COLD PRESS NANO-EMULSION FORMULA AND METHOD FOR PREPARATION OF NUTRITIONAL SUPPLEMENTS

PRIORITY UNDER 35 U.S.C Section 119(e) & 37 C.F.R. Section 1.78

[001] This nonprovisional application claims priority based upon the following prior United States Provisional Patent Application entitled: Cold Press Nano-Emulsion Formula, Application No.: 63/087,187 filed October 03, 2020, in the name of Christina Cook, which is hereby incorporated by reference for all purposes.

FIELD OF THE INVENTION

[002] The present invention relates generally to nutritional supplements and preparation thereof, more specifically but not by way of limitation, a method of supplement preparation operable to prepare food grade nano-emulsions utilizing cold press techniques wherein the supplements are derived from items such as but not limited to seeds, fruits, nuts, grains, and vegetables. Furthermore, the method of the present invention further includes the addition of trace minerals and vitamins with various forms of

aqueous isolates and ions of silicates. The formula and method of the present invention is focused on the support of initiating the body to assist with support of anti-inflammation and initiation of the support of the immune system.

BACKGROUND

[003] Nano-emulsions have small droplet size and are kinetically stable colloidal systems, which can be used as part of a cold press method in order to be used in different formulations wherein the formulations have increased potency. Formulations created by cold press methods have enhanced functional properties in comparison to conventional emulsions. The composition and structure of the cold press nano-emulsions can be controlled for the encapsulation and effective delivery of bioactive lipophilic compounds. Cold press nano-emulsion supplement formulas from items such as but not limited to seeds, fruits, nuts, grains, and vegetables using the addition of trace minerals and vitamins with various forms of aqueous isolates, silicates, orthosilicic acid and silica with colloidal systems as the foundation and have potential application in the food industry for the delivery of nutraceuticals, supplements, pharmaceutical formulas and anti-inflammatories.

[004] Oil extraction methods from seeds, plants, roots, fruits, nuts, grains, vegetables can include cold press methods which typically involve solvent or mechanical extractions. Alternative nonconventional techniques such as ultrasound, supercritical fluid extraction, fractionation, and enzyme-assisted extraction can be used in the manufacturing process of the formulas that are cold press nano-emulsion formulas. These nonconventional techniques are innovative and have potential to improve oil extraction rates, shorten extraction times, and minimize deterioration of the oil quality and formula quality. The aforementioned nonconventional techniques can also be used successfully to enhance the potency of the end formulation and further provide a desirable improved method. The variables studied and the

methods of extraction used have an effect on the quality of supplement obtained and when utilized can deliver needed vitamins and minerals to support the body as it protects itself against the proliferation of spirochetes, viruses, bacteria, parasites and fungus which can activate and extend harm as associated with many diseases, viruses, and autoimmune problems. Additionally, improved formulations could aid in support of the body in anti-aging and in the age of the cells inside the body.

[005] Accordingly, there is a need for a method and formulation that is operable to supplement preparation operable to prepare food grade nano-emulsions utilizing cold press techniques wherein the supplements are derived from items such as but not limited to seeds, fruits, nuts, grains, and vegetables. Furthermore, the method and formulation is focused on the support of initiating the body to assist with support of anti-inflammation and initiation of the support of the immune system.

SUMMARY OF THE INVENTION

[006] It is the object of the present invention to provide a method and formulation is focused on the support of initiating the body to assist with support of anti-inflammation and initiation of the support of the immune system wherein the method of the present invention further incorporates nano-encapsulation of some of the components of the embodiments of the present invention.

[007] Another object of the present invention is to provide a method of nutritional supplements and embodiments thereof utilizing cold-press techniques wherein the technique of the present invention include simultaneous alterations of both temperature and pressure.

[008] A further object of the present invention is to provide a method and formulation is focused on the support of initiating the body to assist with support of anti-inflammation and initiation of the support of the immune

system wherein the present invention results in improved solubility and dissolution rate.

[009] Still another object of the present invention is to provide a method of nutritional supplements and embodiments thereof utilizing cold-press techniques wherein the present invention enhances the vitamin and mineral absorption through improved bioavailability.

