

SPECIFICATION

HAIR COSMETIC COMPOSITION

5 FIELD OF THE INVENTION

[0001]

The present invention relates to a hair cosmetic composition.

RELATED ART

10 [0002]

A hair is exposed to damage due to daily shampooing, brushing, or heat of a dryer. In recent years, it has become popular to enjoy being stylish by changing an appearance of the hair such as freely changing a hair color (coloring or the like) or changing a hairstyle by a chemical treatment (a
15 permanent wave or the like). If a frequency of such treatment is increased, damage is accumulated in the hair, split ends or a hair breakage is generated, a cuticle is desquamated, a cortex is exposed, or hair ends become dry or rough. Thus, a
20 moist wet feeling, a good sleek feeling, a soft texture down to hair ends and the like are required, and a hair care is done daily.

[0003]

According to Japanese Patent Laid-Open No. 2000-38322, a
25 cationic surfactant is essential to improve a texture of the hair, but, on the other hand, in some cases, it caused occurrence of a peeling phenomenon (lift-up) or swelling of

the cuticle, damage of a hair surface, or reduction of a gloss. Accordingly, in Japanese Patent Laid-Open No. 2000-38322, it is disclosed that in a case where the hair is treated with a combination of a cationic surfactant and an organic acid or a salt thereof, the lift-up and swelling of the cuticle can be suppressed.

[0004]

In Japanese Patent Laid-Open No. 2005-187400, as a technique for achieving an object of significantly reducing a peeling amount of the cuticle by reducing a friction of the hair at the time of shampooing or the like, a hair cosmetic composition for a prevention of the cuticle peeling including a liquid crystal structure containing a cationic surfactant and a specific oil component, an organic acid, a protein, and a specific dimethylpolysiloxane is described.

[0005]

In Japanese Patent Laid-Open No. 2007-63197, as a technique for achieving an object of exerting sufficient fading suppression effects while imparting a good finish feeling to the hair subjected to a dyeing treatment, a hair cosmetic composition which is an oil-in-water type emulsion formed by containing a cationic surfactant, a specific higher alcohol, and saccharides is described.

[0006]

In addition, in Japanese Patent Laid-Open No. 2012-31128, as a technique for achieving an object of obtaining a hair style having a good manageability while imparting a voluminous

feeling in a vicinity of a top of a head, a hair cosmetic composition including a specific quaternary ammonium or a salt thereof, a specific ether type tertiary amine or a salt thereof, a specific branched fatty acid or a salt thereof, an aromatic sulfonate, and water is described.

SUMMARY OF THE INVENTION

[0007]

In one embodiment, there is provided a hair cosmetic composition including the following components (A) to (D) and water:

(A) a cationic surfactant in a concentration of equal to or greater than 0.1% by mass and equal to or less than 20% by mass;

(B) succinic acid or a salt thereof in a concentration of equal to or greater than 0.1% by mass and equal to or less than 5% by mass (which is a content as an acid);

(C) naphthalenesulfonic acid or a salt thereof in a concentration of equal to or greater than 0.05% by mass and equal to or less than 5% by mass (which is a content as an acid); and

(D) dipropylene glycol in a concentration of equal to or greater than 5% by mass and equal to or less than 30% by mass.

[0008]

In addition, in another embodiment, there are provided a hair treatment method including applying the hair cosmetic composition of the present invention to a hair and rinsing the

hair, and a hair treatment method including applying the hair cosmetic composition of the present invention to the hair and drying the hair.

5 DETAILED DESCRIPTION OF THE INVENTION

[0009]

The invention will be now described herein with reference to illustrative embodiments. Those skilled in the art will recognize that many alternative embodiments can be
10 accomplished using the teachings of the present invention and that the invention is not limited to the embodiments illustrated for explanatory purposes.

[0010]

In daily hair care routines, a force such as extending
15 the hair by brushing, blowing, a usage of an iron or the like is applied to the hair. In a case where the hair is stretched, a phenomenon in which the cuticle is curled-up (lift-up) is observed, and this is considered to weaken an adhesion between the cuticles and promote a peeling of the cuticle.

20 Accordingly, a hair cosmetic composition which suppresses the lift-up which occurs even when a force such as stretching the hair is applied, and thus, can suppress the cuticle peeling is required.

[0011]

25 In this regard, in Japanese Patent Laid-Open No. 2000-38322, it is disclosed that, by acting a cationic surfactant and a specific acid to the hair, the lift-up of the cuticle is

suppressed, but there is room for an improvement in terms of suppressing the lift-up when stretching the hair.

In addition, also in Japanese Patent Laid-Open Nos. 2005-187400, 2007-63197, and 2012-31128, there is no description from the viewpoint of suppressing the cuticle peeling when stretching the hair, and still there is room for an improvement in terms of obtaining the effects.

[0012]

The present invention has been made in consideration of the above-described circumstances, and provides a hair cosmetic composition which suppresses the cuticle peeling at the time of stretching the hair and improves a finish gloss, a manageability, and a moist feeling.

[0013]

According to the hair cosmetic composition of the present invention, the lift-up of the cuticle at the time of stretching the hair can be suppressed and the finish gloss, the manageability, and the moist feeling can be improved.

[0014]

Hereinafter, an embodiment of the present invention will be described based on specific examples of respective components. Moreover, respective components may be used alone or in combination of two or more types thereof.

In addition, in the specification, pH means a measured value in the case of being diluted 20-fold at 25°C (glass electrode measurement method).

[0015]

(Component (A))

The component (A) is a cationic surfactant. The component (A) may be used alone or two or more types thereof may be used in combination.

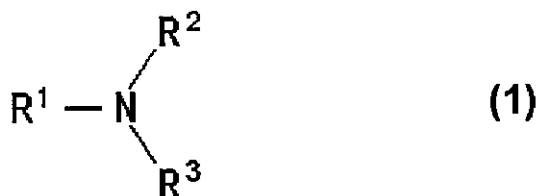
5 Examples of the component (A) include a tertiary amine compound and a salt thereof and a quaternary ammonium salt.

[0016]

Among these, examples of the tertiary amine compound and a salt thereof include a compound represented by the following

10 General Formula (1).

[0017]



[0018]

Wherein, in General Formula (1), R^1 represents a linear
 15 or branched alkyl group, an alkenyl group, or an aliphatic
 acyloxy(polyethoxy)ethyl group, having equal to or greater
 than 8 and equal to or less than 35 total carbon atoms which
 may be cleaved by a functional group represented by $-\text{O}-$, $-\text{OCO}-$,
 $-\text{COO}-$, or $-\text{CONH}-$ or may be substituted with $-\text{OH}$, each of R^2
 20 and R^3 represents an alkyl group or a hydroxyalkyl group
 having equal to or greater than 1 and equal to or less than 22
 carbon atoms, or a polyoxyethylene group having a total number
 of added moles of equal to or less than 10, and R^2 and R^3 may
 be the same as or different from each other.

