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(54) Title: MULTI-PHASE COSMETIC COMPOSITION AND COSMETIC TREATMENT PROCESS

(57) Abstract: The present invention relates to a multi-phase cosmetic composition comprising at least two visually distinct phases, and in particular a first phase comprising one or more thickening polymers, and a second phase comprising one or more plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight, relative to the total weight of fatty acids of said triglycerides of said oil, and one or more additional plant oils. The invention also relates to a cosmetic treatment process, in particular for caring for and/or conditioning keratin materials, in particular the hair, using such a composition.



Multi-phase cosmetic composition and cosmetic treatment process

5 The invention relates to a multi-phase composition comprising visually distinct phases, a first phase comprising thickening polymers, and a second phase comprising plant oils of particular triglyceride type. The invention also relates to a cosmetic treatment process, in particular for the hair, using said composition.

10 Hair is generally damaged and embrittled by the action of external atmospheric agents such as light and bad weather, and by mechanical or chemical treatments, such as brushing, combing, dyeing, bleaching, permanent-waving and/or relaxing. Thus, in order to remedy these drawbacks, it is now common practice to make use of haircare products which make it possible to condition the hair, in particular by giving it sheen, softness, suppleness, lightness, a natural feel and disentangling
15 properties.

Mention may thus in particular be made of leave-on haircare products, which can be applied to dry or wet hair and which are not rinsed off, and which can advantageously be in the form of a multi-phase composition, in particular comprising two or three visually distinct phases.

20 These care products generally comprise at least one aqueous phase and at least one fatty phase, the latter comprising mineral oils such as alkanes (isododecane in particular) and/or volatile or non-volatile silicone oils.

25 However, these compositions can also be improved, in particular with regard to their performances relating to fibre strengthening and protection, and provision of sheen and of frizziness control, this being by using mainly starting materials of natural origin.

30 The objective of the present invention is to meet this demand and it therefore provides a multi-phase composition which makes it possible to nourish the hair, to strengthen it and to give it protection, while at the same time conferring on it softness, suppleness, straightness, lightness, and a natural non-greasy and non-charged feel, and also good individualization of the hairs. This composition also gives the hair an improved ability to disentangle, and good volume control, and makes it manageable,
35 in particular in terms of reducing frizziness.

Furthermore, the composition according to the invention has an attractive visual appearance, since it is in the form of several visually distinct phases, in particular in two-phase form.

40 A subject of the present invention is therefore a multi-phase composition comprising at least two visually distinct phases, a first phase comprising one or more thickening polymers, and a second phase comprising:

- one or more plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight, relative to the total weight of fatty acids of said triglycerides of said oil and
- 5 - one or more additional plant oils of triglyceride type, different from the plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight, relative to the total weight of fatty acids of said triglycerides of said oil.

10 In the present description, the expression "at least one" is equivalent to the expression "one or more" and can be substituted for said expression; the expression "between" is equivalent to the expression "ranging from" and can be substituted for said expression, and implies that the limits are included.

15 The composition according to the present invention has two phases that are visually distinct or more than two visually distinct phases, and preferably two visually distinct phases.

The term "visually distinct" is intended to mean that the phases can be distinguished from each other by a person's naked eye, unlike phases forming homogeneous particle dispersions or emulsions. Thus, one of the two phases is not finely dispersed in the other, as is the case for example for emulsions.

20 Preferably, the phases of the composition according to the invention are liquid, and, at rest, occupy zones one above the other; when the container is inverted, the phases can mix together. In particular, the composition according to the invention is advantageously a two-phase liquid.

25 1/ Aqueous phase

The composition according to the invention comprises a first phase which comprises one or more thickening polymers.

30 This phase is advantageously aqueous, that is to say it comprises water, in particular at a content greater than or equal to 40% by weight, in particular ranging from 40% to 99.5% by weight, in particular ranging from 50% to 99% by weight and better still ranging from 70% to 98% by weight, relative to the total weight of said phase.

35 This first phase also comprises one or more thickening polymers. For the purposes of the present invention, the term "thickening polymer" is intended to mean a polymer which, when introduced at 1% by weight in an aqueous solution or an aqueous-alcoholic solution containing 30% ethanol, and at pH 7, or in an oil chosen from liquid petroleum jelly, isopropyl myristate or cyclopentadimethylsiloxane, makes it possible to achieve a viscosity of at least 100 cps (centipoises), in particular of at least 200 cps, preferably of at least 500 cps, at 25°C and at a shear rate of 1 s⁻¹.
40 This viscosity may be measured using a cone/plate viscometer (Haake R600 rheometer or the like).

The thickening polymers according to the invention may be of natural or synthetic origin, but are advantageously of natural origin.

- 5 The thickening polymers according to the invention can be chosen from, alone or as a mixture, thickening polymers comprising a sugar unit, in particular thickening polysaccharides, even better still bio-heteropolysaccharides.