[0010] An additional object of the present invention is to provide a method and formulation is focused on the support of initiating the body to assist with support of anti-inflammation and initiation of the support of the immune system wherein one of the embodiments of the present invention includes spirulina, inulin and various vegetables.

[0011] Yet a further object of the present invention is to provide a method of nutritional supplements and embodiments thereof utilizing cold-press techniques wherein within the scope of the present invention the cold press liquid derived from the technique of the present invention can be converted into a powder.

[0012] Another object of the present invention is to provide a method and formulation is focused on the support of initiating the body to assist with support of anti-inflammation and initiation of the support of the immune system wherein the method of the present invention includes utilizing moderate pressure between one hundred and two hundred mega pascal pressure units.

[0013] Still an additional object of the present invention is to provide a method of nutritional supplements and embodiments thereof utilizing cold-press techniques wherein seed and plant components to be incorporated into an embodiment of the present invention are provided through cold press sintering.

[0014] Yet another object of the present invention is to provide a method and formulation is focused on the support of initiating the body to assist with support of anti-inflammation and initiation of the support of the immune system that further includes packing nanoparticles of the desired nutrients

such as vitamins, zeolites and other ingredients into a secondary shell to form nano-capsules that are subsequently introduced into an embodiment of the present invention.

[0015] To the accomplishment of the above and related objects the present invention may be embodied in the form illustrated in the accompanying drawings. Attention is called to the fact that the drawings are illustrative only. Variations are contemplated as being a part of the present invention, limited only by the scope of the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] A more complete understanding of the present invention may be had by reference to the following Detailed Description and appended claims when taken in conjunction with the accompanying Drawings wherein:

[0017] Figure 1 is an exemplary formulation derived from the method of the present invention; and

[0018] Figure 2 is another exemplary formulation derived from the method of the present invention; and

[0019] Figure 3 is an outline of a method of the present invention; and

[0020] Figure 4 is an outline of a method to convert a cold press liquid into a powder.

DETAILED DESCRIPTION

[0021] Referring now to the drawings submitted herewith, wherein various elements depicted therein are not necessarily drawn to scale and wherein through the views and figures like elements are referenced with identical reference numerals, there is illustrated a cold press nano-emulsion method and formulations 100 constructed according to the principles of the present invention.

[0022] An embodiment of the present invention is discussed herein with reference to the figures submitted herewith. Those skilled in the art will understand that the detailed description herein with respect to these figures is for explanatory purposes and that it is contemplated within the scope of the present invention that alternative embodiments are plausible. By way of example but not by way of limitation, those having skill in the art in light of the present teachings of the present invention will recognize a plurality of alternate and suitable approaches dependent upon the needs of the particular application to implement the functionality of any given detail described herein, beyond that of the particular implementation choices in the embodiment described herein. Various modifications and embodiments are within the scope of the present invention.

[0023] It is to be further understood that the present invention is not limited to the particular methodology, materials, uses and applications described herein, as these may vary. Furthermore, it is also to be understood that the terminology used herein is used for the purpose of describing particular embodiments only, and is not intended to limit the scope of the present invention. It must be noted that as used herein and in the claims, the singular forms "a", "an" and "the" include the plural reference unless the context clearly dictates otherwise. Thus, for example, a reference to "an element" is a reference to one or more elements and includes equivalents thereof known to those skilled in the art. All conjunctions used are to be understood in the most inclusive sense possible. Thus, the word "or" should be understood as

having the definition of a logical "or" rather than that of a logical "exclusive or" unless the context clearly necessitates otherwise. Structures described herein are to be understood also to refer to functional equivalents of such structures. Language that may be construed to express approximation should be so understood unless the context clearly dictates otherwise.

[0024] References to "one embodiment", "an embodiment", "exemplary embodiments", and the like may indicate that the embodiment(s) of the invention so described may include a particular feature, structure or characteristic, but not every embodiment necessarily includes the particular feature, structure or characteristic.