[0019]

As the tertiary amine compound represented by General Formula (1), a compound obtained as a salt by a reaction of a tertiary amine with an organic acid may be used, and by
5 blending an acid in the hair cosmetic composition of the present embodiment, a salt may be formed in the composition together with a pH adjuster. Examples of the acid include acids having a short-chain alkyl group such as an alkyl phosphate, an alkyl sulfonic acid, an alkyl sulfate and the
10 like; acidic amino acids such as L-glutamic acid, L-aspartic acid and the like; pyroglutamic acid; aromatic acids such as benzoic acid, p-toluenesulfonic acid and the like; hydroxy acids such as glycolic acid, lactic acid, glyceric acid, gluconic acid, pantothenic acid, malic acid, tartaric acid,
15 citric acid and the like; and further, acetic acid or the like. Among these, from the viewpoint of resulting in moisturizing and softening effects on the hair, an organic acid is preferable, and, an acidic amino acid, pyroglutamic acid, or a hydroxy acid is more preferable, and a hydroxy acid is
20 furthermore preferable.

In the present embodiment, the content of the organic acid is preferably equal to or greater than 1 mol time and equal to or less than 10 mol times, more preferably equal to or greater than 1 mol time and equal to or less than 6 mol
25 times, with respect to the amine equivalent of the component (A), from the viewpoint of keeping a lubricity of the hair.

[0020]

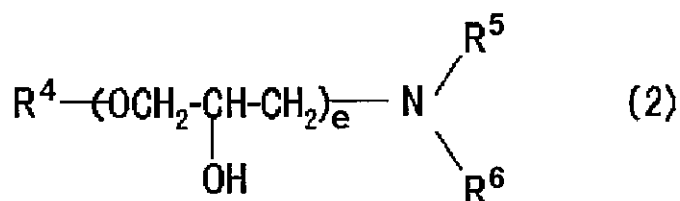
As a more specific example of the component (A), at least any one of a tertiary amine compound, a salt thereof, and the like of the following (i) to (iii) is exemplified.

[0021]

5 (i) Hydroxyether alkylamine or salt thereof

Examples thereof include a compound represented by the following General Formula (2) and a salt thereof.

[0022]



10 [0023]

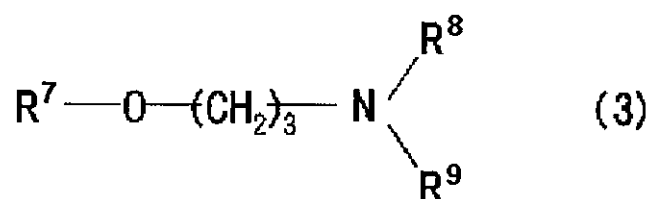
Wherein, in General Formula (2), R⁴ represents a linear or branched alkyl group or alkenyl group having equal to or greater than 6 and equal to or less than 24 carbon atoms, R⁵ and R⁶ are the same as or different from each other and each of R⁵ and R⁶ represents an alkyl group having equal to or greater than 1 and equal to or less than 6 carbon atoms or - (AO)_fH (wherein A represents an alkylene group having equal to or greater than 2 and equal to or less than 4 carbon atoms, f represents a number of equal to or greater than 1 and equal to or less than 6, f A's may be the same as or different from each other, and a sequence thereof is arbitrary), and e represents an integer of equal to or greater than 1 and equal to or less than 5.

[0024]

Specific examples thereof include hexadecyloxy(2-hydroxypropyl)dimethylamine and a salt thereof and octadecyloxy(2-hydroxypropyl)dimethylamine and a salt thereof.
[0025]

5 (ii) Ether amine or salt thereof

Examples thereof include a compound represented by the following General Formula (3) and a salt thereof.
[0026]



10 [0027]

Wherein, in General Formula (3), R^7 represents a linear or branched alkyl group or alkenyl group having equal to or greater than 6 and equal to or less than 24 carbon atoms, R^8 and R^9 are the same as or different from each other, and each
15 of R^8 and R^9 represents an alkyl group having equal to or greater than 1 and equal to or less than 6 carbon atoms or $(\text{AO})_g\text{H}$ (wherein A represents an alkylene group having equal to or greater than 2 and equal to or less than 4 carbon atoms, g represents a number of equal to or greater than 1 and equal to
20 or less than 6, g A's may be the same as or different from each other, and a sequence thereof is arbitrary.

[0028]

Specific examples thereof include N,N-dimethyl-3-hexadecyloxypropylamine and a salt thereof and N,N-dimethyl-3-

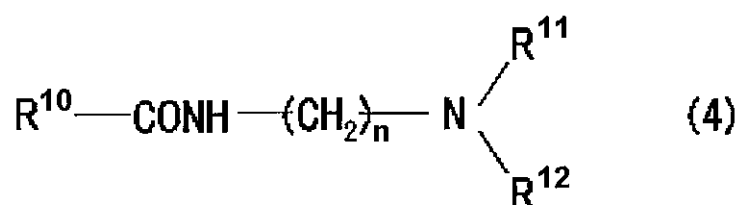
octadecyloxypropylamine and a salt thereof.

[0029]

(iii) Alkylamidoamine or salt thereof

Examples thereof include a compound represented by the
5 following General Formula (4) and a salt thereof.

[0030]



[0031]

Wherein, in General Formula (4), R^{10} represents an
10 aliphatic hydrocarbon group having equal to or greater than 11
and equal to or less than 23 carbon atoms, R^{11} and R^{12} are the
same as or different from each other and each of R^{11} and R^{12}
represents an alkyl group having equal to or greater than 1
and equal to or less than 4 carbon atoms, and n represents a
15 number of equal to or greater than 2 and equal to or less than
4.

[0032]

Specific examples thereof include N-(3-
(dimethylamino)propyl)docosanamide and a salt thereof and N-
20 (3-(dimethylamino)propyl)stearamide and a salt thereof.

[0033]

As a preferable component (A) selected from the tertiary
amine compound or a salt thereof described above, (ii) the
ether amine and a salt thereof or (iii) the alkylamidoamine or

a salt thereof is preferable from the viewpoint of a smoothness at the time of applying or rinsing.

[0034]

Among these, (ii) the ether amine or a salt thereof is more preferable, and, N,N-dimethyl-3-hexadecyloxypropylamine or a salt thereof or N,N-dimethyl-3-octadecyloxypropylamine and a salt thereof is furthermore preferable.

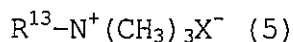
[0035]

In addition, specific examples of the quaternary ammonium salt used as the component (A) include (iv) an alkyl trimethyl ammonium salt, (v) an alkoxyalkyl trimethyl ammonium salt, and (vi) a dialkyl dimethyl ammonium salt. Specific examples of (iv) to (vi) are shown below.

