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(54) Title: COMPOSITION COMPRISING 12-HYDROXYSTEARIC ACID, AN ORGANIC AMINE AND A LIQUID FATTY SUBSTANCE

(57) **Abstract:** The present invention relates to a cosmetic composition, preferably an aqueous composition, comprising: -12-hydroxystearic acid, -one or more organic amines, -one or more fatty substances that are liquid at room temperature (25°C) and at atmospheric pressure (760 mmHg or 1.013×10^5 Pa), and -optionally one or more dyes.

Composition comprising 12-hydroxystearic acid, an organic amine and a liquid fatty substance

The present invention relates to a cosmetic composition comprising 12-hydroxystearic acid, one or more organic amines, one or more liquid fatty substances and optionally one or more dyes.

The invention also relates to a ready-to-use composition and a kit comprising said cosmetic composition, and to a dyeing/lightening process using said ready-to-use composition.

Many people have for a long time sought to modify the colour of their hair, and notably to dye it, for example in order to mask their grey hair.

In order to dye human keratin fibres durably, “permanent” dyeing methods, also known as oxidation dyeing, have been developed. These methods use dye compositions containing oxidation dye precursors, generally known as oxidation bases, such as ortho- or para-phenylenediamines, ortho- or para-aminophenols and heterocyclic compounds. These oxidation bases are colourless or weakly coloured compounds which, when combined with oxidizing products, can give rise to coloured compounds via a process of oxidative condensation.

It is also known that the shades obtained with these oxidation bases can be varied by combining them with couplers or colour modifiers, the latter being chosen notably from aromatic meta-diaminobenzenes, meta-aminophenols, meta-diphenols and certain heterocyclic compounds such as indole compounds.

The second type of dyeing is “semi-permanent” dyeing or direct dyeing, which consists in applying, to the keratin fibres, direct dyes, which are coloured and colouring molecules that have affinity for said fibres, in leaving them on for a time, and then in rinsing them off.

In order to perform these dyeing operations, the direct dyes generally used are chosen from nitrobenzene, anthraquinone, nitropyridine, azo, xanthene, acridine, azine and triarylmethane direct dyes, and natural dyes.

Compositions containing one or more direct dye(s) are applied to the keratin fibres for a time necessary to obtain the desired colouring, and are then rinsed off. The colourings that result therefrom are generally chromatic colourings but are, however, temporary or semi-permanent since the nature of the interactions that bind the direct dyes to the keratin fibre and their desorption from the surface and/or the core of the fibre are responsible for their weak dyeing power and their poor persistence with respect to washing or perspiration.

To improve this direct dyeing, it has been proposed to perform it like oxidation dyeing in the presence of oxidizing agents. This is then referred to as lightening direct dyeing.

The dye compositions are generally in the form of solutions, gels or more or less fluid creams. However, the working qualities and the stability of these compositions remain to be improved. Now, cosmetic product users are in search of products that are pleasant to use, which spread well and which are easy to rinse out.

Moreover, after each type of dyeing, the dye compositions are generally rinsed out and the hair is then washed to remove the residues of dye compositions that are still present. It is also often necessary to apply a care product to the hair which has just been dyed, to improve its feel.

The Applicant has now discovered that a composition, preferably an aqueous composition, comprising 12-hydroxystearic acid, one or more organic amines and one or more liquid fatty substances, used in a dyeing process, makes it possible to obtain a texture with good working qualities, notably as regards the ease of application and the ease of rinsing, without any risk of running, whether it is used alone, sequentially or as a mixture with an oxidizing composition.

In addition, they are very easy to rinse out.

Furthermore, hair treated with the composition according to the invention which comprises dyes has an equivalent feel to dyed hair which has been treated with a conventional dye composition and then with a care composition such as a conditioner, notably in terms of softness, suppleness and smooth feel.

Furthermore, the compositions according to the invention are stable over time.

For the purposes of the present invention, the term “stable over time" means that the visual appearance and the viscosity of the compositions does not change, or does not substantially change (variation generally less than 10% relative to the viscosity at T0), over time under standard or non-standard storage conditions, for example over the month or the two months following their manufacture, at 4°C, at room temperature (25°C), at 45°C, and up to temperatures of 60°C. It also means that the performance obtained does not change, or does not substantially change, following a period of storage of the formulations.

In the presence of dyes, notably oxidation dyes, the composition according to the invention leads to good dyeing performance, notably in terms of colour build-up and intensity, and selectivity.

One subject of the present invention is thus a cosmetic composition, preferably an aqueous composition, comprising 12-hydroxystearic acid, one or more organic amines and one or more fatty substances that are liquid at room temperature (25°C) and atmospheric pressure (760 mmHg or 1.013×10^5 Pa), and optionally one or more dyes.

The invention also relates to a ready-to-use composition for the oxidation dyeing/lightening of keratin fibres and in particular of human keratin fibres such as the hair, comprising the extemporaneous mixing of a cosmetic composition (A) according to the invention and of an oxidizing composition (B).

Another subject of the invention is a dyeing/lightening kit comprising, firstly, a cosmetic composition (A) according to the invention and, secondly, an oxidizing composition (B).

A subject of the invention is also a process for dyeing/lightening keratin fibres, notably human keratin fibres such as the hair, using said ready-to-use composition.

Other characteristics and advantages of the invention will emerge more clearly on reading the description and the examples that follow.

In the text hereinbelow, unless otherwise indicated, the limits of a range of values are included in that range, notably in the expressions “between” and “ranging from ... to ...".

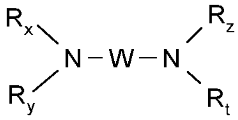
Moreover, the expression “at least one” used in the present description is equivalent to the expression “one or more”.

According to the invention, the cosmetic composition comprises 12-hydroxystearic acid, one or more organic amines and one or more fatty substances that are liquid at room temperature (25°C) and atmospheric pressure.

Preferably, the 12-hydroxystearic acid is present in an amount ranging from 0.1% to 40% by weight, better still from 1% to 30% by weight and even better still from 5% to 25% by weight, relative to the total weight of the composition.

The organic amine(s) are preferably chosen from organic amines with a pK_b at 25°C of less than 12, preferably less than 10 and even more advantageously less than 6. It should be noted that it is the pK_b corresponding to the function of highest basicity. In addition, the organic amines do not comprise an alkyl or alkenyl fatty chain comprising more than ten carbon atoms.

The organic amine(s) are chosen, for example, from alkanolamines, oxyethylenated and/or oxypropylenated ethylenediamines, amino acids and the compounds of formula (P) below:



(P)

in which W is a divalent C_1 to C_6 alkylene group optionally substituted with one or more hydroxyl groups or a C_1 to C_6 alkyl group, and/or optionally interrupted with one or more heteroatoms such as O, or NR_u; R_x, R_y, R_z, R_t, and R_u, which may be identical or different, represent a hydrogen atom, a C_1 to C_6 alkyl or C_1 to C_6 hydroxyalkyl or C_1 to C_6 aminoalkyl group.

Examples of amines of formula (P) that may be mentioned include 1,3-diaminopropane, 1,3-diamino-2-propanol, spermine and spermidine.

The term “alkanolamine” means an organic amine comprising a primary, secondary or tertiary amine function, and one or more linear or branched C_1 to C_8 alkyl groups bearing one or more hydroxyl radicals.

Alkanolamines chosen from monoalkanolamines, dialkanolamines or trialkanolamines comprising from one to three identical or different C_1 to C_4 hydroxyalkyl radicals are in particular suitable for performing the invention.

Among the compounds of this type, mention may be made of monoethanolamine (MEA), diethanolamine, triethanolamine, monoisopropanolamine, diisopropanolamine, N,N-dimethylethanolamine, 2-amino-2-methyl-1-propanol, triisopropanolamine, 2-amino-2-methyl-1,3-propanediol, 3-amino-1,2-propanediol, 3-dimethylamino-1,2-propanediol and tris(hydroxymethylamino)methane.

More particularly, the amino acids that may be used are of natural or synthetic origin, in their L, D or racemic form, and include at least one acid function chosen more particularly from carboxylic acid, sulfonic acid, phosphonic acid and phosphoric acid functions. The amino acids can be in neutral or ionic form.

As amino acids that may be used in the composition according to the present invention, mention may notably be made of aspartic acid, glutamic acid, alanine, arginine, ornithine, citrulline, asparagine, carnitine, cysteine, glutamine, glycine, histidine, lysine, isoleucine, leucine, methionine, N-phenylalanine, proline, serine, taurine, threonine, tryptophan, tyrosine and valine.

Advantageously, the amino acids are basic amino acids comprising an additional amine function optionally included in a ring or in a ureido function.

Such basic amino acids are preferably chosen from those corresponding to formula (Q) below, and also the salts thereof

$$R\text{-}CH_2\text{-}CH(NH_2)\text{-}C(O)\text{-}OH \qquad (Q)$$

in which R represents a group chosen from imidazolyl, preferably imidazolyl-4-yl; aminopropyl; aminoethyl; $-(CH_2)_2N(H)\text{-}C(O)\text{-}NH_2$; and $–(CH_2)_2\text{-}N(H)\text{-}C(NH)\text{-}NH_2$.

The compounds corresponding to formula (Q) are histidine, lysine, arginine, ornithine and citrulline.

The organic amine may also be chosen from organic amines of heterocyclic type. Besides histidine that has already been mentioned in the amino acids, mention may in particular be made of pyridine, piperidine, imidazole, triazole, tetrazole and benzimidazole.

The organic amine may also be chosen from amino acid dipeptides. As amino acid dipeptides that may be used in the present invention, mention may be made notably of carnosine, anserine and balenine.

The organic amine may also be chosen from compounds including a guanidine function. As amines of this type that may be used in the present invention, besides arginine, which has already been mentioned as an amino acid, mention may be made notably of creatine, creatinine, 1,1-dimethylguanidine, 1,1-diethylguanidine, glycocyamine, metformin, agmatine, n-amidinoalanine, 3-guanidinopropionic acid, 4-guanidinobutyric acid and 2-([amino(imino)methyl]amino)ethane-1-sulfonic acid.

Hybrid compounds that may be mentioned include the salts of the amines mentioned previously with acids such as carbonic acid or hydrochloric acid.

Guanidine carbonate or monoethanolamine hydrochloride may be used in particular.

Preferably, the organic amine(s) present in the composition according to the invention are chosen from alkanolamines, amino acids in neutral or ionic form, in particular basic amino acids, and preferably corresponding to those of formula (Q), and guanidine carbonate.

More preferentially, the organic amine(s) present in the composition according to the invention are chosen from monoethanolamine (MEA), diethanolamine, triethanolamine, monoisopropanolamine, diisopropanolamine, 2-amino-2-methyl-1-propanol, 2-amino-2-methyl-1,3-propanediol, tris(hydroxymethylamino)methane, arginine, lysine, guanidine carbonate, and mixtures thereof.

The organic amine(s) are preferably present in an amount ranging from 0.1% to 20% by weight, preferably from 1% to 10% by weight and better still from 2% to 8% by weight, relative to the total weight of the composition.

The composition of the invention comprises one or more fatty substances that are liquid at room temperature (25°C) and at atmospheric pressure (760 mmHg or 1.013×10^5 Pa). These liquid fatty substances are generally referred to as oils.

The term “fatty substance” means an organic compound that is insoluble in water at ordinary temperature (25°C) and at atmospheric pressure (760 mmHg or 1.013×10^5 Pa) (solubility of less than 5%, preferably of less than 1% and even more preferentially of less than 0.1%). They bear in their structure at least one hydrocarbon-based chain including at least 6 carbon atoms or a sequence of at least two siloxane groups. In addition, the fatty substances are generally soluble in organic solvents under the same temperature and pressure conditions, for instance chloroform, dichloromethane, carbon tetrachloride, ethanol, benzene, toluene, tetrahydrofuran (THF), liquid petroleum jelly or decamethylcyclopentasiloxane.

The fatty substances of the invention do not contain any salified carboxylic acid groups.

In particular, the fatty substances of the invention are not (poly)oxyalkylenated or (poly)glycerolated ethers.

The term “oil” refers to a “fatty substance” that is liquid at room temperature (25°C) and at atmospheric pressure (760 mmHg or 1.013×10^5 Pa).

The term “non-silicone oil or fatty substance” refers to an oil or a fatty substance not containing any silicon (Si) atoms and the term “silicone oil or fatty substance” refers to an oil or a fatty substance containing at least one silicon atom.

More particularly, the fatty substances are chosen from C6-C16 liquid hydrocarbons, liquid hydrocarbons comprising more than 16 carbon atoms, non-silicone oils of animal origin, oils of triglyceride type of plant or synthetic origin, fluoro oils, liquid fatty alcohols, liquid fatty acid and/or fatty alcohol esters other than triglycerides, and silicone oils, and mixtures thereof.

It is recalled that the fatty alcohols, esters and acids more particularly contain at least one saturated or unsaturated, linear or branched hydrocarbon-based group, comprising 6 to 30 and better still from 8 to 30 carbon atoms, which is optionally substituted, in particular, with one or more hydroxyl groups (in particular 1 to 4). If they are unsaturated, these compounds may comprise one to three conjugated or unconjugated carbon-carbon double bonds.

As regards the C6-C16 liquid hydrocarbons, they are linear, branched, optionally cyclic, and are preferably alkanes. Examples that may be mentioned include hexane, cyclohexane, undecane, dodecane, isododecane, tridecane or isoparaffins, such as isohexadecane or isodecane, and mixtures thereof.

