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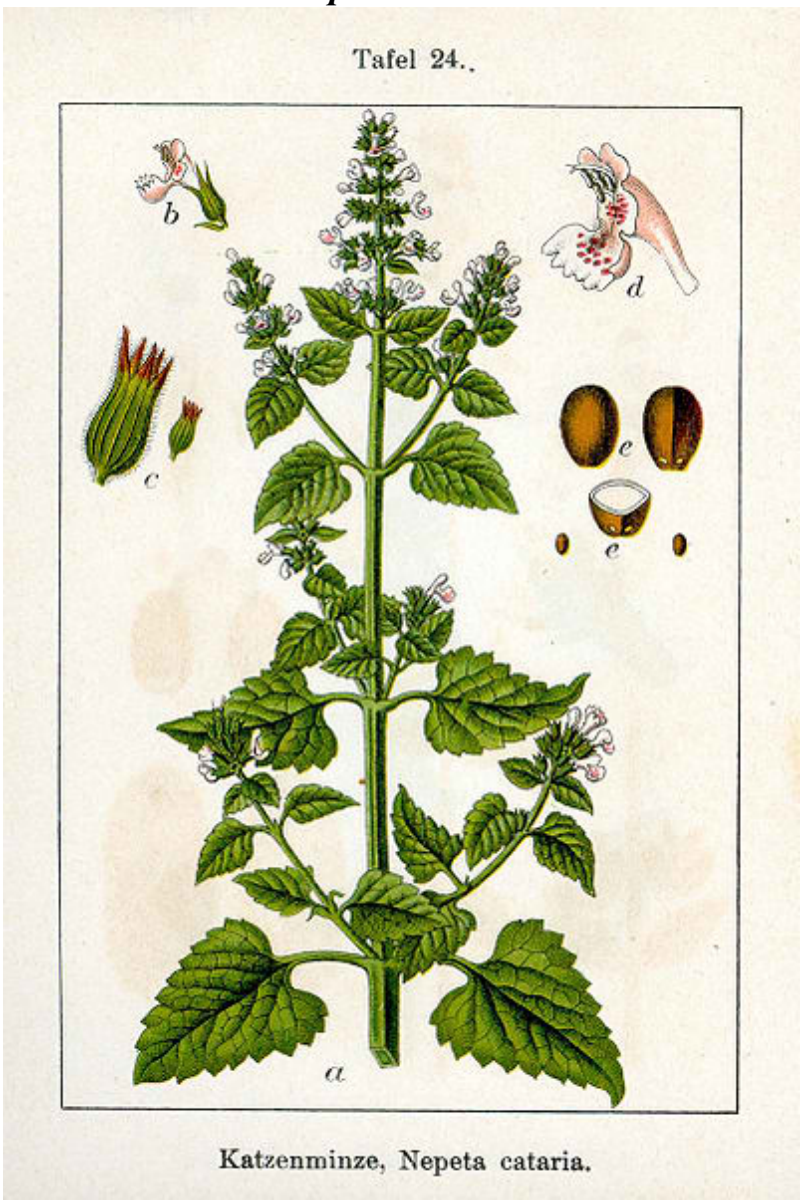
CATNIP

Nepeta cataria



http://en.wikipedia.org/wiki/Catnip

Nepeta cataria (also known as **catnip**, **catswort**, or **catmint**) is a plant in the Lamiaceae family. The common names can also be used to refer to the Nepeta genus as a whole.

Nepeta cataria is mostly used as a recreational substance for feline enjoyment. Roughly 50% of cats will be affected by the plant [2], whether it is growing in the wild or harvested and dried. Approximately two hours after an exposure, the feline will be sensitive to another dose. The common behaviors that are observed are: rubbing on the plant, rolling on the ground, drooling, or consuming much of the plant. The plant terpenoid nepetalactone is the main chemical constituent of the essential oil of *Nepeta cataria* and acts as a feline attractant. This chemical enters the feline's nose, and produces effects on the cat. [3]

Catnip has a history of human medicinal use for its soothing properties. It has also been known to have a slightly numbing effect. The plant has been consumed as a tea, juice, tincture, infusion or poultice, and has also been smoked. [4] Nepetalactone is a mosquito repellent. [5].

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"Termites Repelled By Catnip Oil"

NEW ORLEANS, LA - Known for its intoxicating effects on felines, catnip oil may also have a future in termite control. Recent experiments by USDA Forest Service researcher Chris Peterson show that catnip oil repels and even kills termites in a laboratory setting.

Peterson, a researcher with the Forest Service Southern Research Station (SRS), and fellow researcher Janice Ems-Wilson, a chemist at Valencia Community College in Orlando, FL, presented the results of their research at the national meeting of the American Chemical Society held March 23 - 27 in New Orleans.

An entomologist with the SRS Wood Products Insect Research unit in Starkville, MS, Peterson has been testing essential catnip oil as a possible replacement for the more toxic pesticides presently used to control termites. Probably the most common termite control method is treating the soil next to wood structures with chemical compounds: some of the active ingredients of traditional termiticides, such as chlordane and chlorpyrifos, have lost their registrations in the U.S. due to their toxicity. New, more eco-friendly compounds are being sought to fill the void.

The search for new termiticidal products is active. "The USDA Forest Service routinely tests about three new termite formulations for effectiveness every year, with a new active ingredient tested about once in every two years," said Peterson. "Natural compounds from plants, bacteria, and fungi could provide new commercial products that are less toxic to humans and the environment."

For their termite study, Peterson and Ems-Wilson infused sand with catnip essential oil--the kind routinely sold in pet stores--to test the effectiveness of the oil as a barrier to termite tunneling. To test vertical tunneling, the researchers placed yellow pine sapwood in the bottom of a test tube filled with sand. A two-inch barrier of catnip-treated sand separated the termites in the top layer of untreated sand from the pine. To test horizontal tunneling, the researchers constructed a barrier of treated sand across the middle of a transparent box of sand, again with the tempting pine placed across the barrier from the termites. In both tests, catnip oil reduced or eliminated termite tunneling.

Peterson and Ems-Wilson also tested the catnip oil for its toxicity to termites by treating them directly with a dilution of the oil, fumigating them, and exposing them to catnip-infused soil. The researchers carefully counted the termites in the multiple tests on barriers to make sure the barrier-effect they found was not due to termite mortality.

"At higher concentrations, the oil does kill termites, but not as effectively as the commercial compounds currently used in soil treatments," said Peterson. "Our results show that catnip oil is a very effective deterrent to termite tunneling, with the effective doses tested much lower than those reported for similar natural products."

Unfortunately, catnip oil breaks down quickly in the environment. The chemicals now used to prevent termite infestation must remain effective for more than five years in government testing. "There is the inevitable tradeoff," said Peterson. "Chemicals that last a long time also have greater potential for environmental damage. We hope that the active ingredients in catnip oil can eventually be modified to last longer."

Peterson emphasizes that his experiments are preliminary: catnip oil has not been officially tested for safety and effectiveness in the field. "The other factor is cost," said Peterson. "Catnip oil is much too expensive to use at effective rates when compared to other compounds. Until a way is found to produce the oil competitively and formulate it for long-term use, its only practical use would be for controlling isolated populations of termites."

The mission of the SRS Wood Products Insect Research unit is to improve the protection of wood products from subterranean termite damage, define the role of termites in forest ecosystems, and understand their impact on forest health. For more information:
http://www.srs.fs.usda.gov/termites/research.htm

Catnip Patents

Taditional Chinese medicine preparation for treating throat edema pain
CN101683476
Abstract -- The invention belongs to medical technology field, the invention discloses a kind of traditional Chinese medicine preparation medicament for treating throat edema pain, the medicine uses radix scrophulariae, root of large-flowered skullcap, great burdock achene, muscardine silkworm, coptis, puffball fruiting body, mint, catnip, weeping forsythia capsule, honeysuckle, radix isatidis, reed rhizome,balloonflower root as materials and prepared according to different characteristics and different proportion of each traditional Chinese medicine, the invention has a distinctive formula, which can beused for treating throat edema pain obviously, and the manufacture is simple and the using is convenient, and the medicine is cheap in economy and the medicine is easy to take.

Lupus III traditional Chinese medicine composition
CN101675986
Abstract -- The present invention belongs to the field of traditional Chinese medicine. Lupus III traditional Chinese medicine composition mainly comprises the following traditional Chinese medicine components byweight ratio: 3 to 10 cinnamomun cassia presl, 9 to 12 of raw radix astragali, stephania tetrandra and clematis root, 5 to 15 of Chinese angelica, prepared monkshood, bighead atractylodes rhizome, rehmanniae radix, fried catnip, fired windproof, epimedium sagittatum and glutinous rehmannia, 9 to 24 of curcuma tuber, 15 to 25 of corn silk, coix lachryma-jobi and black soya bean, 10 to 20 of keel and oyster, and 3 to 10 of licorice. The present invention has the function of dispelling wind and warming yang, dispelling cold and dehumidifying, and regulating and nourishing yin and yang, which isused for treating 142 cases of systemic lupus erythematosus, the results show: 47 cases of significantly effected, 79 cases of improvement, and 16 cases of null and void, and have no serious toxic andside effect.

Lupus I traditional Chinese medicine composition
CN101675967
Abstract -- The present invention belongs to the field of traditional Chinese medicine. Lupus I traditional Chinese medicine composition mainly comprises the following components by weight ratio: 15 to 25 of

prepared radix rehmanniae, 10 to 20 of each of prepared monkshood, prepared kusnezoff monkshood, fried catnip, fired windproof, cornus officinalis, Chinese yam, poria cocos and cortex moutan, 25 to 35 ofmotherwort, 4 to 10 of sweet wormwood, and 6 to 15 of each of oriental waterplantain rhizome and licorice. The present invention has the function of nourishing kidney and yin, dispelling wind, clearing heat and relaxing vein, which is used for the symptomatic treatment of 32 cases of lupus erythematosus by clinical observation, The result shows that: 9 cases of significantly effected, 20 cases ofimprovement, and 2 cases of null and void.

Traditional Chinese medicine composition for treating abdominal pain and distension
CN101675954
Abstract -- The present invention belongs to the field of traditional Chinese medicine, relates to a traditional Chinese medicine composition for treating abdominal pain and distension, comprising equivalent weight of the following traditional Chinese medicine components: radix bupleuri, forsythia, haw, radish seeds, safflower, catnip, pollen, bitter orange, and rheum officinale prepared by wine, which are prepared into honey pills, dripping pills, capsules, paste, mixture and oral liquid which are equivalent to 500 to 700g of crude drugs by using each preparing methods. 18 cases having abdominal pain anddistension are treated by using the present invention, including 7 males and 11 females, aged 41 -68 years, taking the present invention 3 to 14 doses, 3 of significantly effected, 11 of improvement,the total effective rate of 77.8%, and having no toxic and side effects.

Externally-applied traditional Chinese medicine composition for treating headache
CN101675964
Abstract -- The present invention belongs to the field of traditional Chinese medicine, especially relates to the field of an externally-applied traditional Chinese medicine. An externally-applied traditional Chinese medicine composition for treating headache is characterized by comprising the following traditional Chinese medicine components by weight ratio: 2 to 6 portions of rhizoma typhoon, 5 to 10 portions of Ligusticum wallichii, notopterygium root, dahurian angelica root, asarum herb, mint and catnip, which are ground, then packed with 50g single dose. Compared with the prior art, the present invention has not only good curative effect, but also small toxic and side effect, convenient use, and more economic feature.

Chinese traditional medicine for treating vitligo
CN101628062
Abstract -- The invention relates to a Chinese traditional medicine for treating vitligo, which mainly comprises complete lizard, long-nosed pit viper, duckweed, xanthium, radix saposhnikoviae, catnip, notopterygium, cimicifuga foetida, angelica dahurica, large leaf gentian and glycyrrhiza. The above ingredients are mixed together and put into a medical pot, and 1000g clean water is added into the pot for soaking for about one hour, boiled by big fire and decocted by slow fire till 400g of water is remained so as to obtain the Chinese traditional medicine. The Chinese traditional medicine is taken once a day at normal temperature, with ten days as a treatment course, and is taken for another ten days after medicine taking stops for one month. Clinical use demonstrates that the Chinese traditional medicine can not only relieve symptoms during use but also can completely cure vitligo without recurrence after a patient takes the medicine for 1-2 courses, has obvious effect, no toxic or side effects and low cost, and is especially suitable for rural areas shortage of medicine.

Chinese medicament for treating intervertebral disc
CN101530527
Abstract -- The invention relates to a Chinese medicament for treating intervertebral disc, which comprises: 10 to 20 grams of common clubmoss herb, 2 to 8 grams of dipsacus root, 11 to 19 grams of garden balsam stem, 2 to 7 grams of incised notopterygium rhizome, 3 to 7 grams of dragon's blood, 3 to 8 grams of catnip, 3 to 7 grams of liquoric root, 2 to 7 grams of great burdock achene, and 3.5 to 7.5 grams of Chinese angelica. The raw materials are taken according to a weight ratio and divided into two equal portions; the two equal portions of the raw materials are wrapped by cotton gauze respectively and placed in a pot containing vinegar to be boiled; one portion is taken out, allowed to cool naturally to 30 to 40 DEG C and externally applied to an aching part; when the temperature of the medicament decreases, the medicament is replaced in the pot containing vinegar to be heated, and at the same time, the other

portion is taken out, allowed to cool naturally to 30 to 40 DEG C, and externally applied to the aching part; the two portions of medicaments are used in an alternating mode; and the medicament can penetrate into skin to reach a nidus directly and can improve local microcirculation, relieve or eliminate local inflammatory reaction on nerve roots, and make the protruding vertebral pulp shrink and reduce volume by losing water and further dissolved in and absorbed by somatic fiber tissues by releasing the ingredients of the Chinese medicament at the position of a protruding vertebral pulp. The drug has excellent treatment effect.

