments described herein, the personally perceived therapeutic effect corresponds to a symptom, the symptom being selected from the group consisting of** pain, migraine, **depression**, cognitive function deficit, attention deficit, hyperactivity, anxiety disorders, diarrhea, nausea, vomiting, insomnia, delirium, appetite

	variations, sexual dysfunction, spasticity, increased intra ocular pressure, bladder dysfunction, tics, Tourette symptoms, post traumatic stress disorder (PTSD) symptoms, inflammatory bowel disease (IBD) symptoms, irritable bowel syndrome (IBS) symptoms, hyper tension, hemorrhagic symptoms, septic and cardiogenic shock, drug addiction and craving, withdrawal symptoms, tremors and other movement disorders." 8. CHYCHO, "The Boundary Salvia divinorum, Fasting & Mushrooms - P. cubensis" April 9, 2007; retrieved from Erowid; retrieved from Web Archives. https://web.archive.org/web/20220916125803/https:/www.erowid.org/experiences/exp.php?ID=53239, retrieved April 9, 2007  From **webpage** "**Brazilian Cubensis**: I was able obtain a few grams of a recent crop, harvested and dried within the previous month. **I weighed out 2 three-gram batches.** Just in case I needed the trip to be more intense I would eat the second batch, **but I was only going to initially start with 3 grams**. My experience with magic mushrooms rangers from consuming low doses for amplification of daily activities **to a maximum dosage of 7 grams** for personal journeys **Salvia Divinorum**: My Salvia supply comes from Oaxaca, Mexico. My continual exposure to Salvia over the last few years has allowed me to become receptive to the dried leaf, hence no extract was used during this exercise**. 42 grams (1.5 ounces) of dried Salvia were used with 10 cups of water to produce 6 cups of concentrated tea.** The water was brought to a boil for 20 minutes and then put on simmer for an additional hour and forty minutes, for a total brewing time of 2 hours. Only half a cup was consumed during this journey. In addition, Salvia leaf was rolled into two joints, and a glass water bong was used with one bowl of dried leaf."
5. The method of claim 1, wherein the dosage form further comprises one or	10. U.S. Pat. App. Pub. No. 2014/0220150 "Integrative Fungal Solutions For Protecting Bees And Overcoming Colony Collapse

more of: mycelia, fruitbodies, mycelial extracts, or fruitbody extracts of fungi selected from *Antrodia, Beauveria, Copelandia, Cordyceps, Ganoderma, Grifola, Hericium, Inonotus, Isaria, Panaeolus, Phellinus*, or combinations thereof.	Disorder (CCD): Methods And Compositions" (Published August 7, 2014) From **[0063]** "In essence, **the inventor has devised a novel nutraceutical** which is rich is a wide array of coumarins, phenols and polyphenols; and anti-viral, anti-fungal, anti-bacterial and anti-protozoal agents, and a wide diversity of specialized metabolites such as antioxidants and antimutagens, which are generated as a result of mycelium digesting grains or wood and are attractive to bees and supportive of their host defense against stressors and diseases. **The extracts of mushrooms used medicinally for human health have an unexpected benefit for bee health too**..." From **[0083]** "Useful and preferred fungal genera include, by way of example but not of limitation: the gilled mushrooms (Agaricales) Agaricus, Agrocybe, Armillaria, Clitocybe, Collybia, Conocybe, Coprinus, Coprinopsis, Flammulina, Giganopanus, Gymnopilus, Hypholoma, Inocybe, Hypsizygus, Lentinula, Lentinus, Lenzites, Lepiota, Lepista, Lyophyllum, Macrocybe, Marasmius, Mycena, Omphalotus, Panellus, Panaeolus, Sarcomyxa, Pholiota, Pleurotus, Pluteus, Psathyrella, **Psilocybe**, Schizophyllum, Stropharia, Termitomyces, Tricholoma, Volvariella, etc.; the polypore mushrooms (Polyporaceae) Albatrellus, **Antrodia**, Bjerkandera, Bondarzewia, Bridgeoporus, Ceriporia, Coltricia, Coriolus, Daedalea, Dentocorticium, Echinodontium, Fistulina, Flavodon, Fomes, Fomitopsis, **Ganoderma**, Gloeophyllum, **Grifola**, Heterobasidion, **Inonotus**, Irpex, Laetiporus, Meripilus, Oligoporus, Oxyporus, **Phaeolus, Phellinus,** Piptoporus, Polyporus, Poria, Schizophyllum, Schizopora, Trametes, Wolfiporia; the toothed mushrooms Hericium, Sarcodon, Hydnum, Hydnellum etc.; Basidiomycetes such as Auricularia, Calvatia, Ceriporiopsis, Coniophora, Cyathus, Lycoperdon, Merulius, Phlebia, Serpula, Sparassis and Stereum; Ascomycetes such as **Cordyceps**, Ophiocordyceps, Morchella, Tuber, Peziza, etc.; 'jelly fungi' such as Tremella; the mycorrhizal mushrooms (including both gilled and polypore mushrooms); fungi such as Phanerochaete (including those such as P. chrysosporium with an imperfect state and P. sordida)." From **[0113]** "Filamentous, basidiomycetous fungi are also sources of neuroregenerative compounds. **Species of Hericium, (including but not limited to Hericium erinaceus, Hericium corralloides and Hericium abietis) produce potent nerve growth factors causing regeneration of myelin on the axons of nerves and nerve regeneration.** (See: http://www.huffingtonpost.com/paul-

	stamets/mushroom-memory_b—1725583.html). **Psilocybin and psilocybin-producing fungi, including but not limited to species of Psilocybe, Panaeolus, Gymnopilus, Pluteus and Conocybe such as Psilocybe azurescens, Psilocybe cyanescens, Psilocybe allenii, Psilocybe cyanofibrillosa, Psilocybe cubensis, Psilocybe ovoideocystidiata, Psilocybe subaeruginosa, Copelandian Panaeoli (Copelandia cyanescens, Copelandia tropicalis, Copelandia bispora), Pluteus salicinus, Gymnopilus luteofolius, Gymnopilus spectabilis, Conocybe cyanopus and Conocybe smithii can trigger neurogenesis.** (See Catlow et al., Effects of psilocybin on hippocampal neurogenesis and extinction of trace fear conditioning, Exp Brain Res (2013) 228:481-491 DOI 10.1007/s00221-013-3579-0). **Individually or in combination, mixtures of extracts of psilocybin mushroom and Hericium mushroom fruitbodies, or more preferably their mycelial extracts, could help repair neurons damaged by toxins, cholinergic pesticides, oxidation, old age, or other sources of neurotoxins. The net effect of ingesting these mixtures of nerve regenerating Hericium and psilocybin species would improve the neurological health of bees through neurogenesis and re-myelination, and indeed of animals, including humans.** Another, improved form of "mycological honey" might incorporate these elements for the benefits of bees and people, improving cognition, preventing or repairing neuropathies presenting themselves as diseases to humans within scope of the definitions for Alzheimer's, Parkinson's, Parkisonisms, MS (multiple sclerosis), **or as yet uncategorized forms of neurological impairment**. Indeed such combinations could increase intelligence, sensory abilities, memory, reflexes, reaction times, and problem solving abilities. As such a 'smart mycological honey' is anticipated to be within the scope of this invention."
6. A method for reducing symptoms of depression in a subject in need thereof, the method comprising: administering a dosage form comprising: 0.1 to 10 mg of baeocystin; and 1 to 50 mg of niacin; sufficient to reduce the symptoms of depression in the subject.	1. U.S. Pat. App. Pub. No. 2008/0194553 "Use of Compounds That Are Able To Increase The Serum Igf-1 Level For The Preparation Of A Therapeutical Composition For Treatment Of Various Disease States Associated With A Reduced Igf-1 Serum Level In Humans And Animals" (Published August 14, 2008) From **claim 1** "**A method, comprising: using one or more compounds** that are capable of activating the hypothalamus in an individual to increase the serum level of Growth Hormone Releasing Hormone (GHRH), which in turn leads to an increase in the secretion of growth hormone (GH) and the subsequent rise of the serum level of insulin-like growth factor 1 (IGF-1) **for the preparation of a therapeutical composition for the treatment of** serious fatigue and