[0036]

(iv) Alkyl trimethyl ammonium salt

Examples of the alkyl trimethyl ammonium salt include a compound represented by the following General Formula (5).



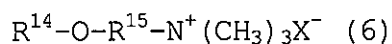
Wherein, in General Formula (5), R^{13} represents an alkyl group having equal to or greater than 12 and equal to or less than 22 carbon atoms, and X^- represents a halide ion such as a chloride ion, a bromide ion or the like.

Specific examples thereof include cetyl trimethyl ammonium chloride, stearyl trimethyl ammonium chloride, behenyl trimethyl ammonium chloride or the like.

[0037]

(v) Alkoxyalkyl trimethyl ammonium salt

Examples of the alkoxyalkyl trimethyl ammonium salt include a compound represented by the following General Formula (6).



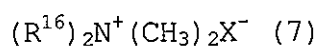
5 Wherein, in General Formula (6), R^{14} represents an alkyl group having equal to or greater than 12 and equal to or less than 22 carbon atoms, R^{15} represents an ethylene group or a propylene group which may be substituted with a hydroxy group, and X^- has the same meaning as described above.

10 Specific examples thereof include stearoxy propyl trimethyl ammonium chloride, stearoxy ethyl trimethyl ammonium chloride, stearoxy hydroxy propyl trimethyl ammonium chloride or the like.

[0038]

15 (vi) Dialkyl dimethyl ammonium salt

Examples of the dialkyl dimethyl ammonium salt include a compound represented by the following General Formula (7).



20 Wherein, in General Formula (7), each of R^{16} 's independently represents an alkyl group having equal to or greater than 12 and equal to or less than 22 carbon atoms or a benzyl group, and X^- has the same meaning as described above.

Specific examples thereof include distearyl dimethyl ammonium chloride or the like.

25 [0039]

As a preferable component (A) selected from the quaternary ammonium salt described above, a quaternary

ammonium salt having an alkyl group having 16 carbon atoms is exemplified. That is, in General Formulas (5) to (7), R^{13} , R^{14} , or R^{16} is preferably an alkyl group having 16 carbon atoms, more preferably a cetyl trimethyl ammonium salt, and still
5 more preferably cetyl trimethyl ammonium chloride.

[0040]

The component (A) may be used alone or in combination of two or more types thereof, and a content thereof in the hair cosmetic composition is equal to or greater than 0.1% by mass, preferably equal to or greater than 0.2% by mass, more
10 preferably equal to or greater than 0.5% by mass, and still more preferably equal to or greater than 1% by mass, and equal to or less than 20% by mass, preferably equal to or less than 15% by mass, more preferably equal to or less than 10% by mass,
15 and still more preferably equal to or less than 5% by mass, with respect to a total amount of the hair cosmetic composition, from the viewpoint of smoothness from the time of application to after drying and excellent sleekness.

In addition, in the component (A), the content of the cetyl trimethyl ammonium salt is preferably equal to or
20 greater than 50% by mass, more preferably equal to or greater than 80% by mass, and preferably equal to or less than 100% by mass.

[0041]

25 (Component (B))

Next, the component (B) will be described. The component (B) is succinic acid or a salt thereof.

Examples of the components constituting the salt include alkali metals such as sodium, potassium and the like, ammonium, cations derived from alkanolamines such as monoethanolamine, diethanolamine, triethanolamine and the like, and, cations
5 derived from basic amino acids such as arginine, lysine and the like.

In the present embodiment, by using the component (B) in the hair cosmetic composition and a component (C) described below in combination, it is possible to effectively suppress
10 the cuticle peeling when stretching the hair. Furthermore, by using the component (B) and components (C) and (D) described below in combination, it is possible to improve the finish gloss, the manageability, and the moist feeling while suppressing the cuticle peeling.

15 [0042]

A content of the component (B) in the hair cosmetic composition is equal to or greater than 0.1% by mass, preferably equal to or greater than 0.2% by mass, more preferably equal to or greater than 0.3% by mass, still more
20 preferably equal to or greater than 1.0% by mass, and still more preferably equal to or greater than 1.4% by mass as an acid, with respect to the total amount of the hair cosmetic composition from the viewpoint of suppressing the cuticle peeling at the time of hair-stretching and imparting the gloss
25 to the hair. In addition, the content of the component (B) is equal to or less than 5% by mass, preferably equal to or less than 4% by mass, more preferably equal to or less than 3.5% by

mass, and still more preferably equal to or less than 3% by mass as an acid, with respect to the total amount of the hair cosmetic composition from the viewpoint of further improving a stability of the hair cosmetic composition.

5 [0043]

(Component (C))

The component (C) is naphthalenesulfonic acid or a salt thereof.

Examples of components constituting the salt include
10 alkali metals such as sodium, potassium and the like, ammonium, cations derived from alkanolamines such as monoethanolamine, diethanolamine, triethanolamine and the like, and, cations derived from basic amino acids such as arginine, lysine and the like.

15 More specific examples of the component (C) include β -naphthalenesulfonic acid or a salt thereof.

[0044]

A content of the component (C) in the hair cosmetic composition is equal to or greater than 0.05% by mass,
20 preferably equal to or greater than 0.1% by mass, more preferably equal to or greater than 0.2% by mass, and still more preferably equal to or greater than 0.4% by mass as an acid, with respect to the total amount of the hair cosmetic composition from the viewpoint of improving the effects of
25 suppressing the cuticle peeling at the time of hair-stretching together with the component (B). In addition, the content of the component (C) is equal to or less than 5% by mass,

preferably equal to or less than 3% by mass, and more preferably equal to or less than 2% by mass as an acid, with respect to the total amount of the hair cosmetic composition from the viewpoint of reducing a creaky feeling of the hair.

5 [0045]

In addition, in the hair cosmetic composition of the present embodiment, a mass ratio ((B)/(C)) of a mass of the component (B) as an acid to a mass of the component (C) as an acid is preferably equal to or greater than 0.1, more preferably equal to or greater than 0.2, still more preferably equal to or greater than 0.5, still more preferably equal to or greater than 1.0, and furthermore preferably equal to or greater than 2.5, and preferably equal to or less than 20, more preferably equal to or less than 15, and still more preferably equal to or less than 12, from the viewpoint of furthermore improving the cuticle peeling suppression effects at the time of hair-stretching.