Traditional Chinese medicine pillow
CN101416831
Abstract -- The invention relates to a Chinese medicament for treating intervertebral disc, which comprises: 10 to 20 grams of common clubmoss herb, 2 to 8 grams of dipsacus root, 11 to 19 grams of garden balsam stem, 2 to 7 grams of incised notopterygium rhizome, 3 to 7 grams of dragon's blood, 3 to 8 grams of catnip, 3 to 7 grams of liquoric root, 2 to 7 grams of great burdock achene, and 3.5 to 7.5 grams of Chinese angelica. The raw materials are taken according to a weight ratio and divided into two equal portions; the two equal portions of the raw materials are wrapped by cotton gauze respectively and placed in a pot containing vinegar to be boiled; one portion is taken out, allowed to cool naturally to 30 to 40 DEG C and externally applied to an aching part; when the temperature of the medicament decreases, the medicament is replaced in the pot containing vinegar to be heated, and at the same time, the other portion is taken out, allowed to cool naturally to 30 to 40 DEG C, and externally applied to the aching part; the two portions of medicaments are used in an alternating mode; and the medicament can penetrate into skin to reach a nidus directly and can improve local microcirculation, relieve or eliminate local inflammatory reaction on nerve roots, and make the protruding vertebral pulp shrink and reduce volume by losing water and further dissolved in and absorbed by somatic fiber tissues by releasing the ingredients of the Chinese medicament at the position of a protruding vertebral pulp. The drug has excellent treatment effect.

Traditional Chinese medicine preparation for treating rhinitis
CN101422564
Abstract -- The invention relates to a preparation of the traditional Chinese medicine for treating rhinitis and also provides a medicament form for preparation and usage. The invention is mainly characterized in that a plurality of traditional Chinese medicines, such as catnip, asarum, lily magnolia, radix saposhnikoviae, weeping forsythia, tuber of dwarf lilyturf, charles abraham and the like, are prepared into a wine soaked cloth wrapped pill form according to a certain proportion. When in use, the wrapped pills are alternatively pushed into nasal cavities and play the roles of ventilating nasal cavities, wet lung and dispelling cold, benefiting qi and strengthening superficies, antibiosis and detoxification, adjusting immunity and strengthening respiratory movements. Compared with the traditional treatment method, the total effective rate reaches to more than 95 percent in hundreds of trials. The preparation of the traditional Chinese medicine has high cure rate and miraculous effect on nasal polyps which automatically drop off without surgery and is spread by sufferers.

Medicine plaster for treating furunculosis, exogenous injury and rheumatic arthritis
CN101401873
Abstract -- The invention provides a plaster for treating furuncle, trauma and rheumatoid arthritis. A black plaster is extracted from carbonized human hair, angelica tails, radix rehmanniae, rhubarb, Baikal skullcap root, multiflower knotweed tuber, Chinese atractylodes, best-quality cinnamon, phellodendron, pangolin, catnip ears, honeysuckle flowers, glossy ganoderma and frankincense sesame oil, is matched with myrrh, croton and radix curcumae, and then is added with borax, hydrargyrum oxydatum crudum and other ingredients so as to prepare the plaster. To furuncle, the plaster has the efficacies of eliminating furuncle surface, removing pus and eliminating symptoms till recovery, regardless of the degree of disease. To rheumatic or rheumatoid symptoms, the plaster can first eliminate obstacles on Qi blood pathways to maintain unobstructed Qi blood circulation, dredges meridians and collaterals through acupuncture points at the same time, regulates Yin-Yang equilibrium of viscera, recovers the physiological functions of human bodies, and fundamentally relieves the pain of patients.

Preparation method of tea capable of preventing and curing cold

CN101380045
Abstract -- The invention relates to a preparation method of tea which can prevent and cure cold. 3 to 8g of perilla leaf, 2 to 5g of wrinkled glanthyssop, 3 to 10g of mint, 2 to 3g of catnip, and 4 to 8g of tea leaves are made into coarse ends and are prepared by boiled water and drunk as tea. The infused decoction of the tea is convenient; the substitution of medicine by the tea can effectively prevent cold in daily tea drinking; the boiling or infusion of the tea can diffuse medicine components faster, thus providing rapid effects.

Traditional Chinese medicine prescription for treating allergic rhinitis
CN101361904
Abstract -- The invention discloses a Chinese medicine for curing allergic rhinitis, and is capable of curing allergic rhinitis effectively. The portion of the components of the medicine is as follows: 10 portions of catnip, 10 portions of radix saposhnikoviae, 10 portions of Chinese thorowax root, 10 portions of notopterygium, 10 portions of angelica dahurica, 10 portions of rhizoma ligustici wallichii, 10 portions of dark plum, 10 portions of licorice root, 10 portions of asarum, 6 portions of flower bud of lily mango lia, 15 portions of siberian cocklebur fruit, 10 portions of bombyx batryticatus, 10 portions of radix aconiti carmichaeli, 30 portions of Chinese wolfberry, 12 portions of tuber of multiflower knotweed, and 12 portions of rizoma polygonatum. The usage of the medicine is: decocting with water, serving twice per day, and a course of treatment of 7 days. The proportion of the medicine is simple and the medicine is easy to take with good efficacy.

Traditional Chinese medicine for treating acne
CN101422554
Abstract -- The invention relates to a traditional Chinese medicine for treating acne, which consists of components formed by bulk drugs with the following weights: 12 to 15g of catnip, 12 to 15g of radix saposhnikoviae, 15 to 30g of japanesehoneysuckle, 10 to 12g of duckweed, 12 to 15g of roots of dahuriae angelica, 10 to 15g of scutellaria, 10 to 15g of balloonflower, 10 to 15g of spina gleditsiae, 12 to 15g of angelica sinensis, 15 to 20g of sophora flavescens, 15 to 20g of smilax glabra, 10 to 15g of safflower, 15 to 20g of lithospermum, 20 to 30g of salvia and 10 to 15g of red peony roots,. The Chinese medicine is simple in preparation, low in cost, wide in medicament resource, convenient to use, rapid in treatment effect, high in cure rate, has no toxic or side effects and is difficult for disease recurring, and besides the effective rate of clinical application of the medicine is 90 percent and cure rate is 70 percent.

Chinese medicine for treating fish bone-pricking wound induced infection contamination
CN101327270
Abstract -- The invention relates to a Chinese medicine for remedying fish bone stab wound infection. The invention is made from the raw materials with the following weight portions of 30-40g of honeysuckle, 15-20g of perilla, 10-15g of forsythia, 10-15g of scutellaria, 10-15g of red peony root, 10-15g of catnip, 10-15g of radix saposhnikoviae, 15-20g of radix rehmanniae root, 15-20g of pollen, 3-6g of rhubarb and 8-10g of liquorice. The Chinese medicine is simple to be prepared, has low cost, large range of raw materials source, convenient usage method, quick curative effect, and high cure rate, does not have any side effect, and has 100 percent of effective rate and 85 percent of cure rate. The general sufferers can be cured by taking three doses, and the severe sufferers can be cured by taking six doses. The curative effect is stable so that the illness is not easy to relapse.

Herb deodorization health-care insole for treating dermatophytosis
CN101332000
Abstract -- The invention relates to an insole, in particular to a herb deodorizing and beriberi-treating health insole. The insole is divided into a cloth layer or a plastic layer, a resin layer, a Chinese medical herb layer and a cotton cloth layer and the four layers are overlapped, the sides of which are sealed by sealing edges. The Chinese medical herb layer is arranged into the insole after the Chinese medical herbs are prepared by drying, crashing and pressing. The formula of the Chinese medical herbs consist of catnip, angelica, sun euphorbia herb, cochinchia momordica seed, lonicera japonica, common floweringquince fruit, prickly ash, camphor material, pine wood and mugwort leaves. The insole of the invention has the advantages of dispelling wind and removing dampness, reducing the beriberi and guiding through the muscles and joints, dispelling the pathogenic wind-toxic, enhancing human cell viability, controlling the

bacterial reproduction and having obvious effects on the foot smelling, foot wetting and rotting, clefting of foot skin and the muscle and joints of the heels paining of patients.

Medicament for treating psoriasis and preparation thereof
CN101327273
Abstract -- The invention provides a medicine for remedying psoriasis and a preparation method thereof, and belongs to the technology field of Chinese medicine preparation for remedying dermatosis. The invention is made from the raw materials of radix saposhnikoviae, cicada exuviae, root-bark of dittany, safflower, bark of boxthorn root, broom cypress fruit, sophora flavescens, root of red-rooted salvia, honeysuckle, gromwell, catnip ear, Chinese goldthread, kudzu root and indigo naturals. The Chinese medicinal herbs are handpicked, weighted in proportion, washed in clear water, dried in the air or in the sun, and crushed to be made into decoction, pill, tablet or capsule. Compared with the prior art, the medicine for remedying psoriasis and the preparation method thereof has the characteristics of obvious curative effect, high cure rate, cheap price and so on. Through the clinical trial of more than 300 psoriasis sufferers, the effective rate of the medicine is 95 percent; the cure rate is more than 90 percent; and the illness does not relapse any more.

Insect Repellent
US2008213408
Abstract -- The invention provides compositions and methods useful in repelling target pests, such as insects from target areas. The compositions comprise mixtures or solutions of at least one repellent composition. The compositions of the invention preferably include an effective amount of evening primrose oil ("EPO") to repel a target pest from a target area, such as animals, humans, plants or building structures, along with a carrier. The repellent composition may include a combination of EPO with another plant extract oil and a combination of EPO with catnip oil, optionally combined with another plant extract oil. The method for repelling target pests from animals comprises contacting a target area with the repellent composition to repel the target pest from the target area. The method also reduces transmission of infectious diseases transmitted by target pests by reducing contact of the pest with target areas.

Chinese medicine with anti-inflammation and itching-relieving action and preparation thereof
CN101264165
Abstract -- The invention discloses a Chinese herbal medicine diminishing inflammation and relieving itching and the preparation method, which is produced by following raw material with weight proportion: lightyellow sophora root 10 to 60, radix rehmanniae 5 to 30, ledeboruiella root 5 to 30, angelica 5 to 30, periostracum cicadae 5 to 20, angelica sinensis 5 to 20, Danshen root5 to 20, baikal skullcap root 5 to 20, catnip 5 to 20, honeysuckle 5 to 20, weeping forsythia 5 to 20 and liquorice root 5 to 20. The Chinese herbal medicine has the advantages of dissipating heat and drying the damp, enriching blood to calm endogenous wind, treating cutaneous pruritus caused by each reason, improving microcirculation and increasing immunity of human body.

PRODUCTION METHOD OF RECONSTITUTED TEA
RU2365130
Abstract -- FIELD: food products. ^ SUBSTANCE: catnip leaves are consequently extracted with liquid carbon dioxide and drinking water to obtain CO2-miscella and water extract. Tea waste products are mixed with nonpolar liquefied gas, extracted and minced with repeating pressure release in the extraction mixture to the pressure lower of extract saturated vapour at extracting temperature. Extract and extraction cake are separated. The latter is dissolved in water solution of edible acid. Calciferous or magnesium salt of carbonic acid and water extract of catnip leaves is added to suspension. Then it is formed, dried till residual humidity 13-15%, cut, impregnated with CO2-miscella of catnip leaves and gas-liquid extract of tea refuses with simultaneous pressure boost, depressurisation till atmosphere pressure with simultaneous freezing of absorbed carbon dioxide and its subliming with obtaining of end product are performed. ^ EFFECT: production of new product - reconstituted flavoured tea with complete usage of mentioned refuses.

Skin-friendly insect repellent

EP2027772
Abstract -- Preparation (I) comprises: one or more insect repellent active agent formed from dihydro-nepetalactone and/or catnip extract; and/or one or more substances with a log P-value of -2.5 to 2.5. - ACTIVITY : Insect Repellent. - MECHANISM OF ACTION : None given.

Insect repellent and thickening agent
EP1997379
Abstract -- The formulation comprises one or multiple insects repellent active ingredients. The insects repellent active ingredients are selected from dihydro-nepetalactones or extracts of the catnip and one or multiple thickener. - ACTIVITY : Insecticide. - MECHANISM OF ACTION : None given.

Insect repellent with reduced stickiness
EP1997377
Abstract -- The formulation comprises one or multiple insects repellent active ingrediants. The insects repellent active ingredients are selected from dihydro-nepetalactones or extracts of the catnip and one or multiple fillers with 0.2 square meter per gram of a specific surface. - ACTIVITY : Insecticide. - MECHANISM OF ACTION : None given.

Medicament for preventing and treating ruminant post-natal diseases and preparation method thereof
CN101564486
Abstract -- The invention discloses a medicament for preventing and curing ruminant post-natal diseases, which mainly uses 43 Chinese medicinal herbs of cowherb seed, safflower, rhizoma ligustici wallichii, herba hyperici sampsonii, catnip, loofah, vervain, Baizaocao, Guiwei, white paeony root seed, salvia miltiorrhiza, flaccid knotweed herb, corydalis tuber, climbing nightshade, fiveleaf akebia, squama manitis, yam, honeysuckle, Buhuang, frankincense, pulvis glycyrrhizae praeparatus, Chinese violet, angelica dahurica, Huangshao seed, liquorice, radix astragali, ramulus euonymi, spina gleditsiae, peach kerne, ginseng, angelica, barbary wolfberry fruit, herba epimedii, baikal skullcap root, red paeonia, sweet potato, momordica dioica, shizandra berry, radix rhapontici seu radix echinopsis, dried immature fruit of citron orange, nothapodytes foetida, gardenia and sedge grass as base materials, uses motherwort, mahonia, philippine flemingia root, radix sophorae falvescentis, radix linderae and artemisia leaf as active ingredients and uses brown sugar as a saccharifying ferment according to certain proportioning by weight. The medicament can be prepared into pulvis for orally taking and has the functions of enriching the blood, invigorating the blood circulation, regulating the menstruation, relieving pains, lubricating the intestines, relaxing the bowels, promoting the eruption, clearing heat, detoxifying, lifting the yang-energy, regulating the vital energy, strengthening the spleen, coordinating the exterior and the interior, promoting the immunity, tonifying Qi, strengthening the exterior, removing sores, promoting the granulation, tonifying middle-Jiao and Qi, clearing damp, promoting diuresis, and the like. The medicament has quick effect for preventing and curing the ruminant post-natal diseases, high cure rate, safety and no toxic side effect.

Health care drinking liquid for preventing and controlling influenza
CN101264308
Abstract --The invention discloses a health Yinye for preventing and controlling influenza, comprising the following raw medicines according to the weight account: liquorice 10 to 20 parts, largehead atractylodes rhizome 10 to 20 parts, schisandra chinensic 10 to 20 parts, catnip 10 to 20 parts, plaster 10 to 20 parts, jujube 5 to 10 parts, vane ladybell Root 20 to 40 parts, and ginger 5 to 10 parts. The health Yinye has the advantages of improving body immune function, reinforcing body antiviral ability, preventing and controlling influenza rapidly and effectively, and preventing infection of influenza virus for long time without any poison and side effects, having effectivity, safety and ability to be used for long time.