The linear or branched hydrocarbons of mineral or synthetic origin comprising more than 16 carbon atoms are preferably chosen from liquid paraffins, petroleum jelly, liquid petroleum jelly, polydecenes and hydrogenated polyisobutene such as Parleam®, and mixtures thereof.

A hydrocarbon-based oil of animal origin that may be mentioned is perhydrosqualene.

The triglyceride oils of plant or synthetic origin are preferably chosen from liquid fatty acid triglycerides including from 6 to 30 carbon atoms, for instance heptanoic or octanoic acid triglycerides, or alternatively, for example, sunflower oil, corn oil, soybean oil, marrow oil, grapeseed oil, sesame seed oil, hazelnut oil, apricot oil, macadamia oil, arara oil, castor oil, avocado oil, caprylic/capric acid triglycerides, for instance those sold by the company Stéarinerie Dubois or those sold under the names Miglyol® 810, 812 and 818 by the company Dynamit Nobel, jojoba oil and shea butter oil, and mixtures thereof.

As regards the fluoro oils, they may be chosen from perfluoromethylcyclopentane and perfluoro-1,3-dimethylcyclohexane, sold under the names Flutec® PC1 and Flutec® PC3 by the company BNFL Fluorochemicals; perfluoro-1,2-dimethylcyclobutane; perfluoroalkanes such as dodecafluoropentane and tetradecafluorohexane, sold under the names PF 5050® and PF 5060® by the company 3M, or bromoperfluorooctyl sold under the name Foralkyl® by the company Atochem; nonafluoromethoxybutane and nonafluoroethoxyisobutane;

perfluoromorpholine derivatives such as 4-trifluoromethylperfluoromorpholine sold under the name PF 5052® by the company 3M.

The liquid fatty alcohols that are suitable for use in the invention are more particularly chosen from linear or branched, saturated or unsaturated alcohols including from 6 to 30 carbon atoms and preferably from 8 to 30 carbon atoms. Examples that may be mentioned include octyldodecanol, 2-butyloctanol, 2-hexyldecanol, 2-undecylpentadecanol, isostearyl alcohol, oleyl alcohol, linolenyl alcohol, ricinoleyl alcohol, undecylenyl alcohol and linoleyl alcohol, and mixtures thereof.

As regards the liquid esters of fatty acids and/or of fatty alcohols, other than the triglycerides mentioned previously, mention may be made notably of esters of saturated or unsaturated, linear C1-C26 or branched C3-C26 aliphatic mono- or polyacids and of saturated or unsaturated, linear C1-C26 or branched C3-C26 aliphatic mono- or polyalcohols, the total carbon number of the esters being greater than or equal to 6 and more advantageously greater than or equal to 10.

Preferably, for the esters of monoalcohols, at least one from among the alcohol and the acid from which the esters of the invention are derived is branched.

Among the monoesters, mention may be made of dihydroabietyl behenate; octyldodecyl behenate; isocetyl behenate; isostearyl lactate; lauryl lactate; linoleyl lactate; oleyl lactate; isostearyl octanoate; isocetyl octanoate; octyl octanoate; decyl oleate; isocetyl isostearate; isocetyl laurate; isocetyl stearate; isodecyl octanoate; isodecyl oleate; isononyl isononanoate; isostearyl palmitate; methyl acetyl ricinoleate; octyl isononanoate; 2-ethylhexyl isononanoate; octyldodecyl erucate; oleyl erucate; ethyl palmitate, isopropyl palmitate, 2-ethylhexyl palmitate, 2-octyldecyl palmitate, alkyl myristates such as isopropyl 2-octyldodecyl myristate, isobutyl stearate; 2-hexyldecyl laurate, and mixtures thereof.

Preferably, among the monoesters of monoacids and of monoalcohols, use will be made of ethyl palmitate, isopropyl palmitate, alkyl myristates such as isopropyl myristate or ethyl myristate, isocetyl stearate, 2-ethylhexyl isononanoate, isodecyl neopentanoate and isostearyl neopentanoate, and mixtures thereof.

Still within the context of this variant, esters of C4-C22 dicarboxylic or tricarboxylic acids and of C1-C22 alcohols and esters of monocarboxylic, dicarboxylic or tricarboxylic acids and of C2-C26 dihydroxy, trihydroxy, tetrahydroxy or pentahydroxy alcohols may also be used.

Mention may notably be made of: diethyl sebacate; diisopropyl sebacate; diisopropyl adipate; di-n-propyl adipate; dioctyl adipate; diisostearyl adipate; dioctyl maleate; glyceryl undecylenate; octyldodecyl stearoyl stearate; pentaerythrityl monoricinoleate; pentaerythrityl tetraisononanoate; pentaerythrityl tetrapelargonate; pentaerythrityl tetraisostearate; pentaerythrityl tetraoctanoate; propylene glycol dicaprylate; propylene glycol dicaprate; tridecyl erucate; triisopropyl citrate; triisostearyl citrate; glyceryl trilactate; glyceryl trioctanoate; trioctyldodecyl citrate; trioleyl citrate; propylene glycol dioctanoate; neopentyl glycol diheptanoate; diethylene glycol diisononanoate; and polyethylene glycol distearates, and mixtures thereof.

The composition may also comprise, as fatty ester, sugar esters and diesters of C6-C30 and preferably C12-C22 fatty acids. It is recalled that the term "sugar" refers to oxygen-bearing hydrocarbon-based compounds bearing several alcohol functions, with or without aldehyde or ketone functions, and which include at least 4 carbon atoms. These sugars may be monosaccharides, oligosaccharides or polysaccharides.

Examples of suitable sugars that may be mentioned include sucrose, glucose, galactose, ribose, fucose, maltose, fructose, mannose, arabinose, xylose and lactose, and derivatives thereof, notably alkyl derivatives, such as methyl derivatives, for instance methylglucose.

The sugar esters of fatty acids may be notably chosen from the group comprising the esters or mixtures of esters of sugars described previously and of linear or branched, saturated or unsaturated C6-C30 and preferably C12-C22 fatty acids. If they are unsaturated, these compounds may comprise one to three conjugated or unconjugated carbon-carbon double bonds.

The esters according to this variant may also be chosen from mono-, di-, tri- and tetraesters, polyesters, and mixtures thereof.

These esters may be, for example, oleates, laurates, palmitates, myristates, behenates, cocoates, stearates, linoleates, linolenates, caprates and arachidonates, or mixtures thereof such as, notably, oleopalmitate, oleostearate and palmitostearate mixed esters.

More particularly, use is made of monoesters and diesters and notably sucrose, glucose or methylglucose mono- or di- oleates, stearates, behenates, oleopalmitates, linoleates, linolenates and oleostearates, and mixtures thereof.

An example that may be mentioned is the product sold under the name Glucate® DO by the company Amerchol, which is a methylglucose dioleate.

Preferably, use will be made of a liquid ester of a monoacid and of a monoalcohol.

The silicones that may be used in the composition of the present invention are volatile or non-volatile, cyclic, linear or branched silicones, which are unmodified or modified with organic groups, having a viscosity from 5×10^{-6} to 2.5 m^2/s at 25°C, and preferably 1×10^{-5} to 1 m^2/s.

The silicones that may be used in accordance with the invention are in the form of oils.

Preferably, the silicone is chosen from liquid polydialkylsiloxanes, notably liquid polydimethylsiloxanes (PDMSs), and liquid polyorganosiloxanes including at least one aryl group.

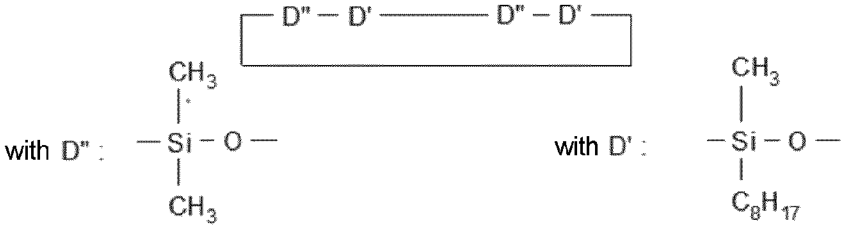
These silicones may also be organomodified. The organomodified silicones that may be used in accordance with the invention are liquid silicones as defined previously and including in their structure one or more organofunctional groups attached via a hydrocarbon-based group, chosen, for example, from amine groups and alkoxy groups.

Organopolysiloxanes are defined in greater detail in Walter Noll's *Chemistry and Technology of Silicones* (1968), Academic Press. They may be volatile or non-volatile.

When they are volatile, the silicones are more particularly chosen from those with a boiling point of between 60°C and 260°C, and even more particularly from:

(i) cyclic polydialkylsiloxanes including from 3 to 7 and preferably from 4 to 5 silicon atoms. These are, for example, octamethylcyclotetrasiloxane notably sold under the name Volatile Silicone® 7207 by Union Carbide or Silbione® 70045 V2 by Rhodia, decamethylcyclopentasiloxane sold under the name Volatile Silicone® 7158 by Union Carbide, and Silbione® 70045 V5 by Rhodia, and mixtures thereof.

Mention may also be made of cyclocopolymers of the dimethylsiloxane/methylalkylsiloxane type, such as Silicone Volatile® FZ 3109 sold by the company Union Carbide, of formula:



Mention may also be made of mixtures of cyclic polydialkylsiloxanes with organosilicon compounds, such as the mixture of octamethylcyclotetrasiloxane and tetra(trimethylsilyl)pentaerythritol (50/50) and the mixture of octamethylcyclotetrasiloxane and oxy-1,1'-bis(2,2,2',2',3,3'-hexatrimethylsilyloxy)neopentane;

(ii) linear volatile polydialkylsiloxanes containing 2 to 9 silicon atoms and having a viscosity of less than or equal to 5×10^{-6} m^2/s at 25°C. An example is decamethyltetrasiloxane sold notably under the name SH 200 by the company Toray Silicone. Silicones falling within this category are also described in the article published in Cosmetics and Toiletries, Vol. 91, Jan. 76, pages 27-32 - Todd & Byers *Volatile Silicone Fluids for Cosmetics*.

Non-volatile polydialkylsiloxanes are preferably used.

These silicones are more particularly chosen from polydialkylsiloxanes, among which mention may be made mainly of polydimethylsiloxanes bearing trimethylsilyl end groups. The viscosity of the silicones is measured at 25°C according to the standard ASTM 445, Appendix C.

Among these polydialkylsiloxanes, mention may be made, in a non-limiting manner, of the following commercial products:

- the Silbione® oils of the 47 and 70 047 series or the Mirasil® oils sold by Rhodia, for instance the oil 70 047 V 500 000;
- the oils of the Mirasil® series sold by the company Rhodia;
- the oils of the 200 series from the company Dow Corning, such as DC200, with a viscosity of 60 000 mm^2/s;
- the Viscasil® oils from General Electric and certain oils of the SF series (SF 96, SF 18) from General Electric.

Mention may also be made of polydimethylsiloxanes bearing dimethylsilanol end groups, known under the name dimethiconol (CTFA), such as the oils of the 48 series from the company Rhodia.

The organomodified silicones that may be used in accordance with the invention are silicones as defined previously and comprising in their structure one or more organofunctional groups attached via a hydrocarbon-based group.

As regards the liquid polyorganosiloxanes including at least one aryl group, they may notably be polydiphenylsiloxanes, and polyalkylarylsiloxanes functionalized with the organofunctional groups mentioned previously.

The polyalkylarylsiloxanes are chosen particularly from linear and/or branched polydimethyl/methylphenylsiloxanes and polydimethyl/diphenylsiloxanes with a viscosity ranging from 1×10^{-5} to 5×10^{-2} m^2/s at 25°C.

Among these polyalkylarylsiloxanes, examples that may be mentioned include the products sold under the following names:

. the Silbione® oils of the 70 641 series from Rhodia;

. the oils of the Rhodorsil® 70 633 and 763 series from Rhodia;

. the oil Dow Corning 556 Cosmetic Grade Fluid from Dow Corning;

. the silicones of the PK series from Bayer, such as the product PK20;

. the silicones of the PN and PH series from Bayer, such as the products PN1000 and PH1000;

. certain oils of the SF series from General Electric, such as SF 1023, SF 1154, SF 1250 and SF 1265.

Among the organomodified silicones, mention may be made of polyorganosiloxanes including:

- substituted or unsubstituted amino groups, such as the products sold under the names GP 4 Silicone Fluid and GP 7100 by the company Genesee or the products sold under the names Q2 8220 and Dow Corning 929 or 939 by the company Dow Corning. The substituted amino groups are in particular C_1-C_4 aminoalkyl groups;
- alkoxy groups.

Preferably, the liquid fatty substances according to the invention are non-silicone.

The liquid fatty substances are advantageously chosen from liquid C6-C16 alkanes, liquid hydrocarbons comprising more than 16 carbon atoms, plant oils of triglyceride type, liquid synthetic triglycerides, liquid fatty alcohols, liquid esters of fatty acids and/or of fatty alcohols other than triglycerides, and mixtures thereof.

Preferably, the liquid fatty substance(s) are chosen from liquid petroleum jelly, liquid C6-C16 alkanes, polydecenes, liquid esters of fatty acids and/or of fatty alcohols other than triglycerides, and liquid fatty alcohols, or mixtures thereof, and even more preferentially from liquid petroleum jelly, liquid C6-C16 alkanes and polydecenes.

Even more preferentially, the liquid fatty substances are chosen from liquid petroleum jelly and octyldodecanol.