	exhaustion symptoms, burn-out, chronic fatigue syndrome, **depression**, Alzheimer disease, irritated bowel syndrome, osteoporosis, type 2 diabetes, or for anti-aging therapy, immune therapy and for stimulating recovery after physical exercise in humans or for stimulating growth and the immune system in animals." From **claim 2** "**The method as claimed in claim 1, wherein the compound is a compound that, when administered to a human or animal individual** to be treated, leads to an increased level of indole acetic acid(IAA) in the human or animal body in comparison to the level of indole acetic acid in the same human or animal body prior to administration of the compound." From **claim 5** "**The method as claimed in claim 1, wherein the compound is** a precursor of indole acetic acid selected from the group consisting of tryptophan, 4-hydroxytryptophan, 4-methoxy-tryptophan, 5-hydroxytryptophan, 5-methoxytryptophan, 6-hydroxytryptophan, 6-methoxytryptophan, 7-hydroxy-tryptophan, 7-methoxytryptophan, hypaphorine, tryptamine, 4-hydroxytryptamine, 4-methoxytryptamine, psilocin (4-hydroxy, dimethyl tryptamine), psilocybin (4-phosphate, dimethyl- tryptamine), **baeocystin**, serotonin (5hydroxytryptamine), 5-methoxytryptamine, bufotenine (dimethylserotonine),O-methylbufotenine, melatonin, 6-hydroxytryptamine, 6-methoxy-tryptamine, 7-hydroxytryptamine, 7-methoxytryptamine, indole butyric acid and indole-3-pyruvate." From **claim 6** "**The method as claimed in claim 3, wherein the compound is an analogue of the compounds listed in claim 3** or a metabolite of indole acetic acid that can be converted back into a compound as listed in claim 3, **and selected from the group consisting of** indole, indole-3-acetaldehyde, indole-3ethanol, indole-3-aldehyde, indol-3-methanol, indole-3-carboxylic acid, 3-methylindole (skatole); indole-3acetaldoxime, 3-aminomethylindole, N-methylaminomethylindole, gramine (N-dimethylaminomethylindole), indoxyls (indicans), indoleninones, 3-methylene-2-oxindole, abrine, isotan B, isatin, indican, indigo, indurubin, indigotins, 3-indolyl-methyl (skatolyl), **niacin**, 2-oxindole-3-acetic acid, 3-methylene-2-oxindole, oxindole-3-methanol, oxindole-3-aldehyde, oxindole-3-carboxylic acid and 3-methyloxindole." From **claim 14** "The method as claimed in claim 2, **wherein the composition comprises 1 to 100 mg, of the active ingredient.**"

	3. WIECZOREK (2015) “Chapter 5 - Bioactive Alkaloids of Hallucinogenic Mushrooms” Studies in Natural Products Chemistry. 46: 133-168 From **page 134** “**In nature, indoles are probably the most often occurring heterocyclic compounds, having medicinal importance** [3]. Two simple indole alkaloids: psilocin (3-[2 (dimethylamino) ethyl]-4-indolol) and psilocybin ([3-(2-dimethylaminoethyl)-1H-indol-4-yl] dihydrogen phosphate) are present in many mushroom species. **These mushrooms are called hallucinogenic, psychedelic, entheogenic, magic, medicinal, neurotropic, psychoactive, sacred, or saint mushrooms** [4]. Also other analogs of psilocybin, known as **baeocystin,** norbaeocystin, bufotenin, and aeruginascin, were found in hallucinogenic mushrooms. Hallucinogenic compounds were chemically identified in mushrooms belonging to **various genera**, e.g., Agrocybe, Conocybe, Galerina, Gymnopilus, Hypholoma, Inocybe, Panaeolus, **Psilocybe**, Pholiotina, Pluteus, and Weraroa [5].” 2. PSILOLOVER333, “Virgin Beauty Blossoming Consciousness Mushrooms - P. cubensis” January 13, 2016; retrieved from Erowid Experience Vaults. https://erowid.org/experiences/exp.php?ID=107678, retrieved January 13, 2016  From **webpage** “At fourteen years old **I was diagnosed with major depressive disorder**, generalized anxiety, and Hashimoto's Disease… After being let down by modernized medicine I decided to teach myself about what was wrong with my body and my mind. **I found many stories about psilocybin and LSD being used to treat/cure depression and anxiety**… I was sitting alone in the next room when one of my sister's friends walked in with an ounce of **potent psilocybe cubensis**. I eagerly offered him some money in exchange for **2 grams of his fungi** and he was pleased to oblige… Then, comforter to sheets, sheets to skin, skin to psilocybin energy, psilocybin energy to brain, brain to **depression-killing lessons**. I was shown how ignorant I had been… Psilocybin will change the world if only we as a society decide to harness it with graciousness. The strength that it holds in curing us of our ego driven world is profound! All we must do is recognize the

virgin beauty that is our world and accept it by blossoming our consciousness."

4. CARTZ (1994) "Extraction and analysis of indole derivatives from fungal biomass" Journal of Basic Microbiology. 34(1): 17-22

From **page 18** "Extraction: **Samples (0.01 -0.1 g) of dried ground mushrooms were extracted with 5 to 20 ml of methanol for 0.5 to 12 hours by using a magnetic stirrer at room temperature**. Under equal conditions the mixtures with aqueous acetic acid (CASALE 1985) and aqueous ethanol (psilocin) and methanol (psilocybin) (KYSILKA and WURST 1990. WURST *et al*. 1992) were used for extraction of the same batch of mushrooms."

From **page 19** "In this investigation the **extraction of** psilocin, psilocybin and **baeocystin** with pure methanol was not completely after 30 min in all species and even 6 hours in analysis of **P. cubensis** and G. purpuratus. But the full extraction of the alkaloids from all mushrooms was reached after 12 hours. After this time no traces of indole derivatives could be detected after subsequent extraction of the fungal material with aqueous solutions of ethanol/methanol or acetic acid as well as with chloroform for psilocin. **Baeocystin as incompletely methylated counterpart and possible precursor of psilocybin (GARTZ 1989a) was found in all species by using methanol but in some cases only in very small amounts (Table 1).**"

Table 1
Amount of indole alkaloids in fruiting bodies of different species by using pure methanol as solvent

Species	Psilocybin	Psilocin	Baeocystin
	(%, dry weight)		
P. semilanceata	0.98	–	0.34
P. bohemica	0.85	0.02	0.04
P. bohemica (cultivated)	0.93	0.04	0.02
P. cubensis	0.63	0.11	0.02
G. purpuratus	0.34	0.29	0.05
I. aeruginascens	0.40	–	0.21
P. cyanescens	0.32	0.51	0.02

5. MATTILA (2001) "Contents of vitamins, mineral elements, and some phenolic compounds in cultivated mushrooms" Journal of Agricultural and Food Chemistry. 49(5): 2343-2348

From **abstract** "**The aim of the study was to determine the contents of mineral elements** (Ca, K, Mg, Na, P, Cu, Fe, Mn, Cd, Pb, and Se), vitamins (B1, B2, B12, C, D, folates, and **niacin**), and certain phenolic

compounds (flavonoids, lignans, and phenolic acids) **in the cultivated mushrooms** Agaricus bisporus/white, Agaricus bisporus/brown, Lentinus edodes, and Pleurotus ostreatus. Selenium, toxic heavy metals (Cd, Pb), and other mineral elements were analyzed by ETAAS, ICP-MS, and ICP methods, respectively; vitamins were detected by microbiological methods (folates, niacin, and vitamin B12) or HPLC methods (other vitamins), and phenolic compounds were analyzed by HPLC (flavonoids) or GC-MS methods (lignans and phenolic acids)."

From **page 2344** "**Vitamins. Cultivated mushrooms were good sources of several vitamins (Table 1), particularly** riboflavin, **niacin**, and folates."

From **page 2345**

Table 1. Vitamin Contents of Analyzed Cultivated Mushrooms (mg or μg/100 g)[a]

	mushroom							
	Agaricus bisporus/white		Agaricus bisporus/brown		Lentinus edodes		Pleurotus ostreatus	
vitamin	fw	dw	fw	dw	fw	dw	fw	dw
vitamin C, mg	1.3	17	1.6	21	2.1	25	1.6	20
vitamin B_1, mg	0.05	0.6	0.05	0.6	0.05	0.6	0.07	0.9
vitamin B_2, mg	0.39	5.1	0.33	4.2	0.15	1.8	0.20	2.5
folates, μg	35	450	46	590	25	300	51	640
niacin, mg	3.3	43	4.1	53	2.6	31	5.2	65
vitamin B_{12}, μg	0.06	0.8	0.05	0.6	0.07	0.8	0.05	0.6
vitamin D, μg	<0.02		<0.02		0.1	1	0.02	0.3
dry matter, %	7.7		7.8		8.4		8.0	

[a] fw, fresh weight; dw, dry weight.