Mongolian medicine for curing hemorrhoid
CN101249169
Abstract -- The invention relates to a medicine that is a mongolian medicine for treating hemorrhoids. The medicine is made from raw ingredient medicines by weight parts as follows: sophoricoside is 30 to 35 parts, garden burnet is 15 to 20 parts, bitter orange is 15 to 20 parts, scutellaria is 15 to 20 parts, catnip

is 15 to 20 parts, coptis is 15 to 20 parts, biota orientalis is 15 to 20 parts, radix saposhinikoviae is 8 to 12 parts, dangguiwei is 12 to 18 parts, and Gentiana macrophylla is 15 to 25 parts. The mongolian medicine which is made by adopting the raw ingredient medicines has the efficacies of detumescence as well as blood stasis removing, regeneration as well as hemostasis, and heat clearing as well as acesodyne; a large number of experiments and clinical application prove that the mongolian medicine has unique therapeutic effect on various types of the hemorrhoids and has the advantages that the course of treatment is short, the cost is low, no toxic and side effects exist, etc., and the application prospect is very considerable.

Medicament for curing anorectal operation wound-surface and preparation
CN101234138
Abstract -- The invention discloses a medicine for treating postoperative wound on anorectal diseases and a preparation method thereof, which relates to a field of Chinese herbal medicine preparation technology. The medicine is a medicament prepared with lithospermum and catnip as main raw materials, the composing prescription of which has the effects of granulation promoting and rottenness preclude, inflammation relieving and pain stopping, and wound healing promoting without any toxic and side effects. The clinical observation shows that the effective rate of the medicine can reach 90 percent.

Chinese medicine composing prescription for treating children's lymphoglandulae mesentericae intumesce
CN101244183
Abstract -- The invention discloses a Chinese herbal medicine compound for curing mesenteric lymphadenectasis of children, belonging to the technical field of Chinese herbal medicine compound, which comprises radix sileris, catnip, rhizomaligusticichuanxiong, isatis root, cortex moutan, red peony root, largehead atractylodes rhizome, Chinese yam, bergamot, rhizoma corydalis, prepared licorice, and root of herbaceous peony which are compounded according to a weight proportion. The Chinese herbal medicine compound has the advantages of efficiencies of removing heat cooling blood, and anti-inflaminatory, relieving and pain-stopping, and remarkable therapeutic effect for curing mesenteric lymphadenectasis of children caused for viral infections.

Medicine for curing psoriasis
CN101229266
Abstract -- The invention discloses a safe and effective medicine for psoriasis treatment, which is formed by the raw materials with the following weight account, garter snake 10 to 20 portions, catnip of 5 to 10 portions, windbreaking of 5 to 10 portions, cicada skin of 5 to 10 part, fructuskochiae of 5 to 10 portions, osthol of 5 to 10 portions, dittany skin of 5 to 10 portions, charles abraham of 5 to 10 portions, lightyellow sophora root of 5 to 10 portions, phellodendron of 5 to 10 portions, and astragalus of 7.5 to 15 portions. The preparation method of the invention is: grounding the raw materials into fine powder, mixing evenly, and putting into the capsule. Meanwhile, the traditional Chinese medicine has no obvious side effect.

Chinese medicine for treating pruritus dermatopathy
CN101327298
Abstract -- The invention discloses a Chinese medicine for remedying pruritic disease. The Chinese medicine is characterized in that the medicine is made from the Chinese medicines with the following weight portions of 15-30 portions of cynanchum pani jculatum, 10-15 portions of tribulus terrestrisl, 10-15 portions of catnip, 30-60 portions of fructus cnidii, 15-20 portions of cortex dictamni, 15-20 portions of angelica, 10-15 portions of broom cypress fruit, 30-60 portions of loosestrife, 15-20 portions of ramulus mori, 15-30 portions of agrimony, 10-15 portions of trichosanthin, 15-20 portions of small red bean, 10-20 portions of ampelopsis japonica, 15-20 portions of rhizoma bletillae, 15-20 portions of poria cocos, 10-30 portions of caulis polygoni multiflori, 15-30 portions of salvia, 15-20 portions of biflower, 30-60 portions of smilax glabra, 15-30 portions of forsythia, 10-20 portions of angelica, 15-30 portions of astragalus, 15-30 portions of safflower, 10-20 portions of achyranthes bidentata bl, 10-20 portions of tangerine peel, 15-30 portions of fructus trichosanthis, 15-30 portions of sophora flavescens and 10-15 portions of glycyrrhiza. The Chinese medicine has rapid efficacy and high cure rate, and the disease can not be recurred after being remedied.

Plaster for treating rheumatism bone disease
CN101450184
Abstract -- The invention relates to a plaster for treating rheumatism which is prepared from 40 traditional Chinese medicinal materials including syngnathus, pubescent angelica, angelica, agkistrodonbungarus minimus, peach kernel, safflower, phellodendron, radix sileris, catnip, asarum, pinellia ternate, yazao, erhua, forsythia, pangolin, nux vomica, rhizoma gastrodiae, panax notoginseng, papaya, hyssop, cortex eucommiae, cassia twig, olibanum, myrrh, angelica, coptis, notopterygium, fritillaria, sophora, whole worm, centipede, dragon's blood, radix auckladiae, realgar, musk, clove, borneol, astragalus, sesame oil and guangdan. The plaster has special curative effect for treating intractable rheumatism, and has advantages of quick result, short treatment period, high cure rate and low cost.

Preparation method of schizonepetae and forsythia decoction
CN101450140
Abstract -- The invention discloses a preparation method of catnip forsythinol decoction belonging to the traditional Chinese medicine technology field. In order to regress to the disease treating marrow of the traditional medicine, the preparation method of the classic catnip forsythinol decoction in the invention comprises: water extracting according to the 'obeying ancient' guiding ideology, and concentrating and granulating combining with modern technology; and a best matched preparation process parameter and applicable auxiliary materials to the catnip forsythinol decoction are summarized out. The invention not only furthest reserves the traditional medicine experiences, but also can adapt to the rapid paces of modern society by the preparation forms such as granule, tablet capsule, powder and pill.

Chinese medicine for treating mild chilblain
CN 101116679
Abstract -- A traditional Chinese medicine for treating mild chilblain specially belongs to a medicine for treating mild chilblain. The ingredients by mass are as follows: 12g of cinnamon, 12g of angelica, 12g of cassia twig, 10g of ferula, 10g of common fennel, 10g of angelica dahurica, 10g of parsnip, 8g of hemlock parsley, 8g of clove, 8g of wild celery, 8g of catnip, 5g of safflower, 5g of camphor and 400g of white spirit with fifty DEG C; the preparation method are that: the cinnamon, angelica, cassia twig, ferula, common fennel, angelica dahurica, parsnip, hemlock parsley, clove, wild celery, catnip, safflower, camphor are mixed proportionally, grinded into dead smalls, immerged into the alcohol spirit fully, sealed for three days and filtered to take out the sieve residues and get extracts. The Chinese herbal medicine is simple in compatibility of medicine; medicines in the medicine prescription use natural herbal medicines completely, thereby being convenient for drawing and using, simple in preparation method, good in taking curative effect, low in medicine cost and applicable for people who live far away from townships and in remote villages in particular; the medicine has low treatment cost for people who has mild chilblain disease, thereby solving curative problems caused by low-income families, poor living and scarce medical treatment conditions.

Chuan Xiong Tea soft capsule and method for preparing the same
CN101327302
Abstract --- The invention relates to a Chuanxiong Chatiao soft capsule and a preparation method thereof. In modern medicine, the Chuanxiong Chatiao powder is improved and made into tablets, capsule, oral liquid and so on, which can not achieve the efficacy of the original formulation. The preparation method of the Chuanxiong Chatiao soft capsule is that Chuanxiong, red peony root, gastrodia elata, notopterygium, angelica, asarum, chrysanthemum, mint, parsnip, tea leaves, liquorices and catnip are put into the Chinese medicine extraction pot. Water is added for soaking, and the mixture is decocted for three times. At the same time, volatile oil is collected. The water decoction liquid and extraction liquid are combined and processed with centrifugal filtration. The filtrate is decompressed and condensed, and crushed with grain size less than 120 meshes after being processed with spray drying. The extraction volatile oil is melted with a certain amount of edible oil. Dry extractum power is mixed with edible oil. The dry extractum power takes 20-50 weight percent of the oil base in soft capsule. The mixture is grinded by a colloid mill, and pigment gelatin which is taken as capsule wall material is added and is made into capsule core extractum oil base liquid. The soft capsule is formed by pressing under the condition of stirring. The soft capsule is manufactured after being dried, washed and dried. The

Chuanxiong Chatiao soft capsule is used for replacing Chuanxiong Chatiao powder.

Kashiwa catnip beverage
CN101062176
Abstract -- Disclosed is a medicinal preparation for treating hemorrhoid, which is prepared mainly from arborvitae tops, schizonepeta spike, Chinese angelica root, dried rehmannia root, goldthread root, honey-fried licorice root and black plum.

Decoction made from catnip, fang-feng and so on
CN101062175
Abstract -- Disclosed is a medicinal broth for treating skin eczema, urticaria and angioneurotic edema, which is prepared mainly from schizonepeta spike, ledebouriella root, batryticated silkworm, licorice root, honeysuckle flower, root bark of tree peony, dried rehmannia root, baikal skullcap root and peppermint.

METHODS AND RELATED SYSTEMS AND FORMULATIONS TO NORMALIZE AND IMPROVE HUMAN BODY CHEMISTRY AND HEALING ABILITY
US2008260708
Abstract -- Methods, systems and formulations for normalizing and improving human body chemistry and the body's natural ability to heal itself. In one embodiment a system including effective amounts of a digestive enzyme, soluble and insoluble fiber, laxative, probiotics, vitamin C, potassium, protease enzymes, lipase, lysine, taurine, proline, choline, inositol, inositol hexaphosphate, policosanol, charcoal, bentonite clay, thyme, ascorbic acid, magnesium citrate, calcium citrate, methylsulfonyl methane, cayenne pepper, magnesium, potassium, ester-c, ginger and niacin, lysine calcium, stevia leaf, citric acid, a tincture of bayberry bark, juniper berries, yam root, cramp bark, golden seal root, fennel seed, uva ursi leaves, ginger root, lobelia herb, catnip herb, and peppermint leaf, golden seal root, Echinacea angustifolia root, ginger root, and licorice root, a tincture of black walnut hulls, venus fly trap, chaparral, wormwood, licorice root, slippery elm, cloves and comfrey root, burdock root, sheep sorrel, rhubarb root, slippery elm, olive leaf and yarrow flower is provided.

COMPOSITION FOR A FEELING OF RELAXATION
US2008248141
Abstract -- A method for promoting restful, quality sleep in an individual comprising the administration of a composition comprising Lemon balm extract and one or more of Mesua ferrea plant powder, a source of reserpine, Catnip powder and Jamaica dogwood for the promotion of a feeling of relaxation conducive to the induction of sleep in an individual.

COMPOSITION FOR PROMOTING SLEEP AND RELAXATION COMPRISING LEMON BALM
WO2008122099
Abstract -- A method for promoting restful, quality sleep in an individual comprising the administration of a composition comprising Lemon balm extract and one or more of Mesua ferrea plant powder, a source of reserpine, Catnip powder and Jamaica dogwood for the promotion of a feeling of relaxation conducive to the induction of sleep in an individual.

Chinese medicine ointment for treating ache of neck, shoulder, waist and leg
CN101194990
Abstract -- The invention relates to a medicament for curing cervical spondylosis, arthrophlogosis, scapulohumeral periarthritis, rheumatic arthritis, atrophic arthritis, neuralgia, hyperosteogeny, numbness of limbs, intervertebral disc extrusion, femoral head necrosis, sprain and bruise, which is a paste processed by various herbs and base agent. The main constituent of the invention comprises musk, radix aconite, radix aconite kusnezoffi, raw nux vomica, pubescent angelica, notopterygium, eucommia ulmoides, trophozoites, ledebouriella root, pangolin scales, root of gentian, angelica, olibanum, myrrh, dragon blood, clematis root, whole worm, lumbricus, cinnamomum cassia, achyranthes root, catnip, salvia miltiorrhizae, camphor and base reagent. The invention has a special curative effect on cervical-shoulder and lumbocrural pain with no toxic and side effects, and the effective rate is up to 95% according to clinical verification.

BIORATIONAL REPELLENTS OBTAINED FROM TERPENOIDS FOR USE AGAINST ARTHROPODS
US2007154504
Abstract -- The compositions comprise an effective repellent amount of one or more monoterpenoids, one or more sesquiterpenoids or a blend of one or more monoterpenoids and one or more sesquiterpenoids in combination with a carrier, wherein the compositions are formulated to repel a target pest from a target area. In one embodiment, the one or more monoterpenoids, and/or one or more sesquiterpenoids are from a biorational source, such as a plant volatile. In one embodiment, the one or more sesquiterpenoids are oxygen-containing sesquiterpenoids. In a particular embodiment, the plant volatile is a monoterpenoid, such as "nepetalactone" (or the individual nepetalactone isomers) derived from catnip (Nepeta cataria). In another embodiment, the plant volatile is additionally or alternatively a sesquiterpenoid derived from the fruit of the Osage orange tree (Maclura pomifera), Siam wood or the Amyris plant. Such compositions have repellency, including long term repellency, against arthropods.

Chinese compound medicine cataplasm for treating cough, preparing method and use in medicine preparing
CN1814269
Abstract -- The invention discloses a Chinese traditional medicine compound relieve cough agent and the manufacture method that includes Chinese traditional medicine extractive and water-solubility base material. The extractive is made up from Chinese ephedra, gesso, mongolian snakegourd, prepared pinellia, dried ginger, catnip, cicada skin, apricot, peach kernel, white peony root, liquorice, and chamomile. The water solubility base material is made up from sodium polyacrylate, polyvinyl pyrrolidon, glutin, sodium cellulose glycolate, glycerin, kaolin, azone, propylene glycol and water. The agent has large drug carrying ability, good drug compatibility, and stable base material performance, it would not react with main drug, low cost, no stimulating to skin, no anaphylactic response, and is easy to manufacture. It is good medicament for cure acute bronchitis, and chronic bronchitis.