[0046]

(Component (D))

20 The component (D) is dipropylene glycol.

The content of the component (D) in the hair cosmetic composition is equal to or greater than 5% by mass, preferably equal to or greater than 10% by mass, and more preferably equal to or greater than 15% by mass, and equal to or less than 30% by mass, preferably equal to or less than 27% by mass, and more preferably equal to or less than 25% by mass, with respect to the total amount of the hair cosmetic composition

from the viewpoint of a texture improvement of the agent at a time of an application and improving the finish moist feeling.
[0047]

In addition, in the hair cosmetic composition of the
5 present embodiment, a mass ratio $((B) + (C) / (D))$ of a total amount of the mass of the component (B) as an acid and the mass of the component (C) as an acid to a mass of the component (D) is preferably equal to or greater than 0.01, more preferably equal to or greater than 0.02, and still more
10 preferably equal to or greater than 0.04, and preferably equal to or less than 3, more preferably equal to or less than 2, more preferably equal to or less than 1, and still more preferably equal to or less than 0.5, from the viewpoint of improving the finish moist feeling while suppressing the
15 cuticle peeling at the time of hair-stretching.
[0048]

The hair cosmetic composition in the present embodiment is more specifically an aqueous hair cosmetic composition.

That is, the hair cosmetic composition in the present
20 embodiment further includes water. As the water, ion exchange water, distilled water, or the like can be used.

The content of the water in the hair cosmetic composition, for example, can be a remaining portion excluding the components other than the water in the hair cosmetic
25 composition. In addition, the content of the water is preferably equal to or greater than 50% by mass, and more preferably equal to or greater than 60% by mass, with respect

to the total mass of the hair cosmetic composition. In addition, the content is preferably equal to or less than 95% by mass, more preferably equal to or less than 90% by mass, and still more preferably equal to or less than 85% by mass.

5 [0049]

Next, the pH of the hair cosmetic composition will be explained.

In the hair cosmetic composition of the present embodiment, the pH at 25°C at the time of being diluted 20-
10 fold with water is preferably equal to or higher than 4 and more preferably equal to or higher than 5, and preferably equal to or lower than 7 and more preferably equal to or lower than 6.5, from the viewpoint of maximizing the effects of suppressing cuticle peeling at the time of the hair-stretching.

15 [0050]

In the hair cosmetic composition of the present embodiment, a surfactant other than the component (A), such as an anionic surfactant, a nonionic surfactant, or an amphoteric surfactant, silicones, other oils or the like may be further
20 included to obtain desired effects such as an improvement of a cleaning performance and a finish after drying.

[0051]

In addition, in the hair cosmetic composition in the present embodiment, a pH adjuster may be blended. As the pH
25 adjuster, organic acids other than the components (B) and (C) are exemplified, and an organic carboxylic acid such as lactic acid, malic acid, citric acid or the like can also be used.

In addition, as other pH adjusters, bases such as sodium hydroxide, potassium hydroxide, ammonium chloride and the like may be used in combination with these organic acids.

[0052]

5 In the hair cosmetic composition in the present embodiment, in addition to the above components, the components used in typical hair cosmetic compositions can be suitably blended depending on a desired effects. Examples of such optional components include an anti-dandruff agent,
10 vitamins, a fungicide, an anti-inflammatory agent (glycyrrhizic acid, glycyrrhetinic acid, derivatives thereof, or the like), a preservative, a chelating agent, a humectant (sorbitol, panthenol, or the like), a colorant (a dye, a pigment, or the like), extracts (a polar solvent extract of
15 eucalyptus, protein obtainable from a shell having a nacreous layer or pearls or hydrolysates thereof, protein obtainable from honey, royal jelly, silk, or whey or hydrolyzates thereof, protein-containing extract obtainable from seeds of legumes, Asian ginseng extract, rice germ extract, Fucus extract, aloe
20 extract, lotus extract, pomegranate extract, eglantine extract, chamomilla extract, licorice extract, Alpinia speciosa leaf extract, and chlorella extract, chamomile extract, olive leaf extract, raspberry extract, lemon extract, lemongrass extract, rosemary extract, acerola extract, yuzu extract, kiwi extract,
25 apple extract, star fruit leaf extract, rose hip extract, grapefruit extract, prune extract, bamboo leaf extract, jojoba leaf extract, Hemerocallis fulva flower extract, althea

extract, okra extract, Thujopsis dolabrata extract, and the like), pearling agents such as titanium oxide, perfume, an ultraviolet absorber, an antioxidant, shea butter, rose water, orange oil, eucalyptus oil, lavender oil, avocado oil, argan oil, jojoba oil, tea tree oil and the like.

[0053]

Next, the method for producing the hair cosmetic composition will be described.

In the present embodiment, the hair cosmetic composition is, for example, produced by suitably mixing the components (A) to (D) with other components with a predetermined order and dissolving or dispersing the resultant product in water.

That is, the method for producing the hair cosmetic composition in the present embodiment includes, for example, a step of uniformly mixing the components (B), (C), and (D) with water heated to about 25°C to 80°C and dissolving, adding the component (A) thereto and uniformly mixing, and cooling to room temperature.

[0054]

Since the hair cosmetic composition obtainable in the present embodiment includes the above-described components (A) to (D) within a specific range, for example, even in a case where a physical force such as extending the hair as in brushing, blowing, a usage of an iron or the like is applied to the hair is applied, the hair cosmetic composition can suppress the lift-up of the cuticle and improve the finish gloss, the manageability, and the moist feeling.

More specifically, in the present embodiment, by using the components (B) and (C) in combination, it is possible to effectively suppress the cuticle peeling when stretching the hair. Thus, for example, it is also possible to keep the hair
5 in a healthy state or reduce a deterioration of a texture.

In addition, in the present embodiment, by using the components (B) to (D) in combination, it is possible to achieve both the suppression effects of the cuticle peeling when stretching the hair and the improvement effects of the
10 finish moist feeling.

[0055]

A form of the hair cosmetic composition of the present embodiment is not limited, and can be suitably selected from a liquid state, a gel state, and the like, and a hair cosmetic
15 composition in a liquid state using water or water and a lower alcohol as a solvent is preferable.

[0056]

In addition, the hair cosmetic composition of the present embodiment is used, for example, by being applied to
20 the hair and rinsed, and more specifically, is used in a bathroom as a hair rinse, a hair conditioner, a hair treatment, a hair pack or the like.

[0057]

In addition, a hair treatment method using the hair
25 cosmetic composition in the present embodiment includes, for example, applying the hair cosmetic composition to the hair and rinsing the hair. In addition, a method including

applying the hair cosmetic composition of the present embodiment to the hair after cleaning and drying without being rinsed is exemplified.