6. EROWID, "Psilocybin, Psilocin, and Magic Mushroom Dosage" January 18, 2013; retrieved from Erowid; retrieved from Web Archives. https://web.archive.org/web/20130118160500/https:/erowid.org/plants/mushrooms/mushrooms_dose.shtml

From **website** "**Psilocybe cubensis is a medium strength psilocybian mushroom consisting of approximately .63% psilocybin and .60% psilocin in dried wild mushrooms**. Indoor cultivated mushrooms tend to have higher concentrations. Note that potency of mushrooms can vary greatly from one batch to the next. **The following chart shows approximate oral dosages for (dried) Psilocybe cubensis in grams**."

Oral P. cubensis Dosages		
Threshold	.25 g	1/100 oz
Light	.25 - 1 g	1/100 - 1/28oz
Common	1 - 2.5 g	1/28 - 1/10oz
Strong	2.5 - 5 g	1/10 - 1/6oz
Heavy	5 + g	1/6oz +

7. The method of claim 6, wherein the dosage form further comprises 0.1 to 10 mg of *psilocybin, psilocin*, salts thereof, or combinations thereof.	4. CARTZ (1994) "Extraction and analysis of indole derivatives from fungal biomass" Journal of Basic Microbiology. 34(1): 17-22 From **page 18** "Extraction: **Samples (0.01 -0.1 g) of dried ground mushrooms were extracted with 5 to 20 ml of methanol for 0.5 to 12 hours by using a magnetic stirrer at room temperature**. Under equal conditions the mixtures with aqueous acetic acid (CASALE 1985) and aqueous ethanol (psilocin) and methanol (psilocybin) (KYSILKA and WURST 1990. WURST *et al*. 1992) were used for extraction of the same batch of mushrooms." From **page 19** "In this investigation the **extraction of psilocin, psilocybin** and baeocystin with pure methanol was not completely after 30 min in all species and even 6 hours in analysis of **P. cubensis** and G. purpuratus. But the full extraction of the alkaloids from all mushrooms was reached after 12 hours. After this time no traces of indole derivatives could be detected after subsequent extraction of the fungal material with aqueous solutions of ethanol/methanol or acetic acid as well as with chloroform for psilocin. **Baeocystin as incompletely methylated counterpart and possible precursor of psilocybin (GARTZ 1989a) was found in all species by using methanol but in some cases only in very small amounts (Table 1).**" Table 1 Amount of indole alkaloids in fruiting bodies of different species by using pure methanol as solvent | Species	Psilocybin	Psilocin	Baeocystin
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	(%, dry weight)		
P. semilanceata	0.98	–	0.34
P. bohemica	0.85	0.02	0.04
P. bohemica (cultivated)	0.93	0.04	0.02
P. cubensis	0.63	0.11	0.02
G. purpuratus	0.34	0.29	0.05
I. aeruginascens	0.40	–	0.21
P. cyanescens	0.32	0.51	0.02	 6. EROWID, "Psilocybin, Psilocin, and Magic Mushroom Dosage" January 18, 2013; retrieved from Erowid; retrieved from Web Archives. https://web.archive.org/web/20130118160500/https:/erowid.org/plants/mushrooms/mushrooms_dose.shtml From **website** "**Psilocybe cubensis is a medium strength psilocybian mushroom consisting of approximately .63% psilocybin and .60% psilocin in dried wild mushrooms**. Indoor cultivated mushrooms tend to have higher concentrations. Note that potency of mushrooms can vary greatly from one batch to the next. **The following chart**

	shows approximate oral dosages for (dried) Psilocybe cubensis in grams." **Oral P. cubensis Dosages** Threshold: .25 g — 1/100 oz Light: .25 - 1 g — 1/100 - 1/28oz Common: 1 - 2.5 g — 1/28 - 1/10oz Strong: 2.5 - 5 g — 1/10 - 1/6oz Heavy: 5 + g — 1/6oz +
8. The method of claim 6, wherein the dosage form further comprises one or more pharmaceutically acceptable excipients comprising selected from buffering agents, antimicrobial preservatives, antioxidants, suspension agents, a tablet or capsule diluent, or a tablet disintegrant.	1. U.S. Pat. App. Pub. No. 2008/0194553 "Use of Compounds That Are Able To Increase The Serum Igf-1 Level For The Preparation Of A Therapeutical Composition For Treatment Of Various Disease States Associated With A Reduced Igf-1 Serum Level In Humans And Animals" (Published August 14, 2008) From **[0032]** "The composition of the invention is preferably in the form of a **capsule**, but other dosage forms, preferably oral dosage forms, such as **tablets, oral suspensions**, oral emulsions, oral fluids, powders, lozenges, pastilles, pills, etc., are also possible. The composition may for example take the form of a food supplement or a pharmaceutical composition." From **claim 17** "**Therapeutical composition comprising a suitable diluent, carrier or excipient** and one or more compounds as listed in claim 3." From **claim 1** "**A method, comprising: using one or more compounds** that are capable of activating the hypothalamus in an individual to increase the serum level of Growth Hormone Releasing Hormone (GHRH), which in turn leads to an increase in the secretion of growth hormone (GH) and the subsequent rise of the serum level of insulin-like growth factor 1 (IGF-1) **for the preparation of a therapeutical composition for the treatment of** serious fatigue and exhaustion symptoms, burn-out, chronic fatigue syndrome, **depression**, Alzheimer disease, irritated bowel syndrome, osteoporosis, type 2 diabetes, or for anti-aging therapy, immune therapy and for stimulating recovery after physical exercise in humans or for stimulating growth and the immune system in animals." From **claim 2** "**The method as claimed in claim 1, wherein the compound is a compound that, when administered to a human or animal individual** to be treated, leads to an increased level of indole

	acetic acid(IAA) in the human or animal body in comparison to the level of indole acetic acid in the same human or animal body prior to administration of the compound." From **claim 5** "**The method as claimed in claim 1, wherein the compound is** a precursor of indole acetic acid selected from the group consisting of tryptophan, 4-hydroxytryptophan, 4-methoxy-tryptophan, 5-hydroxytryptophan, 5-methoxytryptophan, 6-hydroxytryptophan, 6-methoxytryptophan, 7-hydroxy-tryptophan, 7-methoxytryptophan, hypaphorine, tryptamine, 4-hydroxytryptamine, 4-methoxytryptamine, psilocin (4-hydroxy, dimethyl tryptamine), psilocybin (4-phosphate, dimethyl- tryptamine), **baeocystin**, serotonin (5hydroxytryptamine), 5-methoxytryptamine, bufotenine (dimethylserotonine),O-methylbufotenine, melatonin, 6-hydroxytryptamine, 6-methoxy-tryptamine, 7-hydroxytryptamine, 7-methoxytryptamine, indole butyric acid and indole-3-pyruvate." From **claim 6** "**The method as claimed in claim 3, wherein the compound is an analogue of the compounds listed in claim 3** or a metabolite of indole acetic acid that can be converted back into a compound as listed in claim 3, **and selected from the group consisting of** indole, indole-3-acetaldehyde, indole-3ethanol, indole-3-aldehyde, indol-3-methanol, indole-3-carboxylic acid, 3-methylindole (skatole); indole-3acetaldoxime, 3-aminomethylindole, N-methylaminomethylindole, gramine (N-dimethylaminomethylindole), indoxyls (indicans), indoleninones, 3-methylene-2-oxindole, abrine, isotan B, isatin, indican, indigo, indurubin, indigotins, 3-indolyl-methyl (skatolyl), **niacin**, 2-oxindole-3-acetic acid, 3-methylene-2-oxindole, oxindole-3-methanol, oxindole-3-aldehyde, oxindole-3-carboxylic acid and 3-methyloxindole." From **claim 14** "The method as claimed in claim 2, **wherein the composition comprises 1 to 100 mg, of the active ingredient.**"
9. The method of claim 6, wherein the dosage form further comprises one or more extracts of: *Bacopa monnieri, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus*	9. Intl. Pat. Doc. No. WO2016001922 "METHODS, DEVICES AND SYSTEMS FOR PULMONARY DELIVERY OF ACTIVE AGENTS" (Published January 7, 2016) From **claim 1** "**A method of pulmonary delivering to a subject at least a first pharmacologically active agent and a second pharmacologically active agent, at least one of which being in at least one plant material**, the method comprising independently delivering the agents to the subject using a metered dose inhaler device configured to vaporize at least a first pre-determined vaporized