Needless to say, the composition according to the invention may comprise one or more additional fatty substances other than the liquid fatty substances that have just been described, which are not liquid at room temperature (25°C) and at atmospheric pressure (760 mmHg or 1.013×10^5 Pa).

The composition according to the invention preferably comprises one or more liquid fatty substances in a content ranging from 10% to 90% by weight, preferably from 15% to 80% by weight, better still from 15% to 75% by weight, relative to the total weight of the composition.

As indicated previously, the composition according to the invention may also comprise one or more dyes.

The dyes are chosen from oxidation dyes and direct dyes.

The oxidation dyes that may be used in the present invention are generally chosen from oxidation bases, optionally combined with one or more couplers.

The oxidation bases may be chosen notably from para-phenylenediamines, bis(phenyl)alkylenediamines, para-aminophenols, ortho-aminophenols and heterocyclic bases, and the addition salts thereof.

Among the para-phenylenediamines, examples that may be mentioned include para-phenylenediamine, para-tolylenediamine, 2-chloro-para-phenylenediamine, 2,3-dimethyl-para-phenylenediamine, 2,6-dimethyl-para-phenylenediamine, 2,6-diethyl-para-phenylenediamine, 2,5-dimethyl-para-phenylenediamine, N,N-dimethyl-para-phenylenediamine, N,N-diethyl-para-phenylenediamine, N,N-dipropyl-para-phenylenediamine, 4-amino-N,N-diethyl-3-methylaniline, N,N-bis(β-hydroxyethyl)-para-phenylenediamine, 4-N,N-bis(β-hydroxyethyl)amino-2-methylaniline, 4-N,N–bis(β-hydroxyethyl)amino-2-chloroaniline, 2-β-hydroxyethyl-para-phenylenediamine, 2-fluoro-para-phenylenediamine, 2-isopropyl-para-phenylenediamine, N-(β-hydroxypropyl)-para-phenylenediamine, 2-hydroxymethyl-para-phenylenediamine, 2-hydroxypropyl-1,3-bis(N-hydroxyethyl)-p-phenylenediamine, N,N-dimethyl-3-methyl-para-phenylenediamine, N-ethyl-N-(β-hydroxyethyl)-para-phenylenediamine, N-(β,γ-dihydroxypropyl)-para-phenylenediamine, N-(4'-aminophenyl)-para-phenylenediamine, N-phenyl-para-phenylenediamine, 2-β-hydroxyethyloxy-para-phenylenediamine, 2-β-acetylaminoethyloxy-para-phenylenediamine, N-(β-methoxyethyl)-para-phenylenediamine, 4-aminophenylpyrrolidine, 2-thienyl-para-phenylenediamine, 2-β-hydroxyethylamino-5-aminotoluene and 3-hydroxy-1-(4'-aminophenyl)pyrrolidine, and the addition salts thereof with an acid.

Among the para-phenylenediamines mentioned above, para-phenylenediamine, para-tolylenediamine, N,N-bis(β-hydroxyethyl)-para-phenylenediamine, 2-β-hydroxyethyl-para-phenylenediamine, 2-isopropyl-para-phenylenediamine, 2-hydroxypropyl-1,3-bis(N-hydroxyethyl)-p-phenylenediamine, 2-β-hydroxyethyloxy-para-phenylenediamine, 2,6-dimethyl-para-phenylenediamine, 2,6-diethyl-para-phenylenediamine, 2,3-dimethyl-para-phenylenediamine, N,N-bis(β-hydroxyethyl)-para-phenylenediamine, 2-chloro-para-phenylenediamine and 2-β-acetylaminoethyloxy-para-phenylenediamine, and the addition salts thereof with an acid, are particularly preferred.

Among the bis(phenyl)alkylenediamines, examples that may be mentioned include N,N'-bis(β-hydroxyethyl)-N,N'-bis(4'-aminophenyl)-1,3-diaminopropanol, N,N'-bis(β-hydroxyethyl)-N,N'-bis(4'-aminophenyl)ethylenediamine, N,N'-bis(4-aminophenyl)tetramethylenediamine, N,N'-bis(β-hydroxyethyl)-N,N'-bis(4-aminophenyl)tetramethylenediamine, N,N'-bis(4-methylaminophenyl)tetramethylenediamine, N,N'-bis(ethyl)-N,N'-bis(4'-amino-3'-methylphenyl)ethylenediamine and 1,8-bis(2,5-diaminophenoxy)-3,6-dioxaoctane, and the addition salts thereof.

Among the para-aminophenols, examples that may be mentioned include para-aminophenol, 4-amino-3-methylphenol, 4-amino-3-fluorophenol, 4-amino-3-chlorophenol, 4-amino-3-hydroxymethylphenol, 4-amino-2-methylphenol, 4-amino-2-hydroxymethylphenol, 4-amino-2-methoxymethylphenol, 4-amino-2-aminomethylphenol, 4-amino-2-(β-hydroxyethylaminomethyl)phenol and 4-amino-2-fluorophenol, and the addition salts thereof with an acid.

Among the ortho-aminophenols, examples that may be mentioned include 2-aminophenol, 2-amino-5-methylphenol, 2-amino-6-methylphenol and 5-acetamido-2-aminophenol, and the addition salts thereof.

Among the heterocyclic bases, examples that may be mentioned include pyridine derivatives, pyrimidine derivatives and pyrazole derivatives.

Among the pyridine derivatives that may be mentioned are the compounds described, for example, in patents GB 1 026 978 and GB 1 153 196, for instance 2,5-diaminopyridine, 2-(4-methoxyphenyl)amino-3-aminopyridine and 3,4-diaminopyridine, and the addition salts thereof.

Other pyridine oxidation bases that are useful in the present invention are the 3-aminopyrazolo[1,5-a]pyridine oxidation bases or the addition salts thereof described, for example, in patent application FR 2 801 308. Examples that may be mentioned include pyrazolo[1,5-a]pyrid-3-ylamine, 2-acetylaminopyrazolo[1,5-a]pyrid-3-ylamine, 2-(morpholin-4-yl)pyrazolo[1,5-a]pyrid-3-ylamine, 3-aminopyrazolo[1,5-a]pyridine-2-carboxylic acid, 2-methoxypyrazolo[1,5-a]pyrid-3-ylamine, (3-aminopyrazolo[1,5-a]pyrid-7-yl)methanol, 2-(3-aminopyrazolo[1,5-a]pyrid-5-yl)ethanol, 2-(3-aminopyrazolo[1,5-a]pyrid-7-yl)ethanol, (3-aminopyrazolo[1,5-a]pyrid-2-yl)methanol, 3,6-diaminopyrazolo[1,5-a]pyridine, 3,4-diaminopyrazolo[1,5-a]pyridine, pyrazolo[1,5-a]pyridine-3,7-diamine, 7-(morpholin-4-yl)pyrazolo[1,5-a]pyrid-3-ylamine, pyrazolo[1,5-a]pyridine-3,5-diamine, 5-(morpholin-4-yl)pyrazolo[1,5-a]pyrid-3-ylamine, 2-[(3-aminopyrazolo[1,5-a]pyrid-5-yl)(2-hydroxyethyl)amino]ethanol, 2-[(3-aminopyrazolo[1,5-a]pyrid-7-yl)(2-hydroxyethyl)amino]ethanol, 3-aminopyrazolo[1,5-a]pyridin-5-ol, 3-aminopyrazolo[1,5-a]pyridin-4-ol, 3-aminopyrazolo[1,5-a]pyridin-6-ol, 3-aminopyrazolo[1,5-a]pyridin-7-ol, 2-(2-hydroxyethoxy)-3-aminopyrazolo[1,5-a]pyridine, and 2-(4-methylpiperazinium-1-yl)-3-aminopyrazolo[1,5-a]pyridine chloride, and the addition salts thereof.

Among the pyrimidine derivatives that may be mentioned are the compounds described, for example, in the patents DE 2359399; JP 88-169571; JP 05-63124; EP 0770375 or patent application WO 96/15765, such as 2,4,5,6-tetraaminopyrimidine, 4-hydroxy-2,5,6-triaminopyrimidine, 2-hydroxy-4,5,6-triaminopyrimidine, 2,4-dihydroxy-5,6-diaminopyrimidine, 2,5,6-triaminopyrimidine and the addition salts thereof and the tautomeric forms thereof, when a tautomeric equilibrium exists.

Among the pyrazole derivatives that may be mentioned are the compounds described in patents DE 3843892 and DE 4133957 and patent applications WO 94/08969, WO 94/08970, FR-A-2 733 749 and DE 195 43 988, such as 4,5-diamino-1-methylpyrazole, 4,5-diamino-1-(β-hydroxyethyl)pyrazole, 3,4-diaminopyrazole, 4,5-diamino-1-(4'-chlorobenzyl)pyrazole, 4,5-diamino-1,3-dimethylpyrazole, 4,5-diamino-3-methyl-1-phenylpyrazole, 4,5-diamino-1-methyl-3-phenylpyrazole, 4-amino-1,3-dimethyl-5-hydrazinopyrazole, 1-benzyl-4,5-diamino-3-methylpyrazole, 4,5-diamino-3-tert-butyl-1-methylpyrazole, 4,5-diamino-1-tert-butyl-3-methylpyrazole, 4,5-diamino-1-(β-hydroxyethyl)-3-methylpyrazole, 4,5-diamino-1-ethyl-3-methylpyrazole, 4,5-diamino-1-ethyl-3-(4'-methoxyphenyl)pyrazole, 4,5-diamino-1-ethyl-3-hydroxymethylpyrazole, 4,5-diamino-3-hydroxymethyl-1-methylpyrazole, 4,5-diamino-3-hydroxymethyl-1-isopropylpyrazole, 4,5-diamino-3-methyl-1-isopropylpyrazole, 4-amino-5-(2'-aminoethyl)amino-1,3-dimethylpyrazole, 3,4,5-triaminopyrazole, 1-methyl-3,4,5-triaminopyrazole, 3,5-diamino-1-methyl-4-methylaminopyrazole and 3,5-diamino-4-(β-hydroxyethyl)amino-1-methylpyrazole, and the addition salts thereof. Use may also be made of 4,5-diamino-1-(β-methoxyethyl)pyrazole.

Use will preferably be made of a 4,5-diaminopyrazole and even more preferentially of 4,5-diamino-1-(β-hydroxyethyl)pyrazole and/or a salt thereof.

Pyrazole derivatives that may also be mentioned include diamino-N,N-dihydropyrazolopyrazolones and notably those described in patent application FR-A-2 886 136, such as the following compounds and the addition salts thereof: 2,3-diamino-6,7-dihydro-1H,5H-pyrazolo[1,2-a]pyrazol-1-one, 2-amino-3-ethylamino-6,7-dihydro-1H,5H-pyrazolo[1,2-a]pyrazol-1-one, 2-amino-3-isopropylamino-6,7-dihydro-1H,5H-pyrazolo[1,2-a]pyrazol-1-one, 2-amino-3-(pyrrolidin-1-yl)-6,7-dihydro-1H,5H-pyrazolo[1,2-a]pyrazol-1-one, 4,5-diamino-1,2-dimethyl-1,2-dihydropyrazol-3-one, 4,5-diamino-1,2-diethyl-1,2-dihydropyrazol-3-one, 4,5-diamino-1,2-bis(2-hydroxyethyl)-1,2-dihydropyrazol-3-one, 2-amino-3-(2-hydroxyethyl)amino-6,7-dihydro-1H,5H-pyrazolo[1,2-a]pyrazol-1-one, 2-amino-3-dimethylamino-6,7-dihydro-1H,5H-pyrazolo[1,2-a]pyrazol-1-one, 2,3-diamino-5,6,7,8-tetrahydro-1H,6H-pyridazino[1,2-a]pyrazol-1-one, 4-amino-1,2-diethyl-5-(pyrrolidin-1-yl)-1,2-dihydropyrazol-3-one, 4-amino-5-(3-dimethylaminopyrrolidin-1-yl)-1,2-diethyl-1,2-dihydropyrazol-3-one, 2,3-diamino-6-hydroxy-6,7-dihydro-1H,5H-pyrazolo[1,2-a]pyrazol-1-one.

Use will preferably be made of 2,3-diamino-6,7-dihydro-1H,5H-pyrazolo[1,2-a]pyrazol-1-one and/or a salt thereof.

As heterocyclic bases, use will preferentially be made of 2-(2-hydroxyethoxy)-3-aminopyrazolo[1,5-a]pyridine, 4,5-diamino-1-(β-hydroxyethyl)pyrazole or 2,3-diamino-6,7-dihydro-1H,5H-pyrazolo[1,2-a]pyrazol-1-one and/or a salt thereof.

The couplers that may be used in the present invention may be chosen from those conventionally used for the dyeing of keratin fibres.

Among these couplers, mention may notably be made of meta-phenylenediamines, meta-aminophenols, meta-diphenols, naphthalene-based couplers and heterocyclic couplers, and also the addition salts thereof.