A COMPOSITION OF INGREDIENTS TO VEGETABLE LIQUEUR "NEPETA"
UA9767
Abstract -- A composition of ingredients to vegetable liqueur "Nepeta" contains vegetable raw material infusion with biologically active substances, alcohol and water. At that as vegetable raw material infusion with biologically active substances used is aqueous-alcoholic extract of catnip herb (cat mint).

Methods of separating ZE-nepetalactone and EZ-nepetalactone from catnip oil
US2006121134
Abstract -- A method of separating ZE-nepetalactone and EZ-nepetalactone from catnip oil involving mixing catnip oil dissolved in at least one water immiscible, non-halogenated organic solvent with at least one inorganic base dissolved in water to form a biphasic mixture, stirring the biphasic mixture to hydrolyze ZE-nepetalactone to form ZE-nepetalic acid, separating the aqueous phase containing ZE-nepetalic acid from the organic phase containing EZ-nepetalactone in the biphasic mixture, and optionally acidifying the aqueous phase to about pH 4.5 and adding at least one water immiscible, non-halogenated organic solvent to azeotropically lactonize the ZE-nepetalic acid in the presence of a catalytic amount of p-toluene sulfonic acid to form ZE-nepetalactone.

Throat ache relieving medicine
CN1593525
Abstract -- Disclosed is a medicine for treating throat ache, which comprises catnip 4-8g, ledebouriella root 4-8g, fruit of citron 4-8g, root of balloonflower 8-15g, hogfennel root 8-15g, scrophularia root 20-30g, capsule of weeping forsythia 8-15g, cimicifuga rhizome 8-15g, licorice root 3-8g.

Method for making cigarette to treat, prevent and health-care respiratory system disease
CN1579264
Abstract -- The invention is a manufacturing method for a disease-prevention and healthy keeping cigarette which is made up of several kinds of tobaccos and several kinds of Chinese medicine and who can cure respiratory system diseases. It is made up of two kinds of tobaccos and seven kinds of Chinese

medicines according to weight proportion 5:0.5-5, which can be divided into following three kinds of breeds: 1. flue-cured tobacco type 2. Compound type 3. Cigar type, it can develop several kinds of breeds. The Chinese medicines are made up of mulberry leaf, wild chrysanthemum flower, stigma of corn, cutification, orange silk, catnip, all of which can reduce the nicotine and tar in tobacco. It can achieve the healthy keeping effect with Chinese medicine fuming.

Topical insect repellent
US2004197364
Abstract -- The present invention is directed to a topical insect repellent composition, comprising: 40-70 wt % eucalyptus oil; 3-10 wt % catnip oil; 2-6 wt % DMSO or MSM; 6-20 wt % aloe vera; 6-20 wt % jojoba oil; 6-20 wt % tea tree oil; and 6-20 wt % peppermint oil, all weight percents based on the total weight of the composition. The present invention is also directed to an article of manufacture that contains a label and the composition of the invention.

Preparation method of composition containing dihydro nepetalactone
CN101396020
Abstract -- The invention relates to dihydro-Nepetalactone, which is the secondary natural ingredient of catnip (Nepeta), for example Nepeta essential oil and has been confirmed as an effective vermicide compound. The dihydro-Nepetalactone can be synthesized by hydriding Nepetalactone (the main ingredient of catnip essential oil). Meanwhile, the compound with aromaticity can be commercially used due to the disinsectization performance.

Cough-relieving medicine and its preparation method
CN1579441
Abstract -- The invention is a cough relieving medicine; it is made up of ingredients with following weight proportion: poppy shell immersed plaster 90-110, aster 26-38, chrysoidine 15-26, stemona root radix stemonae 15-26, magnolia vine fruit 3-7, balloonflower root 26-38, citron or trifoliate orange fruit 3-7, dried tangerine peel 26-38, catnip 10-22, hogfennel root 40-54, dried ginger 3-7, liquorice 85-105, ammonium chloride 65-95, peppermint oil dementholized 0.3-0.7ml. The invention can regulate the lung and relieve phlegm, stops cough. The invention also provides the manufacturing method for the medicine.

BUGNIP
US2004197362
Abstract -- The purpose of my invention is to find a more effective insect repellent that is safe for the environment and people. Catnip is an herb that was once used for medicinal purposes such as colic in babies, and skin irritations. Lemon juice is found in most refrigerators across the country. This is the combination I have used to develop my insect repellent, BUGNIP. DEET, the most common insect repellent, can have serious adverse side effects from overuse, and use on small children. BUGNIP is made from ingredients that have been used medicinally through the centuries, and will not have adverse side effects. This is especially important today, while West Nile is a threat. People are concerned about the adverse effects of chemically based repellents, and do not want to use them. This is where my invention, BUGNIP, is different from other repellents. It is safe, and it repels insects.

Biorational repellents obtained from terpenoids for use against arthropods
US2003138471
Abstract -- This invention provides compositions and methods useful for repelling target pests. The compositions comprise an amount of a monoterpenoid or sesquiterpenoid effective to repel a target pest from a target area, the monoterpenoid or sesquiterpenoid in combination with a carrier. In one embodiment, the monoterpenoid or sesquiterpenoid is from a biorational source, such as a plant volatile. In a particular embodiment, the plant volatile is a monoterpenoid, such as "nepetalactone" (or the individual nepetalactone isomers) derived from catnip (Nepeta cataria). In another embodiment, the plant volatile is any one or a combination of sesquiterpenoids derived from the fruit of the Osage orange tree (Maclura pomifera). Such compositions have repellency against arthropods, such as cockroaches, mosquitoes, mites, ticks, spiders, and so forth.

AGENT "KHITOKOR" FOR TREATMENT OF VIRAL HEPATITIS B AND C AND METHOD

OF TREATMENT
RU2185185
Abstract -- Invention relates to agents of plant origin used for treatment of viral hepatitis. Invention proposes an agent for treatment of viral hepatitis B and C comprising lectin-containing medicinal plants: maize stigmas, common balm leaves, peppermint leaves, medicinal sage leaves, feline catnip herb, narrow-leaved willow-herb herb and medicinal pot-marigold flowers taken in their ratio = 7:3:3:1:5:7:7, respectively. Agent is made as tabletted form and has additionally water-soluble, low-molecular chitosan and filling agent taken in the following ratio of components, mg per a tablet: medicinal plants, 300-320; water-soluble chitosan, 25-27; filling agent up to 500. Also, an agent has starch and carboxymethylcellulose as a filling agent. Invention proposes also a method of treatment of viral hepatitis B and C that involves administration to patient the above indicated agent in the dose 2 tablets in the morning and evening in eating for 2-4 months. Agent and method promote the enhancement of therapy efficiency due to etiotropic and pathogenetic treatment. EFFECT: enhanced effectiveness of agent and treatment. 3 cl, 2 tbl, 3 ex

HERB-CONTAINING DRINK
JP2002306142
Abstract -- PROBLEM TO BE SOLVED: To provide a herb-containing drink with reduced odor peculiar to the herb. SOLUTION: This herb-containing drink contains a herb extract and sucralose. The herb extract is one or more kinds selected from the extracts of lemon balm, chamomile, lindane, catnip, passionflower leaf, lemon verbena, lemon grass and blueberry leaf. The amount of the added herb extract is preferably 0.05-10 wt.% based on the final product, and the amount of the added sucralose is preferably 0.005-0.05 wt.% based on the final product. Further, a menthol ester of an organic acid is preferably included therein.

UPLIFTING AGENT AND PERFUME COMPOSITION HAVING UPLIFTING EFFECT
JP2002234840
Abstract -- PROBLEM TO BE SOLVED: To obtain a substance having a low intensity of a fragrance and excellent effects on uplifting of a consciousness level. SOLUTION: This uplifting agent comprises a nepetalactone represented by general formula (1) as an active ingredient and is capable of uplifting the consciousness level of a human or an animal. The perfume composition comprises the uplifting agent formulated therein. Furthermore, the perfume composition comprises a catnip oil.

Method of making an herbal drink
US6287567
Abstract -- A method of making an herbal drink for relieving symptoms of fatigue, congestion, fever and asthma. The method of making an herbal drink includes making an herbal drink for relieving symptoms of various ailments such as cough, fever and fatigue. The drink is formed by straining water through a combination of equal portions of rosehip, goldenseal, comfrey leaf, bee pollen, spearmint, chickweed, comfrey root, chamomile flower, catnip, mullein, pennyroyal, eucalyptus, and licorice root.

PREPARATION FOR EXTERNAL USE FOR SENSITIVE SKIN
JP2000302658
Abstract -- PROBLEM TO BE SOLVED: To obtain a preparation for external use for skin that is useful as a cosmetic or a medicine for external use for skin that can alleviate undesirable actions caused by stress. SOLUTION: This preparation includes one or two or more selected from mucopolysaccharides bearing sulfate groups and one or two or more selected from the extracts from plants in perilla of mint family, in chrysanthemum of aster family, and in dropwort (Oenanthe stolonifera). In a preferred embodiment, the plants of perilla, chrysanthemum and dropwort are selected from perilla, catnip, melissa, thyme, oregano, lavender, basil, Cnidium officinale, fennel, anise, deyl, burdock, chicory, camomile, safflower, and dandelion.

AGENT FOR STIMULATING GROWTH OF BACTERIUM BELONGING TO GENUS BIFIDOBACTERIUM AND DRINK OR FOOD CONTAINING THE SAME
JP2000083654
Abstract -- PROBLEM TO BE SOLVED: To provide a Bifidobacterium bacterium growth-stimulating

agent having an action for selectively stimulating the growth of the Bifidobacterium bacterium by the addition of a small amount. SOLUTION: This Bifidobacterium bacterium growth-stimulating agent contains as an active ingredient an extract obtained from one or more kinds of plants selected from the group consisting of Curcuma zedoaria, the fruit of Citrus aurantium, Citri leiocarpae exocarpium, lonicerae flos, the leaf of Perilla frutescens, Aurantii nobllis pericarpium, Persicae semen, Buddleia officinalis, eyebright, camomile, Elettaria cardamomum, catnip, safflower, sweet violet, chive, Hyssopus officinalis, pennyroyal, pepermint, motherwort, marigold, yarrow, lemon balm, rose hip, rosemary, mulberry tree leaf, Trachycarpus fortunei leaf, radish seed, parsley,; Artemisia princeps and rutaceous plant fruit and/or pericarp.

LEGIONELLA BACTERIA RESISTANT COMPOSITION
JP11043442
Abstract -- PROBLEM TO BE SOLVED: To obtain the genus Legionella bacteria-resistant composition which has no adverse effect, shows safety even when formulated to food and drink and can strongly inhibit the proliferation of the genus Legionella bacteria. SOLUTION: The genus Legionella bacteria-resistant composition contains one or more than two kinds of extracts selected from the extracts from Isodon japonicus Hara, Magnolia biloba (Rehd. Et Wils.) Cheng, Magnolia obovata Thunb., Zingiber officinale L.; Rosc., Lonicera iaponica Thunb., Schizonepeta tenuifolia Briquet var.japonica Kitagawa, Astragalus sinicus L., Alpinia katsumadai Hayata, Lycopus lucidus Turcz., Lycopersicum esculentum Mill., Buddleja officinalis Maxim., Alpinia oxyphylla Mig., Prunus mandshurica (Maxim.) Kohme, Psidium guajava L. leaf, Trachycarpus excelsa Wendl. leaf, Nandina domestica Thunb. leaf, Eucalyptus globulus Labill. leaf, Artemisia vulgaris L. var. Indica Maxim, Psidium guajava L. fiuit, Stevia, Mangosteen rind, Morus bombycis Koidz. bark, Catnip, Cardamon, Sweet violet, Tarragon, Chive, Hyssop, Blackberry, Mugwort, Monarda, Tokoro, Raspberry, Rosemary, Wild Strawberry or Propolis as active ingredients.

ENDERONIC COLLAGEN FASCICULUS REMEDIAL AGENT
JP10330221
Abstract -- PROBLEM TO BE SOLVED: To obtain the subject agent capable of normalizing enderonic collagen fasciculus developed due to wrinkles, fibrosis, keloid, etc., by including the essence from a plant belonging to the genus Perilla frutescens crispa. SOLUTION: This enderonic collagen fasciculus remedial agent is obtained by including an essence, i.e., a fractionation-purified product (pref. alcohol (e.g. ethanol) extracts and a fractionation-purified product therefrom) which is obtained by separation and column purification of the extracts (concentrate thereof) obtained by subjecting a plant belonging to the genus Perilla frutescens crispa such as thyme, beefsteak plant, archangel, Mentha piperita, piperita japonica, spearmint, CATNIP, melissa, rosemary or sage, or a processed product thereof (e.g. dried, chopped, ground product) to extraction with a solvent such as water, an alcohol, ether, halohydrocarbon, organic acid ester, ketone or hydrocarbon.

COMPOSITION FOR FOOD ADDITIVE - BALSAM "ELEKSIR"
RU2123038
Abstract -- FIELD: food industry. SUBSTANCE: treatment-and-prophylactic additive-balsam contains the following ingredients, kg/1000 dal of prepared product: thyme grass, 20.0-22.0; cedar nut, 20.0-25.0; hawthorn fruits, 50.0-55.0; dog rose fruits, 50.0-55.0; dog rose roots, 10.0-12.0; wind strawberry grass, 10.0-15.0; catnip grass, 20.0-25.0; European mountain ash fruits, 50.0-52.0; thorowax, 2.0-3.0; wormwood grass and stalks, 1.0-2.0; bistort roots, 1.0-2.0; apple tree flowers, 5.0-6.0; birch fungus, 20.0-25.0; clover, 0.2-0.3; trepang, 2.0-2.5; selfheal grass, 1.0-2.0; Chinese mustard seeds, 0.1-0.15; propolis, 0.3-0.4; additive-balsam also has, l: hydrolysate of salmons milt, 35.0-40.0; infusion of velvet anthers of punctate deer, 10.0-11.0; ginseng infusion, 5.0-5.5; natural honey, 200.0-220.0; aqueous-alcoholic liquid, the balance. Balsam "Eleksir" is used as food additive in tea, coffee, mineral water. EFFECT: complex treatment-and-prophylactic action. 2 expo

ACTIVE OXYGEN SCAVENGER
JP9118630
Abstract -- PROBLEM TO BE SOLVED: To obtain an active oxygen scavenger, containing an essence of a labiatie catnip, capable of manifesting actions on sufficient scavenging of active oxygen generated in

vivo, having high safety and suitable for a medicine, a food and cosmetics. SOLUTION: This active oxygen scavenger contains pulverized, chopped and dried plant bodies of a labiatie catnip, an extract separated from the processed material with a solvent (e.g. water or an alcohol) or an essence which is a substance removed from the solvent as an active ingredient. The extraction is performed by adding the solvent in an amount of 1-20 times based on the plant bodies or their processed material thereto, then dipping the plant bodies, etc., therein at ambient temperature for several days or at a temperature near the boiling point of the solvent for several hours. The scavenger is blended in an amount of 0.01-10wt.% and prepared as cosmetics or blended in an amount of 0.01-10wt.% and prepared as foods. The daily dose of the scavenger for an adult is 10-100mg orally administered in one to several divided portions or 5-500mg is administered by injection. The scavenger manifests effects on wrinkle formation, body odor emission, alopecia, inflammation, senile dementia, ischemic disease such as cardiac infarction, diseases such as allergic disease, hepatopathy or rheumatism and amelioration of biological senescence such as skin.