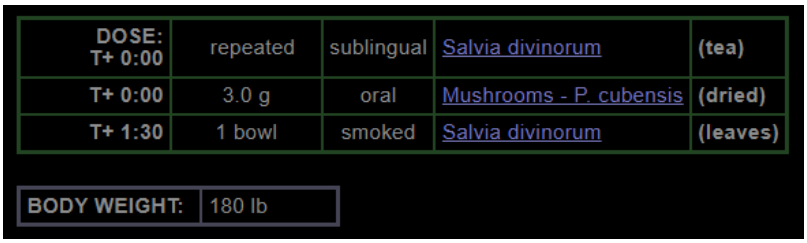
officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Lavandula spica, Scutellaria lateriflora, Avena sativa, Avena byzantine, Salvia divinorum, Banisteriopsis caapi, Psychotria species, *Tabernan the iboga, Voacanga africana, Tabernaemontana undulate, Lophophora williamsii, Ipomoea tricolor, Argyreia nervosa, Cannabis sativa, Cannabis indica, Cannabis ruderalis*, or combinations thereof.	amount of said first agent and at least a second pre-determined vaporized amount of said second agent upon controllably heating said at least one plant material, wherein said heating is effected such that said first pre-determined vaporized amount is delivered to the subject successively, concomitantly and/or at least partially overlapping with said second pre-determined vaporized amount, and wherein each of said pre-determined vaporized amounts of each of said agents induces in the subject independently at least one pharmacokinetic effect and/or at least one pharmacodynamic effect." From **claim 51** "The method of any one of claims 1-2 and 26-50, wherein said at least one plant is selected from the group consisting of **Cannabis sativa, Cannabis indica, Cannabis ruderalis**, Acacia spp, Amanita muscaria, Yage, Atropa belladonna, Areca catechu, Brugmansia spp., Brunfelsia latifolia, Desmanthus illinoensis, **Banisteriopsis caapi**, Trichocereus spp., Theobroma cacao, Capsicum spp., Cestrum spp., Erythroxylum coca, Solenostemon scutellarioides, Arundo donax, Coffea arabica, Datura spp., Desfontainia spp., Diplopterys cabrerana, Ephedra sinica, Claviceps purpurea, Paullinia cupana, **Argyreia nervosa**, Hyoscyamus niger, **Tabernanthe iboga**, Lagochilus inebriens, Justicia pectoralis, Sceletium tortuosum, Piper methysticum, Catha edulis, Mitragyna speciosa, Leonotis leonurus, Nymphaea spp., Nelumbo spp., Sophora secundiflora, Mucuna pruriens, Mandragora officinarum, Mimosa tenuiflora, **Ipomoea** violacea, Psilocybe spp., Panaeolus spp., Myristica fragrans, Turbina corymbosa, Passiflora incarnata, **Lophophora williamsii**, Phalaris spp., Duboisia hopwoodii, Papaver somniferum, **Psychotria viridis**, spp., **Salvia divinorum**, Combretum quadrangulare, Trichocereus pachanoi, Heimia salicifolia, Stipa robusta, Solandra spp., Hypericum perforatum, Peganum harmala, Tabernaemontanaspp, **Camellia sinensis**, Nicotiana tabacum, rusticum, Virola theidora, **Voacanga africana**, Lactuca virosa, Artemisia absinthium, Ilex paraguariensis, Anadenanthera spp., Corynanthe yohimbe, Calea zacatechichi, Coffea spp. (Rubiaceae), a Sapindaceae, Camellia spp., Malvaceae spp., Aquifoliaceae spp., Hoodia, spp. Chamomilla recutita, Passiflora incarnate, **Camellia sinensis**, Mentha piperita, Mentha spicata, Rubus idaeus, Eucalyptus globulus, Lavandula officinalis, Thymus vulgaris, Melissa officinalis, Aloe Vera, Angelica, Anise, Ayahuasca (**Banisteriopsis caapi**), Barberry, Black Horehound, Blue Lotus, Burdock, Camomille/Chamomile, Caraway, Cat's Claw, Clove, Comfrey, Corn Silk, Couch Grass, Damiana, Damiana, Dandelion, Ephedra, Eucalyptus, Evening Primrose, Fennel, Feverfew, Fringe Tree, Garlic, Ginger, Ginkgo, Ginseng, Goldenrod, Goldenseal, Gotu Kola, Green Tea, Guarana, Hawthorn, Hops, Horsetail, Hyssop, Kola

Nut, Kratom, Lavender, Lemon Balm, Licorice, Lion's Tail (Wild Dagga), Maca Root, Marshmallow, Meadowsweet, Milk Thistle, Motherwort, Passion Flower, Passionflower, Peppermint, Prickly Poppy, Purslane, Raspberry Leaf, Red Poppy, Sage, Saw Palmetto, Sida Cordifolia, Sinicuichi (Mayan Sun Opener), Spearmint, Sweet Flag, Syrian Rue (Peganum harmala), Thyme, Turmeric, Valerian, Wild Yam, Wormwood, Yarrow, Yerba Mate, Yohimbe, and any part and any combination thereof."

From **page 76 line 29 - page 77 line 1** "**In some embodiments, the active agent is** a terpenoid, alkaloid or **cannabinoid**. For example, **in some embodiments, the active agent is** a diterpenoid such as, but not limited to **salvinorin A from salvia**. In other embodiments, the active agent is an alkaloid such as, but not limited to, benzoylmethylecgonine from the coca plant, or **the active agent is a tryptamine such as psylocibin from mushrooms**."

From **page 23 line 21 - 30** "**According to some of any of the embodiments described herein, the personally perceived therapeutic effect corresponds to a symptom, the symptom being selected from the group consisting of** pain, migraine, **depression**, cognitive function deficit, attention deficit, hyperactivity, anxiety disorders, diarrhea, nausea, vomiting, insomnia, delirium, appetite variations, sexual dysfunction, spasticity, increased intra ocular pressure, bladder dysfunction, tics, Tourette symptoms, post traumatic stress disorder (PTSD) symptoms, inflammatory bowel disease (IBD) symptoms, irritable bowel syndrome (IBS) symptoms, hyper tension, hemorrhagic symptoms, septic and cardiogenic shock, drug addiction and craving, withdrawal symptoms, tremors and other movement disorders."

8. CHYCHO, "The Boundary Salvia divinorum, Fasting & Mushrooms - P. cubensis" April 9, 2007; retrieved from Erowid; retrieved from Web Archives. https://web.archive.org/web/20220916125803/https:/www.erowid.org/experiences/exp.php?ID=53239, retrieved April 9, 2007

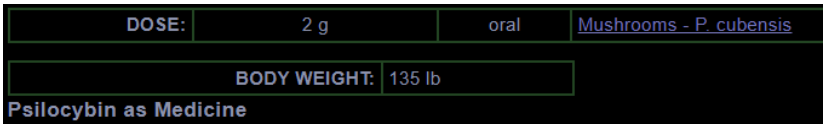


DOSE: T+ 0:00	repeated	sublingual	Salvia divinorum	(tea)
T+ 0:00	3.0 g	oral	Mushrooms - P. cubensis	(dried)
T+ 1:30	1 bowl	smoked	Salvia divinorum	(leaves)