Furthermore, a method of performing a conditioning
5 treatment of the hair using the hair cosmetic composition of the present embodiment can include a step of applying a hair cleansing agent to the hair and rinsing the hair, and after the step, a step of applying the hair cosmetic composition in the present embodiment to the hair, applying another hair
10 cosmetic composition, and rinsing the hair. At this time, after applying the hair cosmetic composition in the present embodiment to the hair, before applying another hair cosmetic composition, the hair cosmetic composition in the present embodiment may be rinsed or may not be rinsed, and more
15 preferably, not to be rinsed. Furthermore, it is preferable that the hair is rinsed after another hair cosmetic composition is applied to the hair and allowed to stand for equal to or longer than 30 seconds and equal to or shorter than 10 minutes. Here, another hair cosmetic composition
20 represents, specifically, an emulsion type hair cosmetic composition containing a cationic surfactant, an aliphatic alcohol having equal to or greater than 12 and equal to or less than 24 carbon atoms, an oil and water.

The hair cosmetic composition of the present embodiment
25 can suppress the cuticle peeling at the time of hair-stretching by suitably treating the hair as described above.

[0058]

Up to now, the embodiments of the present invention have been described. However, the embodiments are merely examples of the present invention, and various constituents other than the above can be adopted.

5 [0059]

Regarding the embodiments described above, preferable embodiments of the present invention will be further described below.

[0060]

10 <1> A hair cosmetic composition including the following components (A) to (D) and water:

(A) a cationic surfactant in a concentration of equal to or greater than 0.1% by mass and equal to or less than 20% by mass;

15 (B) succinic acid or a salt thereof in a concentration of equal to or greater than 0.1% by mass and equal to or less than 5% by mass (which is a content as an acid);

(C) naphthalenesulfonic acid or a salt thereof in a concentration of equal to or greater than 0.05% by mass and
20 equal to or less than 5% by mass (which is a content as an acid); and

(D) dipropylene glycol in a concentration of equal to or greater than 5% by mass and equal to or less than 30% by mass.

[0061]

25 <2> The hair cosmetic composition according to <1>, in which a mass ratio ((B)/(C)) of a mass of the component (B) as an acid to a mass of the component (C) as an acid in the hair

cosmetic composition is preferably equal to or greater than 0.1, more preferably equal to or greater than 0.2, still more preferably equal to or greater than 0.5, still more preferably equal to or greater than 1.0, and furthermore preferably equal to or greater than 2.5, and preferably equal to or less than 20, more preferably equal to or less than 15, and still more preferably equal to or less than 12.

<3> The hair cosmetic composition according to <1> or <2>, in which a mass ratio $((B) + (C) / (D))$ of a total amount of a mass of the component (B) as an acid and a mass of the component (C) as an acid to a mass of the component (D) in the hair cosmetic composition is preferably equal to or greater than 0.01, more preferably equal to or greater than 0.02, and still more preferably equal to or greater than 0.04, and preferably equal to or less than 3, more preferably equal to or less than 2, still more preferably equal to or less than 1, and still more preferably equal to or less than 0.5.

<4> The hair cosmetic composition according to any one of <1> to <3>, in which the component (A) is preferably one or more types selected from the group consisting of a tertiary amine compound and a salt thereof and a quaternary ammonium salt;

more preferably one or more types selected from the group consisting of the tertiary amine compound represented by the above-described General Formula (1) and a salt thereof and a quaternary ammonium salt;

still more preferably one or more types selected from

the group consisting of (i) hydroxyether alkylamine and a salt thereof, (ii) ether amine and a salt thereof, (iii) alkylamidoamine and a salt thereof, (iv) an alkyl trimethyl ammonium salt, (v) an alkoxyalkyl trimethyl ammonium salt, and
 5 (vi) a dialkyl dimethyl ammonium salt;

still more preferably one or more types selected from the group consisting of the compounds represented by each of the above-described General Formulas (2) to (4) and a salt thereof and salts represented by each of the above-described General
 10 Formulas (5) to (7);

still more preferably one or more types selected from the group consisting of hexadecyloxy (2-hydroxypropyl)dimethylamine and a salt thereof, octadecyloxy (2-hydroxypropyl)dimethylamine and a salt thereof, N,N-
 15 dimethyl-3-hexadecyloxypropylamine and a salt thereof, N,N-dimethyl-3-octadecyloxypropylamine and a salt thereof, N-(3-(dimethylamino)propyl)docosanamide and a salt thereof, N-(3-(dimethylamino)propyl)stearamide and a salt thereof, cetyl trimethyl ammonium chloride, stearyl trimethyl ammonium
 20 chloride, behenyl trimethyl ammonium chloride, stearoxypropyl trimethyl ammonium chloride, stearoxyethyl trimethyl ammonium chloride, stearoxyhydroxypropyl trimethyl ammonium chloride, and distearyl dimethyl ammonium chloride;

still more preferably one or more types selected from
 25 the group consisting of N,N-dimethyl-3-hexadecyloxypropylamine and a salt thereof, N,N-dimethyl-3-octadecyloxypropylamine and a salt thereof, and a quaternary ammonium salt having an alkyl

group having 16 carbon atoms;

still more preferably a quaternary ammonium salt having an alkyl group having 16 carbon atoms; and

furthermore preferably cetyl trimethyl ammonium chloride.

5 <5> The hair cosmetic composition according to any one of <1> to <4>, in which a content of the component (A) in the hair cosmetic composition is equal to or greater than 0.1% by mass, preferably equal to or greater than 0.2% by mass, more preferably equal to or greater than 0.5% by mass, and still
10 more preferably equal to or greater than 1% by mass, and equal to or less than 20% by mass, preferably equal to or less than 15% by mass, more preferably equal to or less than 10% by mass, and still more preferably equal to or less than 5% by mass, with respect to the total amount of the hair cosmetic
15 composition.

 <6> The hair cosmetic composition according to any one of <1> to <5>, in which a content of the component (B) as an acid in the hair cosmetic composition is equal to or greater than 0.1% by mass, preferably equal to or greater than 0.2% by
20 mass, more preferably equal to or greater than 0.3% by mass, still more preferably equal to or greater than 1.0% by mass, and still more preferably equal to or greater than 1.4% by mass, and equal to or less than 5% by mass, preferably equal to or less than 4% by mass, and more preferably equal to or
25 less than 3.5% by mass, with respect to the total amount of the hair cosmetic composition.

 <7> The hair cosmetic composition according to any one

of <1> to <6>, in which a content of the component (C) as an acid in the hair cosmetic composition is equal to or greater than 0.05% by mass, preferably equal to or greater than 0.1% by mass, more preferably equal to or greater than 0.2% by mass, and still more preferably equal to or greater than 0.4% by mass, and equal to or less than 5% by mass, preferably equal to or less than 3% by mass, and more preferably equal to or less than 2% by mass, with respect to the total amount of the hair cosmetic composition.