THERAPEUTIC AND PROPHYLACTIC AGENT FOR ATOPIC DERMATITIS
JP9118629
Abstract -- PROBLEM TO BE SOLVED: To obtain a therapeutic and prophylactic agent for atopic dermatitis containing an essence of plant bodies of a labiate catnip. SOLUTION: This therapeutic and prophylactic agent for atopic dermatitis contains pulverized, chopped and dried plant bodies of a labiate catnip, an extract separated from the processed material with a solvent (e.g. water or an alcohol) or a substance removed from the solvent and an essence which is a fractionated substance thereof as an active ingredient. The extraction is performed by adding the solvent in an amount of 1-20 times based on the plant bodies or their processed material thereto, then dipping the plant bodies, etc., therein at ambient temperature for several days or at a temperature near the boiling point of the solvent for several hours and, as necessary, subsequently removing an insoluble substance. The extract is formulated into an oral administration agent, a parenteral injection or a percutaneous administration agent by further suitably blending optional ingredients therewith. The daily dose for an adult is 5-500mg divided into several portions in the case of the oral administration agent and 1-100mg for the parenteral injection. When the resultant formulation is percutaneously administered as a dermal preparation for external use, 0.01-10wt.% is blended in the dosage form and a proper amount thereof is daily applied to a lesion several times.

SKIN COSMETIC
JP9052813
Abstract -- PROBLEM TO BE SOLVED: To obtain a new skin cosmetic excellent in skin beautifying effect attributable to the improvement of dry feeling, shortage of glossiness, fine wrinkles, rough skin, etc., and also excellent in safety by using an extract obtained from a specific plant belonging to the family Labiatae. SOLUTION: This cosmetic is obtained by using an extract of catnip belonging to the family Labiatae. Leaves, flowers, stems or a whole plant of catnip is extracted by immersing into a hot medium of an aqueous organic solvent or a hydrated aqueous organic solvent at an immersing temperature from the ambient temperature to the boiling temperature of the extraction medium. Subsequently, the extraction liquid is subjected to suction filtration followed by the concentration under reduced pressure to remove the solvent. Thus, a viscous or exsiccated extract is obtained. Further, the extraction solvent is preferably a hydrated aqueous organic solvent preferably containing >=50wt.% of an aqueous organic solvent such as a monovalent alcohol or acetone. The skin cosmetic is supplied in various kinds of preparations including a skin lotion, an emulsion, a cream, a pack, etc.

HAIR GROWING AND FOSTERING AGENT
JP9048711
Abstract -- PROBLEM TO BE SOLVED: To obtain a new hair growing and fostering agent excellent in hair growing and fostering effect and having safety sufficiently tolerable for a long term use by using an extract obtained from a specific plant belonging to the family Labiatae. SOLUTION: This hair growing and fostering agent is prepared by using an extract obtained by extracting catnip with a water soluble organic solvent or a water containing organic solvent. The content of the extract is preferably 0.001-10wt.%. The addition of a skin peripheral vasodilator to the hair growing and fostering agent gives further preferable hair growing and fostering effect. The skin peripheral vasodilator is e.g. carpronium chloride, nicotinic acid benzyl ester, vitamin E, etc. The hair growing and fostering agent is e.g. a hair tonic, a

shampoo, a rinse, a pomade or a hair lotion.

Process for liquid catnip aromas
US5567436
Abstract -- Aromatic oils and flavor from the herbaceous plant catnip are extracted through absorption, or infusion, by a liquid, wherein the aroma laden liquid is misted to animal device surfaces for enticement purposes.

beta -glucuronidase inhibitor
US5447719
Abstract -- A beta -glucuronidase inhibitor comprising at least one compound selected from the group consisting of baicalin, oroxylin A-7-O-glucuronide and luteolin-3'-glucuronide; an extract of scutellaria root (baikal skullcap; Scutellariae Radix) and/or schizonepeta spike (Japanese catnip; Schizonepelae Spica); or a Chinese and Japanese traditional prescription comprised of scutellaria root (baikal skullcap; Scutellariae Radix) and/or schizonepeta spike (Japanese catnip; Schizonepelae Spica) as a crude drug. The beta -glucuronidase inhibitor can relieve the adverse effect, especially diarrhea, caused in the administration of a compound represented by the following formula I I

ANTIOXIDANT
JP3056585
Abstract -- PURPOSE:To obtain an antioxidant, containing a solvent extract of a plant body composed of the families Rosaceae, Compositae, Labiatae, Boraginaceae and Araceae, etc., as an active ingredient, used for foods or biological systems and more powerful than alpha-tocophenol. CONSTITUTION:The objective antioxidant containing an extract of one or more plant bodies selected from the group consisting of agrimony, blackberry, raspberry, etc., of the family Rosaceae, chamomile, helichrysum, marigold, etc., of the family Compositae, basil, catnip, horsemint, etc., of the family Labiatae, blueberry of the family Ericaceae, borage and comfrey, of the family Boraginaceae, calamus of the family Araceae, eyebright of the family Scrophulariacea, elder of the family Caprioliacea, henna of the family Lythraceae, lemongrass of the family Gramineae, malva and marshmallow of the family Malvaceae, orange of the family Rutaceae, rose geranium, of the family Geraniaceae and verbena and vitex of the family Verbenaceae with a solvent, such as ethyl acetate or ethanol, as an active ingredient.

PROCESS FOR PRODUCTION OF COMPOSITIONS FOR DECREASING BLOOD-PRESSURE

HU47029
Abstract -- A blood pressure decreasing compsn. is prepd. as follows (a) to 500 ls. of water maintained pref. at approx. 40 deg.C the following ingredients are added (all kg. wts.) 20-50 mustard seed, 10-20 juniper berries, 20-40 Vinca minor, 20-40 nettle leaves, 4-12 catnip (valerisue) roots, 5-15 haw, 2.5-7.5 hawthorn flower, 10-30 woundwort, 20-40 corn-silk. This mixt. is heated at 40-50 deg.C temp. and 200-400 kP pressure for 30-40 mins. Following this the mixt. is steamed for 5-10 mins., allowed to stand for 16-30 hrs. at approx. 40 deg.C and pressed out., (b) the following cpds. are added to the collected liquid (all kgs.) 20-40 citric acid, 10-30 potassium-citrate, 12-24 magnesium citrate and sufficient non carbohydrate sweetener. - The liquid is concentrated to refraction 30-35 and spray dried. Granules or compressed tablets may be produced from the obtd. powder.

Improvements in or relating to process for curing and preserving plant products
GB438093
Abstract -- Plant foliage, e.g. tobacco, hops, hay and alfalfa, sage, thyme, catnip, tea mint and other herbs is subjected during the process of curing, e.g. air curing, to the action of light having a wavelength above 4900 A DEG and excluding all light having a wavelength below that figure, and is then packed in containers of a material adapted to admit light having a wavelength above 4900A DEG and exclude all light having a lower wavelength. Suitable light may be that having the colour of the chlorophyll pigments in plants and having a wavelength between 5270 and 6500A DEG or orange-yellow light which excludes or absorbs all wavelength below 5000A DEG . Hay, alfalfa, tobacco and other crops may be cured under suitable translucent hay-caps or in barns suitably protected. Foliage, e.g. in the form of cigarettes or cigars may be enclosed in a coloured wrapper having opaque binding material, e.g. foil, attached to the ends and

serving as a closing means for the wrapper.ALSO:Plant foliage, e.g. tobacco, hops, hay and alfalfa, sage, thyme, catnip, tea mint and other herbs is subjected during the process of curing, e.g. air curing, to the action of light having a wavelength above 4900A DEG and excluding all light having a wavelength below that figure, and is then packed in containers of a material adapted to admit light having a wavelength above 4900A DEG and exclude all light having a lower wavelength. Suitable light may be that having the colour of the chlorophyll pigments in plants and having a wavelength between 5270 and 6500A DEG , or orange yellow light which excludes or absorbs all wavelength below 5000A DEG ....

Google Search Results -- Partial ...

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To deter ants, use catnip. Sprinkle it in their paths. P. Borax and Syrup. Try a mix of borax (borateem - in the laundry section) and syrup.
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gardeners corner - subject 'catnip keeps the ants away'
catnip. I placed the bowl of dry cat chow on a bed of catnip; the ants, ... Wouldn't any mint repel ants without atracting cats? Does it have to be catnip? ...
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How To Control Ants | How Did I Do It?
Plants such as catnip, pennyroyal, peppermint, sage, and spearmint in your garden will help keep ants away. Tansy is a natural ant repellant, mainly against ...
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Some ants contain the same ingredient as catnip...
Where can I find a great deal online for Ants in the Pants Cootie Games ... Where can I find reviews and opinions online for Mouse Pad with animals, asia, cat ...
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myLot - Catnip to keep out ants.
I was reading an article on how to keep ants out of your home. IT suggested planting catnip around your foundation and ants will not cross it. ...
www.mylot.com/w/discussions/629321.aspx

Catnip Ant Repellent - Associated Content - associatedcontent.com
Jun 16, 2010 ... But if you don't want to attract cats into the area you might have to limit the exposure of catnip to ants or use a different natural ...
www.associatedcontent.com/article/.../catnip_ant_repellent.html -

Natural Insect Pest Control - Eartheasy.com Solutions for ...
Keep a small spray bottle handy, and spray the ants with a bit of soapy water. ... Catnip can also be simmered in a small amount of water to make a "catnip ...
eartheasy.com/live_natpest_control.htm

Catnip to Deter Ants in the Home
Jun 22, 2009 ... Ants can be a problem inside homes, especially when dry weather brings them inside looking for water or during very wet weather as has been ...
herbsaregreener.com/2009/06/22/catnip-to-deter-ants-in-the-home/ -

Catnip - Everything You Need to Know About Catnip! - Cat-World
It was also discovered that catnip repels cockroaches too!* Plants aren't alone in containing nepetalactone, some insects & ants also contain it. ...
www.cat-world.com.au

STEAM DISTILLATION OF CATMINT PLANTS
US2010034906

Abstract -- This invention provides processes for improved recovery of essential oil from the catmint (catnip) plant Nepeta cataria.

Description

[0001] This application claims the benefit of U.S. Provisional Application No. 60/876,556, filed 21 Dec. 2006, which is incorporated in its entirety as a part hereof for all purposes.

TECHNICAL FIELD

[0002] The present invention provides processes for improved recovery of essential oils from the catmint (catnip) plant Nepeta cataria.

BACKGROUND

[0003] It has been recently demonstrated that dihydronepetalactone exhibits insect repellency (see, for example, U.S. Ser. No. 05/112,166). Dihydronepetalactone can be obtained from the essential oil of the catmint plant, Nepeta cataria. Essential oil from N. cataria, herein referred to as catmint oil, has been obtained by various isolation processes, including steam distillation, organic solvent extraction, microwave-assisted organic solvent extraction, supercritical fluid extraction, mechanical extraction and enfleurage (initial cold extraction into fats followed by organic solvent extraction). Steam distillation [such as described by Regnier, F. E. et al, Phytochemistry (1967) 6:1281-1289] is the most economically viable method for obtaining catmint oil.

[0004] Yields of catmint oil obtained using standard distillation techniques are likely insufficient, however, for commercial production of the insect repellent dihydronepetalactone as derived from catmint oil. A need thus remains for improved techniques for the recovery of catmint oil from catmint plants.

SUMMARY

[0005] In one embodiment, the processes of this invention provide a process for obtaining catmint oil from Nepeta cataria by (a) contacting Nepeta cataria plant material with steam to form a volatilized mixture comprising catmint oil and water; (b) condensing the volatilized mixture formed in step (a) to form a liquid mixture comprising catmint oil and water in which catmint oil is dissolved in water; (c) contacting the liquid mixture formed in step (b) with salt to provide a mixture in which catmint oil and salt are both dissolved in water, and in which

(i) the solubility of catmint oil in the solution of water and salt is at least about 50% less than the solubility of catmint oil in water, and/or

(ii) the ratio [([rho]catmint oil-[rho]aqueous solution)/[mu]aqueous solution], where [rho] is density, [mu] is viscosity and the aqueous solution is the solution of water and salt, is less than or equal to about -0.05, to provide in the mixture a catmint oil phase that is separated from an aqueous salt solution phase; and (d) recovering the catmint oil phase.

[0008] In another embodiment, the processes of this invention provide a process for obtaining catmint oil from Nepeta cataria by (a) contacting Nepeta cataria plant material with steam in a direct fired retort to form a volatilized mixture comprising catmint oil and water; (b) condensing the volatilized mixture formed in step (a) to form a liquid mixture comprising catmint oil and water; (c) separating the liquid mixture formed in step (b) into a catmint oil phase and a water phase; (d) recycling the water phase back to the direct fired retort of step (a); and (e) recovering the catmint oil phase.