BODY WEIGHT: 180 lb

	From **webpage** "**Brazilian Cubensis**: I was able obtain a few grams of a recent crop, harvested and dried within the previous month. **I weighed out 2 three-gram batches.** Just in case I needed the trip to be more intense I would eat the second batch, **but I was only going to initially start with 3 grams**. My experience with magic mushrooms rangers from consuming low doses for amplification of daily activities **to a maximum dosage of 7 grams** for personal journeys **Salvia Divinorum**: My Salvia supply comes from Oaxaca, Mexico. My continual exposure to Salvia over the last few years has allowed me to become receptive to the dried leaf, hence no extract was used during this exercise**. 42 grams (1.5 ounces) of dried Salvia were used with 10 cups of water to produce 6 cups of concentrated tea.** The water was brought to a boil for 20 minutes and then put on simmer for an additional hour and forty minutes, for a total brewing time of 2 hours. Only half a cup was consumed during this journey. In addition, Salvia leaf was rolled into two joints, and a glass water bong was used with one bowl of dried leaf."
10. The method of claim 6, wherein the dosage form further comprises one or more of: mycelia, fruitbodies, mycelial extracts, or fruitbody extracts of fungi selected from *Antrodia, Beauveria, Copelandia, Cordyceps, Ganoderma, Grifola, Hericium, Inonotus, Isaria, Panaeolus, Phellinus*, or combinations thereof.	10. U.S. Pat. App. Pub. No. 2014/0220150 "Integrative Fungal Solutions For Protecting Bees And Overcoming Colony Collapse Disorder (CCD): Methods And Compositions" (Published August 7, 2014) From **[0063]** "In essence, **the inventor has devised a novel nutraceutical** which is rich is a wide array of coumarins, phenols and polyphenols; and anti-viral, anti-fungal, anti-bacterial and anti-protozoal agents, and a wide diversity of specialized metabolites such as antioxidants and antimutagens, which are generated as a result of mycelium digesting grains or wood and are attractive to bees and supportive of their host defense against stressors and diseases. **The extracts of mushrooms used medicinally for human health have an unexpected benefit for bee health too**..." From **[0083]** "Useful and preferred fungal genera include, by way of example but not of limitation: the gilled mushrooms (Agaricales) Agaricus, Agrocybe, Armillaria, Clitocybe, Collybia, Conocybe, Coprinus, Coprinopsis, Flammulina, Giganopanus, Gymnopilus, Hypholoma, Inocybe, Hypsizygus, Lentinula, Lentinus, Lenzites, Lepiota, Lepista, Lyophyllum, Macrocybe, Marasmius, Mycena, Omphalotus, Panellus, Panaeolus, Sarcomyxa, Pholiota, Pleurotus, Pluteus, Psathyrella, **Psilocybe**, Schizophyllum, Stropharia, Termitomyces, Tricholoma, Volvariella, etc.; the polypore mushrooms

	(Polyporaceae) Albatrellus, **Antrodia**, Bjerkandera, Bondarzewia, Bridgeoporus, Ceriporia, Coltricia, Coriolus, Daedalea, Dentocorticium, Echinodontium, Fistulina, Flavodon, Fomes, Fomitopsis, **Ganoderma**, Gloeophyllum, **Grifola**, Heterobasidion, **Inonotus**, Irpex, Laetiporus, Meripilus, Oligoporus, Oxyporus, **Phaeolus, Phellinus,** Piptoporus, Polyporus, Poria, Schizophyllum, Schizopora, Trametes, Wolfiporia; the toothed mushrooms Hericium, Sarcodon, Hydnum, Hydnellum etc.; Basidiomycetes such as Auricularia, Calvatia, Ceriporiopsis, Coniophora, Cyathus, Lycoperdon, Merulius, Phlebia, Serpula, Sparassis and Stereum; Ascomycetes such as **Cordyceps**, Ophiocordyceps, Morchella, Tuber, Peziza, etc.; 'jelly fungi' such as Tremella; the mycorrhizal mushrooms (including both gilled and polypore mushrooms); fungi such as Phanerochaete (including those such as P. chrysosporium with an imperfect state and P. sordida)." From **[0113]** "Filamentous, basidiomycetous fungi are also sources of neuroregenerative compounds. **Species of Hericium, (including but not limited to Hericium erinaceus, Hericium corralloides and Hericium abietis) produce potent nerve growth factors causing regeneration of myelin on the axons of nerves and nerve regeneration.** (See: http://www.huffingtonpost.com/paul-stamets/mushroom-memory_b—1725583.html). **Psilocybin and psilocybin-producing fungi, including but not limited to species of Psilocybe, Panaeolus, Gymnopilus, Pluteus and Conocybe such as Psilocybe azurescens, Psilocybe cyanescens, Psilocybe allenii, Psilocybe cyanofibrillosa, Psilocybe cubensis, Psilocybe ovoideocystidiata, Psilocybe subaeruginosa, Copelandian Panaeoli (Copelandia cyanescens, Copelandia tropicalis, Copelandia bispora), Pluteus salicinus, Gymnopilus luteofolius, Gymnopilus spectabilis, Conocybe cyanopus and Conocybe smithii can trigger neurogenesis.** (See Catlow et al., Effects of psilocybin on hippocampal neurogenesis and extinction of trace fear conditioning, Exp Brain Res (2013) 228:481-491 DOI 10.1007/s00221-013-3579-0). **Individually or in combination, mixtures of extracts of psilocybin mushroom and Hericium mushroom fruitbodies, or more preferably their mycelial extracts, could help repair neurons damaged by toxins, cholinergic pesticides, oxidation, old age, or other sources of neurotoxins. The net effect of ingesting these mixtures of nerve regenerating Hericium and psilocybin species would improve the neurological health of bees through neurogenesis and re-myelination, and indeed of animals, including humans.** Another, improved form of "mycological honey" might incorporate these elements for the benefits of bees and people,

	improving cognition, preventing or repairing neuropathies presenting themselves as diseases to humans within scope of the definitions for Alzheimer's, Parkinson's, Parkisonisms, MS (multiple sclerosis), **or as yet uncategorized forms of neurological impairment**. Indeed such combinations could increase intelligence, sensory abilities, memory, reflexes, reaction times, and problem solving abilities. As such a 'smart mycological honey' is anticipated to be within the scope of this invention."
11. A method for reducing symptoms of depression in a subject in need thereof, the method comprising: administering a dosage form comprising: 0.1 to 10 mg of norbaeocystin; and 1 to 50 mg of niacin; sufficient to reduce the symptoms of depression in the subject.	3. WIECZOREK (2015) "Chapter 5 - Bioactive Alkaloids of Hallucinogenic Mushrooms" Studies in Natural Products Chemistry. 46: 133-168 From **page 134** "**In nature, indoles are probably the most often occurring heterocyclic compounds, having medicinal importance** [3]. Two simple indole alkaloids: psilocin (3-[2 (dimethylamino) ethyl]-4-indolol) and psilocybin ([3-(2-dimethylaminoethyl)-1H-indol-4-yl] dihydrogen phosphate) are present in many mushroom species. **These mushrooms are called hallucinogenic, psychedelic, entheogenic, magic, medicinal, neurotropic, psychoactive, sacred, or saint mushrooms** [4]. Also other analogs of psilocybin, known as baeocystin, **norbaeocystin**, bufotenin, and aeruginascin, were found in hallucinogenic mushrooms. Hallucinogenic compounds were chemically identified in mushrooms belonging to **various genera**, e.g., Agrocybe, Conocybe, Galerina, Gymnopilus, Hypholoma, Inocybe, Panaeolus, **Psilocybe**, Pholiotina, Pluteus, and Weraroa [5]." 2. PSILOLOVER333, "Virgin Beauty Blossoming Consciousness Mushrooms - P. cubensis" January 13, 2016; retrieved from Erowid Experience Vaults. https://erowid.org/experiences/exp.php?ID=107678, retrieved January 13, 2016  From **webpage** "At fourteen years old **I was diagnosed with major depressive disorder**, generalized anxiety, and Hashimoto's Disease… After being let down by modernized medicine I decided to teach myself about what was wrong with my body and my mind. **I found many stories about psilocybin and LSD being used to treat/cure depression and anxiety**… I was sitting alone in the next room when

one of my sister's friends walked in with an ounce of **potent psilocybe cubensis**. I eagerly offered him some money in exchange for **2 grams of his fungi** and he was pleased to oblige… Then, comforter to sheets, sheets to skin, skin to psilocybin energy, psilocybin energy to brain, brain to **depression-killing lessons**. I was shown how ignorant I had been… Psilocybin will change the world if only we as a society decide to harness it with graciousness. The strength that it holds in curing us of our ego driven world is profound! All we must do is recognize the virgin beauty that is our world and accept it by blossoming our consciousness."