<8> The hair cosmetic composition according to any one of <1> to <7>, in which a content of the component (D) in the hair cosmetic composition is equal to or greater than 5% by mass, preferably equal to or greater than 10% by mass, and more preferably equal to or greater than 15% by mass, and equal to or less than 30% by mass, preferably equal to or less than 27% by mass, and more preferably equal to or less than 25% by mass, with respect to the total amount of the hair cosmetic composition.

<9> The hair cosmetic composition according to any one of <1> to <8>, in which a content of the water in the hair cosmetic composition is preferably a remaining portion excluding components other than the water in the hair cosmetic composition, more preferably equal to or greater than 50% by mass, and still more preferably equal to or greater than 60% by mass, and more preferably equal to or less than 95% by mass, still more preferably equal to or less than 90% by mass, and still more preferably equal to or less than 85% by mass, with

respect to the total amount of the hair cosmetic composition.

<10> The hair cosmetic composition according to any one of <1> to <9>, in which pH at 25°C when the hair cosmetic composition is diluted 20-fold with water is preferably equal to or higher than 4 and more preferably equal to or higher than 5, and preferably equal to or lower than 7 and more preferably equal to or lower than 6.5.

<11> A method for producing the hair cosmetic composition according to any one of <1> to <10>, which includes a step of uniformly mixing the components (B), (C), and (D) with water heated to about 25°C to 80°C and dissolving the components, and after the step of dissolving, a step of adding and uniformly mixing the component (A), and cooling to room temperature.

<12> A hair treatment method, which includes applying the hair cosmetic composition according to any one of <1> to <10> to the hair and rinsing the hair;

preferably includes a step of applying the hair cleansing agent to the hair and rinsing the hair, and after the step, a step of applying the hair cosmetic composition according to any one of <1> to <10> to the hair, thereafter, applying another hair cosmetic composition, and rinsing the hair;

more preferably includes a step of applying the hair cleansing agent to the hair and rinsing the hair, and after the step, a step of applying the hair cosmetic composition according to any one of <1> to <10> to the hair, thereafter,

applying another hair cosmetic composition without rinsing the hair cosmetic composition according to any one of <1> to <10>, and rinsing the hair;

still more preferably includes a step of applying the hair cleansing agent to the hair and rinsing the hair, after the step, a step of applying the hair cosmetic composition according to any one of <1> to <10> to the hair, thereafter, applying another hair cosmetic composition without rinsing the hair cosmetic composition according to any one of <1> to <10>, and a step of rinsing the hair after being allowed to stand for equal to or longer than 30 seconds and equal to or shorter than 10 minutes from the applying another hair cosmetic composition;

and still more preferably includes a step of applying the hair cleansing agent to the hair and rinsing the hair, after the step, a step of applying the hair cosmetic composition according to any one of <1> to <10> to the hair, thereafter, applying another hair cosmetic composition without rinsing the hair cosmetic composition according to any one of <1> to <10>, a step of rinsing the hair after being allowed to stand for equal to or longer than 30 seconds and equal to or shorter than 10 minutes from the applying another hair cosmetic composition, and after the step of rinsing after being allowed to stand, stretching the hair.

<13> A method for suppressing a cuticle peeling at the time of a hair-stretching, which includes applying the hair cosmetic composition according to any one of <1> to <10> to

the hair and rinsing the hair;

preferably includes a step of applying the hair
cleansing agent to the hair and rinsing the hair, and after
the step, a step of applying the hair cosmetic composition
5 according to any one of <1> to <10> to the hair, thereafter,
applying another hair cosmetic composition, and rinsing the
hair;

more preferably includes a step of applying the hair
cleansing agent to the hair and rinsing the hair, and after
10 the step, a step of applying the hair cosmetic composition
according to any one of <1> to <10> to the hair, thereafter,
applying another hair cosmetic composition without rinsing the
hair cosmetic composition according to any one of <1> to <10>,
and rinsing the hair;

15 still more preferably includes a step of applying the
hair cleansing agent to the hair and rinsing the hair, after
the step, a step of applying the hair cosmetic composition
according to any one of <1> to <10> to the hair, thereafter,
applying another hair cosmetic composition without rinsing the
20 hair cosmetic composition according to any one of <1> to <10>,
and a step of rinsing the hair after being allowed to stand
for equal to or longer than 30 seconds and equal to or shorter
than 10 minutes from the applying another hair cosmetic
composition;

25 and still more preferably includes a step of applying
the hair cleansing agent to the hair and rinsing the hair,
after the step, a step of applying the hair cosmetic

composition according to any one of <1> to <10> to the hair,
 thereafter, applying another hair cosmetic composition without
 rinsing the hair cosmetic composition according to any one of
 <1> to <10>, a step of rinsing the hair after being allowed to
 5 stand for equal to or longer than 30 seconds and equal to or
 shorter than 10 minutes from the applying another hair
 cosmetic composition, and after the step of rinsing after
 being allowed to stand, stretching the hair.

<14> A use of the hair cosmetic composition according to
 10 any one of <1> to <10> for suppressing a cuticle peeling at a
 time of a hair-stretching.

<15> A use of the hair cosmetic composition according to
 any one of <1> to <10> for producing a cosmetic composition
 which suppresses a cuticle peeling at a time of a hair-
 15 stretching.

[Examples]

[0062]

(Examples 1 to 9 and Comparative Examples 1 to 9)

20 Hair cosmetic compositions having the compositions shown
 in Tables 1 and 2 were prepared according to the following
 method and evaluated. The evaluation method and evaluation
 criteria are shown below.

[0063]

25 (Method for Producing Hair Cosmetic Composition)

Components (B) or (B'), (C), and (D) were mixed with
 water heated to 60°C and dissolved, then, a component (A) was

added thereto, and the resultant product was homogenized and cooled to room temperature, whereby a hair cosmetic composition was obtained.

[0064]

5 (pH Measurement Method)

The sample was diluted 20 times by mass with purified water and stirred to be dissolved, and the pH of the resultant product was measured at 25°C using a pH meter (HM-30R type) manufactured by DKK-TOA CORPORATION.

10 [0065]

(Manufacture of Hair Bundle for Evaluation)

A tress having a length of 25 cm using 5 g of untreated Japanese hair was manufactured, and bleach hair was prepared.

A bleach treatment was performed on the tress in a
15 mixing ratio between a first liquid and a second liquid of 1:2,
in a bath ratio between the hair and a liquid mixture of 1:3,
at room temperature for an immersion time of 20 minutes using
Prettia foam bleach high bleach manufactured by Kao
Corporation. After the immersion treatment, the resultant
20 product was rinsed with tap water at 40°C, then, dried with
tower, and dried with a dryer. This series of treatments was
performed three times, and the resultant product was used as a
"hair bundle for evaluation".