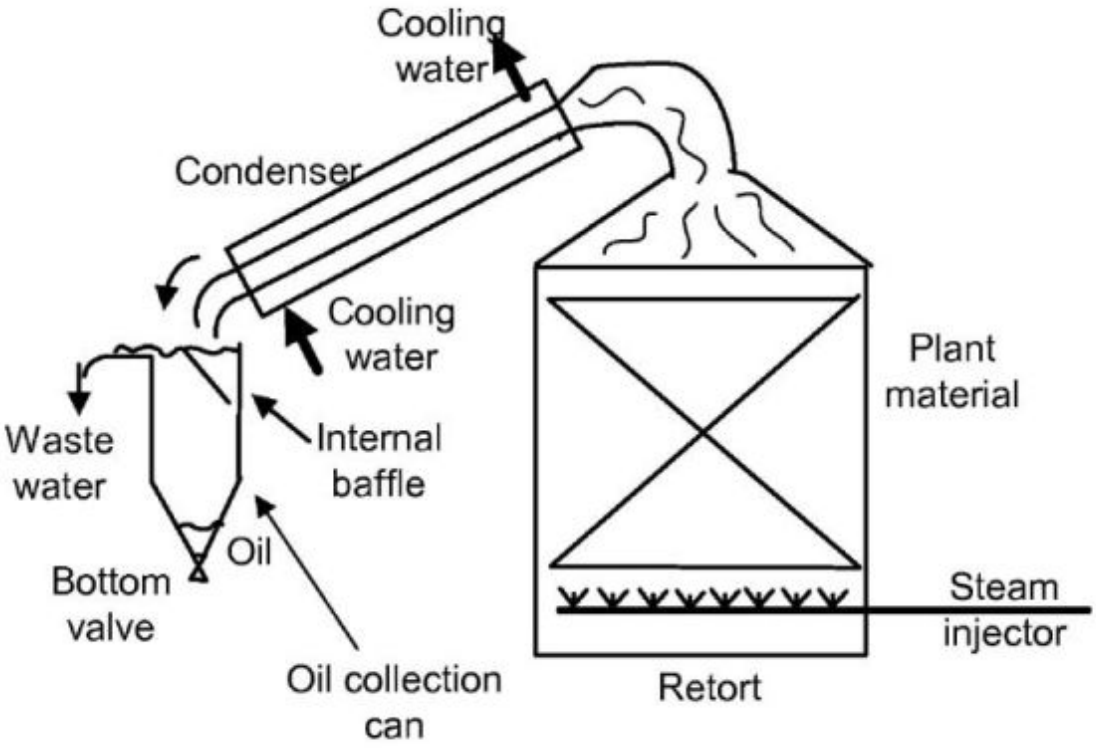
[0009] In a further embodiment, the processes of this invention provide a process for obtaining catmint oil from Nepeta cataria by (a) contacting Nepeta cataria plant material with steam in a direct fired retort under vacuum to form a volatilized mixture comprising catmint oil and water; (b) condensing the volatilized mixture formed in step (a) to form a liquid mixture comprising catmint oil and water; (c) separating the liquid mixture formed in step (b) into a catmint oil phase and a water phase; and (d) recovering the catmint oil phase.

[0010] In further embodiments, this invention relates to a process for hydrogenating a catmint oil that has been obtained from plant material according to a process as described above, and incorporating the hydrogenated catmint oil into a formulation suitable for application to the skin, hair, fur, feathers or hide of a human or domesticated animal.

BRIEF DESCRIPTION OF THE DRAWINGS

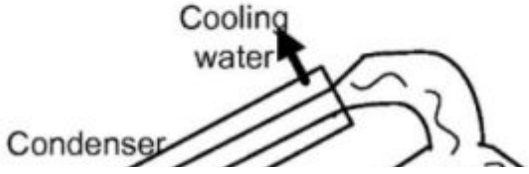
[0011] **FIG. 1** shows an indirect fired traditional steam distillation apparatus for oils that are heavier or more dense than water.

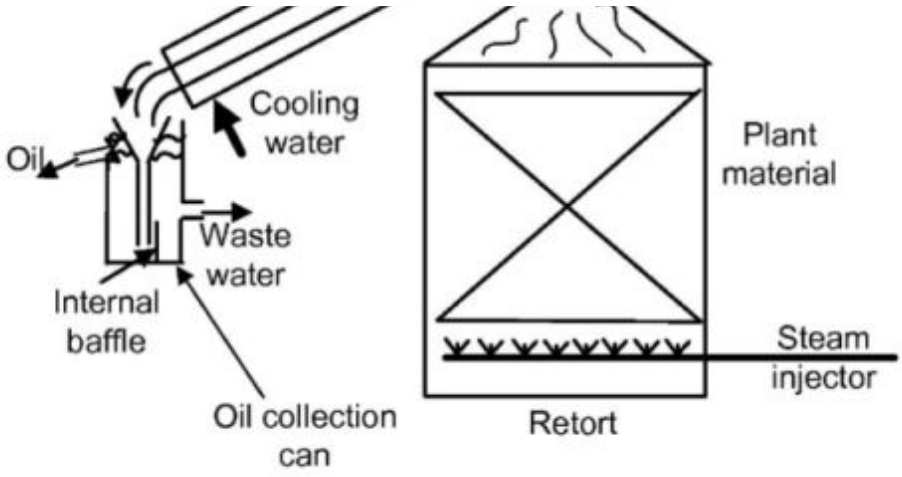
Figure 1



[0012] **FIG. 2** shows an indirected fired steam distillation apparatus for oils that are lighter or less dense than water solutions.

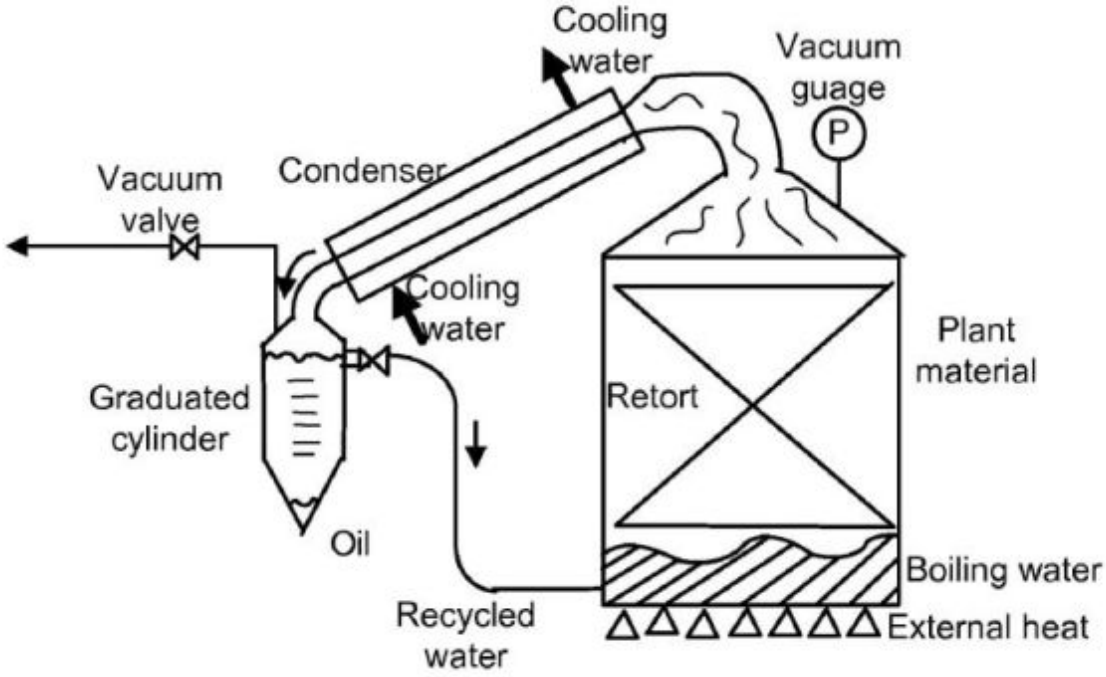
Figure 2





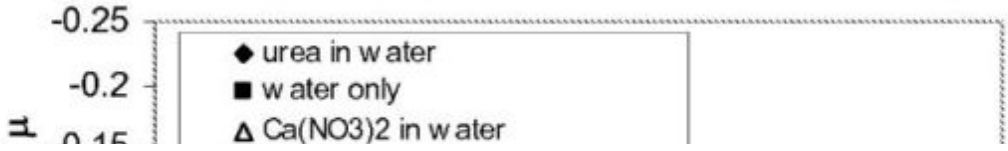
[0013] **FIG. 3** shows a direct fired steam distillation apparatus connected to a vacuum system, with a means to recycle water for oils that are heavier or more dense than water.

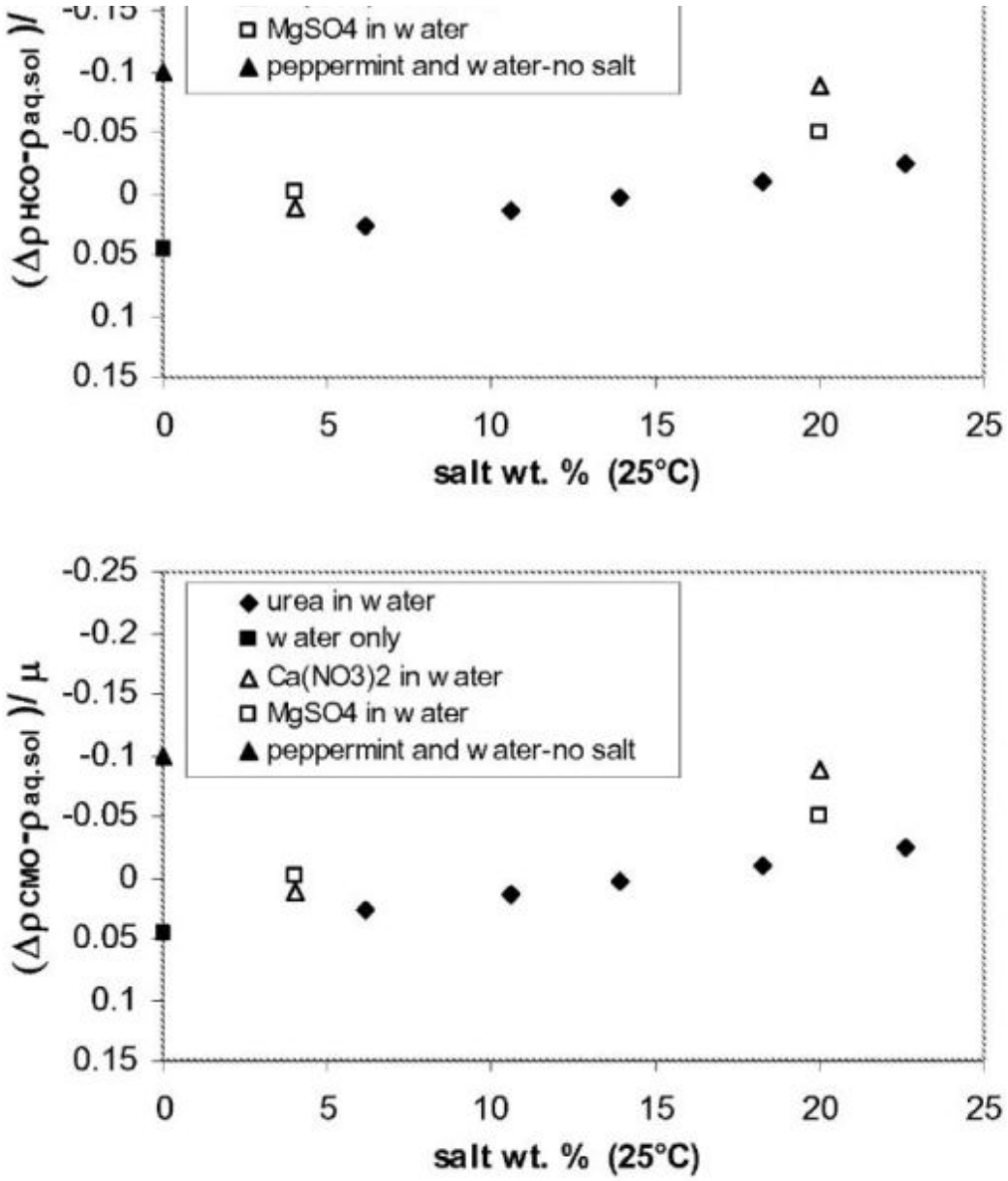
Figure 3



[0014] **FIG. 4** is a plot of the ratio of the difference in density of catmint oil (CMO) and aqueous solution to the viscosity of the aqueous solution at 25[deg.] C.

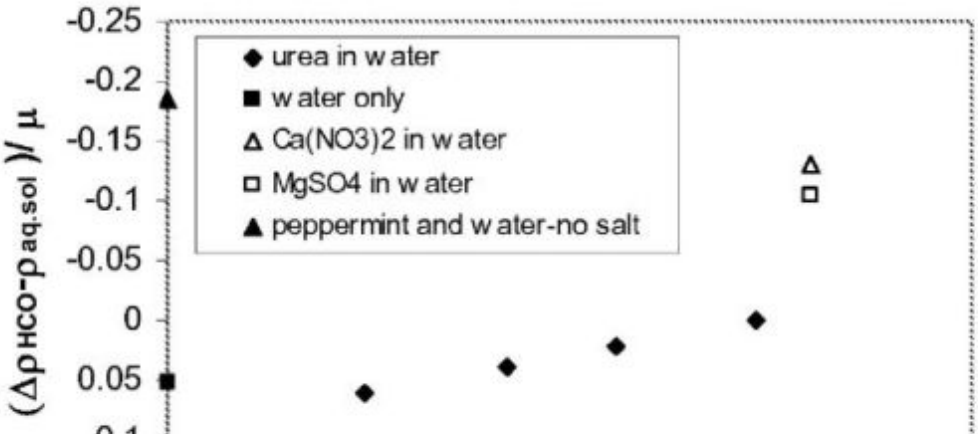
Figure 4

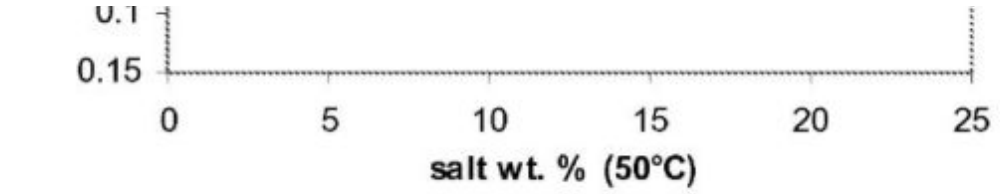


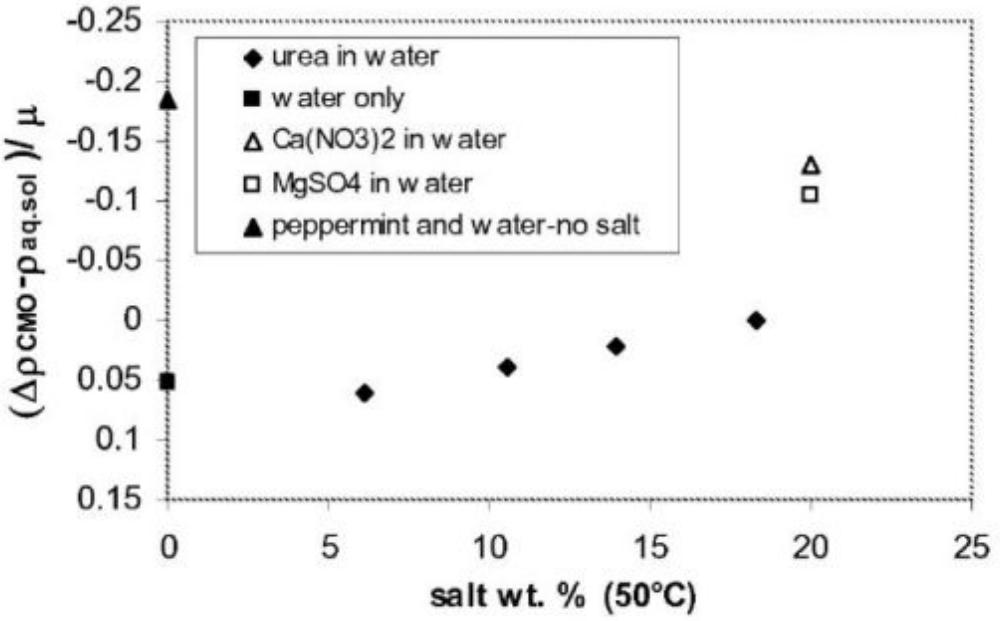


[0015] **FIG. 5** is a plot of the ratio of the difference in density of catmint oil (CMO) and aqueous solution to the viscosity of aqueous solution at 50[deg.] C.