5. MATTILA (2001) "Contents of vitamins, mineral elements, and some phenolic compounds in cultivated mushrooms" Journal of Agricultural and Food Chemistry. 49(5): 2343-2348

From **abstract** "**The aim of the study was to determine the contents of mineral elements** (Ca, K, Mg, Na, P, Cu, Fe, Mn, Cd, Pb, and Se), vitamins (B1, B2, B12, C, D, folates, and **niacin**), and certain phenolic compounds (flavonoids, lignans, and phenolic acids) **in the cultivated mushrooms** Agaricus bisporus/white, Agaricus bisporus/brown, Lentinus edodes, and Pleurotus ostreatus. Selenium, toxic heavy metals (Cd, Pb), and other mineral elements were analyzed by ETAAS, ICP-MS, and ICP methods, respectively; vitamins were detected by microbiological methods (folates, niacin, and vitamin B12) or HPLC methods (other vitamins), and phenolic compounds were analyzed by HPLC (flavonoids) or GC-MS methods (lignans and phenolic acids)."

From **page 2344** "**Vitamins. Cultivated mushrooms were good sources of several vitamins (Table 1), particularly** riboflavin, **niacin**, and folates."

From **page 2345**

Table 1. Vitamin Contents of Analyzed Cultivated Mushrooms (mg or μg/100 g)[a]

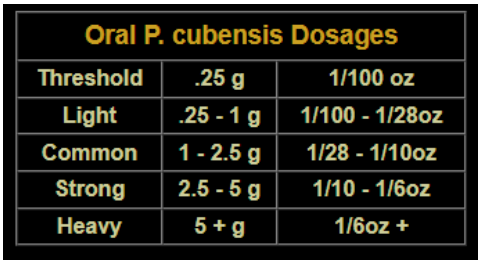
	mushroom							
	Agaricus bisporus/white		Agaricus bisporus/brown		Lentinus edodes		Pleurotus ostreatus	
vitamin	fw	dw	fw	dw	fw	dw	fw	dw
vitamin C, mg	1.3	17	1.6	21	2.1	25	1.6	20
vitamin B_1, mg	0.05	0.6	0.05	0.6	0.05	0.6	0.07	0.9
vitamin B_2, mg	0.39	5.1	0.33	4.2	0.15	1.8	0.20	2.5
folates, μg	35	450	46	590	25	300	51	640
niacin, mg	3.3	43	4.1	53	2.6	31	5.2	65
vitamin B_{12}, μg	0.06	0.8	0.05	0.6	0.07	0.8	0.05	0.6
vitamin D, μg	<0.02		<0.02		0.1	1	0.02	0.3
dry matter, %	7.7		7.8		8.4		8.0	

[a] fw, fresh weight; dw, dry weight.

6. EROWID, "Psilocybin, Psilocin, and Magic Mushroom Dosage" January 18, 2013; retrieved from Erowid; retrieved from Web

	Archives. https://web.archive.org/web/20130118160500/https:/erowid.org/plants/mushrooms/mushrooms_dose.shtml, retrieved January 18, 2013 From **website** "**Psilocybe cubensis is a medium strength psilocybian mushroom consisting of approximately .63% psilocybin and .60% psilocin in dried wild mushrooms**. Indoor cultivated mushrooms tend to have higher concentrations. Note that potency of mushrooms can vary greatly from one batch to the next. **The following chart shows approximate oral dosages for (dried) Psilocybe cubensis in grams**." **Oral P. cubensis Dosages** Threshold: .25 g: 1/100 oz Light: .25 - 1 g: 1/100 - 1/28oz Common: 1 - 2.5 g: 1/28 - 1/10oz Strong: 2.5 - 5 g: 1/10 - 1/6oz Heavy: 5 + g: 1/6oz +
12. The method of claim 11, wherein the dosage form further comprises 0.1 to 10 mg of *psilocybin, psilocin*, salts thereof, or combinations thereof.	3. WIECZOREK (2015) "Chapter 5 - Bioactive Alkaloids of Hallucinogenic Mushrooms" Studies in Natural Products Chemistry. 46: 133-168 From **page 134** "**In nature, indoles are probably the most often occurring heterocyclic compounds, having medicinal importance** [3]. Two simple indole alkaloids: **psilocin (3-[2 (dimethylamino) ethyl]-4-indolol) and psilocybin ([3-(2-dimethylaminoethyl)-1H-indol-4-yl] dihydrogen phosphate) are present in many mushroom species. These mushrooms are called hallucinogenic, psychedelic, entheogenic, magic, medicinal, neurotropic, psychoactive, sacred, or saint mushrooms** [4]. Also other analogs of psilocybin, known as baeocystin, **norbaeocystin**, bufotenin, and aeruginascin, were found in hallucinogenic mushrooms. Hallucinogenic compounds were chemically identified in mushrooms belonging to **various genera**, e.g., Agrocybe, Conocybe, Galerina, Gymnopilus, Hypholoma, Inocybe, Panaeolus, **Psilocybe**, Pholiotina, Pluteus, and Weraroa [5]." 6. EROWID, "Psilocybin, Psilocin, and Magic Mushroom Dosage" January 18, 2013; retrieved from Erowid; retrieved from Web Archives. https://web.archive.org/web/20130118160500/https:/erowid.org/plants/mushrooms/mushrooms_dose.shtml, retrieved January 18, 2013

<table>
<tr><td></td><td>From website “Psilocybe cubensis is a medium strength psilocybian mushroom consisting of approximately .63% psilocybin and .60% psilocin in dried wild mushrooms. Indoor cultivated mushrooms tend to have higher concentrations. Note that potency of mushrooms can vary greatly from one batch to the next. The following chart shows approximate oral dosages for (dried) Psilocybe cubensis in grams.”

 
<table>
<tr><th colspan="3">Oral P. cubensis Dosages</th></tr>
<tr><td>Threshold</td><td>.25 g</td><td>1/100 oz</td></tr>
<tr><td>Light</td><td>.25 - 1 g</td><td>1/100 - 1/28oz</td></tr>
<tr><td>Common</td><td>1 - 2.5 g</td><td>1/28 - 1/10oz</td></tr>
<tr><td>Strong</td><td>2.5 - 5 g</td><td>1/10 - 1/6oz</td></tr>
<tr><td>Heavy</td><td>5 + g</td><td>1/6oz +</td></tr>
</table></td></tr>
<tr><td>13. The method of claim 11, wherein the dosage form further comprises one or more pharmaceutically acceptable excipients comprising selected from buffering agents, antimicrobial preservatives, antioxidants, suspension agents, a tablet or capsule diluent, or a tablet disintegrant.</td><td>7. U.S. Pat. App. Pub. No. 2010/0028469 “Extracts of Cranberry And Methods Of Using Thereof” (Published February 4, 2010)</td></tr>
</table>

From **page 20 Table 6-continued** "Compounds identified in Extract 6 by DART TOF-MS.

TABLE 6-continued

Compounds identified in Extract 6 by DART TOF-MS.

Compound Name	Measured Mass	Relative Abundance (%)
6N-Benzoyl Adenine	240.0966	0.7118
Scytolide	241.0755	4.2887
4-Nitrophenylhydrazone Benzaladehyde	242.0942	1.1255
Fructose 2-Chloroethyl glycoside	243.0636	9.566
6-Amino-3-ribofuranosyl-4(3H)-pyrimidinone	244.0859	1.5197
biotin	245.0871	1.767
2,6-Dideoxy-3-C-methyl-arabinoside	247.1159	3.6632
4-Amino-4,6-dideoxy-3-C-methylmannose Me glycoside	248.1478	1.3621
2,5-Anhydroglucitol, 1,3,4-Tri-Me	249.1397	3.1727
2-Acetamido-2-deoxyglucose 3,4-Di-Me	250.1333	0.9623
N,N'-Dimethyl-N,N'-dinitroso-1,4-benzenedicarboxamide	251.0717	1.0402
Bis(2-hydroxyethyl) ester 1,4-Benzenedicarboxylic acid	255.0869	2.8572
2-[[(3-Methylphenyl)amino]carbonyl]-benzoic acid	256.1013	1.4758
Norbaeocystine	257.0782	2.1881
Lamiophlomiol C	259.0885	5.1127

"

From **page 19 Table 6-continued** "

TABLE 6

Compounds identified in Extract 6 by DART TOF-MS.