The thickening polymers according to the invention may be non-ionic, anionic, amphoteric or cationic. The base units of the polymers of the invention can be mono- or disaccharides.

- 10 The term "sugar unit" is intended to mean a unit derived from a carbohydrate of formula $C_n(H_2O)_{n-1}$ or $(CH_2O)_n$, which may be optionally modified by substitution and/or by oxidation and/or by dehydration.

- 15 The sugar units capable of participating in the composition of the polymers of the invention preferably result from the following sugars: glucose, galactose, arabinose, rhamnose, mannose, xylose, fucose, fructose, anhydrogalactose, galacturonic acid, glucuronic acid, mannuronic acid, galactose sulfate or anhydrogalactose sulfate.

Mention may in particular be made, as polymers capable of being employed, of the following native gums, and also their derivatives:

- 20 a) tree or shrub exudates, including:
- gum arabic (branched polymer of galactose, arabinose, rhamnose and glucuronic acid),
- ghatti gum (polymer resulting from arabinose, galactose, mannose, xylose and glucuronic acid),
25 - karaya gum (polymer resulting from galacturonic acid, galactose, rhamnose and glucuronic acid),
- gum tragacanth (polymer of galacturonic acid, galactose, fucose, xylose and arabinose);
and derivatives thereof;
30 b) gums resulting from algae, including:
- agar (polymer resulting from galactose and anhydrogalactose),
- alginates (polymers of mannuronic acid and glucuronic acid),
- carrageenans and furcellerans (polymers of galactose sulfate and of anhydrogalactose sulfate);
35 and derivatives thereof;
c) gums resulting from seeds or tubers, including:
- guar gum (polymer of mannose and galactose),
- locust bean gum (polymer of mannose and galactose),
- fenugreek gum (polymer of mannose and galactose),
40 - tamarind gum (polymer of galactose, xylose and glucose),
- konjac gum (polymer of glucose and mannose),
and derivatives thereof;
d) microbial gums, including:

- xanthan gum (polymer of glucose, mannose acetate, mannose/pyruvic acid and glucuronic acid),
- gellan gum (polymer of partially acylated glucose, of rhamnose and of glucuronic acid),
- 5 - scleroglucan gum (glucose polymer),
and derivatives thereof;
- e) plant extracts, including:
 - cellulose (glucose polymer),
 - starch (glucose polymer),
 - 10 - inulin (polymer of fructose and glucose),
and derivatives thereof.

These polymers can be physically or chemically modified. Mention may in particular be made, as physical treatment, of the temperature. Chemical treatments that may
15 be mentioned include esterification, etherification, amidation and oxidation reactions. These treatments make it possible to result in polymers which can be non-ionic, anionic, cationic or amphoteric.

Thus, the non-ionic guar gums may be modified with C₁-C₆ hydroxyalkyl groups.
20 Mention may be made, among the hydroxyalkyl groups, of the hydroxymethyl, hydroxyethyl, hydroxypropyl and hydroxybutyl groups.

These guar gums are well known in the prior art and may be prepared, for example, by reacting the corresponding alkene oxides, for instance, propylene oxides, with the guar gum so as to obtain a guar gum modified with hydroxypropyl groups. The
25 degree of hydroxyalkylation preferably varies from 0.4 to 1.2 and corresponds to the number of alkylene oxide molecules consumed by the number of free hydroxyl functions present on the guar gum. Such non-ionic guar gums optionally modified with hydroxyl groups are for example sold under the trade names Jaguar HP8, Jaguar HP60 and Jaguar HP120 by the company Rhodia Chimie.

30 The guar gums can be modified with cationic groups; mention may particularly be made of guar gums comprising trialkylammonium cationic groups. Preferably, from 2% to 30% of the number of the hydroxyl functional groups of these guar gums carry trialkylammonium cationic groups. More preferably still, from 5% to 20% of the number of the hydroxyl functional groups of these guar gums are branched with trialkylammonium cationic groups. Mention may very particularly be made, among these trialkylammonium groups, of the trimethylammonium and triethylammonium groups. More preferably still, these groups represent from 5% to 20% by weight, relative to the total weight of the modified guar gum. According to the invention, use may be
35 made of guar gums modified with 2,3-epoxypropyltrimethylammonium chloride. These guar gums modified with cationic groups are products already known per se and are, for example, described in Patents US 3 589 578 and US 4 0131 307. Such products are moreover sold especially under the trade names Jaguar C13 S, Jaguar
40

C 15 and Jaguar C 17 by the company Rhodia Chimie.

5 Use may be made, as modified locust bean gum, of the cationic locust bean gum containing hydroxypropyltrimonium groups, such as Catinal CLB 200 provided by Toho.

10 The starch molecules used in the present invention can originate from any plant starch source, in particular cereals and tubers; more particularly, they can be starches from maize, rice, cassava, barley, potato, wheat, sorghum, pea, oat or tapioca. It is also possible to use the hydrolysates of the starches mentioned above. The starch is preferably derived from potato.