Examples that may be mentioned include 1,3-dihydroxybenzene, 1,3-dihydroxy-2-methylbenzene, 4-chloro-1,3-dihydroxybenzene, 1-hydroxy-3-aminobenzene, 1-methyl-2-hydroxy-4-β-hydroxyethylaminobenzene, 4-amino-2-hydroxytoluene, 5-amino-6-chloro-2-methylphenol, 2,4-diamino-1-(β-hydroxyethyloxy)benzene, 2-amino-4-(β-hydroxyethylamino)-1-methoxybenzene, 1,3-diaminobenzene, 1,3-bis(2,4-diaminophenoxy)propane, 3-ureidoaniline, 3-ureido-1-dimethylaminobenzene, sesamol, 1-β-hydroxyethylamino-3,4-methylenedioxybenzene, α-naphthol, 2-methyl-1-naphthol, 6-hydroxyindole, 4-hydroxyindole, 4-hydroxy-N-methylindole, 2-amino-3-hydroxypyridine, 6-hydroxybenzomorpholine, 3,5-diamino-2,6-dimethoxypyridine, 1-N-(β-hydroxyethyl)amino-3,4-methylenedioxybenzene, 2,6-bis(β-hydroxyethylamino)toluene, 6-hydroxyindoline, 2,6-dihydroxy-4-methylpyridine, 1-H-3-methylpyrazol-5-one, 1-phenyl-3-methylpyrazol-5-one, 2,6-dimethylpyrazolo[1,5-b]-1,2,4-triazole, 2,6-dimethyl[3,2-c]-1,2,4-triazole and 6-methylpyrazolo[1,5-a]benzimidazole, the addition salts thereof with an acid, and mixtures thereof.

In general, the addition salts of the oxidation bases and couplers that may be used in the context of the invention are notably chosen from the addition salts with an acid, such as hydrochlorides, hydrobromides, sulfates, citrates, succinates, tartrates, lactates, tosylates, benzenesulfonates, phosphates and acetates.

The direct dye(s) may be chosen from synthetic direct dyes and natural direct dyes.

A direct dye is understood to be any dye which does not require the presence of a chemical oxidizing agent other than air for colouring.

The term “synthetic direct dye” means any direct dye that does not exist in nature.

Examples of suitable synthetic direct dyes that may be mentioned include azo, methine, carbonyl, azine, xanthene, nitro(hetero)aryl, tri(hetero)arylmethane, (metallo)porphyrin and phthalocyanine direct dyes, alone or as mixtures.

More particularly, the synthetic azo direct dyes include an -N=N- function in which the two nitrogen atoms are not simultaneously part of a ring. However, it is not excluded for one of the two nitrogen atoms of the sequence -N=N- to be part of a ring.

Examples of azo direct dyes that may be mentioned include the following dyes, described in Colour Index International, 3rd edition:

- Disperse Red 17
- Basic Red 22
- Basic Red 76
- Basic Yellow 57
- Basic Brown 16
- Basic Brown 17
- Disperse Black 9.

The direct dyes of the methine family are more particularly compounds comprising at least one sequence chosen from >C=C< and -N=C< in which the two atoms are not simultaneously part of a ring. However, it is pointed out that one of the nitrogen or carbon atoms of the sequences may be part of a ring.

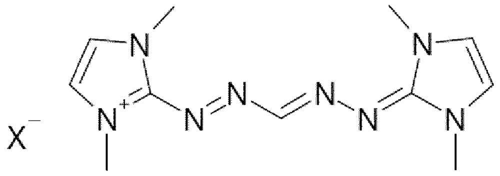
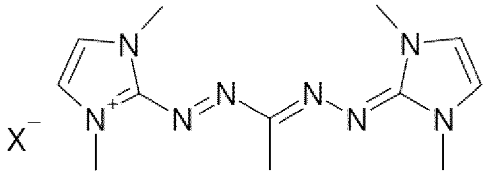
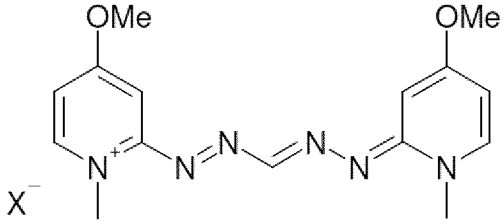
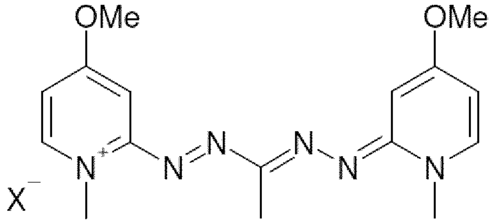
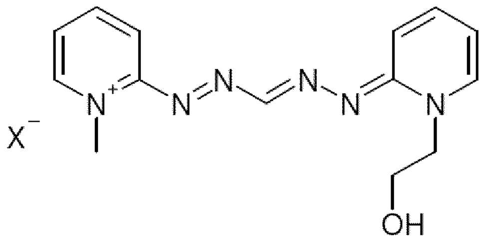
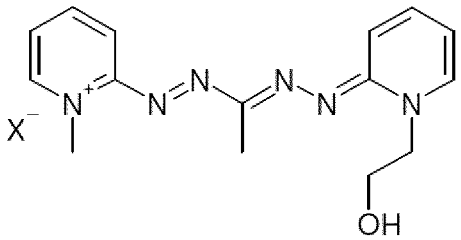
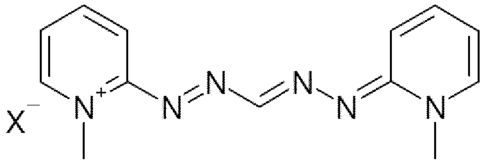
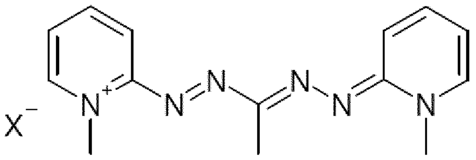
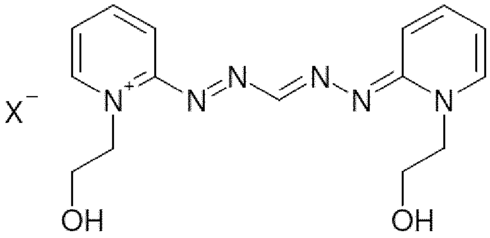
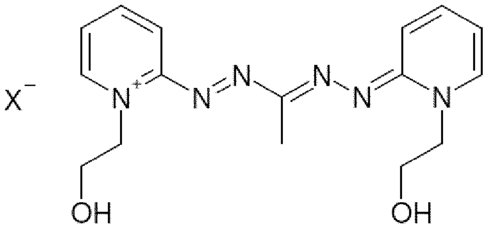
More particularly, the methine dyes are derived from methine, azomethine, hydrazono, mono- and diarylmethane, indoamine (or diphenylamine), indophenol, indoaniline and (hemi)cyanine compounds, such as styryl, streptocyanine, carbocyanine, azacarbocyanine, diazacarbocyanine and tetraazacarbocyanine, such as tetraazapentamethine, dyes, and the optical and geometrical isomers thereof.

Among the azo, azomethine, methine or tetraazapentamethine direct dyes that may be used according to the invention, mention may be made of the cationic dyes described in patent applications WO 95/15144, WO 95/01772 and EP 714954; FR 2189006, FR 2285851, FR 2140205, EP 1378544, EP 1674073.

Among the indoamine dyes that may be used according to the invention, mention may be made of the following compounds:

- 2-β-hydroxyethylamino-5-[bis(β-4'-hydroxyethyl)amino]anilino-1,4-benzoquinone
- 2-β-hydroxyethylamino-5-(2'-methoxy-4'-amino)anilino-1,4-benzoquinone
- 3-N-(2'-chloro-4'-hydroxy)phenylacetylamino-6-methoxy-1,4-benzoquinone imine
- 3-N-(3'-chloro-4'-methylamino)phenylureido-6-methyl-1,4-benzoquinone imine
- 3-[4'-N-(ethyl,carbamylmethyl)amino]phenylureido-6-methyl-1,4-benzoquinone imine.

Among the tetraazapentamethine dyes that may be used according to the invention, mention may be made of the following compounds featured in the table below:

X^- representing an anion preferably chosen from chloride, iodide, methyl sulfate, ethyl sulfate, acetate and perchlorate.

As regards the synthetic direct dyes of the carbonyl family, examples that may be mentioned include dyes chosen from quinone, acridone, benzoquinone, anthraquinone, naphthoquinone, benzanthrone, anthranthrone, pyranthrone, pyrazolanthrone, pyrimidinoanthrone, flavanthrone, idanthrone, flavone, (iso)violanthrone, isoindolinone, benzimidazolone, isoquinolinone, anthrapyridone, pyrazoloquinazolone, perinone, quinacridone, quinophthalone, indigoid, thioindigo, naphthalimide, anthrapyrimidine, diketopyrrolopyrrole and coumarin dyes.

Among the quinone direct dyes, mention may be made of the following dyes:

- Disperse Red 15
- Solvent Violet 13
- Disperse Violet 1
- Disperse Violet 4
- Disperse Blue 1
- Disperse Violet 8
- Disperse Blue 3
- Disperse Red 11
- Disperse Blue 7
- Basic Blue 22
- Disperse Violet 15
- Basic Blue 99

and also the following compounds:

- 1-N-methylmorpholiniumpropylamino-4-hydroxyanthraquinone
- 1-aminopropylamino-4-methylaminoanthraquinone
- 1-aminopropylaminoanthraquinone
- 5-β-hydroxyethyl-1,4-diaminoanthraquinone
- 2-aminoethylaminoanthraquinone
- 1,4-bis(β,γ-dihydroxypropylamino)anthraquinone.

As regards the synthetic direct dyes of the azine family, mention may be made notably of azine, fluorindine, acridine, (di)oxazine and (di)thiazine dyes.

Examples of azine dyes that may be mentioned include the following compounds:

- Basic Blue 17
- Basic Red 2.

As regards the synthetic direct dyes of the xanthene family, mention may be made notably of xanthene, thioxanthene and pyronine dyes.

The nitro(hetero)aryl synthetic direct dyes are more particularly nitrobenzene or nitropyridine direct dyes.

Among the nitrobenzene direct dyes that may be used according to the invention, mention may be made in a non-limiting manner of the following compounds:

- 1,4-diamino-2-nitrobenzene;
- 1-amino-2 nitro-4-β-hydroxyethylaminobenzene
- 1-amino-2-nitro-4-bis(β-hydroxyethyl)aminobenzene
- 1,4-bis(β-hydroxyethylamino)-2-nitrobenzene
- 1-β-hydroxyethylamino-2-nitro-4-bis(β-hydroxyethylamino)benzene
- 1-β-hydroxyethylamino-2-nitro-4-aminobenzene
- 1-β-hydroxyethylamino-2-nitro-4-(ethyl)(β-hydroxyethyl)aminobenzene
- 1-amino-3-methyl-4-β-hydroxyethylamino-6-nitrobenzene
- 1-amino-2-nitro-4-β-hydroxyethylamino-5-chlorobenzene
- 1,2-diamino-4-nitrobenzene
- 1-amino-2-β-hydroxyethylamino-5-nitrobenzene
- 1,2-bis(β-hydroxyethylamino)-4-nitrobenzene
- 1-amino-2-tris(hydroxymethyl)methylamino-5-nitrobenzene
- 1-hydroxy-2-amino-5-nitrobenzene
- 1-hydroxy-2-amino-4-nitrobenzene
- 1-hydroxy-3-nitro-4-aminobenzene
- 1-hydroxy-2-amino-4,6-dinitrobenzene
- 1-β-hydroxyethyloxy-2-β-hydroxyethylamino-5-nitrobenzene
- 1-methoxy-2-β-hydroxyethylamino-5-nitrobenzene
- 1-β-hydroxyethyloxy-3-methylamino-4-nitrobenzene
- 1- β,γ-dihydroxypropyloxy-3-methylamino-4-nitrobenzene
- 1-β-hydroxyethylamino-4-β,γ-dihydroxypropyloxy-2-nitrobenzene
- 1-β,γ-dihydroxypropylamino-4-trifluoromethyl-2-nitrobenzene
- 1-β-hydroxyethylamino-4-trifluoromethyl-2-nitrobenzene
- 1-β-hydroxyethylamino-3-methyl-2-nitrobenzene
- 1-β-aminoethylamino-5-methoxy-2-nitrobenzene
- 1-hydroxy-2-chloro-6-ethylamino-4-nitrobenzene
- 1-hydroxy-2-chloro-6-amino-4-nitrobenzene
- 1-hydroxy-6-bis(β-hydroxyethyl)amino-3-nitrobenzene
- 1-β-hydroxyethylamino-2-nitrobenzene
- 1-hydroxy-4-β-hydroxyethylamino-3-nitrobenzene.

Among the triarylmethane dyes that may be used according to the invention, mention may be made of the following compounds:

- Basic Green 1

- Basic Violet 3
- Basic Violet 14
- Basic Blue 7
- Basic Blue 26

As regards the (metallo)porphyrin or phthalocyanine synthetic direct dyes, use may be made of cationic or non-cationic compounds, optionally comprising one or more metals or metal ions, for instance alkali metals and alkaline-earth metals, zinc and silicon.

Examples of particularly suitable synthetic direct dyes that may be mentioned include nitrobenzene dyes; azo, methine, azomethine, hydrazono or styryl direct dyes; azacarbocyanines such as tetraazacarbocyanines (tetraazapentamethines); quinone direct dyes, and in particular anthraquinone, naphthoquinone or benzoquinone direct dyes; azine direct dyes; xanthene direct dyes; triarylmethane direct dyes; indoamine direct dyes, indigoid direct dyes, phthalocyanine direct dyes and porphyrin direct dyes, alone or as mixtures.

These dyes may be monochromophoric dyes (i.e. dyes comprising only one dye) or polychromophoric, preferably dichromophoric or trichromophoric, dyes; the chromophores may be identical or different, and from the same chemical family or otherwise. It should be noted that a polychromophoric dye comprises several groups each derived from a molecule that absorbs in the visible region between 400 and 800 nm. Furthermore, this absorbance of the dye does not require any prior oxidation thereof, or combination with one or more other chemical species.