Compound Name	Measured Mass	Relative Abundance (%)
3-Aminodihydro-2(3H)-furanone	102.0505	0.0625
Farmiserina	103.0439	0.2314
1,4-benzoquinone	109.0285	16.0092
1,2-Benzenediol	111.0455	1.6796
2-Hydroxypropanoic acid	113.0246	2.4631
5-azauracil	114.0387	0.4221
4-methylene-heptane	114.1469	0.0169
5-Hydroxymethyl-2(5H)-furanone	115.0431	3.586
octane	115.157	0.0331
butyl isothiocyanate	116.0484	0.3459
indole	118.071	0.1563
Succinic acid	119.037	10.1939
L-threonine	120.0604	4.724
Benzoic acid	123.0516	1.3274
niacin	124.0441	0.7678
4-methyl-5-vinylthiazole	126.0375	5.6176
pyrogallol/phlorglucinol	127.0389	100

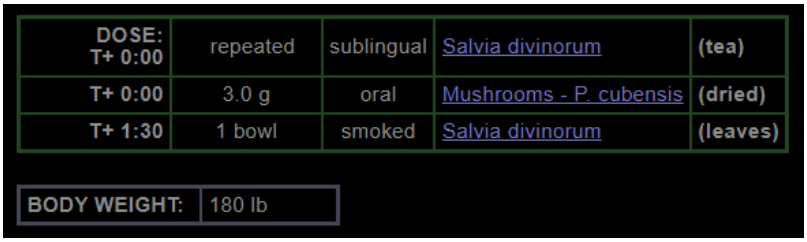
"

From **[0083]** "Compositions can be in the form of a paste, resin, oil, powder or liquid. Liquid preparations for oral administration may take the form of, for example, solutions, syrups or **suspensions**, or they may be presented as a dry product for reconstitution with water or other suitable vehicle prior to administration. Such liquid preparations may be prepared by conventional means with pharmaceutically acceptable additives such as suspending agents (e.g., sorbitol syrup, methyl cellulose, or hydrogenated edible fats); emulsifying agents (e.g., lecithin or acacia); non-aqueous vehicles (e.g., almond oil, oily esters or ethyl alcohol); **preservatives (e.g., methyl or propyl p-hyroxybenzoates or sorbic acid)**; and artificial or natural colors and/or sweeteners. Compositions of the liquid preparations can be administered to humans or animals in pharmaceutical carriers known to those skilled in the art. Such pharmaceutical carriers include, but are not limited to, capsules, lozenges, syrups, sprays, rinses, and mouthwash."

From **[0086]** "**A tableting powder can be formed** by adding about 1 to 40% by weight of the powdered extract, with between 30 to about 80% by weight of a dry water-dispersible absorbent such as, but not limited to, lactose. Other dry additives such as, but not limited to, one or more sweetener, flavoring and/or coloring agents, a binder such as acacia or gum arabic, a lubricant, a disintegrant, and **a buffer can also**

	be added to the tableting powder. The dry ingredients are screened to a particle size of between about 50 to about 150 mesh. Preferably, the dry ingredients are screened to a particle size of between about 80 to about 100 mesh." From **[0089]** "In a preferred implementation, **the tableting powder is made by mixing in a dry powdered form the various components as described above, e.g., active ingredient (extract), diluent,** sweetening additive, and flavoring, etc. An overage in the range of about 10% to about 15% of the active extract can be added to compensate for losses during subsequent tablet processing. The mixture is then sifted through a sieve with a mesh size preferably in the range of about 80 mesh to about 100 mesh to ensure a generally uniform composition of particles."
14. The method of claim 11, wherein the dosage form further comprises one or more extracts of: *Bacopa monnieri, Centella asiatica, Gingko biloba, Zingiber officinale, Ocimum sanctum, Polygonum cuspidatum, Origanum vulgare, Origanum onites, Rosmarinus officinalis, Rosmarinus eriocalyx, Curcuma longa, Camellia sinensis, Lavandula spica, Scutellaria lateriflora, Avena sativa, Avena byzantine, Salvia divinorum, Banisteriopsis caapi, Psychotria* species*, Tabernanthe iboga, Voacanga africana, Tabernaemontana undulate, Lophophora williamsii, Ipomoea tricolor, Argyreia nervosa, Cannabis sativa, Cannabis indica, Cannabis ruderalis*, or combinations thereof.	9. Intl. Pat. Doc. No. WO2016001922 "METHODS, DEVICES AND SYSTEMS FOR PULMONARY DELIVERY OF ACTIVE AGENTS" (Published January 7, 2016) From **claim 1** "**A method of pulmonary delivering to a subject at least a first pharmacologically active agent and a second pharmacologically active agent, at least one of which being in at least one plant material**, the method comprising independently delivering the agents to the subject using a metered dose inhaler device configured to vaporize at least a first pre-determined vaporized amount of said first agent and at least a second pre-determined vaporized amount of said second agent upon controllably heating said at least one plant material, wherein said heating is effected such that said first pre-determined vaporized amount is delivered to the subject successively, concomitantly and/or at least partially overlapping with said second pre-determined vaporized amount, and wherein each of said pre-determined vaporized amounts of each of said agents induces in the subject independently at least one pharmacokinetic effect and/or at least one pharmacodynamic effect." From **claim 51** "The method of any one of claims 1-2 and 26-50, wherein said at least one plant is selected from the group consisting of **Cannabis sativa, Cannabis indica, Cannabis ruderalis**, Acacia spp, Amanita muscaria, Yage, Atropa belladonna, Areca catechu, Brugmansia spp., Brunfelsia latifolia, Desmanthus illinoensis, **Banisteriopsis caapi**, Trichocereus spp., Theobroma cacao, Capsicum spp., Cestrum spp., Erythroxylum coca, Solenostemon scutellarioides, Arundo donax, Coffea arabica, Datura spp., Desfontainia spp., Diplopterys cabrerana, Ephedra sinica, Claviceps purpurea, Paullinia

	cupana, **Argyreia nervosa**, Hyoscyamus niger, **Tabernanthe iboga**, Lagochilus inebriens, Justicia pectoralis, Sceletium tortuosum, Piper methysticum, Catha edulis, Mitragyna speciosa, Leonotis leonurus, Nymphaea spp., Nelumbo spp., Sophora secundiflora, Mucuna pruriens, Mandragora officinarum, Mimosa tenuiflora, **Ipomoea** violacea, Psilocybe spp., Panaeolus spp., Myristica fragrans, Turbina corymbosa, Passiflora incarnata, **Lophophora williamsii**, Phalaris spp., Duboisia hopwoodii, Papaver somniferum, **Psychotria viridis**, spp., **Salvia divinorum**, Combretum quadrangulare, Trichocereus pachanoi, Heimia salicifolia, Stipa robusta, Solandra spp., Hypericum perforatum, Peganum harmala, Tabernaemontanaspp, **Camellia sinensis**, Nicotiana tabacum, rusticum, Virola theidora, **Voacanga africana**, Lactuca virosa, Artemisia absinthium, Ilex paraguariensis, Anadenanthera spp., Corynanthe yohimbe, Calea zacatechichi, Coffea spp. (Rubiaceae), a Sapindaceae, Camellia spp., Malvaceae spp., Aquifoliaceae spp., Hoodia, spp. Chamomilla recutita, Passiflora incarnate, **Camellia sinensis**, Mentha piperita, Mentha spicata, Rubus idaeus, Eucalyptus globulus, Lavandula officinalis, Thymus vulgaris, Melissa officinalis, Aloe Vera, Angelica, Anise, Ayahuasca (**Banisteriopsis caapi**), Barberry, Black Horehound, Blue Lotus, Burdock, Camomille/Chamomile, Caraway, Cat's Claw, Clove, Comfrey, Corn Silk, Couch Grass, Damiana, Damiana, Dandelion, Ephedra, Eucalyptus, Evening Primrose, Fennel, Feverfew, Fringe Tree, Garlic, Ginger, Ginkgo, Ginseng, Goldenrod, Goldenseal, Gotu Kola, Green Tea, Guarana, Hawthorn, Hops, Horsetail, Hyssop, Kola Nut, Kratom, Lavender, Lemon Balm, Licorice, Lion's Tail (Wild Dagga), Maca Root, Marshmallow, Meadowsweet, Milk Thistle, Motherwort, Passion Flower, Passionflower, Peppermint, Prickly Poppy, Purslane, Raspberry Leaf, Red Poppy, Sage, Saw Palmetto, Sida Cordifolia, Sinicuichi (Mayan Sun Opener), Spearmint, Sweet Flag, Syrian Rue (Peganum harmala), Thyme, Turmeric, Valerian, Wild Yam, Wormwood, Yarrow, Yerba Mate, Yohimbe, and any part and any combination thereof." From **page 76 line 29 - page 77 line 1** "**In some embodiments, the active agent is** a terpenoid, alkaloid or **cannabinoid**. For example, **in some embodiments, the active agent is** a diterpenoid such as, but not limited to **salvinorin A from salvia**. In other embodiments, the active agent is an alkaloid such as, but not limited to, benzoylmethylecgonine from the coca plant, or **the active agent is a tryptamine such as psylocibin from mushrooms**." From **page 23 line 21 - 30** "**According to some of any of the embodiments described herein, the personally perceived**