[0066]

25 (Treatment Method of Hair Bundle for Evaluation)

After the hair bundle for evaluation was wet with tap water at 40°C, 0.5 g of a shampoo for evaluation shown below

was applied thereto, and after foaming for 30 seconds, the hair bundle was rinsed with tap water at 40°C. Thereafter, the hair bundle was dried for 3 minutes with a dryer while performing towel drying and combing operation. This was used
 5 as a "hair bundle for evaluation before treatment".

In addition, after the hair bundle for evaluation was wet with tap water at 40°C, 0.5 g of a shampoo for evaluation shown below was applied thereto, and after foaming for 30 seconds, the hair bundle was rinsed with tap water at 40°C.
 10 0.5 g of the hair cosmetic composition of each example described in the table was applied to this hair bundle, followed by being allowed to stand for 5 minutes.

Thereafter, the hair bundle was sufficiently rinsed with tap water at 40°C, and dried for 3 minutes with a dryer while
 15 performing a towel drying and a finger-combing. This was used as a "hair bundle for evaluation after treatment".

[0067]

Formulation of shampoo for evaluation (a pH of 7.0)

Polyoxyethylene (2.5) lauryl ether sulfuric acid sodium		
20	salt	15.5% by mass
	Diethanolamide laurate	2.3% by mass
	Disodium edetate	0.15% by mass
	Sodium benzoate	0.5% by mass
	Sodium chloride	0.8% by mass
25	Phosphoric acid	suitable amount
	Fragrance, methyl paraben	trace amount
	Purified water	balance

Total

100% by mass

[0068]

(Evaluation of Hair Cuticle Peeling Suppression at Time of Stretching)

5 1. Five strands of the hair were randomly picked from the hair bundle for evaluation after the above-described treatment had been performed, and the portion (hair length of 5 cm) 10 cm to 15 cm distant from hair ends was cut out with a razor. A mending tape (manufactured by Scotch Co., Ltd.) was
10 attached to the portions 0.5 cm distant from both ends of the cut-out hair such that the portions are sandwiched from the top and the bottom, and this taken as a fixing portion.

Then, the cut-out hair was stretched such that the tensile speed in the axial direction of the hair gripped by
15 the fixing portion became 0.1 cm/sec and the stretching rate became 25% (in which the hair in the portion where had not been attached with a tape was extended until the hair became 5 cm from 4 cm before stretching). The hair after stretching was fixed on a slide glass with a two-part type adhesive so as
20 not to be moved, and this was taken as a sample for measurement.

2. The hair surface shape of the sample for measurement was measured using a laser microscope (VK-8700, manufactured by KEYENCE Corporation) (measurement pitch: 0.1 μm), and a
25 surface inclination correction (3 points specified) was performed on the inclination (due to the slide glass, the mending tape, or the like) other than an inclination derived

from the hair generated in manufacturing a sample using a software. Thereafter, a mean height Rc value of a roughness curve element according to the JIS standard (JIS B0601: 2001) was calculated. As the calculation method, a straight line
5 having a length of 200 μm in the axial direction on the hair surface which had been subjected to the inclination correction above was drawn, and the Rc value (μm) on the straight line was calculated by using the software. This operation was performed five times on the hair surface randomly selected,
10 and an average thereof was calculated.

It is suggested that as the Rc value is larger, the surface shape become rough, that is, the peeling of the cuticle is promoted, and it is shown that as the value is smaller, cuticle peeling is suppressed.

15 [0069]

(Sensory Evaluation: Glossy Feeling after Drying Hair)

For the hair bundle for evaluation after the above treatment, a "gloss", a "manageability", and a "moist feeling" of the hair bundle after drying were evaluated by the
20 following criteria by ten professional panelists, and for each item, an average point was calculated.

[0070]

(Gloss)

5: there was a gloss compared to that of the "hair
25 bundle for evaluation before treatment".

4: there was a slight gloss compared to that of the "hair bundle for evaluation before treatment".

3: there was a gloss substantially equal to that of the "hair bundle for evaluation before treatment".

2: there was little gloss compared to that of the "hair bundle for evaluation before treatment".

5 1: there was no gloss compared to that of the "hair bundle for evaluation before treatment".

[0071]

(Manageability)

5: there was a manageability compared to that of the "hair bundle for evaluation before treatment".

4: there was a slight manageability compared to that of the "hair bundle for evaluation before treatment".

3: there was a manageability substantially equal to that of the "hair bundle for evaluation before treatment".

15 2: there was little manageability compared to that of the "hair bundle for evaluation before treatment".

1: there was no manageability compared to that of the "hair bundle for evaluation before treatment".

[0072]

20 (Moist Feeling)

5: there was a moist feeling compared to that of the "hair bundle for evaluation before treatment".

4: there was a slight moist feeling compared to that of the "hair bundle for evaluation before treatment".

25 3: there was a moist feeling substantially equal to that of the "hair bundle for evaluation before treatment".

2: there was little moist feeling compared to that of

the "hair bundle for evaluation before treatment".

1: there was no moist feeling compared to that of the
"hair bundle for evaluation before treatment".

[0073]

5 [TABLE 1]

			EXAMPLE 1	EXAMPLE 2	EXAMPLE 3	EXAMPLE 4	EXAMPLE 5	EXAMPLE 6	EXAMPLE 7	EXAMPLE 8	EXAMPLE 9	HAIR FOR EVALUATION BEFORE TREATMENT
COMPONENT (% BY MASS)	(A)	CETYL TRIMETHYL AMMONIUM CHLORIDE *1	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-
	(B)	SUCCINIC ACID	0.1	0.5	3	5	1.5	1.5	1.5	1.5	1.5	-
	(B')	LACTIC ACID										-
	(C)	SODIUM β- NAPHTHALENESULFONATE	0.6	0.6	0.6	0.6	0.1	5	0.6	0.6	0.6	-
	(D)	DIPROPYLENE GLYCOL	20	20	20	20	20	20	20	5	30	-
	WATER		BALANCE	BALANCE	BALANCE	BALANCE	BALANCE	BALANCE	BALANCE	BALANCE	BALANCE	-
	TOTAL		100	100	100	100	100	100	100	100	100	-
pH			6	6	6	6	6	6	6	6	6	-
AMOUNT OF (C) AS AN ACID			0.54	0.54	0.54	0.54	0.09	4.52	0.54	0.54	0.54	-
(B) / (C)			0.18	0.92	5.53	9.21	16.59	0.33	2.76	2.76	2.76	-
((B)+(C)) / (D)			0.03	0.05	0.18	0.28	0.08	0.30	0.10	0.41	0.07	-
EVALUATION RESULT	GLOSS		3.8	4.3	4.8	4.8	3.9	3.7	4.5	4.4	4.4	STANDARD
	MANAGEABILITY		3.6	4.3	4.7	4.7	3.7	3.9	4.6	4.6	4.3	STANDARD
	MOIST FEELING		3.7	4.4	4.7	4.8	3.9	3.8	4.6	3.9	4.5	STANDARD
	Rc VALUE (μm)		1.6	1.5	1.3	1.3	1.7	1.6	1.2	1.1	1.5	0.88