In the case of polychromophoric dyes, the chromophores are connected together by means of at least one linker L, which may be cationic or non-cationic.

The linker L is preferably a linear, branched or cyclic C_1-C_{20} alkyl chain which is optionally interrupted and/or terminated with at least i) a heteroatom (such as nitrogen N(R), N^+R, R', Q^-, oxygen or sulfur), ii) a group C(O), C(S), S(O) or $S(O)_2$ or iii) a combination thereof, optionally interrupted with at least one heterocycle which may or may not be fused to a phenyl nucleus, and which comprises at least one quaternized nitrogen atom forming part of said ring system, and optionally at least one other heteroatom (such as oxygen, nitrogen or sulfur), optionally interrupted with at least one substituted or unsubstituted phenyl or naphthyl group, optionally at least one quaternary ammonium group substituted with two C_1-C_{15} alkyl groups which are optionally substituted; the linker does not comprise a nitro, nitroso or peroxo group, and R and R’, which may be identical or different, represent a hydrogen atom or a C_1-C_6 alkyl group which is optionally substituted, preferably with at least one hydroxyl group, and Q^- represents an organic or mineral anionic counterion such as a halide or an alkyl sulfate.

If the heterocycles or aromatic nuclei are substituted, they are substituted, for example, with one or more C_1-C_8 alkyl groups optionally substituted with a hydroxyl, C_1-C_2 alkoxy, C_2-C_4 hydroxyalkoxy, acetylamino or amino group substituted with one or two C_1-C_4 alkyl groups, optionally bearing at least one hydroxyl group, or the two groups possibly forming, with the nitrogen atom to which they are attached, a 5- or 6-membered heterocycle, optionally comprising another nitrogen or non-nitrogen heteroatom; a halogen atom; a hydroxyl group; a C_1-C_2 alkoxy group; a C_2-C_4 hydroxyalkoxy group; an amino group; an amino group substituted with one or two identical or different C_1-C_4 alkyl groups, optionally bearing at least one hydroxyl group.

According to a particularly advantageous embodiment of the invention, the dye(s) are chosen from (poly)azo dyes such as (di)azo dyes; hydrazono dyes; (poly)methine dyes such as styryl dyes; anthraquinone dyes or naphthalimide dyes. Preferably, these dyes are (poly)cationic.

According to an even more preferred embodiment of the invention, the dyes are chosen from cationic dyes known as “basic dyes”.

Mention may be made of the cationic hydrazono dyes of formulae (I) and (I’), the azo dyes (II) and (II’) and the diazo dyes (III) below:

$$\text{Het}^+\text{-C}(R^a)\text{=N-N}(R^b)\text{-Ar},\ Q^-$$

(I)

$$\text{Het}^+\text{-N}(R^a)\text{-N=C}(R^b)\text{-Ar},\ Q^-$$

(I’)

$$\text{Het}^+\text{-N=N-Ar},\qquad Q^-$$

(II)

$$\text{Ar}^+\text{-N=N-Ar''},\ Q^-$$

(II’)

$$Het^{+}\text{-N=N-Ar'-N=N-Ar}, Q^{-}$$

(III)

in which formulae (I), (I’), (II), (II’) and (III):

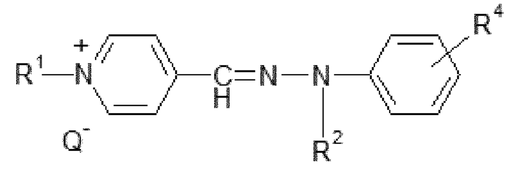
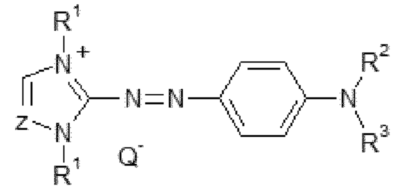
- Het^{+} represents a cationic heteroaryl group, preferentially bearing an endocyclic cationic charge, such as imidazolium, indolium or pyridinium, which is optionally substituted, preferentially with one or more C_1-C_8 alkyl groups such as methyl;
- Ar^{+} represents an aryl group, such as phenyl or naphthyl, bearing an exocyclic cationic charge, preferentially ammonium, particularly tri(C_1-C_8 alkyl)ammonium such as trimethylammonium;
- Ar represents an aryl group, notably phenyl, which is optionally substituted, preferentially with one or more electron-donating groups such as i) optionally substituted C_1-C_8 alkyl, ii) optionally substituted C_1-C_8 alkoxy, iii) (di)(C_1-C_8 alkyl)amino optionally substituted on the alkyl group(s) with a hydroxyl group, iv) aryl(C_1-C_8 alkyl)amino, or v) optionally substituted N-(C_1-C_8 alkyl)-N-aryl(C_1-C_8 alkyl)amino, or alternatively Ar represents a julolidine group;
- Ar’ is an optionally substituted divalent (hetero)arylene group such as phenylene, particularly para-phenylene, or naphthalene, which are optionally substituted, preferentially with one or more C_1-C_8 alkyl, hydroxyl or C_1-C_8 alkoxy groups;
- Ar’’ is an optionally substituted (hetero)aryl group such as phenyl or pyrazolyl, which are optionally substituted, preferentially with one or more C_1-C_8 alkyl, hydroxyl, (di)(C_1-C_8 alkyl)amino, C_1-C_8 alkoxy or phenyl groups;
- R^a and R^b, which may be identical or different, represent a hydrogen atom or a C_1-C_8 alkyl group, which is optionally substituted, preferentially with a hydroxyl group; or alternatively the substituent R^a with a substituent of Het^{+} and/or R^b with a substituent of Ar form, together with the atoms that bear them, a (hetero)cycloalkyl;

particularly, R^a and R^b represent a hydrogen atom or a C_1-C_4 alkyl group, which is optionally substituted with a hydroxyl group;

- Q^{-} represents an organic or mineral anionic counterion, such as a halide or an alkyl sulfate.

In particular, the dyes of the invention are cationically charged, endocyclic, azo and hydrazono dyes of formulae (I), (I’) and (II) as defined previously. The dyes of formulae (I), (I’) and (II) described in patent applications WO 95/15144, WO 95/01772 and EP 714954 are more particularly preferred.

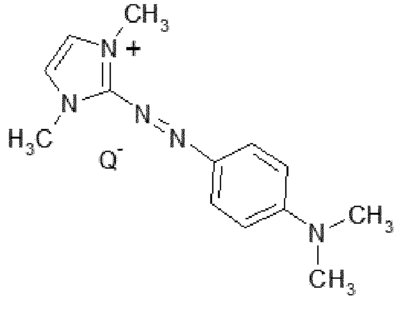
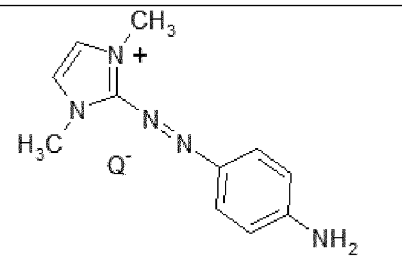
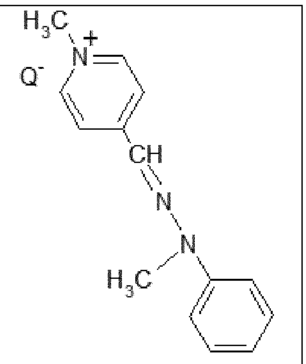
Dyes of the invention are preferentially chosen from the following compounds:

	
(I-1)	(II-1)

in which formulae (I-1) and (II-1):

- R^1 represents a C_1-C_4 alkyl group such as methyl;
- R^2 and R^3, which may be identical or different, represent a hydrogen atom or a C_1-C_4 alkyl group such as methyl; and
- R^4 represents a hydrogen atom or an electron-donating group such as optionally substituted C_1-C_8 alkyl, optionally substituted C_1-C_8 alkoxy, or (di)(C_1-C_8 alkyl)amino optionally substituted on the alkyl group(s) with a hydroxyl group; particularly, R^4 is a hydrogen atom;
- Z represents a CH group or a nitrogen atom, preferentially CH,
- Q^- is as defined previously.

In particular, the dyes of formulae (I-1) and (II-1) are chosen from Basic Red 51, Basic Yellow 87 and Basic Orange 31 or derivatives thereof:

		
Basic Red 51	Basic Orange 31	Basic Yellow 87

where Q^- is as defined previously, and represents in particular a halide such as a chloride, or an alkyl sulfate such as methyl sulfate or mesityl.

Mention may also be made of 1-(4'-aminodiphenylazo)-2-methyl-4-bis(β-hydroxyethyl)aminobenzene.

Among the polychromophoric dyes, mention may be made more particularly of the symmetrical or non-symmetrical di- or trichromophoric azo and/or azomethine (hydrazone) dyes, comprising on the one hand at least one optionally fused 5- or 6-membered aromatic heterocycle, which comprises at least one quaternized nitrogen atom forming part of said heterocycle, and optionally at least one other heteroatom (such as nitrogen, sulfur or oxygen), and, on the other hand, at least one optionally substituted phenyl or naphthyl group optionally bearing at least one group OR in which R represents a hydrogen atom, an optionally substituted C_1-C_6 alkyl group, an optionally substituted phenyl nucleus, or at least one group $N(R')_2$ with R', which may be identical or different, representing a hydrogen atom, an optionally substituted C_1-C_6 alkyl group or an optionally substituted phenyl nucleus; the groups R' possibly forming, with the nitrogen atom to which they are attached, a saturated 5- or 6-membered heterocycle, or else one and/or both of the groups R' may each form a saturated 5- or 6-membered heterocycle with the carbon atom of the aromatic ring that is ortho to the nitrogen atom.

Aromatic cationic heterocycles that may preferably be mentioned include 5- or 6-membered rings comprising 1 to 3 nitrogen atoms and preferably 1 or 2 nitrogen atoms, one being quaternized; said heterocycle moreover being optionally fused to a benzene nucleus. It should similarly be noted that the heterocycle may optionally comprise another heteroatom other than nitrogen, for instance sulfur or oxygen.

If the heterocycles or phenyl or naphthyl groups are substituted, they are substituted, for example, with one or more C_1-C_8 alkyl groups optionally substituted with a hydroxyl, C_1-C_2 alkoxy, C_2-C_4 hydroxyalkoxy, acetylamino or amino group substituted with one or two C_1-C_4 alkyl groups, optionally bearing at least one hydroxyl group, or the two groups possibly forming, with the nitrogen atom to which they are attached, a 5- or 6-membered heterocycle, optionally comprising another nitrogen or non-nitrogen heteroatom; a halogen atom; a hydroxyl group; a C_1-C_2 alkoxy group; a C_2-C_4 hydroxyalkoxy group; an amino group; an amino group substituted with one or two identical or different C_1-C_4 alkyl groups, optionally bearing at least one hydroxyl group.

These polychromophores are connected together via at least one linker L as defined previously.

The bonding between the linker L and each chromophore generally takes place via a heteroatom substituent on the phenyl or naphthyl nucleus or via the quaternized nitrogen atom of the cationic heterocycle.

The dye may comprise identical or different chromophores.

As examples of such dyes, reference may be made notably to patent applications EP 1 637 566, EP 1 619 221, EP 1 634 926, EP 1 619 220, EP 1 672 033, EP 1 671 954, EP 1 671 955, EP 1 679 312, EP 1 671 951, EP 167 952, EP 167 971, WO 06/063 866, WO 06/063 867, WO 06/063 868, WO 06/063 869, EP 1 408 919, EP 1 377 264, EP 1 377 262, EP 1 377 261, EP 1 377 263, EP 1 399 425, EP 1 399 117, EP 1 416 909, EP 1 399 116 and EP 1 671 560.

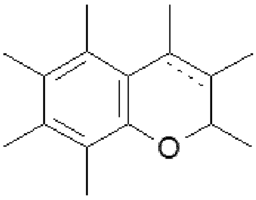
It is equally also possible to use cationic synthetic direct dyes which are mentioned in the following patent applications: EP 1 006 153, which describes dyes comprising two chromophores of anthraquinone type connected via a cationic linker; EP 1 433 472, EP 1 433 474, EP 1 433 471 and EP 1 433 473, which describe identical or different dichromophoric dyes, connected via a cationic or non-cationic linker, and also EP 6 291 333, which notably describes dyes comprising three chromophores, one of them being an anthraquinone chromophore, to which are attached two chromophores of azo or diazacarbocyanine type or an isomer thereof.

The term “natural dyes” means any dye or dye precursor that is naturally occurring and that is produced by extraction (and possible purification) from a plant or animal matrix, optionally in the presence of natural compounds such as ash or ammonia.

Natural dyes that may be mentioned include lawsone, henna, curcumin, chlorophyllin, alizarin, kermesic acid, purpurin, purpurogallin, indigo, Tyrian purple, sorghum, carminic acid, catechin, epicatechin, juglone, bixin, betanin, quercetin, chromene dyes and chroman dyes, including haematein and brazilein, and laccaic acids.

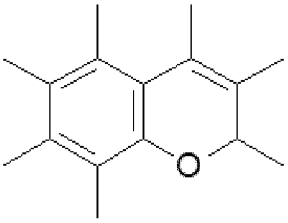
Preferably, the natural dyes used in the invention are chosen from curcumin, chlorophyllin, chromene dyes, chroman dyes and laccaic acids.