The starches may be chemically or physically modified, in particular by one or more of the following reactions: pregelatinization, oxidation, crosslinking, esterification, etherification, amidation, heat treatments.

15 More particularly, these reactions may be performed in the following manner:

- pregelatinization by splitting the starch granules (for example drying and cooking in a drying drum);
- oxidation with strong oxidizing agents, resulting in the introduction of carboxyl groups into the starch molecule and in the depolymerization of the starch molecule
- 20 (for example by treating an aqueous starch solution with sodium hypochlorite);
- crosslinking with functional agents capable of reacting with the hydroxyl groups of the starch molecules, which will thus be bonded together (for example with glyceryl and/or phosphate groups);
- esterification in alkaline medium for the grafting of functional groups, especially
- 25 C1-C6 acyl (acetyl), C1-C6 hydroxyalkyl (hydroxyethyl or hydroxypropyl), carboxymethyl or octenylsuccinic.

It is possible in particular to obtain, by crosslinking with phosphorus compounds, monostarch phosphates (of the type St-O-PO-(OX)₂), distarch phosphates (of the type St-O-PO-(OX)-O-St) or even tristarch phosphates (of the type St-O-PO-(O-St)₂)

30 or mixtures thereof, with St meaning starch and X denoting in particular alkali metals (for example sodium or potassium), alkaline earth metals (for example calcium or magnesium), aqueous-ammonia salts, amine salts, such as those of monoethanolamine, diethanolamine, triethanolamine or 3-amino-1,2-propanediol, or ammonium salts resulting from basic amino acids, such as lysine, arginine, sarcosine, ornithine

35 or citrulline.

The phosphorus compounds can, for example, be sodium tripolyphosphate, sodium orthophosphate, phosphorus oxychloride or sodium trimetaphosphate.

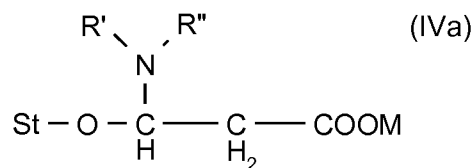
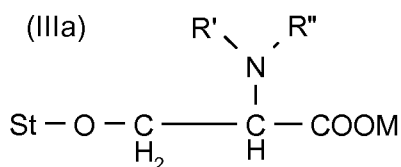
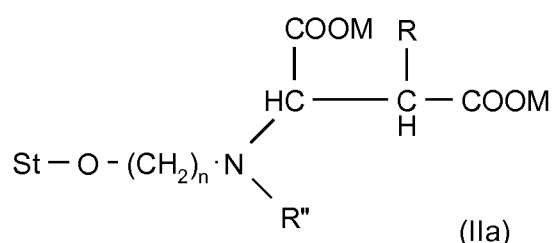
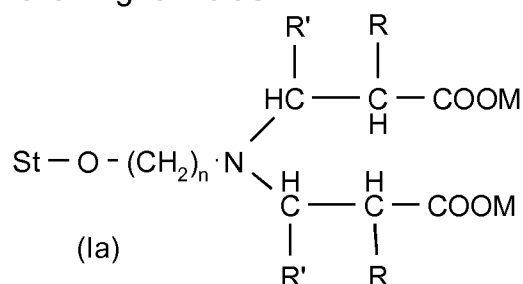
Distarch phosphates or compounds rich in distarch phosphate will preferentially be used, for instance the product sold under the references Prejel VA-70-T AGGL (gelatinized hydroxypropyl cassava distarch phosphate), Prejel TK1 (gelatinized cassava distarch phosphate) or Prejel 200 (gelatinized acetyl cassava distarch phosphate) by the company Avebe, or Structure Zea from National Starch (gelatinized corn distarch phosphate).

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A preferred starch is a starch which has undergone at least one chemical modification, such as at least one esterification.

According to the invention, use may also be made of amphoteric starches comprising one or more anionic groups and one or more cationic groups. The anionic and cationic groups can be bonded to the same reactive site of the starch molecule or to different reactive sites; they are preferably bonded to the same reactive site. The anionic groups can be of carboxylic, phosphate or sulfate type, preferably of carboxylic type. The cationic groups may be of primary, secondary, tertiary or quaternary amine type.

- 10 The amphoteric starches are in particular chosen from the compounds having the following formulae:



in which:

St-O represents a starch molecule,

- 15 R, which may be identical or different, represents a hydrogen atom or a methyl radical;

R', which may be identical or different, represents a hydrogen atom, a methyl radical or a -COOH group;

n is an integer equal to 2 or 3,

- 20 M, which are identical or different, denote a hydrogen atom, an alkali metal or alkaline earth metal, such as Na, K, Li or NH₄, a quaternary ammonium or an organic amine,

R'' represents a hydrogen atom or a C1-C18 alkyl radical.