[0025] Referring in particular to the Figures submitted as a part hereof, the cold press nano-emulsion method and formulations 100 incorporates a process to form and subsequently provide nano-capsules of some of the ingredients that are subsequently incorporated into various embodiments of the present invention. The process consists of packing nanoparticles of the desired nutrients such as vitamins, zeolites and other ingredients listed herein into a secondary shell to form nano-capsules. The small droplets required for nano-encapsulation, which is typically less than one hundred nanometers do not scatter light as do larger encapsulated materials. As such the nano-encapsulated materials are optically clear. The aforementioned clear emulsion enables the delivery of lipophilic flavors and bioactive compounds in otherwise color sensitive systems. Employing this method increases the functionality of the products and is further a characteristic particularly in demand by consumers. By encapsulating nutrients, it is ensured the product delivers those nutrients more effectively and further enhances the nutritional robustness of the product. Utilizing nano-encapsulation for vitamins, bioactive and other components of the present invention offers the aforementioned advantages over traditional processes. Nano-encapsulation increases bioavailability as well as shelf life. Vitamins are sensitive to degradation from conditions such as heat, light, oxygen and moisture, which is why the nano-encapsulation process

incorporation of the present invention provides distinct advantages. The process prevents the deterioration of vitamins and other components and is further utilized for targeted delivery of some of the components of the present invention into the human intestinal system. In summary the nano-encapsulation process incorporates coating or trapping the vitamin or other component in another compound in the formula. Next a protective barrier is created which is operable to protects bioactive components. Ensuing creation of the protective barrier the vitamin or other component are incorporated into the final embodiment of the present invention utilizing suitable techniques.

[0026] Referring in particular to Figure 1, the cold press nano-emulsion method and formulations 100 includes the illustrated formulation as an embodiment of the present invention. The embodiment outlined in Figure 1 is contemplated within the scope of the present invention to have alterations of each of the components thereof within plus or minus five percent of the listed totals. Additionally, the units listed and discussed herein are an amount represented in a desired serving of the embodiments of the present invention. The cold press nano-emulsion method and formulations 100 embodiment listed in Figure 1 includes 0.127 grams of both CMC gum and Xanthan gum. As is known in the field of the present invention, the immediately aforementioned ingredients are added as a thickener and a stabilizer. Further included in the embodiment of Figure 1 is 0.02 grams of citrus extract. Evaporated cane juice is present within the formulation at a level of three grams. Monk fruit and raspberry ketones are present within the embodiment of Figure 1 at levels of 0.04 grams and 0.25 grams respectively. Another component present within the embodiment illustrated in Figure 1 is turmeric wherein the turmeric is present at 0.175 grams. Reserveratrol is included in the embodiment and is present at 0.1 grams. Two additional components included in the present invention are D-ribose and apple cider vinegar. These components are includes at 0.25 and 0.198 grams respectively. Still another component of the embodiment outlined in Figure 1

is aloe vera gel powder wherein the aloe vera gel powder is present at a level of 0.01 grams. Black seed oil and citric acid are incorporated into the embodiment of the present invention outlined in Figure 1 and are present at 0.175 grams and 0.02 grams. It is further contemplated within the scope of the present invention that natural flavors of numerous types could be added to the embodiment wherein these natural flavors would not exceed 0.4 grams. Finally, water is present in the embodiment illustrated in Figure 1 wherein the water is present at 26. 8 grams.

[0027] Referring now to Figure 2 submitted as a part hereof, an alternative embodiment of the present invention is outlined therein. It should be understood within the scope of the present invention that the foregoing described amounts could vary by plus or minus ten percent. The two majority components of the embodiment of Figure 2 is inulin and spirulina wherein their respective unit levels are 1900 milligrams and 1000 milligrams. Inulin can be utilized to measure kidney function and is utilized to determine the glomerular filtration rate of the kidneys to ensure proper functioning thereof. The spirulina is included due to it anti-oxidant and anti-inflammatory capabilities. Green banana flour, apple fiber and bacillus coagulans are further provided in the embodiment of Figure 2. These components are includes at 100, 100 and 50 milligrams respectively.