According to the invention, the terms "chromene dye" and "chroman dye" mean dyes which comprise in their structure at least one bicycle of formula (IV) below:

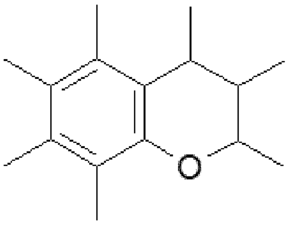


IV

the endocyclic bond $\overset{\text{- - - -}}{\text{——}}$ representing a carbon-carbon single bond or a carbon-carbon double bond, as illustrated by formula IV-1 denoting the chromene family and formula IV-2 denoting the chroman family below:



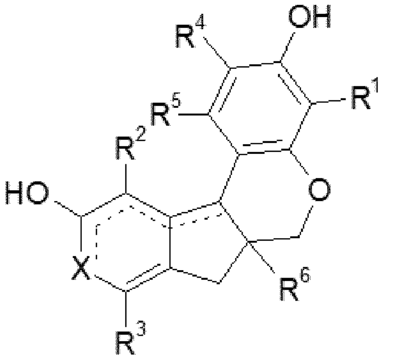
IV-1



IV-2

More particularly, the dyes having in their structure a bicycle of formula (IV) are chosen from the dyes having the following formulae:

- formula (V), comprising in its structure the bicycle of formula IV-2,

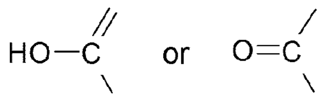


(V)

in which:

i) $\overset{\text{- - - -}}{\text{——}}$ represents a carbon-carbon single bond or a carbon-carbon double bond, the sequence of these $\overset{\text{- - - -}}{\text{——}}$ bonds denoting two carbon-carbon single bonds and two carbon-carbon double bonds, said bonds being conjugated,

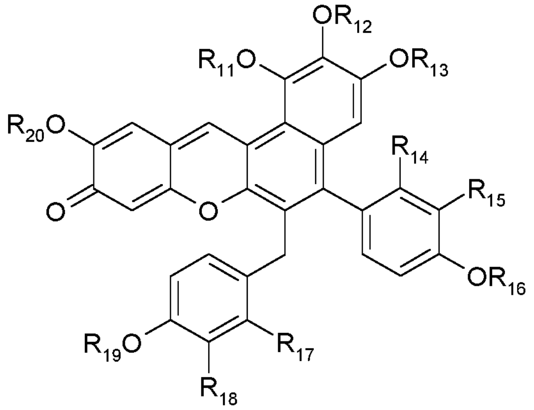
ii) X represents a group:



iii) R^1, R^2, R^3, R^4, R^5 and R^6, which may be identical or different, represent, independently of each other, a hydrogen atom, a hydroxyl group, an optionally substituted alkyl group, an optionally substituted alkoxy group or an optionally substituted acyloxy group,

and also the tautomeric and/or mesomeric forms thereof, the stereoisomers thereof, the addition salts thereof with a cosmetically acceptable acid or base, and the hydrates thereof, and

- formula (VI), comprising in its structure the bicycle of formula IV-1,



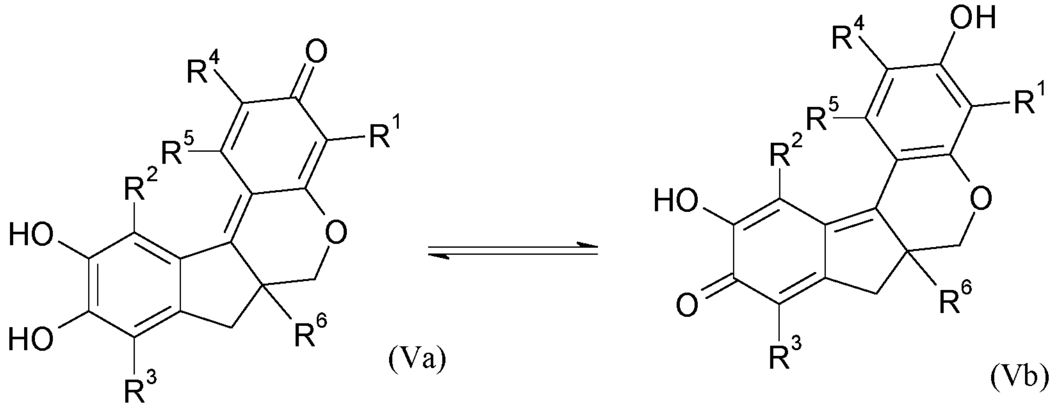
(VI)

in which:

- R_{11}, R_{12}, R_{13}, R_{16}, R_{19} and R_{20}, which may be identical or different, represent, independently of each other, a hydrogen atom or a C_1-C_4 alkyl group,
- R_{14}, R_{15}, R_{17} and R_{18}, which may be identical or different, represent, independently of each other, a hydrogen atom, a hydroxyl group or a C_1-C_4 alkoxy group,

and also the tautomeric and/or mesomeric forms thereof, the stereoisomers thereof, the addition salts thereof with a cosmetically acceptable acid or base, and the hydrates thereof.

As regards the dyes of formula (V) as defined previously, they may be in two tautomeric forms noted (Va) and (Vb):



(Va) (Vb)

The alkyl groups mentioned in the preceding definitions of the substituents are linear or branched, saturated, generally C_1-C_{20}, particularly C_1-C_{10} and preferably C_1-C_6 hydrocarbon-based groups, such as methyl, ethyl, propyl, butyl, pentyl and hexyl.

The alkoxy groups are alkyl-oxy groups with alkyl groups as defined previously and preferably the alkoxy groups are C_1-C_{10}, such as methoxy, ethoxy, propoxy and butoxy.

The alkyl or alkoxy groups, when they are substituted, may be substituted with at least one substituent borne by at least one carbon atom, chosen from:

- a halogen atom;
- a hydroxyl group;
- a C_1-C_2 alkoxy group;
- a C_1-C_{10} alkoxycarbonyl group;
- a (poly)hydroxy(C_2-C_4)alkoxy group;
- an amino group;
- a 5- or 6-membered heterocycloalkyl group;
- an optionally cationic 5- or 6-membered heteroaryl group, preferentially imidazolium, optionally substituted with a (C_1-C_4)alkyl group, preferentially methyl;
- an amino group substituted with one or two identical or different C_1-C_6 alkyl groups, optionally bearing at least:
  * a hydroxyl group;
  * an amino group optionally substituted with one or two optionally substituted C_1-C_3 alkyl groups, it being possible for said alkyl groups to form, with the nitrogen atom to which they are attached, a saturated or unsaturated and

optionally substituted 5- to 7-membered heterocycle, optionally comprising at least one other nitrogen or non-nitrogen heteroatom;

* a quaternary ammonium group $-N^+R'R''R'''$, M^- for which R', R'' and R''', which may be identical or different, represent a hydrogen atom or a C_1-C_4 alkyl group; and M^- represents the counterion of the corresponding organic or mineral acid or of the corresponding halide;

* or an optionally cationic 5- or 6-membered heteroaryl group, preferentially imidazolium, optionally substituted with a (C_1-C_4)alkyl group, preferentially methyl;

- an acylamino group (-NR-COR') in which the group R is a hydrogen atom or a C1-C4 alkyl group optionally bearing at least one hydroxyl group and the group R' is a C1-C2 alkyl group;
- a carbamoyl group ((R)2N-CO)-) in which the groups R, which may be identical or different, represent a hydrogen atom or a C1-C4 alkyl group optionally bearing at least one hydroxyl group;
- an alkylsulfonylamino group (R'SO2-NR-) in which the group R represents a hydrogen atom or a C1-C4 alkyl group optionally bearing at least one hydroxyl group and the group R' represents a C1-C4 alkyl group or a phenyl group;
- an aminosulfonyl group ((R)2N-SO2-) in which the groups R, which may be identical or different, represent a hydrogen atom or a C1-C4 alkyl group optionally bearing at least one hydroxyl group;
- a carboxylic group in acid or salified form (preferably with an alkali metal or a substituted or unsubstituted ammonium);
- a cyano group;
- a nitro group;
- a carboxyl or glycosylcarbonyl group;
- a phenylcarbonyloxy group optionally substituted with one or more hydroxyl groups;
- a glycosyloxy group; and
- a phenyl group optionally substituted with one or more hydroxyl groups.

The term “glycosyl group” means a group originating from a mono- or polysaccharide.

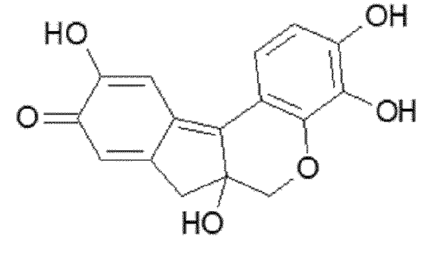
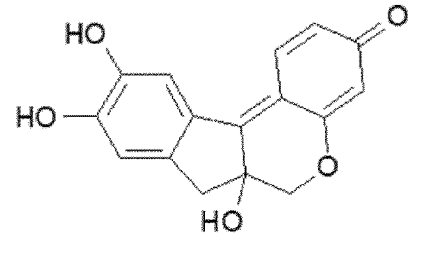
Preferably, the alkyl or alkoxy groups of formula (V) are unsubstituted.

According to a particular embodiment of the invention, the dyes of formula (V) comprise a group R^6 which represents a hydroxyl group.

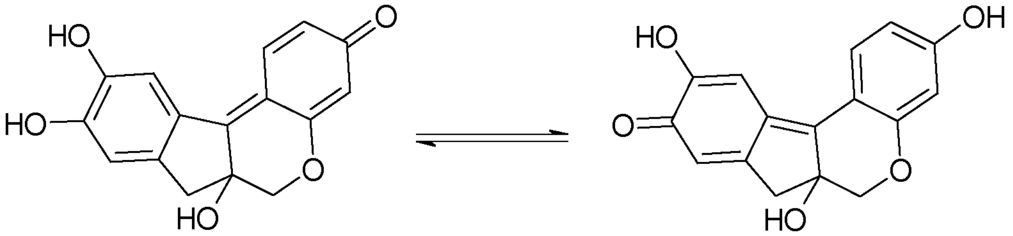
In a preferred variant, X represents a group O=C.

Another particular embodiment of the invention relates to the dyes of formula (V), for which the group R^1 represents a hydrogen atom or a hydroxyl group.

More particularly, the dyes of formula (V) are chosen from haematein and brazilein.

 Haematein	 Brazilein

Brazilein is a conjugated form of a chroman compound of formula IV-2. The tautomeric structures (Va) and (Vb) illustrated above are found in the scheme below.



Brazilein and haematein or the haematoxylin/haematein and brazilin/brazilein pairings may be obtained synthetically or by extraction of plants known to be rich in these dyes.

The dyes of formula (V) may be used in the form of extracts. Use may be made of the following plant extracts (genus and species): *Haematoxylon campechianum, Haematoxylon brasiletto, Caesalpinia echinata, Caesalpinia sappan, Caesalpinia spinosa and Caesalpinia brasiliensis.*

The extracts are obtained by extracting the various plant parts, for instance the root, the wood, the bark or the leaves.

According to a particular embodiment of the invention, the natural dyes of formula (V) are obtained from logwood, pernambuco wood, sappan wood and Brazil wood.

The salts of the dyes of formulae (V) and (VI) of the invention may be salts of cosmetically acceptable acids or bases.

The acids may be mineral or organic. Preferably, the acid is hydrochloric acid, which results in chlorides.

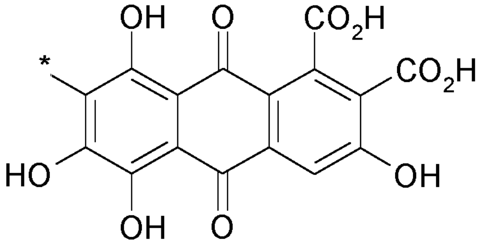
The bases may be mineral or organic. In particular, the bases are alkaline hydroxides, such as sodium hydroxide, resulting in sodium salts.

Preferably, the dye(s) of formulae (V) and (VI) included in the composition according to the invention are derived from plant extracts. Use may also be made of mixtures of plant extracts.

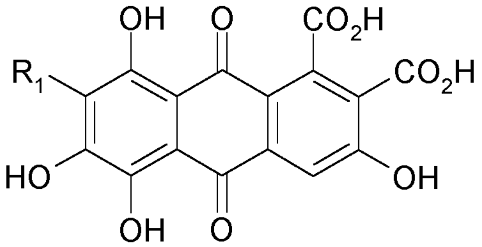
The natural extracts of the dyes according to the invention may be in the form of powders or liquids. Preferably, the extracts are in powder form.

In another variant of the invention, the natural dyes are chosen from laccaic acids.

For the purposes of the present invention, the term "laccaic acid" means a compound having in its structure a unit of the type:



Preferably, the laccaic acids of the invention are of formula (VII) below:

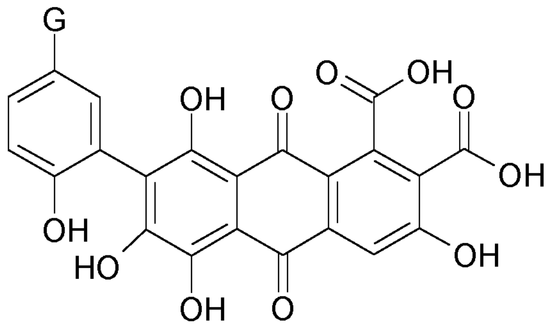


(VII)

with R_1 denoting a phenyl group substituted with at least one hydroxyl group, and preferably with a hydroxyl group that is advantageously in the ortho position relative to the bond attaching it to the fused nuclei.