- 25 Use is in particular made of the starches of formula (IIa) or (IIIa); and preferably starches modified with 2-chloroethylaminodipropionic acid, that is to say the starches of formula (IIa) or (IIIa) in which R, R', R'' and M represent a hydrogen atom and n is equal to 2. The preferred amphoteric starch is a starch chloroethylamidodipropionate.

- 30 The celluloses and cellulose derivatives can be anionic, cationic, amphoteric or non-ionic. Among these derivatives, cellulose ethers, cellulose esters and cellulose ester

ethers are distinguished.

Among the cellulose esters, mention may be made of inorganic cellulose esters (cellulose nitrates, sulfates and phosphates), organic cellulose esters (cellulose monoacetates, triacetates, amidopropionates, acetate butyrates, acetate propionates and acetate trimellitates), and mixed organic/inorganic cellulose esters, such as cellulose acetate butyrate sulfates and cellulose acetate propionate sulfates.

Mention may be made, among the cellulose ester ethers, of hydroxypropyl methylcellulose phthalates and ethylcellulose sulfates.

Among the non-ionic cellulose ethers that may be mentioned are alkylcelluloses such as methylcelluloses and ethylcelluloses (for example Ethocel Standard 100 Premium from Dow Chemical); hydroxyalkylcelluloses such as hydroxymethylcelluloses and hydroxyethylcelluloses (for example Natrosol 250 HHR sold by Aqualon) and hydroxypropylcelluloses (for example Klucel EF from Aqualon); mixed hydroxyalkyl-alkylcelluloses such as hydroxypropylmethylcelluloses (for example Methocel E4M from Dow Chemical), hydroxyethylmethylcelluloses, hydroxyethylethylcelluloses (for example Bermocoll E 481 FQ from Akzo Nobel) and hydroxybutylmethylcelluloses.

Among the anionic cellulose ethers, mention may be made of carboxyalkyl celluloses and salts thereof. Examples that may be mentioned include carboxymethyl celluloses, carboxymethyl methyl celluloses (for example Blanose 7M from the company Aqualon) and carboxymethyl hydroxyethyl celluloses, and also the sodium salts thereof.

Among the cationic cellulose ethers, mention may be made of crosslinked or non-crosslinked quaternized hydroxyethylcelluloses. The quaternizing agent can in particular be diallyldimethylammonium chloride (for example Celquat L200 from National Starch). Mention may be made, as other cationic cellulose ether, of hydroxyethylcellulose hydroxypropyltrimethylammonium (for example Ucare polymer JR 400 from Amerchol).

In one preferred embodiment of the invention, the thickening polymers can be chosen from, alone or as a mixture, bio-heteropolysaccharides also called microbial gums.

For the purposes of the present invention, the term "bio-heteropolysaccharides" is intended to mean substances synthesized by sugar fermentation by microorganisms. The bio-heteropolysaccharides often in particular have units chosen from mannose units, glucose units and glucuronic or galacturonic acids in their chain, these units being optionally acylated.

Mention may be particularly made of xanthan gums (produced by the bacterium *Xanthomonas campestris*) and mutants and variants thereof; xanthan gums (produced by numerous other organisms, including *Leuconostoc mesenteroides* and *Leuconostoc dextranum*); scleroglucan gums (produced by *Sclerotium rolfsii*), gellan gums (produced by *Pseudomonas elodea* or *Sphingomonias*), pullulan gums (produced by *Aureobacidium pullulens*), Curdlar gums (produced by *Alcaligenes* of

Faecalis myxogenes type), grifolan gums (produced by Grifola frondara), lentinan gums (produced by Lentinus edodes), Schizophyllan gums (produced by Schizophyllum commune), spirulinan gums (produced by Spirulina sybsyla) and krestin gums (produced by Coriates versicolor).

- 5 Preferably, use is made of xanthan gums.

The thickening polymers according to the invention may optionally be associative. Mention may be made, among the associative thickening polymers having a sugar unit or sugar units, of celluloses or their derivatives, modified with groups comprising
10 at least one fatty chain, such as alkyl, arylalkyl or alkylaryl groups or their mixtures where the alkyl groups are C₈-C₂₂ groups; non-ionic alkyl hydroxyethylcelluloses, such as the products Natrosol Plus Grade 330 CS and Polysurf 67 (C₁₆ alkyl) sold by the company Aqualon; quaternized alkyl hydroxyethylcelluloses, such as the products Quatrisoft LM 200, Quatrisoft LM-X 529-18-A, Quatrisoft LM-X 529-18-B
15 (C₁₂ alkyl) and Quatrisoft LM-X 529-8 (C₁₈ alkyl) sold by the company Amerchol, the products Crodacel QM, Crodacel QL (C₁₂ alkyl) and Crodacel QS (C₁₈ alkyl) sold by the company Croda, and the product Softcat SL 100 sold by the company Amerchol; non-ionic nonoxynyl hydroxyethylcelluloses, such as the product Amercell HM-1500 sold by the company Amerchol; or non-ionic alkylcelluloses, such as the product
20 Bermocoll EHM 100 sold by the company Berol Nobel.