[0028] The next group of components included in the embodiment of the present invention outlined in Figure 2 are wheat grass, barley grass, alfalfa leaf and flax seed. These components are included at two hundred milligrams with the exception of the flax seed which is provided at a level of fifty milligrams. An additional group of components included in the embodiment illustrated in Figure 2 is psyllium husk powder, chlorella, broccoli, kale, spinach, green cabbage and parsley. This additional group of components is included at milligram levels of 100,200,100,100,100,100 and 100 respectively. Aloe vera is present within the embodiment of Figure 2 wherein the aloe vera is provided at a level of eighty five milligrams. Further included within the embodiment of Figure 2 is cayenne pepper and blueberry powder

wherein the aforementioned are present at fifteen and one hundred milligrams respectively. Lastly included are pomegranate seed powder and coconut oil powder wherein these components are included at one hundred and two hundred and fifty milligrams respectively.

[0029] The embodiments discussed herein are created employing cold pressing techniques. Cold pressing techniques provides a technique to retain more of the nutrients from the original material as the structure remains. In the preferred method of the present invention any cold pressing is performed prior to sintering or expeller press wherein the aforementioned could be employed on some of the components. Additionally, the steps of the present invention are implemented prior to any hot pressing of any component for which that may be required as this procedure can compromise the structure of a component. In step 301 of the present invention the cold pressing is executed in double action cold press machine wherein a preferred machine is hydraulic based. Step 303, the pressure for the press stages range between one hundred and two hundred mega-pascal units. In step 305, the subsequent the cold pressing the material is removed from any potential exposure to sunlight by placing in a suitable location. Step 307, the material is further stored in a climate controlled environment so as to avoid any exposure to heat wherein heat is defined for the purposes herein as above sixty five degrees Fahrenheit. In step 309, the storage location of the material produced from the cold press is further humidity controlled so as to not exceed fifty percent humidity.

[0030] Step 311, at least a portion of the material is stored at fifty-seven degrees wherein this temperature will produce a shelf life twice that of ambient temperature. In step 313, if available during storage and logistics distribution of the material, the material is stored at thirty-nine degrees so as to double the shelf life compared to storage at fifty-seven degrees. Step 315, if desired and equipment required is available, the material will be stored at a further reduced temperature of twenty one degrees Fahrenheit so as to increase the shelf life by a factor of eight when compared to ambient

temperature storage. In step 317, in order to prepare for consumption of the materials, a portion thereof is dissolved in water for consumption.

[0031] The cold press material provided by the present invention can further be converted into a powder wherein the powder can subsequently be placed in capsules or in other suitable media and/or forms so as to provide a technique for intake thereof. Figure 4 provides an outline of the powder conversion method of the present invention. In step 401, the cold press material is distributed in a uniform thickness over dehydrator sheets. Step 403, the dehydrator sheets are placed within a dehydrator at a temperature range between 115-125 degrees Fahrenheit. In step 405, the dehydrator is operated for a period of time ranging between four and twelve hours. Step 407, the material from the dehydrator sheets is removed therefrom and placed in a container that is stored at below freezing temperatures(ten degrees Fahrenheit) for a period of time between eight and twelve hours. In step 409, the material is removed and stored at ambient temperature(sixty to seventy degrees Fahrenheit) for a period of two to four hours. Step 411, at least a portion of the material is placed in an appropriate blending machine and is blended until a powder is produced. It should be understood that various types of equipment and storage could be employed in the aforementioned.

[0032] As it pertains to the zeolite formulations and orthosilicates to be utilized in the present invention a preparation is as follows. In step 501, an amount of dry pulverized sodium aluminosilicate (Zeolite powder) of 92% or above purity is collected. Step 503, the zeolite powder is submerged a reverse osmosis-deionized water bath to hydrate powder and fill the cade structure. In step 505, the solution is placed into a liquid nitrogen bath at one to two concentration. Step 507, a coagulation is formed. In step 509, a frozen slurry is create wherein the temperature to create the frozen slurry is below zero degrees Fahrenheit. Step 511, submerge approximately three hundred to six hundred grams of the slurry into into an acidified phosphate water solution. In step 513, the solution has the temperature thereof increased to