	therapeutic effect corresponds to a symptom, the symptom being selected from the group consisting of pain, migraine, **depression**, cognitive function deficit, attention deficit, hyperactivity, anxiety disorders, diarrhea, nausea, vomiting, insomnia, delirium, appetite variations, sexual dysfunction, spasticity, increased intra ocular pressure, bladder dysfunction, tics, Tourette symptoms, post traumatic stress disorder (PTSD) symptoms, inflammatory bowel disease (IBD) symptoms, irritable bowel syndrome (IBS) symptoms, hyper tension, hemorrhagic symptoms, septic and cardiogenic shock, drug addiction and craving, withdrawal symptoms, tremors and other movement disorders." 8. CHYCHO, "The Boundary Salvia divinorum, Fasting & Mushrooms - P. cubensis" April 9, 2007; retrieved from Erowid; retrieved from Web Archives. https://web.archive.org/web/20220916125803/https:/www.erowid.org/experiences/exp.php?ID=53239, retrieved April 9, 2007  From **webpage** "**Brazilian Cubensis**: I was able obtain a few grams of a recent crop, harvested and dried within the previous month. **I weighed out 2 three-gram batches.** Just in case I needed the trip to be more intense I would eat the second batch, **but I was only going to initially start with 3 grams**. My experience with magic mushrooms rangers from consuming low doses for amplification of daily activities **to a maximum dosage of 7 grams** for personal journeys **Salvia Divinorum**: My Salvia supply comes from Oaxaca, Mexico. My continual exposure to Salvia over the last few years has allowed me to become receptive to the dried leaf, hence no extract was used during this exercise**. 42 grams (1.5 ounces) of dried Salvia were used with 10 cups of water to produce 6 cups of concentrated tea.** The water was brought to a boil for 20 minutes and then put on simmer for an additional hour and forty minutes, for a total brewing time of 2 hours. Only half a cup was consumed during this journey. In addition, Salvia leaf was rolled into two joints, and a glass water bong was used with one bowl of dried leaf."

15. The method of claim 11, wherein the dosage form further comprises one or more of: mycelia, fruitbodies, mycelial extracts, or fruitbody extracts of fungi selected from *Antrodia, Beauveria, Copelandia, Cordyceps, Ganoderma, Grifola, Hericium, Inonotus, Isaria, Panaeolus, Phellinus*, or combinations thereof.	10. U.S. Pat. App. Pub. No. 2014/0220150 "Integrative Fungal Solutions For Protecting Bees And Overcoming Colony Collapse Disorder (CCD): Methods And Compositions" (Published August 7, 2014) From **[0063]** "In essence, **the inventor has devised a novel nutraceutical** which is rich is a wide array of coumarins, phenols and polyphenols; and anti-viral, anti-fungal, anti-bacterial and anti-protozoal agents, and a wide diversity of specialized metabolites such as antioxidants and antimutagens, which are generated as a result of mycelium digesting grains or wood and are attractive to bees and supportive of their host defense against stressors and diseases. **The extracts of mushrooms used medicinally for human health have an unexpected benefit for bee health too**..." From **[0083]** "Useful and preferred fungal genera include, by way of example but not of limitation: the gilled mushrooms (Agaricales) Agaricus, Agrocybe, Armillaria, Clitocybe, Collybia, Conocybe, Coprinus, Coprinopsis, Flammulina, Giganopanus, Gymnopilus, Hypholoma, Inocybe, Hypsizygus, Lentinula, Lentinus, Lenzites, Lepiota, Lepista, Lyophyllum, Macrocybe, Marasmius, Mycena, Omphalotus, Panellus, Panaeolus, Sarcomyxa, Pholiota, Pleurotus, Pluteus, Psathyrella, **Psilocybe**, Schizophyllum, Stropharia, Termitomyces, Tricholoma, Volvariella, etc.; the polypore mushrooms (Polyporaceae) Albatrellus, **Antrodia**, Bjerkandera, Bondarzewia, Bridgeoporus, Ceriporia, Coltricia, Coriolus, Daedalea, Dentocorticium, Echinodontium, Fistulina, Flavodon, Fomes, Fomitopsis, **Ganoderma**, Gloeophyllum, **Grifola**, Heterobasidion, **Inonotus**, Irpex, Laetiporus, Meripilus, Oligoporus, Oxyporus, **Phaeolus, Phellinus,** Piptoporus, Polyporus, Poria, Schizophyllum, Schizopora, Trametes, Wolfiporia; the toothed mushrooms Hericium, Sarcodon, Hydnum, Hydnellum etc.; Basidiomycetes such as Auricularia, Calvatia, Ceriporiopsis, Coniophora, Cyathus, Lycoperdon, Merulius, Phlebia, Serpula, Sparassis and Stereum; Ascomycetes such as **Cordyceps**, Ophiocordyceps, Morchella, Tuber, Peziza, etc.; 'jelly fungi' such as Tremella; the mycorrhizal mushrooms (including both gilled and polypore mushrooms); fungi such as Phanerochaete (including those such as P. chrysosporium with an imperfect state and P. sordida)." From **[0113]** "Filamentous, basidiomycetous fungi are also sources of neuroregenerative compounds. **Species of Hericium, (including but not limited to Hericium erinaceus, Hericium corralloides and**

	Hericium abietis) produce potent nerve growth factors causing regeneration of myelin on the axons of nerves and nerve regeneration. (See: http://www.huffingtonpost.com/paul-stamets/mushroom-memory_b—1725583.html). **Psilocybin and psilocybin-producing fungi, including but not limited to species of Psilocybe, Panaeolus, Gymnopilus, Pluteus and Conocybe such as Psilocybe azurescens, Psilocybe cyanescens, Psilocybe allenii, Psilocybe cyanofibrillosa, Psilocybe cubensis, Psilocybe ovoideocystidiata, Psilocybe subaeruginosa, Copelandian Panaeoli (Copelandia cyanescens, Copelandia tropicalis, Copelandia bispora), Pluteus salicinus, Gymnopilus luteofolius, Gymnopilus spectabilis, Conocybe cyanopus and Conocybe smithii can trigger neurogenesis.** (See Catlow et al., Effects of psilocybin on hippocampal neurogenesis and extinction of trace fear conditioning, Exp Brain Res (2013) 228:481-491 DOI 10.1007/s00221-013-3579-0). **Individually or in combination, mixtures of extracts of psilocybin mushroom and Hericium mushroom fruitbodies, or more preferably their mycelial extracts, could help repair neurons damaged by toxins, cholinergic pesticides, oxidation, old age, or other sources of neurotoxins. The net effect of ingesting these mixtures of nerve regenerating Hericium and psilocybin species would improve the neurological health of bees through neurogenesis and re-myelination, and indeed of animals, including humans.** Another, improved form of "mycological honey" might incorporate these elements for the benefits of bees and people, improving cognition, preventing or repairing neuropathies presenting themselves as diseases to humans within scope of the definitions for Alzheimer's, Parkinson's, Parkisonisms, MS (multiple sclerosis), **or as yet uncategorized forms of neurological impairment**. Indeed such combinations could increase intelligence, sensory abilities, memory, reflexes, reaction times, and problem solving abilities. As such a 'smart mycological honey' is anticipated to be within the scope of this invention."

Electronic Acknowledgement Receipt

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