As associative polymers bearing sugar units derived from guar, mention may be made of hydroxypropyl guar modified with a fatty chain, such as the product Esaflor HM 22 (modified with a C₂₂ alkyl chain) sold by the company Lamberti; the product Miracare XC 95-3 (modified with a C₁₄ alkyl chain) and the product RE 205-146
25 (modified with a C₂₀ alkyl chain) sold by Rhodia Chimie.

Preferably, the thickening polymers according to the invention are chosen from bio-heteropolysaccharides or microbial gums, and in particular from, alone or as a mixture, xanthan gums, scleroglucan gums, gellan gums, pullulan gums, Curdlar gums,
30 grifolan gums, lentinan gums, Schizophyllan gums, spirulinan gums and krestin gums, and also derivatives thereof; preferentially xanthan gums, gellan gums and scleroglucan gums, and derivatives thereof; and most particularly xanthan gums.

The composition according to the invention can comprise said thickening polymer(s)
35 in a total amount ranging from 0.001% to 10% by weight, in particular from 0.01% to 5% by weight and preferentially from 0.02% to 1% by weight, relative to the total weight of the phase which comprises them.

The composition according to the invention can comprise said thickening polymer(s)
40 in a total amount ranging from 0.001% to 10% by weight, in particular from 0.01% to 5% by weight and preferentially from 0.02% to 1% by weight, relative to the total weight of the composition.

Said first phase can also comprise one or more polyols, in particular one or more C₂-C₆, preferably C₂-C₄, diols or triols, such as glycerol, propylene glycol, 1,3-propanediol or butylene glycol.

5 This or these polyol(s) may be present in a total content ranging from 0.01% to 15% by weight, especially from 0.1% to 10% by weight and better still from 0.5% to 5% by weight, relative to the total weight of the phase which comprises them.

The composition according to the invention may comprise this or these polyol(s) in a total content ranging from 0.01% to 15% by weight, in particular from 0.1% to 10% by weight and better still from 0.5% to 5% by weight relative to the total weight of
10 the composition.

Said first phase, preferably aqueous phase, can also comprise one or more salts, in particular one or more organic or inorganic acid salts, preferably one or more inorganic acid salts; in particular of alkali or alkaline-earth metals, such as hydrochloric
15 acid salts, preferably sodium chloride.

This or these salt(s) may be present in a total content ranging from 0.01% to 5% by weight, in particular from 0.1% to 2% by weight, relative to the total weight of the phase which comprises them.

20 2/ Oily phase

The composition according to the invention comprises at least one second phase which comprises several particular plant oils.

This second phase, which can be referred to without distinction, and interchangeably and equivalently, as fatty phase or oily phase, is advantageously anhydrous, that
25 is to say it preferably comprises less than 5% by weight of water, in particular less than 2% by weight of water, relative to the total weight of said phase, and advantageously does not comprise water (0%).

Said fatty phase comprises one or more plant oils of triglyceride type, of which the
30 content of fatty acid having a carbon-chain length equal to 12 (C₁₂ fatty acid) is greater than or equal to 40% by weight, relative to the total weight of fatty acids of said triglycerides of said oil.

It is well known that plant oils comprise mainly triglycerides, which are esters of
35 glycerol in which, generally, the three hydroxyl groups of the glycerol are esterified with fatty acids, in particular C₈-C₂₂ acids.

The plant oils that can be used in the context of the present invention are triglycerides, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight, relative to the total weight of fatty acids of said triglycerides.
40

Said fatty phase also comprises one or more additional plant oils of triglyceride type, different from the plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight, relative to the total weight of fatty acids of said triglycerides of said oil.

Preferably, said fatty phase comprises at least three different plant oils of triglyceride type, including at least one plant oil of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight, relative to the total weight of fatty acids of said triglycerides of said oil.

In a first particular embodiment of the invention, said fatty phase comprises:

- one or more plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight, and
- one or more plant oils of triglyceride type, the C₁₈ fatty acid content of which is greater than or equal to 40% by weight, preferably greater than or equal to 60% by weight.

In a second particular embodiment of the invention, said fatty phase comprises:

- one or more plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight, and
- one or more plant oils of triglyceride type, the C₂₀ fatty acid content of which is greater than or equal to 40% by weight, preferably greater than or equal to 60% by weight.

In a more preferred embodiment of the invention, said fatty phase comprises:

- one or more plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight,
- one or more plant oils of triglyceride type, the C₁₈ fatty acid content of which is greater than or equal to 40% by weight, preferably greater than or equal to 60% by weight; and
- one or more plant oils of triglyceride type, the C₂₀ fatty acid content of which is greater than or equal to 40% by weight, preferably greater than or equal to 60% by weight.

In these embodiments, the fatty acid percentage is indicated by weight, relative to the total weight of fatty acids of said triglycerides of said oil.