In particular, the phenyl group of R_1 includes, besides a hydroxyl group, at least one group $-CH_2R_2$, R_2 denoting an acetamidomethyl ($CH_3CONHCH_2$-), hydroxymethyl ($HOCH_2$-) or 2-aminoacetic acid ($HO_2C(NH_2)CH$-) group.

Preferentially, the laccaic acids of the invention are chosen from laccaic acids A, B, C and D, or mixtures thereof, and more particularly chosen from A, B and C, or mixtures thereof.



Laccaic acid A G: $-CH_2CH_2NHC(O)CH_3$
Laccaic acid B G: $-CH_2CH_2OH$
Laccaic acid C G: $-CH_2CH(NH_2)C(O)OH$
Laccaic acid D G: $-CH_2CH_2NH_2$

laccaic acid A, B, C and D.

A laccaic acid according to the invention that may notably be used is the dye CI Natural Red 25, CI 75450, CAS - 60687-93-6, which is often referred to as laccaic acid. This is a dye of natural origin originating from the secretions of an insect, *Coccus laccae* (Lacifer Lacca Kerr), which is generally found on the twigs of certain trees native to South-East Asia.

CI Natural Red 25 generally contains two major constituents in its composition: laccaic acid A and laccaic acid B. It may also contain a small amount of laccaic acid C.

Needless to say, use may also be made of the purified forms of the laccaic acids of formula (VII).

Even more preferentially, the natural direct dyes are chosen from haematein and brazilein.

Preferably, the dye(s) are one or more oxidation dyes optionally combined with one or more direct dyes.

Better still, the dye(s) are chosen from para-phenylenediamines, para-aminophenols, pyrazole derivatives, meta-phenylenediamines, meta-aminophenols, meta-diphenols, and mixtures thereof, and more particularly from para-phenylenediamine, para-tolylenediamine, N,N-bis(β-hydroxyethyl)-para-phenylenediamine, 2-hydroxypropyl-1,3-bis(N-hydroxyethyl)-p-phenylenediamine, p-aminophenol, 3-methyl-p-aminophenol, 2-(2-hydroxyethoxy)-3-aminopyrazolo[1,5-a]pyridine, 4,5-diamino-1-(β-hydroxyethyl)pyrazole, 2,3-diamino-6,7-dihydro-1H,5H-pyrazolo[1,2-a]pyrazol-1-one, 1,3-dihydroxybenzene, 2-methyl-1,3-dihydroxybenzene, 4-chloro-1,3-dihydroxybenzene, 1-hydroxy-3-aminobenzene, 1-methyl-2-hydroxy-4-β-hydroxyethylaminobenzene, 2-methyl-5-aminophenol, 5-amino-6-chloro-2-methylphenol, 2,4-diamino-1-(β-hydroxyethyloxy)benzene, the addition salts thereof, and mixtures thereof.

In a preferred embodiment, the composition according to the invention comprises one or more dyes, preferably one or more oxidation dyes.

The content of dyes, when they are present, preferably ranges from 0.0001% to 20% by weight, preferably from 0.001% to 15% by weight and better still from 0.01% to 10% by weight relative to the total weight of the composition.

The composition according to the invention is preferably aqueous. When it is aqueous, the composition according to the invention comprises water in a content preferably ranging from 5% to 80% by weight, better still from 10% to 70% by weight and better still from 12% to 60% by weight, relative to the total weight of the composition.

The composition according to the invention may also comprise one or more alkaline agents other than the organic amines.

It may be mineral or organic.

In particular, the alkaline agent(s) other than organic amines may be chosen from:

a) aqueous ammonia,

b) mineral or organic hydroxides,

c) alkali metal silicates, such as sodium metasilicates, and

d) carbonates and bicarbonates particularly of an alkali metal or alkaline-earth metal, such as sodium carbonate or bicarbonate and potassium carbonate or bicarbonate.

The mineral or organic hydroxides are preferably chosen from hydroxides of an alkali metal, hydroxides of an alkaline-earth metal, for instance sodium hydroxide or potassium hydroxide, hydroxides of a transition metal, such as hydroxides of metals from groups III, IV, V and VI of the Periodic Table of the Elements, hydroxides of lanthanides or actinides, and quaternary ammonium hydroxides.

The preferred alkaline agents other than organic amines are in particular aqueous ammonia, sodium or potassium hydroxide, sodium or potassium carbonate, sodium or potassium bicarbonate, and mixtures thereof.

When the composition according to the invention comprises one or more alkaline agents other than organic amines, they are present in an amount preferably ranging from 0.01% to 30% by weight, better still from 0.1% to 20% by weight and even better still from 1% to 10% by weight, relative to the total weight of the composition.

The organic amine(s) and the different alkaline agent(s) are introduced in a content such that the pH of the composition according to the invention, when it is aqueous, is advantageously between 8 and 12, better still between 9 and 11.

The composition according to the present invention may optionally also comprise one or more organic solvents.

Examples of organic solvents that may be mentioned include linear or branched C_2 to C_4 alkanols, such as ethanol and isopropanol; glycerol; polyols and polyol ethers, for instance 2-butoxyethanol, propylene glycol, hexylene glycol, dipropylene glycol, propylene glycol monomethyl ether, diethylene glycol monomethyl ether and monoethyl ether, and also aromatic alcohols or ethers, for instance benzyl alcohol or phenoxyethanol, and mixtures thereof.

The content of the organic solvent(s), when they are present in the composition, preferably ranges from 0.01% to 30% by weight and more preferentially from 2% to 25% by weight, relative to the total weight of the composition.

The composition according to the present invention may also optionally comprise one or more additives, other than the compounds of the invention, and among which mention may be made of cationic, anionic, nonionic or amphoteric polymers, or mixtures thereof, antidandruff agents, anti-seborrhoea agents, agents for preventing hair loss and/or for promoting hair growth, vitamins and provitamins including panthenol, sunscreens, mineral or organic pigments, sequestrants, plasticizers, solubilizers, acidifying agents, mineral or organic thickeners, notably polymeric thickeners, opacifiers or nacreous agents, antioxidants, hydroxy acids other than 12-hydroxystearic acid, fragrances, preserving agents, pigments and ceramides.

Needless to say, a person skilled in the art will take care to select this or these optional additional compounds such that the advantageous properties intrinsically associated with the composition according to the invention are not, or are not substantially, adversely affected by the envisaged addition(s).

The above additives may generally be present in an amount, for each of them, of between 0 and 20% by weight relative to the total weight of the composition according to the invention.

The composition according to the invention is preferably an emulsion, better still an oil-in-water direct emulsion.

The invention also relates to a process for preparing the cosmetic composition as defined above, comprising:

- the mixing of 12-hydroxystearic acid, one or more organic amines and optionally water at a temperature ranging from 60 to 80°C,
- the addition to the mixture of one or more liquid fatty substances,
- cooling of the mixture to room temperature (25°C).

Preferably, the addition of the dye takes place during the phase of cooling the mixture.

Yet another subject is a ready-to-use composition which results from the extemporaneous mixing of a cosmetic composition (A) as described above and of an oxidizing composition (B).

Preferably, compositions (A) and (B) are mixed in an (A)/(B) weight ratio ranging from 0.1 to 5, better still from 0.2 to 2.

The oxidizing composition (B) comprises one or more oxidizing agents.

The oxidizing agent used in the context of the invention is a chemical oxidizing agent other than atmospheric oxygen.

Said oxidizing agent(s) are preferably chosen from the group formed by hydrogen peroxide, urea peroxide, alkali metal bromates or ferricyanides, peroxygenated salts, for instance persulfates, perborates, peracids and precursors thereof, and alkali metal or alkaline-earth metal percarbonates.

Most particularly, the oxidizing agent is hydrogen peroxide.

The oxidizing agent(s) may represent from 0.1% to 20% by weight, preferably from 0.5% to 15% by weight and better still from 2% to 12% by weight, relative to the total weight of the oxidizing composition (B).

A subject of the present invention is also a process for dyeing/lightening keratin fibres, and in particular human keratin fibres such as the hair, comprising the application to said fibres of a cosmetic composition as described previously, and in particular a ready-to-use composition as defined previously, resulting from the extemporaneous mixing of a cosmetic composition (A) as described above and of an oxidizing composition (B) as described above.

In particular, the cosmetic composition of the invention or the ready-to-use composition of the invention is applied to wet or dry keratin fibres.

The composition is advantageously left to stand on the keratin fibres for a time ranging from 1 minute to 1 hour and more preferentially for a time ranging from 5 to 45 minutes.

After the dyeing/lightening process, the keratin fibres are advantageously rinsed with water. They may optionally be washed with a shampoo, followed by rinsing with water, before being dried or left to dry.

Another subject of the invention relates to a multi-compartment device, or a kit for dyeing/lightening keratin fibres, comprising at least two compartments:

- a first compartment containing a composition (A) as described above; and
- a second compartment containing an oxidizing composition (B) as described above.

According to one variant of the invention, the kit also comprises an additional compartment containing an additional composition comprising one or more treating agents.

The compositions of the kit are packaged in separate compartments, which may be optionally accompanied by suitable identical or different application means, such as fine brushes, coarse brushes or sponges.

The examples that follow are given purely as illustrations of the present invention.

EXAMPLES

A dye composition A according to the invention and a comparative composition A' were prepared from the ingredients indicated in the following table. The amounts indicated are expressed as weight percentages of active material relative to the total weight of the dye composition.

[Table 1]

Composition	**A (invention)**	**A' (comparative)**
Powdered sodium metabisulfite	0.22	0.22
Monoethanolamine	6.90	4.28
Ethylenediaminetetraacetic acid	0.20	0.20
1-β-Hydroxyethyloxy-2,4-diaminobenzene dihydrochloride	0.02	0.02
6-Hydroxybenzomorpholine	0.033	0.033
1,3-Dihydroxybenzene (resorcinol)	0.67	0.67
1-Hydroxy-3-aminobenzene (m-aminophenol)	0.12	0.12
1-Methyl-2,5-diaminobenzene	0.77	0.77
12-Hydroxystearic acid	15.00	-
Mineral oil	60.00	60.00
Vitamin C: ascorbic acid	0.12	0.12
Water	qs 100	qs 100
Mixture of linear C18-C24 fatty alcohols (C20-22 alcohols)	-	4.60
Cetyl palmitate	-	2.00
Carboxyvinyl polymer synthesized in an ethyl acetate/cyclohexane mixture	-	0.1
Propylene glycol	-	10
Glycerol	-	5.00
Oxyethylenated (60 ethylene oxide (EO) units) cetylstearyl alcohol (C16/C18) myristyl ether glycol	-	0.01

Oxyethylenated decyl alcohol (5 EO)	-	1.20
Oxyethylenated oleyl alcohol (20 EO)	-	4.00
Oxyethylenated oleyl alcohol (10 EO)	-	1.00

An oxidizing composition was prepared using the ingredients below.

[Table 2]

Oxidizing composition	Amount
Hydrogen peroxide	6
Mineral oil	20
PEG-4 rapeseedamide	1.2
Steareth-20	5
Cetearyl alcohol	6
Polyquaternium-6	0.2
Hexadimethrine chloride	0.15
Glycerol	0.5
Stabilizers, sequestrants	qs
Phosphoric acid	qs pH 2.2 ± 0.2
Water	qs 100

Protocol:

Composition A according to the invention and comparative composition A' are mixed with 1 times their weight of oxidizing composition (6% by weight of hydrogen peroxide).

Composition A according to the invention mixes easily with the oxidizing agent.

Each mixture obtained is applied to locks of natural hair containing 90% white hairs (NW) at a rate of 10 g of mixture per 1 g of hair and to locks of permanent-waved hair containing 90% white hairs (PWW) at a rate of 10 g of mixture per 1 g of hair.

The mixture obtained from composition A with the oxidizing agent applies easily to the locks.

After a leave-on time of 30 minutes at 27°C, the hair is rinsed with water, washed with a standard shampoo and then dried.

Just after drying, it is observed that the locks treated with composition A according to the invention have a clean feel. It is also noticed by feel that composition A according to the invention affords greater care than comparative composition A'.

Colorimetric results:

The colouring of the locks treated with each of the compositions A and B according to the protocol described previously is evaluated by means of a Minolta 2600D spectrocolorimeter (D65 illuminant, angle 10°, specular component included) in the CIELab system.

In this system, L* represents the lightness: the lower the value of L*, the more intense and powerful the colouring obtained.

[Table 3]

	Composition A + oxidizing agent (invention)	Composition A' + oxidizing agent (comparative composition)
L* on NW (natural white)	16.3	20.3
L* on PWW (permanent-waved white)	15.6	18.2

Composition A according to the invention gives a lower L* value than comparative composition A', and thus more intense, more powerful colouring than the comparative composition.

Rinseability test:

For each of the compositions A and A', five locks were dyed according to the protocol described above.

For each of the compositions A and A', five experts evaluated the rinseability according to the protocol detailed below, each expert evaluating the rinseability of one lock.

The lock is placed a first time vertically under a tap of water at a temperature of 35°C, with a flow rate of 2 litres/min, for 5 seconds. This corresponds to a first pass.

A rinseability evaluation is then performed according to the grading defined below, by placing the lock on absorbent paper.

0: a lot of composition remains on the lock

1: little composition remains on the lock

2: no composition remains on the lock, the lock needs to be opened to see composition on the interior

3: no composition remains when the lock is opened, it needs to be wrung vigorously to make composition come out

4: the lock is rinsed.