two hundred to two hundred and forty degrees for at least five minutes. Step 515, a phosphate evaporation by steam distillation occurs and an extraction of the steam is performed through encapsulation of volatile organics. In step 517, a plurality of vitamins are added into the encapsultation process and further a plurality of desired minerals are also added. Step 519, it is ensure that the phosphate evaporates via steam distillation and expansion process during addition of the vitamins and/or minerals. In step 521 thermal fracking is created. Step 523, a natural break is created so as to promote age separation so that the main components of the zeolite are presented. In step 525, a conduction of steam hydraulics in order to promote the cage extraction and cage separation and as such sediment separation. Step 527, utilization of static agglomeration is performed in order to create sediment distillation. It is contemplated within the scope of the present invention that the steps of steam hydraulics could be repeated to facilitate additional encapsulations. In step 529 the slurry is placed in cooling containers and remains in the cooling containers for at least fourteen hours in order to permit the precipitation process to complete. During this time period particles with low osmotic pressure will rise and is captured in order to be subsequently utilized for food and supplement products for animals and humans, skincare products or environmental products. The heavier particles fall into a cake base, which can be used for skincare, skin base coating, as well as environmental products. The remaining liquid contains partially hydrolyzed mineral low micron cages of silicas. HOCL, Silver ions, Trypsin and Hydrogen Peroxide can be added to some end products if desired result is not just metabolism but also balancing of serum and electrolytes and pH balances due to bacteria, parasites, fungus, and viruses that can further cause damage to alcohol during intake.

[0033] In the preceding detailed description, reference has been made to the accompanying drawings that form a part hereof, and in which are shown by way of illustration specific embodiments in which the invention may be practiced. These embodiments, and certain variants thereof, have been

described in sufficient detail to enable those skilled in the art to practice the invention. It is to be understood that other suitable embodiments may be utilized and that logical changes may be made without departing from the spirit or scope of the invention. The description may omit certain information known to those skilled in the art. The preceding detailed description is, therefore, not intended to be limited to the specific forms set forth herein, but on the contrary, it is intended to cover such alternatives, modifications, and equivalents, as can be reasonably included within the spirit and scope of the appended claims.

WHAT IS CLAIMED IS:

1. A cold press nano-emulsion method operable to produce nutritional supplements wherein the method comprises the steps of:

utilizing a double action press on materials to be subsequently collected as raw materials for product creation, wherein the double action press includes employment of a pressure between one hundred and two hundred mega-pascals;

maintaining the raw materials from exposure to sunlight, wherein the raw materials collected are inhibited from exposure to sunlight;

exposing the raw materials to ambient temperatures, wherein the raw materials are exposed to a temperature no greater than sixty-five degrees Fahrenheit;

maintaining the raw materials in low humidity environment, wherein the raw materials are maintained in a location that has a humidity level no greater than fifty percent;

storing the raw materials at a temperature that is less than or equal to fifty seven degrees Fahrenheit; and

transforming the raw materials into a finished product wherein the finished product is ingestible.

2. The cold press nano-emulsion method operable to produce nutritional supplements as recited in claim 1, and further including the step of storing the raw materials at a temperature that is less than or equal to thirty-nine degrees Fahrenheit in order to increase a shelf life thereof.

3. The cold press nano-emulsion method operable to produce nutritional supplements as recited in claim 2, wherein the materials are selected from a group of at least two of the following: seeds, fruits, nuts, grains, and vegetables.

4. The cold press nano-emulsion method operable to produce nutritional supplements as recited in claim 3, and further including the step of adding trace minerals and vitamins with various forms of aqueous isolates.

5. The cold press nano-emulsion method operable to produce nutritional supplements as recited in claim 4, wherein the step of adding trace minerals and vitamins further incorporates use of silicates, orthosilicic acid and silica acting as a colloidal system as a foundation of the finished product.

6. The cold press nano-emulsion method operable to produce nutritional supplements as recited in claim 5, and further including the step of storing the raw materials at a temperature that is less than or equal to twenty-one degrees Fahrenheit in order to increase a shelf life thereof.

7. The cold press nano-emulsion method operable to produce nutritional supplements as recited in claim 6, and further including the step of converting the raw material into a powder, wherein the raw material is placed on dehydrator sheets.

8. The cold press nano-emulsion method operable to produce nutritional supplements as recited in claim 7, wherein the dehydrator sheets are placed in a dehydrator at a temperature between one hundred and fifteen degrees and one hundred and twenty five degrees.