The fatty (or oily) phase preferably comprises a total content of plant oils of triglyceride type of greater than or equal to 90% by weight of said oily phase. It comprises in particular from 90% to 100% by weight, in particular from 95% to 99% by weight, relative to the total weight of said phase, of one or more plant oils of triglyceride type.

Preferably, the fatty (or oily) phase comprises from 0.1% to 20% by weight, in particular from 0.5% to 15% by weight, or even from 1% to 10% by weight, relative to the total weight of said phase, of one or more plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight.

When it (they) is (are) present, the fatty (or oily) phase preferably comprises from 20% to 80% by weight, in particular from 30% to 70% by weight, or even from 40% to 65% by weight, even better still from 50% to 60% by weight, relative to the total weight of said phase, of one or more plant oils of triglyceride type, the C₁₈ fatty acid content of which is greater than or equal to 40% by weight.

When it (they) is (are) present, the fatty (or oily) phase preferably comprises from 5% to 60% by weight, in particular from 10% to 50% by weight, or even from 20% to 40% by weight, even better still from 30% to 40% by weight, relative to the total weight of said phase, of one or more plant oils of triglyceride type, the C₂₀ fatty acid content of which is greater than or equal to 40% by weight.

The composition according to the invention may comprise a total content of plant oils of triglyceride type ranging from 1% to 50% by weight, preferably from 5% to 30% by weight and better still from 10% to 30% by weight relative to the total weight of the composition.

Among the plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight, that can be used in the context of the invention, mention may be made of coconut oil, also called copra oil (INCI: COCOS NUCIFERA (COCONUT) OIL).

Among the plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight, that can be used in the context of the invention, mention may be made of:

- avocado oil (INCI name: PERSEA GRATISSIMA (AVOCADO) OIL),
 - argan oil (INCI name: ARGANIA SPINOSA KERNEL OIL)
 - camellia oil (INCI name: CAMELLIA OLEIFERA SEED OIL)
 - olive oil (INCI name: OLEA EUROPA OIL)
 - cottonseed oil (INCI name: GOSSYPIUM HERBACUM OIL)
 - rice bran oil (INCI name: ORYZA SATIVA BRAN OIL)
 - maize germ oil (INCI name: ZEA MAYS GERM OIL)
 - wheat germ oil (INCI name: TRITICUM VULGARE GERM OIL)
 - passionflower oil (INCI name: PASSIFLORA INCARNATA SEED OIL)
 - soya bean oil (INCI name: GLYCINE SOJA OIL)
- Preferably, avocado oil and/or argan oil are used.

Among the plant oils of triglyceride type, the C₂₀ fatty acid content of which is greater than or equal to 40% by weight, that can be used in the context of the invention, mention may be made of jojoba oil (INCI name: SIMMONDSIA CHINENSIS (JOJOBA) SEED OIL).

Preferably, the oily phase advantageously comprises coconut oil, alone or as a mixture with at least one oil chosen from argan oil, avocado oil and jojoba oil; better still

coconut oil as a mixture with at least one oil chosen from argan oil and/or avocado oil; and even better still coconut oil, jojoba oil and at least one oil chosen from avocado oil and/or argan oil.

5 3/ Composition

The composition according to the invention comprises at least two visually distinct phases as defined above, which are preferably located one above the other.

10 The composition according to the invention can comprise more than two visually distinct phases, but it preferentially comprises only two visually distinct phases, one aqueous phase and one fatty (or oily) phase as defined above.

The first phase, preferably aqueous phase, may represent from 20% to 99% by weight, preferably from 30% to 95% by weight, better still from 50% to 90% by weight and even better still from 70% to 85% by weight of the total weight of the composition.

15 The fatty (or oily) phase may represent from 1% to 80% by weight, preferably from 5% to 70% by weight, better still from 10% to 50% by weight and even better still from 15% to 30% by weight of the total weight of the composition.

20 Preferably, the composition according to the invention does not comprise any silicone-comprising fatty substance (less than 1% by weight, preferably 0%) and does not comprise any mineral oil (less than 1% by weight, preferably 0%). The term "silicone-comprising fatty substance" is intended to mean an organic compound that is water-insoluble at ordinary atmospheric temperature and pressure (25°C, 1 atm.) (solubility less than 5%, preferably less than 1%, and more preferentially less than 25 0.1%), comprising at least one sequence of at least two siloxane groups. The term "mineral oil" is intended to mean hydrocarbons and in particular alkanes.

30 The pH of the aqueous phase of the composition according to the invention generally ranges from 1 to 7, preferably from 2 to 6, preferentially from 2.5 to 5 and even better still from 3 to 4.5.

The cosmetic composition according to the invention in particular finds a particularly advantageous application in the hair feel, in particular for caring for, strengthening and/or conditioning keratin materials, in particular the hair.

35 The cosmetic composition according to the invention is advantageously in the form of a haircare product, in particular a leave-on care product, such as a two-phase lotion.