*1 Cetyl trimethyl ammonium chloride: QUARTAMIN 60W manufactured by Kao Corporation

[0074]

[TABLE 2]

			COMPARATIVE E EXAMPLE 1	COMPARATIV E EXAMPLE 2	COMPARATIV E EXAMPLE 3	COMPARATIV E EXAMPLE 4	COMPARATIV E EXAMPLE 5	COMPARATIV E EXAMPLE 6	COMPARATIV E EXAMPLE 7	COMPARATIV E EXAMPLE 8	COMPARATIV E EXAMPLE 9	HAIR FOR EVALUATION BEFORE TREATMENT
COMPONENT (% BY MASS)	(A)	CETYL TRIMETHYL AMMONIUM CHLORIDE *1	1.7		1.7	1.7		1.7	1.7	1.7		-
	(B)	SUCCINIC ACID	1.5	1.5			1.5	1.5	1.5			-
	(B')	LACTIC ACID								1.5		-
	(C)	SODIUM β- NAPHTHALENESULFONA TE	0.6		0.6		0.6			0.6	0.6	-
	(D)	DIPROPYLENE GLYCOL		20	20	20	20	20		20	20	-
	WATER		BALANCE	BALANCE	BALANCE	BALANCE	BALANCE	BALANCE	BALANCE	BALANCE	BALANCE	-
	TOTAL		100	100	100	100	100	100	100	100	100	-
pH			6	6	6	6	6	6	6	6	6	-
AMOUNT OF (C) AS AN ACID			0.54		0.54		0.54			0.54	0.54	-
(B) / (C)			2.76		0		2.76			0	0	-
((B) + (C)) / (D)				0.08	0.03	0	0.10	0.08		0.03	0.03	-
EVALUATION RESULT	GLOSS		4.2	4.2	2.3	2.1	3.7	2.2	2.1	3.2	3.1	STANDARD
	MANAGEABILITY		4.1	2.5	3.6	2.2	2.6	3.1	2.3	3.1	2.1	STANDARD
	MOIST FEELING		1.2	3.5	3.6	3.2	3.3	3.4	1.1	3.8	3.6	STANDARD
	Rc VALUE (μm)		1.4	3.8	3.7	5.6	3.3	3.2	3.4	3.3	3.3	0.88

*1 Cetyl trimethyl ammonium chloride: QUARTAMIN 60W manufactured by Kao Corporation

[0075]

As shown in Tables 1 and 2, in the hair bundle obtained by applying the hair cosmetic composition obtained in each of Examples 1 to 9, a balance between the effect of reducing an increase in the Rc value at the time of stretching lift-up, that is, the effect of suppressing the cuticle peeling, and each effect of the gloss of the hair after finish, the manageability, and the moist feeling was improved, compared to that of each of Comparative Examples.

10 [0076]

(Example 10)

After the hair bundle for evaluation described above is wet with tap water at 40°C, 0.5 g of the shampoo for evaluation shown above is applied thereto, and after foaming for 30 seconds, the hair bundle is rinsed with tap water at 40°C. 0.5 g of the hair cosmetic composition described in Example 2 is applied to this hair bundle, and 0.5 g of a hair treatment of a formulation shown below is applied thereto, followed by being allowed to stand for 5 minutes.

20 Thereafter, the hair bundle is sufficiently rinsed with tap water at 40°C, and dried for 3 minutes with a dryer while performing a towel drying and a finger-combing.

[0077]

Formulation of hair treatment

25 3-Octadecyloxy-N,N-dimethyl-1-propane amine

2.48% by mass

Stearyl alcohol

7.70% by mass

	Lanolin acid	0.18% by mass
	Benzyl alcohol	0.20% by mass
	Dipropylene glycol	2.00% by mass
	Lactic acid	1.56% by mass
5	Malic acid	0.10% by mass
	Hexa(hydroxystearic acid/stearic acid/rosin acid)dipentaerythryl	0.30% by mass
	Hydrogenated castor oil hydroxystearate	0.10% by mass
10	Jojoba ester	0.10% by mass
	Long chain dibasic acid bis 3-methoxypropyl amide	0.05% by mass
	Sunflower oil	0.20% by mass
	Isopropyl palmitate	0.70% by mass
15	Dimethicone	4.50% by mass
	Amodimethicone	0.28% by mass
	Polyethylene glycol	0.05% by mass
	Hydroxyethyl cellulose ether	0.10% by mass
	Fragrances	trace amount
20	Purified water	balance
	Total	100% by mass

[0078]

The hair bundle obtainable by the above-described treatments has a more improved balance between the effect of
 25 reducing an increase in the Rc value at the time of stretching
 lift-up, that is, the effect of suppressing the cuticle
 peeling, and each effect of the gloss of the hair after finish,

the manageability, and the moist feeling, compared to that in the hair treated with only the hair cosmetic composition of Example 2.

It is apparent that the present invention is not limited
5 to the above embodiment, and may be modified and changed
without departing from the scope and spirit of the invention.

WHAT IS CLAIMED IS:

1. A hair cosmetic composition, comprising the following components (A) to (D) and water:

5 (A) a cationic surfactant in a concentration of equal to or greater than 0.1% by mass and equal to or less than 20% by mass;

(B) succinic acid or a salt thereof in a concentration of equal to or greater than 0.1% by mass and equal to or less
10 than 5% by mass (which is a content as an acid);

(C) naphthalenesulfonic acid or a salt thereof in a concentration of equal to or greater than 0.05% by mass and equal to or less than 5% by mass (which is a content as an acid); and

15 (D) dipropylene glycol in a concentration of equal to or greater than 5% by mass and equal to or less than 30% by mass.

2. The hair cosmetic composition according to claim 1, wherein a mass ratio ((B)/(C)) of a mass of the component (B) as an acid to a mass of the component (C) as an acid in the
20 hair cosmetic composition is equal to or greater than 0.1 and equal to or less than 20.

3. The hair cosmetic composition according to claim 1 or 2, wherein a mass ratio ((B) + (C) / (D)) of a total amount of a mass of the component (B) as an acid and a mass of the
25 component (C) as an acid to a mass of the component (D) in the

hair cosmetic composition is equal to or greater than 0.01 and equal to or less than 3.

4. The hair cosmetic composition according to any one of
5 claims 1 to 3, wherein the component (A) is a quaternary ammonium salt having an alkyl group having 16 carbon atoms.

5. A hair treatment method, comprising:
applying the hair cosmetic composition according to any
10 one of claims 1 to 4 to a hair and rinsing the hair.