As long as the lock is not graded 4 (rinsed lock), it is again placed vertically under the water tap, under the same conditions as in the first pass, for a new pass, and its rinseability is again evaluated.

It is observed that the locks treated with composition A according to the invention were rinsed after four passes under the water, whereas the locks treated with comparative composition A' are rinsed only after six passes under the water.

Composition A according to the invention has markedly improved rinseability relative to comparative composition A'.

Thus, composition A according to the invention makes it possible to reduce the rinsing time and the amount of water required for optimum rinsing, relative to comparative composition A'.

Measurement of the threshold stress of the compositions:

Measurement of the threshold stress makes it possible to determine the stress value at and above which a threshold fluid begins to flow. This makes it possible to evaluate the risks of running of the dye compositions during an application.

The threshold stress measurements were taken using an MCR 502 rotating rheometer from Anton Paar, equipped with an air Peltier element to set the temperature at 25.0°C. Cone/plate geometry with a diameter of 50 mm/1° (steel sanded to 5 μm) was used, along with an anti-evaporation device in order to prevent evaporation during the measurement.

The measuring protocol used is as follows:

- Logarithmic stress sweep from 0.5 Pa to 500 Pa over 3 minutes (360 points) and at 25.0°C.

The threshold stress value, expressed in Pa, is determined by means of the tangent method and corresponds to the point of intersection of the two lines.

The higher the threshold stress, the lower the risks of running.

The following results are obtained:

[Table 4]

Formulation	Composition A (invention)	Composition A' (comparative)
Threshold stress value (Pa)	60.8	6.3

As a mixture with the oxidizing composition, composition A according to the invention has a much higher threshold stress than comparative composition A'. Thus, the invention presents fewer risks of running than comparative composition A'.

A composition A1 according to the invention and comparative compositions A1' and A1" were also prepared from the ingredients indicated in the following tables. The amounts indicated are expressed as weight percentages of active material relative to the total weight of the composition.

[Table 5]

Composition	A1 (invention)	A1' (comparative)	A1" (comparative)
Monoethanolamine	6.90	4.35	4.26
12-Hydroxystearic acid	15.00	-	-
Mineral oil	60.00	60.00	60.00
Vitamin C: ascorbic acid	-	0.12	0.12
Powdered sodium metabisulfite	-	0.22	0.22
Cocoyl glucoside	-	3.016	
Hydroxypropyl guar	-	1.00	
PEG-40 Hydrogenated castor oil	-	1.00	
Ethylenediaminetetraacetic acid		0.20	0.20
Sodium lauryl sulfate	-	1.24	
Mixture of linear C18-C24 fatty alcohols (C20-22 alcohols)	-		4.60
Cetyl palmitate	-		2.00

Carboxyvinyl polymer synthesized in an ethyl acetate/cyclohexane mixture	-		0.10
Glycerol	-		5.00
Oxyethylenated (60 ethylene oxide (EO) units) cetylstearyl alcohol (C16/C18) myristyl ether glycol	-		0.01
Oxyethylenated decyl alcohol (5 EO)	-		1.08
Oxyethylenated oleyl alcohol (20 EO)	-		4.00
Oxyethylenated oleyl alcohol (10 EO)	-		1.00
Water	qs 100	qs 100	qs 100

Compositions A1, A1’ and A1’’ were applied on a malleable head and then rinsed off.

The rinsing of the hair treated with composition A1 according to the invention is faster than that of the hair treated with compositions A1’ or A1”.

In addition, a coating is present down to the ends of the hair treated with composition A1, unlike the hair treated with compositions A1’ or A1”. It is thus noticed by feel that composition A1 according to the invention affords greater care than comparative compositions A1’ and A1”.

Compositions A2, A3, A4, A5 and A6 according to the invention and comparative composition A2’ were also prepared from the ingredients indicated in the following tables. The amounts indicated are expressed as weight percentages of active material relative to the total weight of the composition.

[Table 6]

Composition	**A2 (inv)**	**A2’ (comp)**	**A3 (inv)**	**A4 (inv)**	**A5 (inv)**	**A6 (inv)**
Powdered sodium metabisulfite	0.22	0.22	0.22	0.22	0.22	0.22
Monoethanolamine	6.90	6.90	6.90	6.90	6.90	6.90

Ethylenediaminetetraacetic acid	0.20	0.20	0.20	0.20	0.20	0.20
1-Hydroxy-4-aminobenzene (p-aminophenol)	0.10	0.10	0.10	0.10	0.10	0.10
6-Hydroxybenzomorpholine	0.006	0.006	0.006	0.006	0.006	0.006
1,3-Dihydroxybenzene (resorcinol)	0.30	0.30	0.30	0.30	0.30	0.30
1-Hydroxy-3-aminobenzene (m-aminophenol)	0.06	0.06	0.06	0.06	0.06	0.06
1-Methyl-2,5-diaminobenzene	0.23	0.23	0.23	0.23	0.23	0.23
12-Hydroxystearic acid	15.0	15.0	15.0	15.0	15.0	15.0
Mineral oil	**20**	-	-	-	-	-
Cetearyl alcohol (50/50 C16/C18)	-	**20**	-	-	-	-
Squalane (C13-16 Isoparaffin)	-	-	**20**	-	-	-
Sunflower oil	-	-	-	**20**	-	-
Isopropyl myristate	-	-	-	-	**20**	-
Octyldodecanol	-	-	-	-	-	**20**
Vitamin C: ascorbic acid	0.12	0.12	0.12	0.12	0.12	0.12
Water	qs 100	qs 100	qs 100	qs 100	qs 100	qs 100

Compositions A2, A3, A4, A5 and A6 and comparative composition A' are mixed with 1 times their weight of oxidizing composition of table 2 (6% by weight of hydrogen peroxide).

For each of the compositions A2, A3, A4, A5, A6 and A2’, five locks were dyed according to the protocol described above.

For each of the compositions A2, A3, A4, A5, A6 and A2', five experts evaluated the rinseability according to the protocol detailed above, each expert evaluating the rinseability of one lock.

It was observed that the locks treated with compositions A2, A3, A4, A5 and A6 according to the invention were rinsed, respectively, after 4, 3, 5, 4 and 3 passes under the water, whereas the locks treated with comparative composition A2' are rinsed only after 8 passes under the water.

Compositions A2, A3, A4, A5 and A6 according to the invention have markedly improved rinseability relative to comparative composition A2'.

Thus, compositions A2, A3, A4, A5 and A6 according to the invention make it possible to reduce the rinsing time and the amount of water required for optimum rinsing, relative to comparative composition A2'.

Furthermore, it is observed from the feel of the locks that compositions A2, A3, A4, A5 and A6 according to the invention afford greater care than comparative composition A2' immediately after rinsing, but also after drying the locks with a hairdryer. Compositions A2, A3, A4, A5 and A6 according to the invention lead to a feel that is similar and equivalent to that obtained with a conventional care product, whereas comparative composition A2' leads to a grating feel of the locks without a care feel. Furthermore, when compositions A2, A3, A4, A5 and A6 according to the invention are mixed with the oxidizing agent, a homogeneous mixture is obtained much more quickly and easily than during the mixing of comparative composition A2' with the oxidizing agent. The mixture of compositions A2, A3, A4, A5 and A6 and oxidizing agent spreads much more easily on the locks than the mixture of comparative composition A2' with the oxidizing agent.

Claims

1.Cosmetic composition, preferably an aqueous composition, comprising:
- 12-hydroxystearic acid,
- one or more organic amines,
- one or more fatty substances that are liquid at room temperature (25°C) and at atmospheric pressure (760 mmHg or 1.013×10^5 Pa), and
- optionally one or more dyes.

2. Composition according to Claim 1, characterized in that the 12-hydroxystearic acid is present in an amount ranging from 0.1% to 40% by weight, better still from 1% to 30% by weight and even better still from 5% to 25% by weight, relative to the total weight of the composition.

3.Composition according to Claim 1 or 2, characterized in that the organic amine(s) are chosen from alkanolamines, guanidine carbonate and mixtures thereof, and better still from monoethanolamine (MEA), diethanolamine, triethanolamine, monoisopropanolamine, diisopropanolamine and guanidine carbonate, and mixtures thereof.

4.Composition according to any one of the preceding claims, characterized in that the organic amine(s) are present in an amount ranging from 0.1% to 20% by weight, preferably from 1% to 10% by weight and better still from 2% to 8% by weight, relative to the total weight of the composition.

5. Composition according to any one of the preceding claims, characterized in that the fatty substance(s) that are liquid at room temperature (25°C) and atmospheric pressure (760 mm Hg or 1.013×10^5 Pa) are chosen from liquid C6-C16 alkanes, liquid hydrocarbons containing more than 16 carbon atoms, plant oils of triglyceride type, liquid synthetic triglycerides, liquid fatty alcohols, liquid esters of fatty acids and/or of fatty alcohols other than triglycerides, and mixtures thereof.

6. Composition according to the preceding claim, characterized in that the fatty substance(s) that are liquid at room temperature (25°C) and atmospheric pressure (760 mm Hg or 1.013×10^5 Pa) are chosen from liquid petroleum jelly, liquid C6-C16 alkanes, polydecenes, liquid esters of fatty acids and/or of fatty alcohols other than triglycerides, and liquid fatty alcohols, or mixtures thereof, and even more preferentially from liquid petroleum jelly, liquid C6-C16 alkanes and polydecenes.

7. Composition according to any one of the preceding claims, characterized in that the fatty substance(s) that are liquid at room temperature (25°C) and atmospheric pressure (760 mm Hg or 1.013×10^5 Pa) are present in an amount ranging from 10% to 90% by weight, preferably from 15% to 80% by weight and better still from 15% to 75% by weight relative to the total weight of the composition.

8. Composition according to any one of the preceding claims, characterized in that it comprises one or more dyes chosen from oxidation dyes, preferably from para-phenylenediamines, para-aminophenols, pyrazole derivatives, meta-phenylenediamines, meta-aminophenols, meta-diphenols, and mixtures thereof.

9. Composition according to the preceding claim, characterized in that the dye(s) represent from 0.0001% to 20% by weight, preferably from 0.001% to 15% by weight and better still from 0.01% to 10% by weight, relative to the total weight of the composition.

10. Composition according to any one of the preceding claims, characterized in that it comprises water in an amount ranging from 5% to 80% by weight, preferably from 10% to 70% by weight and better from 15% to 60% by weight relative to the total weight of the composition.

11. Composition according to any one of the preceding claims, characterized in that it comprises one or more alkaline agents other than organic amines, preferably chosen from aqueous ammonia, sodium hydroxide, potassium hydroxide, sodium carbonate, potassium carbonate, sodium bicarbonate, potassium bicarbonate, and mixtures thereof.

12. Composition according to Claim 11, characterized in that the alkaline agent(s) other than organic amines are present in an amount ranging from 0.01% to 30% by weight, preferably from 0.1% to 20% by weight and better still from 1% to 10% by weight, relative to the total weight of the composition.

13. Process for preparing the composition according to any one of the preceding claims, comprising:

- the mixing of 12-hydroxystearic acid, one or more organic amines and optionally water at a temperature ranging from 60 to 80°C,
- the addition to the mixture of one or more fatty substances that are liquid at room temperature (25°C) and at atmospheric pressure (760 mmHg or 1.013×10^5 Pa), and
- cooling of the mixture to room temperature (25°C).

14. Ready-to-use composition resulting from the extemporaneous mixing of a cosmetic composition (A) according to any one of Claims 1 to 12 and of an oxidizing composition (B).

15. Ready-to-use composition according to Claim 14, characterized in that the oxidizing composition (B) comprises one or more oxidizing agents, preferably hydrogen peroxide, in particular in an amount ranging from 0.1% to 20% by weight, preferably from 0.5% to 15% by weight and better still from 2% to 12% by weight relative to the total weight of the oxidizing composition (B).

16. Multi-compartment device, or kit for dyeing keratin fibres, comprising at least two compartments:
- a first compartment containing a composition (A) according to any one of Claims 1 to 12; and
- a second compartment containing an oxidizing composition (B) as defined in Claim 14 or 15.

17. Process for dyeing/lightening keratin fibres, and in particular human keratin fibres such as the hair, comprising the application to said fibres a composition according to any one of Claims 1 to 12.

18. Process for dyeing/lightening keratin fibres, and in particular human keratin fibres such as the hair, comprising the step of applying to said fibres a ready-to-use composition according to Claim 14 or 15.

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2020/068091

A. CLASSIFICATION OF SUBJECT MATTER
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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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DATABASE GNPD [Online] MINTEL; 27 November 2013 (2013-11-27), anonymous: "Lip Gloss", XP055664169, retrieved from www.gnpd.com Database accession no. 2247441 abstract -----	1
A	DATABASE GNPD [Online] MINTEL; 19 March 2013 (2013-03-19), anonymous: "Lipgloss", XP055664174, retrieved from www.gnpd.com Database accession no. 2022372 abstract ----- -/--	1

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DATABASE GNPD [Online] MINTEL; 23 April 2019 (2019-04-23), anonymous: "Honey Almonds Lip Scrub", XP055664178, retrieved from www.gnpd.com Database accession no. 6489951 abstract -----	1
X	WO 2018/096132 A1 (OREAL [FR]) 31 May 2018 (2018-05-31) the whole document -----	1-18

1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2020/068091

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		EP 3544576 A1	02-10-2019
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