40 The cosmetic composition may be thus rinsed off or left on after having been applied to the keratin materials, for example rinsed off with water, after an optional leave-on time. The composition is preferably a leave-on composition.

The competition according to the invention can advantageously be packaged in a pump dispenser bottle.

A subject of the invention is also a cosmetic treatment method, in particular for caring for and/or conditioning keratin materials, in particular the hair, which consists in applying a composition as described above to said keratin materials, and in optionally rinsing, for example with water, after an optional leave-on time. There is preferably no rinsing off.

The present invention is illustrated in greater detail in the examples which follow, in which the amounts are indicated as % by weight of active material (AM = active material).

10

Example 1

The composition according to the invention was prepared from the ingredients indicated in the table below.

Phase A	% by weight
Joboba oil	35
Avocado oil	30
Coconut oil	4
Argan oil	qs 100% of phase A
Phase B	
Xanthan gum	0.5
1,3-propanediol	1
NaCl	0.
Preserving agents	qs
pH agent	qs pH 3.6 ± 0.5
Water	qs 100% of phase B

15

20% by weight of fatty phase A are mixed with 80% by weight of aqueous phase B, and a composition in the two-phase form according to the invention is obtained. This composition can be packaged in a pump dispenser bottle and can then be sprayed onto the head of hair.

20 It is observed that, after application of the composition, the treated hair is less frizzy, in particular when there is high hygrometry (80%); this effect can still be seen 72 hours after application.

Example 2

25 The compositions below were prepared (% by weight).

	Invention	Comparative
Phase A		
Coconut oil	50% of phase A	100% of phase A
Avocado oil	50% of phase A	-
Phase B		
Xanthan gum	0.05	0.05
1,3-propanediol	1	1
NaCl	0.5	0.5
Preserving agents	qs	qs
pH agent	qs pH 3.6 $\pm$ 0.5	qs pH 3.6 $\pm$ 0.5
Water	qs 100% of phase B	qs 100% of phase B

20% by weight of phase A are mixed with 80% by weight of phase B.

- 5 Each of the compositions thus obtained is packaged in a pump dispenser bottle and sprayed onto a lock of moderately sensitized hair, then the locks are left to dry in the open air.

- 10 A lock of hair treated with the composition of the invention is compared with a lock of hair treated with the comparative composition.

10 experts evaluated, blind, the performances in terms of suppleness of the hair:

- the value "+" is given to the lock having the better suppleness
- the value "-" is given to the lock having the worse suppleness
- the value "=" is given when the 2 locks are equivalent in terms of suppleness.

15

Suppleness is evaluated manually (tactile): the expert takes hair with both hands and tries to bend them. The expert tests the ability of hair to bend easily and their malleability.

- 20 The following results are obtained:

	Invention	Comparative
Expert 1	+	-
Expert 2	+	-
Expert 3	-	+

Expert 4	+	-
Expert 5	+	-
Expert 6	+	-
Expert 7	-	+
Expert 8	+	-
Expert 9	+	-
Expert 10	+	-

In 80% of cases, the hair is judged to be suppler when treated with the composition according to the invention.

CLAIMS

1. Multi-phase cosmetic composition comprising at least two visually distinct phases,
5 a first phase comprising one or more thickening polymers, and a second phase comprising:
- one or more plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight, relative to the total weight of fatty acids of said triglycerides of said oil and
10 - one or more additional plant oils of triglyceride type, different from the plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight, relative to the total weight of fatty acids of said triglycerides of said oil.
2. Composition according to the preceding claim, in which said first phase comprises
15 water, in particular at a content greater than or equal to 40% by weight, in particular ranging from 40% to 99.5% by weight, in particular ranging from 50% to 99% by weight and better still ranging from 70% to 98% by weight, relative to the total weight of said phase.
3. Composition according to either of the preceding claims, in which the thickening
20 polymers are chosen from, alone or as a mixture, thickening polymers comprising a sugar unit, in particular thickening polysaccharides, even better still bio-heteropolysaccharides; and most particularly from, alone or as a mixture, xanthan gums, scleroglucan gums, gellan gums, pullulan gums, Curdlar gums, grifolan gums, lenti-
25 nan gums, Schizophyllan gums, spirulinan gums and krestin gums, and also derivatives thereof; preferentially xanthan gums, gellan gums and scleroglucan gums, and derivatives thereof; and most particularly xanthan gums.
4. Composition according to one of the preceding claims, in which said thickening
30 polymer(s) is (are) present in a total amount ranging from 0.001% to 10% by weight, in particular from 0.01% to 5% by weight and preferentially from 0.02% to 1% by weight, relative to the total weight of the phase which comprises them.
5. Composition according to one of the preceding claims, comprising said thickening
35 polymer(s) in a total amount ranging from 0.001% to 10% by weight, in particular from 0.01% to 5% by weight and preferentially from 0.02% to 1% by weight, relative to the total weight of the composition.
6. Composition according to one of the preceding claims, in which said first phase
40 comprises one or more polyols, in particular one or more C₂-C₆, preferably C₂-C₄, diols or triols, such as glycerol, propylene glycol, 1,3-propanediol or butylene glycol; preferably in a total content ranging from 0.01% to 15% by weight, in particular from 0.1% to 10% by weight, better still from 0.5% to 5% by weight, relative to the total

weight of the phase which comprises them, and/or in a total content ranging from 0.01% to 15% by weight, in particular from 0.1% to 10% by weight, better still from 0.5% to 5% by weight, relative to the total weight of the composition.