9. The cold press nano-emulsion method operable to produce nutritional supplements as recited in claim 8, and further including the step of maintaining the dehydrator sheets in the dehydrator for a time period of four to twelve hours.

10. The cold press nano-emulsion method operable to produce nutritional supplements as recited in claim 9, and further including the step of freezing the raw material from the dehydrator sheets for a time period of eight to twelve hours.

11. The cold press nano-emulsion method operable to produce nutritional supplements as recited in claim 10, and further including the step of blending the raw material from the dehydrator sheets until a powder is formed.

12. A nutritional supplement formed from utilizing a cold press technique wherein the nutritional supplement comprises:

inulin and spirulina, wherein inulin is present at a level of 1900 milligrams and spirulina is present at a level of 1000 milligrams;

Green banana flour, wherein the green banana flour is present at a level of 100 milligrams;

apple fiber and bacillus coagulans, wherein the apple fiber is present at a level of 100 milligrams and the bacillus coagulans is present at a level of 50 milligrams;

wheat grass, barley grass, alfalfa leaf and flax seed, wherein the wheat grass, barley grass, alfalfa leaf are present at a level of two hundred milligrams each and wherein the flax seed is present at a level of fifty milligrams;

aloe vera, wherein the aloe vera is provided at a level of eighty five milligrams; and

wherein the nutritional supplement further incorporates packing nanoparticles into a secondary shell to form nano-capsules.

13. The nutritional supplement formed from utilizing a cold press technique as recited in claim 12, and further including psyllium husk powder, chlorella, broccoli, kale, spinach, green cabbage and parsley.

14. The nutritional supplement formed from utilizing a cold press technique as recited in claim 13, wherein the broccoli, kale, spinach, green cabbage and parsley are present at a level of one hundred milligrams.

15. The nutritional supplement formed from utilizing a cold press technique as recited in claim 14, wherein the psyllium husk powder chlorella are present at a level of one hundred and two hundred milligrams respectively.

16. The nutritional supplement formed from utilizing a cold press technique as recited in claim 15, and further including pomegranate seed powder and coconut oil powder wherein pomegranate seed powder and coconut oil powder are present at one hundred and two hundred and fifty milligrams respectively.

17. A nutritional supplement formed from utilizing a cold press technique wherein a serving of the nutritional supplement comprises:

citrus extract, wherein the citrus extract is present at .12 grams;

evaporated cane juice, wherein the evaporated cane juice is present at three grams;

monk fruit, wherein the monk fruit is present at 0.04 grams;

raspberry ketones, wherein the raspberry ketones are present at .25 grams;

turmeric, wherein turmeric is present at .17 grams;

reserveratrol, wherein the reserveratrol is present at a level of .1 grams;

D-ribose, wherein D-ribose is present at a level of .25 grams;

aloe vera gel powder, wherein the aloe vera gel powder is present at .01 grams;

black seed oil, wherein the black seed oil is present at a level of .17 grams; and

citric acid, wherein the citric acid is present at a level of .02 grams.

18. The nutritional supplement formed from utilizing a cold press technique as recited in claim 17, and further including CMC gum and xanthan gum, wherein the CMC gum and xanthan gum are present at 0.12 grams.

19. The nutritional supplement formed from utilizing a cold press technique as recited in claim 18, wherein the nutritional supplement further includes natural flavors.

20. The nutritional supplement formed from utilizing a cold press technique as recited in claim 19, wherein in a liquid form of the nutritional supplement water is added at a level of 26 grams.

ABSTRACT OF THE DISCLOSURE

The present invention relates generally to nutritional supplements and preparation thereof, more specifically but not by way of limitation, a method of supplement preparation operable to prepare food grade nano-emulsions utilizing cold press techniques wherein the supplements are derived from items such as but not limited to seeds, fruits, nuts, grains, and vegetables. Furthermore, the method of the present invention further includes the addition of trace minerals and vitamins with various forms of aqueous isolates and ions of silicates. The formula and method of the present invention is focused on the support of initiating the body to assist with support of anti-inflammation and initiation of the support of the immune system. The present invention employs both a cold press method to create intended products as well as includes a method to create a powder form.