Figure 5







DETAILED DESCRIPTION

[0016] This invention provides improved processes for steam distilling plant material from Nepeta cataria, thereby achieving a greater yield of the essential oil thereof, herein referred to as catmint oil ("CMO").

[0017] Catmint oil from N. cataria is comprised predominantly of trans-cis and/or cis-trans isomers of nepetalactone, but also may comprise extraneous components including unsaturated components such as caryophyllenes, carvones, limonenes and other sesquiterpenes, and other unidentified impurities. CMO can be hydrogenated to prepare hydrogenated CMO, which contains dihydronepetalactone.

[0018] Catmint oil exhibits several characteristics that lead to low recovery of the oil from plant material using standard steam distillation techniques commonly employed for the isolation of essential oils from plant material. Catmint oil has significant solubility in water, and does not readily coalesce to form a separate oil phase from the condensed water used in the steam distillation process. Additionally, nepetalactone, the principal constituent of catmint oil, hydrates at high temperatures to non-volatile and unwanted side products. The present invention overcomes these disadvantages of the isolation of catmint oil from plant material to provide an economical method for recovering the oil in high yield at moderate temperatures.

[0019] In one embodiment of the invention, the solubility of catmint oil in water is reduced by the addition of salt to the aqueous phase during the distillation process. As a result, the amount of catmint oil in the wastewater leaving the process is reduced, resulting in a greater yield of catmint oil. The use of a salt to reduce the solubility of catmint oil in water has a further advantage in that it allows the oil to be less dense than the water phase. This allows the use of traditional oil collection equipment, wherein the catmint. oil is collected as an upper phase, which can easily be recovered by decantation. An additional advantage is that the rate at which the oil coalesces may be increased through the use of various salts.

[0020] According to conventional distillation processes for recovering catmint oil, plant material from N. cataria (herein also called catmint plant material) is contacted with steam to form a vapor phase

heterogeneous mixture comprising predominantly catmint oil and water. This mixture is then condensed to form a heterogeneous liquid condensed mixture comprising a catmint oil phase and a water phase, and the catmint oil phase is recovered from this mixture.

[0021] A traditional steam distillation apparatus is shown schematically in FIG. 1. Plant material is packed into a retort over a set of steam injectors, a suitable retort that may be used for such purpose being that which is available from Juniper Mfg. (Redmond, Oreg.). The lid of the retort is closed and sealed to both the retort and to a condenser. Steam is injected through the injection manifold (or steam injector) and into the packed plant material. The steam provides two functions: 1) energy to disrupt the glandular (or secretory) trichomes on the plant and release the oil, and 2) formation of a heteroazeotrope with the oil and thus volatizes it sufficiently as to allow it to be transported into the vapor phase. The steam and volatized oil are ducted to a condenser.

[0022] Cooling water, from any suitable water source, flows through the condenser. Its cooling effect allows the steam and catmint oil vapor to condense. The condenser is configured in such a way as to allow gravity to drain the condensed water and catmint oil out of the condenser and into a collection can. The water and catmint oil are ducted into the collection can optionally using internal baffles in such a way as to produce a quiescent zone to allow the oil and water to effectively separate. The quiescent zone is the zone where the superficial velocity of the condensate is less than the disengagement velocity of the oil from the water.

[0023] Essential oils that are produced in large commercial quantities, i.e. spearmint and peppermint oils, are generally less dense than water, and when using a standard collection can, these essential oils would form a phase above the water. Catmint oil, however, is heavier (more dense) than water, and thus conventional collection equipment does not offer the same advantage in the case of catmint oil. As shown in FIG. 1, the water forms an aqueous phase above the heavier catmint oil. The water is thus generally removed as wastewater, for example by decantation. Typically, the temperature of the condensate is controlled at a modest temperature, approximately 40-60[deg.] C., to allow the oil and water to effectively separate in the quiescent zone of the separation can.

[0024] The use of a steam distillation apparatus similar to that shown in FIG. 1 in a conventional distillation process may be illustrated as follows: A glass resin kettle (as the retort) is outfitted with a steam injector plate, a condenser head and a graduated cylinder attached to the condenser as a simple collection can. The graduated cylinder is sized to have a condensate residence time of 20 to 30 minutes. Dried catmint plant material (100 grams) is packed into the resin kettle above the steam injector. The resin kettle is sealed and made leak tight. Live saturated steam is injected into the bottom of the resin kettle at a rate of approximately 40 g/min of steam per Kg of dried catmint plant material. The pressure of the steam is slightly above atmospheric pressure to allow for a pressure drop across the plant material and the condenser. The cooling water flow is adjusted to the condenser so that the condensate temperature is about 50[deg.] C. After the graduated cylinder is filled, with condensate, it overflows into a wastewater drain.

[0025] The still is operated in this fashion for 4.5 hours. Dichloromethane is added to the graduated cylinder. The resulting mixture of solvent and oil is removed. from the graduated cylinder and a portion is analyzed by GC. The GC analysis provides a measure of the total amount of oil collected in the cylinder without having to weigh the sample. The oil collected in the receiver is expected to be less than 0.15 wt. % of the original dry weight of the catmint plant material.

[0026] One aspect of this invention relates to the discovery that, after contacting the catmint plant material with steam, and cooling the volatilized mixture comprising catmint oil and water to form a heterogeneous condensed mixture, the catmint oil can be separated from the heterogeneous condensed mixture in greater yield than observed with conventional distillation techniques by contacting the condensed mixture with a salt that decreases the solubility of catmint oil in water. In a preferred embodiment, the salt will also increase the rate at which the oil coalesces and disengages from the aqueous phase, thus reducing oil loss as fine droplets in the aqueous phase.

[0027] More specifically, one embodiment of the processes hereof provides a process for obtaining

catmint oil from Nepeta cataria by (a) contacting Nepeta cataria plant material with steam to form a volatilized mixture comprising catmint oil and water; (b) condensing the volatilized mixture formed in step (a) to form a liquid mixture comprising catmint oil and water in which catmint oil is dissolved in water; (c) contacting the liquid mixture formed in step (b) with salt to provide a mixture in which catmint oil and salt are both dissolved in water, and in which

(i) the solubility of catmint oil in the solution of water and salt is at least about 50% less than the solubility of catmint oil in water, and/or

(ii) the ratio [([rho]catmint oil-[rho]aqueous solution)/[mu]aqueous solution], where [rho] is density, [mu] is viscosity and the aqueous solution is the solution of water and salt, is less than or equal to about -0.05, to provide in the mixture a catmint oil phase that is separated from an aqueous salt solution phase; and (d) recovering the catmint oil phase.

[0030] This process can be carried out in a distillation apparatus as shown in FIG. 2. Plant material is packed into a retort. The lid of the retort is closed and sealed to both the retort and to a condenser. Steam for the distillation of the catmint plant material can be provided by any suitable means such as by direct injection through an injection manifold as illustrated in FIG. 2. In an alternative embodiment, the steam can be obtained by adding water to the retort, and boiling the water in the presence of the plant material. The latter method is referred to as using a direct fired retort.

[0031] The volatized oil that is produced when steam contacts the plant material is ducted, along with the steam, to a condenser. Cooling water, from any suitable water source, flows through the condenser. Its cooling effect allows the steam and catmint oil vapor to condense to form the heterogeneous liquid condensed mixture. The condenser is configured in such a way as to allow gravity to drain the condensed water and catmint oil out of the condenser and into a collection can. The water and catmint oil are ducted into the collection can, optionally using internal baffles in such a way as to produce a quiescent zone to allow the oil and water to effectively separate. Typically, the temperature of the condensate is controlled at a modest temperature, approximately 40-60[deg.] C., to allow the oil and water to effectively separate in the quiescent zone of the separation can.

[0032] The heterogeneous liquid condensed mixture comprising catmint oil and water can be contacted with salt by any suitable means, and it is preferable that the entire mixture comes into contact with salt. In one embodiment of the processes hereof, a porous material, such as burlap, filter paper, filter cloth (e.g. cheesecloth), or a fine mesh screen, is placed in a funnel, and the salt is placed on the porous material. The mixture catmint oil and water contacts the salt, and flows through the funnel into the collection can. In an alternative embodiment, the chosen salt can be preloaded in the collection can to allow the aqueous CMO mixture to directly contact the chosen salt. In yet another embodiment, a concentrated salt solution may be used, and the aqueous CMO mixture is brought into contact with the concentrated salt solution. For steam distillation systems described below wherein vacuum is used, the contacting of the aqueous CMO mixture with salt would be carried out in. a closed system.

[0033] In addition to its effects on solubility, the addition of salt to the aqueous CMO mixture also increases the disengagement rate of catmint oil from water. At a particular temperature, the ratio of the difference in the density ([rho]) of catmint oil (CMO) and the density of the aqueous solution (aq. sol.) to the viscosity ([mu]) of the aqueous solution [([rho]CMO-[rho]aq. sol.)/[mu]aq. sol] is indicative of the ease for disengaging oil droplets from the water. In the above ratio, the aqueous solution is water with or without salt, as the case may be. This ratio can be modified through the addition of salt to the water since the added salt changes both the water density and viscosity. The ratio can also be modified by changing the temperature of the mixture; temperatures of from about room temperature (about 25[deg.] C.) to about 75[deg.] C. are preferred, and temperatures of about 40[deg.] C. to about 60[deg.] C. are more preferred.

[0034] It is expected that the wastewater from the steam distillation process can be used as a fertilizer, and thus preferred salts include the sulfate, nitrate and phosphate salts of Groups 1 and 2 of the Periodic Table of the Elements.

[0035] By modifying the water density and viscosity, the position of the catmint oil layer in the collection can may be modified. Using conventional distillation techniques without salt addition, the catmint oil would be recovered as the bottom layer in the collecting can. By modifying the water density and viscosity, the catmint oil can be recovered from the top of the collecting can (for example, by decantation of the catmint oil phase), thereby allowing the use of conventional collecting equipment. In addition, corrosion products that may be formed in the condenser or collection can collect at the bottom of the collecting can, contaminating the liquid phase that is at the bottom of the can. Therefore, an additional advantage to having the oil phase as the top phase is that it is separated from any corrosion products that may be present.

[0036] Steam distillation of catmint oil according to a process of this invention may be carried out in a distillation apparatus as shown in as FIG. 2, and may be illustrated as follows: The distillation apparatus includes a retort (available from Juniper Mfg. (Redmond, Oreg.) with a steam injector plate, a condenser, and a conical collection can optionally with internal baffling in the collection can. The collection can is sized to have a condensate residence time of about 30 minutes. This residence time is high enough to provide a quiescent zone for the oil droplets to coalescence into a single continuous phase. This will occur when the superficial velocity of the water in the collection can is less than the settling velocities of the catmint oil droplets suspended in the water phase.

[0037] The distillation apparatus is modified such that the incoming catmint oil distillate is passed through a bed of a salt such as Epsom salts (hydrated magnesium sulfate) before entering the can. This is done by plugging the inlet funnel of the collection can with a piece of burlap to retain undissolved salt. The salt is dissolved by the incoming condensate stream, thus yielding a nearly salt-saturated water solution entering the can. Salt is replenished manually during the course of the run to maintain the presence of undissolved salt at all times.

[0038] Dried catmint plant material (13 kg) is packed into the retort above the steam injector so that the retort is full and the plant material is sealed securely to the sides of the retort so that channeling of the steam along the inside walls of the retort is minimized. The retort is sealed and made leak tight. Live steam produced in a separate boiler is injected into the bottom of the retort at a rate of 480 g/min for a total of 60 minutes. The pressure of the steam is slightly above atmospheric pressure to allow for pressure drop across the plant material and the condenser. The cooling water flow is adjusted to the condenser so that the condensate temperature is between 45[deg.] C. and 55[deg.] C. during the distillation. After the collection can is filled with condensate, the water phase condensate is drawn off the bottom of the collection can into a wastewater drain.

[0039] The still is operated in this fashion for 1 hour. A total of approximately 2.2 Kg of steam is used per Kg of dried catmint plant material. Approximately 50 mL or 52 grams of catmint oil is collected in the bottom of the collection can. This corresponds to approximately 0.40 wt % of the original dry weight of the catmint plant. The water effluent coming out is collected and later analyzed for dissolved oil by GC analysis. The GC analysis is expected to indicate an oil content of about 0.05 wt % of catmint oil in this water. This lower solubility corresponds to a yield improvement of 0.22 wt % of catmint oil relative to the dried plant weight. There is an additional yield gain of about 0.06 wt % of oil relative to the dried plant weight due to improved disengagement of the oil from the water.