5 7. Composition according to one of the preceding claims, in which said first phase comprises one or more salts, in particular one or more organic or inorganic acid salts, preferably one or more inorganic acid salts; in particular of alkali or alkaline-earth metals, such as hydrochloric acid salts, preferably sodium chloride; preferably
10 in a total content ranging from 0.01% to 5% by weight, in particular from 0.1% to 2% by weight, relative to the total weight of the phase which comprises them.

8. Composition according to one of the preceding claims, in which said second phase comprises at least three different plant oils of triglyceride type, including at least one plant oil of triglyceride type, the C₁₂ fatty acid content of which is greater
15 than or equal to 40% by weight, relative to the total weight of fatty acids of said triglycerides of said oil.

9. Composition according to one of the preceding claims, in which said second phase comprises a total content of plant oils of triglyceride type of greater than or equal to 90% by weight of said phase; in particular from 90% to 100% by weight, in
20 particular from 95% to 99% by weight, relative to the total weight of said phase, of one or more plant oils of triglyceride type.

10. Composition according to one of the preceding claims, in which said second phase comprises:
25

- 0.1% to 20% by weight, in particular from 0.5% to 15% by weight, or even from 1% to 10% by weight, relative to the total weight of said phase, of one or more plant oils of triglyceride type, the C₁₂ fatty acid content of which is greater than or equal to 40% by weight.

30 - when it (they) is (are) present, from 20% to 80% by weight, in particular from 30% to 70% by weight, or even from 40% to 65% by weight, even better still from 50% to 60% by weight, relative to the total weight of said phase, of one or more plant oils of triglyceride type, the C₁₈ fatty acid content of which is greater than or equal to 40% by weight;

35 - when it (they) is (are) present, from 5% to 60% by weight, in particular from 10% to 50% by weight, or even from 20% to 40% by weight, even better still from 30% to 40% by weight, relative to the total weight of said phase, of one or more plant oils of triglyceride type, the C₂₀ fatty acid content of which is greater than or equal to 40% by weight.

40

11. Composition according to one of the preceding claims, in which said second phase comprises coconut oil, also called copra oil (INCI name: COCOS NUCIFERA (COCONUT) OIL).

12. Composition according to one of the preceding claims, in which said second phase comprises coconut oil, alone or as a mixture with at least one oil chosen from argan oil, avocado oil and jojoba oil; better still coconut oil as a mixture with at least one oil chosen from argan oil and/or avocado oil; and even better still coconut oil, jojoba oil and at least one oil chosen from avocado oil and/or argan oil.

13. Composition according to one of the preceding claims, in which said first phase, preferably aqueous phase, represents from 20% to 99% by weight, preferably from 30% to 95% by weight, better still from 50% to 90% by weight, even better still from 70% to 85% by weight of the total weight of the composition; and said second phase, or oily phase, represents from 1% to 80% by weight, preferably from 5% to 70% by weight, better still from 10% to 50% by weight, even better still from 15% to 30% by weight of the total weight of the composition.

14. Cosmetic treatment process, in particular for caring for and/or conditioning keratin materials, in particular the hair, consisting in applying a composition according to one of Claims 1 to 13 to said keratin materials.

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2018/053736

A. CLASSIFICATION OF SUBJECT MATTER INV. A61Q5/00 A61Q5/12 A61K8/73 A61K8/92 A61K8/03 ADD.		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) A61K A61Q		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE GNPD [Online] MINTEL; 1 November 2016 (2016-11-01), XP002779896, Database accession no. 4391611 the whole document	1,6,8, 11,14
X	DATABASE GNPD [Online] MINTEL; 1 December 2016 (2016-12-01), XP002779897, Database accession no. 4518205 the whole document	1-14
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☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.		
* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search	Date of mailing of the international search report	
11 April 2018	24/05/2018	
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Durand-Oral, Ilknur	

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2018/053736

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	----- US 2012/220510 A1 (CLAPP MANNIE LEE [US] ET AL) 30 August 2012 (2012-08-30) the whole document	1-14
A	----- US 2016/338944 A1 (CHOI RI AN [US] ET AL) 24 November 2016 (2016-11-24) the whole document	1-14
A	----- FR 3 005 859 A1 (OREAL [FR]) 28 November 2014 (2014-11-28) the whole document -----	1-14

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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