[0040] The loss of catmint oil to wastewater can be reduced by reducing the amount of water used during the distillation process. It has thus been found, in another embodiment hereof, that, in direct fired retorts, the amount of water used in the process can be reduced by recycling the water after it is condensed. Thus, by modifying the conventional distillation apparatus such that water flows from the collection can back to the retort (see FIG. 3), the amount of water used in the process can be reduced.

[0041] More specifically, the processes hereof further provide a process for obtaining catmint oil from Nepeta cataria by (a) contacting Nepeta cataria plant material with steam in a direct fired retort to form a volatilized mixture comprising catmint oil and water; (b) condensing the volatilized mixture formed in step (a) to form a liquid mixture comprising catmint oil and water; (c) separating the liquid mixture formed in step (b) into a catmint oil phase and a water phase; (d) recycling the water phase back to the

direct fired retort of step (a); and (e) recovering the catmint oil phase.

[0042] The placement of the line that directs water from the collection can to the retort will depend on the position of the water in the collection can, i.e. whether the water phase is on top of the catmint oil or below the catmint oil. Water recycle from the collection can to the retort will function in distillation systems where no salt is used, but will also function in those distillation systems where salt is used to alter catmint oil solubility or the disengagement rate from water.

[0043] In a further embodiment of the processes hereof, the rate of hydrolysis of catmint oil to undesirable by-products (such as nepetalic acid) during the steam distillation process may be reduced.

[0044] It has been found that, at higher temperatures, nepetalactone isomers in catmint oil hydrate to undesirable products (such as nepetalic acid), and that the rate of formation of nepetalic acid increases with increasing temperature. Performing the distillation of catmint plant material at a lower temperature, such as a temperature of from about room temperature (about 25[deg.] C.) to about 75[deg.] C., preferably about 40[deg.] C. to about 60[deg.] C., will thus reduce the tendency for the hydration of nepetalactone to occur. The temperature can be reduced by operating the distillation apparatus under vacuum; and an example of such a system is shown in FIG. 3.

[0045] The amount of vacuum applied to the system will depend on the system components, however achieving an absolute pressure of about 13 kPa to about 70 kPa is preferred. An absolute pressure of about 20 kPa to about 45 kPa is more preferred. The application of vacuum can be used in distillation systems where no salt is used, but will also function in those distillation systems where salt is used to alter catmint oil solubility or the disengagement rate from water. In addition, the application of vacuum can be used in systems where water is recycled from the collection can back to the retort.

[0046] The advantageous attributes and effects of the processes hereof may be seen in a series of examples, as described below. The embodiments of these processes on which the examples are based are representative only, and the selection of those embodiments to illustrate the invention does not indicate that materials, conditions, arrangements, components, reactants, techniques or configurations not described in these examples are not suitable for practicing these processes, or that subject matter not described in these examples is excluded from the scope of the appended claims and equivalents thereof.

EXAMPLES

[0047] The following abbreviations are used: GC is gas chromatograph(y); GC-MS is gas chromatography-mass spectrometry; FID is flame ionization detector; NMR is nuclear magnetic resonance; C is Centigrade, MPa is mega Pascal; kPa is kilo Pascal; h is hour; [deg.] C. is degrees Centigrade; Kg is kilogram; g is gram; min is minute; aq.sol is aqueous solution; wt. % is weight percent.

[0048] Epsom salt (heptahydrate) was purchased at Pathmark Stores Inc., Newark Del. Calcium nitrate tetrahydrate, magnesium sulfate, potassium nitrate, and urea were obtained from Sigma-Aldrich (St. Louis, Mo.). Plant material was grown in a greenhouse using Johnny's catmint seed (Winslow, Me.).

Determination of Catmint Oil Constituents and the Hydrogenated Compounds Thereof:

[0049] Samples were diluted with an. internal standard solution and injected on a DB FFAP column using an HP5890 GC equipped with a FID detector (Agilent Technologies, Palo Alto, Calif.). The injection and detector temperatures were 250[deg.] C. The temperature of the column was linearly ramped from 50[deg.] C. to 250[deg.] C. for 20 min and held at 250[deg.] C. for the duration of the run. A split mode inlet was used. Peak identification and relative response factors of the major components were determined using calibration standards of nepetalactone and nepetalic acid.

Example 1

Effect of Salt on the Solubility of Catmint Oil (CMO) in Water

[0050] Mixtures of CMO with water, and with various solutions of salt in water, were equilibrated and the aqueous phase was analyzed by GC to measure CMO concentration (Table 1). A sample of CMO in pure water was used as control and yielded a solubility of 0.15 weight percent. Upon addition of salt, the catmint oil phase floated on top of the aqueous phase at equilibrium for most compositions. GC analysis revealed that the CMO solubility in the water was dependent on the type of salt used. In general, the CMO concentration in water decreased with increasing salt content except for urea. In addition, CMO solubility was significantly reduced in MgSO4 solutions relative to other salt solutions.

[0000]

TABLE 1

Solubility of catmint oil in various aqueous salt solutions at room temperature.

Sample Salt CMO in aqueous phase

Number Salt (wt %) CMO phase (wt %)

1 Ca(NO3)2 5 bottom 0.26

2 Ca(NO3)2 10 top 0.19

3 Ca(NO3)2 15 top 0.16

4 Ca(NO3)2 20 top 0.15

5 MgSO4 5 top 0.11

6 MgSO4 10 top 0.07

7 MgSO4 15 top 0.05

8 MgSO4 20 top 0.04

9 Urea 5 bottom 0.24

10 Urea 10 bottom 0.26

11 Urea 15 top 0.31

12 Urea 20 top 0.34

13 KNO3 5 bottom 0.21

14 KNO3 10 top 0.18

15 KNO3 15 top 0.14

16 KNO3 20 top 0.13

"CMO phase" refers to the position of the CMO as either below, the aqueous phase ("bottom"), or above the aqueous phase ("top").

[0051] Typical steam distillations use 1 to 4 Kg of water per Kg of dried plant material. Without salt addition, there is a yield loss of 0.11 to 0.88 wt % catmint oil based on dried plant weight. However, with magnesium sulfate salt addition [see Table 1], this yield loss decreased to 0.04 to 0.16 wt. % oil based on

dried plant weight. This resulted in a yield increase of 0.07 to 0.72 wt. % catmint oil based on dried plant weight.

Example 2

Disengagement Rate of Catmint Oil from Water

[0052] The ratio of the difference in density of catmint oil and aqueous solution (i.e. water with or without the addition of salt) to the viscosity of the aqueous solution [([rho]CMO-[rho]aq. sol)/[mu]aq. sol.] (wherein "aq. sol." is the abbreviation for aqueous solution) was evaluated for mixtures of catmint oil and aqueous solutions at various temperatures. The density of catmint oil was measured using standard techniques. The density and viscosity of the salt solutions are available in the literature [Perry's Chemical Engineers' Handbook, 6thEdition, 1984; International Critical Tables of Numerical Data, Physics, Chemistry and Technology (1st Electronic Edition), Knovel Co., 2003]. The values for mixtures of water/catmint oil and various salt water solutions with catmint oil were plotted at 25[deg.] C. and 50[deg.] C. in FIGS. 4 and 5, respectively. A mixture of water and peppermint oil was used as a comparison.

[0053] The greater the extent to which the calculated ratios depart from zero, the faster will be the oil disengagement rate from the water or salt water solution. A negative ratio indicates that the catmint oil phase will be lighter than the aqueous phase. The oil will float on top of the water. A positive ratio indicates that the catmint oil is heavier than the water or salt water solution, and thus the oil will sink below the aqueous phase. Aqueous solutions of magnesium sulfate and calcium nitrate were particularly effective in improving the separation of catmint oil from the water. In addition, the addition of aqueous solutions of magnesium sulfate and calcium nitrate to the water made the water heavier than catmint oil, which permitted the collection of the distilled catmint oil as the top phase in the collecting can. A temperature of 50[deg.] C. is preferred over 25[deg.] C.

Example 3

Comparative Example

Steam Distillation without Salt Addition

[0054] Steam distillation of catmint oil was carried out in a distillation apparatus similar to that shown in FIG. 1 for a conventional steam distillation [retort available from Juniper Mfg. (Redmond, Oreg.)]. The distillation apparatus included a retort with a steam injector plate, a condenser, and a conical collection can, wherein said conical collection optionally had internal baffling. The collection can was sized to have a condensate residence time of about 30 minutes. This residence time was high enough to provide a quiescent zone for the oil droplets to coalesce into a single continuous phase.

[0055] Dried catmint plant material (13 Kg) was packed into the retort above the steam injector so that the retort was full and the plant material was sealed securely to the sides of the retort so that channeling of the steam along the inside walls of the retort was minimized. The retort was sealed and made leak tight. Live steam produced in a separate boiler (not shown in FIG. 1) was injected into the bottom of the retort at a rate of 480 g/min for a total of 60 minutes. The pressure of the steam was slightly above atmospheric pressure to allow for a pressure drop across the plant material and the condenser. The cooling water flow was adjusted to the condenser so that the condensate temperature was between about 45[deg.] C. and 55[deg.] C. during the distillation. After the collection can was filled with condensate, the condensate overflowed into a wastewater drain. The distillation apparatus was operated in this fashion for 1 hour. A total of approximately 2.2 Kg of steam was used per Kg of dried catmint plant material.

[0056] Approximately 15.6 mL (16.2 grams) of catmint oil was collected in the bottom of the collection can. This corresponds to approximately 0.12 wt % of the original dry weight of the catmint plant. The water effluent coming out was collected and later analyzed for dissolved oil by GC analysis. The GC analysis indicated an oil content of about 0.15 wt % of catmint oil in this water. This is near the solubility limit of the catmint oil in water and constitutes a substantial yield loss of 0.33 wt % of catmint oil relative

to the dried plant weight. This yield loss does not include losses due to poor disengagement of the oil from the water.

Example 4

Steam Distillation of Catmint Plant Material

Effect of Recycling Water

[0057] A steam distillation apparatus similar to that shown in FIG. 1 is used. A glass resin kettle (as the retort) is outfitted with a steam injector plate, a condenser head and a graduated cylinder attached to the condenser as a simple collection can. The graduated cylinder is sized to have a condensate residence time of 20 to 30 minutes. The apparatus was modified from that shown in FIG. 1 to be able to directly boil water in the base of the retort and to be able to recycle the water back to the retort from the oil collector (FIG. 2). A 10 mL graduated cylinder was used as the condensate collector. Deionized water (500 grams) was loaded in the heal of the resin kettle. Dried catmint plant material (100 grams) was packed into the resin kettle above the water. Electrical heating mantels were used to supply heat directly to the water and to maintain the plant bed temperature sufficient to not allow excessive condensation of water in the plant material. The heat input was adjusted so that the condensation residence time in the 10 mL graduated cylinder was between 10 and 20 minutes. Cooling water was supplied to the condenser to allow the condensate temperature to be about 30[deg.] C. Water from the condenser was periodically drained back to the retort.

[0058] The distillation apparatus was operated in this fashion for about 4.5 hours. Dichloromethane was added to the graduated cylinder. The resulting mixture of solvent and oil was removed from the graduated cylinder and a portion was analyzed by GC. The GC analysis provided a measure of the total amount of oil collected in the cylinder without having to weigh the sample. The oil collected in the receiver was about 0.17 wt % of the original dry weight of the catmint plant material. This shows a yield increase of at least 13% relative to that observed when the experiment is performed without recycle.

Example 5

Vacuum Steam Distillation of Catmint Plant Material with Water Recycle

[0059] The steam distillation apparatus described in Example 4 was modified to allow vacuum operation of the retort and condenser (FIG. 3). A 10 mL graduated cylinder was used as the condensate collector. Deionized water (500 grams) was loaded in the heal of the resin kettle. Dried catmint material (84 grams) was packed into the resin kettle above the water. Electrical heating mantels were used to supply heat directly to the water and to maintain the plant bed temperature sufficient to not allow excessive condensation of water in the plant material. The vacuum was adjusted so that the retort was running at an absolute pressure of 31 kPa (4.5 psia) and a boiling temperature of about 70[deg.] C. The condensation residence time in the 10 mL graduated cylinder was between 10 and 20 minutes. Cooling water was supplied to the condenser to allow the condensate temperature to be about 30[deg.] C. Water from the condenser was periodically drained back to the retort.

[0060] This still was operated in this fashion for about 7 hours. Dichloromethane was added to the graduated cylinder. The resulting mixture of solvent and oil was removed from the graduated cylinder and a portion was analyzed by GC. The GC analysis provided a measure of the total amount of oil collected. in the cylinder without having to weigh the sample. The oil collected in the receiver was about 0.3 wt. % of the original dry weight of the catmint plant material. This shows a significant increase in yield at a lower temperature of distillation.

[0061] Where a range of numerical values is recited is herein, the range includes the endpoints thereof and all the individual integers and fractions within the range, and also includes each of the narrower ranges therein formed by all the various possible combinations of those endpoints and internal integers and fractions to form subgroups of the larger group of values within the stated range to the same extent as if

each of those narrower ranges was explicitly recited. Where a range of numerical values is stated herein as being greater than a stated value, the range is nevertheless finite and is bounded on its upper end by a value that is operable within the context of the invention as described herein. Where a range of numerical values is stated herein as being less than a stated value, the range is nevertheless bounded on its lower end by a non-zero value.

[0062] In this specification, unless explicitly stated otherwise or indicated to the contrary by the context of usage, amounts, sizes, ranges, formulations, parameters, and other quantities and characteristics recited herein, particularly when modified by the term "about", may but need not be exact, and may also be approximate and/or larger or smaller (as desired) than stated, reflecting tolerances, conversion factors, rounding off, measurement error and the like, as well as the inclusion within a stated value of those values outside it that have, within the context of this invention, functional and/or operable equivalence to the stated value.

[0063] In this specification, unless explicitly stated otherwise or indicated to the contrary by the context of usage, where an embodiment of the subject matter hereof is stated or described as comprising, including, containing, having, being composed of or being constituted by or of certain features or elements, one or more features or elements in addition to those explicitly stated or described may be present in the embodiment. An alternative embodiment of the subject matter hereof, however, may be stated or described as consisting essentially of certain features or elements, in which embodiment features or elements that would materially alter the principle of operation or the distinguishing characteristics of the embodiment are not present therein. A further alternative embodiment of the subject matter hereof may be stated or described as consisting of certain features or elements, in which embodiment, or in insubstantial variations thereof, only the features or elements specifically stated or described are present.