										4.0							
											4.0						
												4.0					
													4.0				
														4.0			
															4.0		
																4.0	
		30.0		96.0	50.0												
	96.0	66.0	90.0			96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	100.0
e hair using	5.0	5.0	5.0	5.0	5.0	5.0	4.4	5.0	5.0	5.0	4.8	5.0	4.0	2.4	2.0	2.0	2.0
	5.0	5.0	5.0	5.0	5.0	4.8	4.4	5.0	5.0	5.0	4.8	5.0	4.0	2.4	2.0	2.0	2.0
fness)	5.0	5.0	5.0	5.0	5.0	4.6	5.0	4.2	4.4	4.6	5.0	4.0	5.0	3.6	5.0	5.0	5.0
h time	5.0	5.0	5.0	5.0	5.0	4.8	4.2	5.0	5.0	4.8	4.2	5.0	4.0	2.4	2.0	1.0	1.0
the hair	5.0	5.0	5.0	5.0	5.0	5.0	4.6	5.0	5.0	5.0	4.8	5.0	4.0	2.4	2.0	2.0	2.0
	5.0	5.0	5.0	5.0	5.0	4.6	4.2	4.6	4.4	4.2	4.2	3.0	3.0	1.6	1.0	1.0	1.0

				0.50
				Appropriate amount
30, BASF SE)			2.50	
	0.10	0.10	0.10	0.10
	30.00	30.00	30.00	30.00
	Balance	Balance	Balance	Balance
asiness for waving the hair using hair iron	5.0	5.0	5.0	5.0
Finish of hair style	5.0	5.0	5.0	5.0
Feel for touch (non-stiffness)	5.0	5.0	4.0	5.0
Hair-style retention with time	5.0	5.0	5.0	5.0
Easiness for re-waving the hair	5.0	5.0	5.0	5.0
Total evaluation	5.0	5.0	5.0	5.0

Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance
5.0	5.0	5.0	4.8	4.8	4.4	4.6	4.6	4.4	3.8	4.4	4.6	5.0	5.0	4.4	4.2
5.0	5.0	5.0	4.8	4.8	4.4	4.6	4.8	4.8	4.0	5.0	5.0	5.0	5.0	5.0	5.0
5.0	5.0	5.0	4.8	5.0	4.6	4.6	3.6	4.8	4.2	3.8	4.8	4.8	4.8	3.8	3.6
4.6	4.6	4.8	5.0	5.0	4.4	4.8	4.8	4.8	4.4	3.8	4.4	4.8	5.0	4.4	4.0
3.6	3.8	4.4	4.8	5.0	5.0	4.8	4.8	5.0	4.8	4.0	4.8	5.0	5.0	4.8	5.0
3.6	3.8	4.2	4.8	5.0	5.0	4.8	4.8	4.8	5.0	4.2	4.2	5.0	5.0	5.0	5.0
3.4	3.8	3.6	4.4	4.4	4.2	4.4	4.2	3.8	3.4	4.8	4.8	5.0	5.0	4.8	4.6
4.6	4.8	4.6	4.6	4.8	4.8	4.4	4.4	4.6	5.0	4.2	4.8	5.0	5.0	4.8	4.8
4.0	4.6	4.8	4.6	5.0	5.0	4.6	4.2	4.6	4.8	4.0	4.6	4.6	4.8	4.8	4.8

by BASF SE

						2.0	2.0	2.0
	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance
hair iron	4.2	3.8	4.8	4.4	4.2	4.8	4.4	4.2
	3.8	3.6	4.6	4.0	3.8	4.8	4.0	3.8
	4.2	3.6	4.8	3.8	4.2	4.8	3.8	3.8
	3.8	4.2	5.0	4.2	3.8	4.6	3.6	4.0
ce)	4.8	4.8	5.0	4.6	4.8	5.0	4.6	4.8
	4.8	4.8	5.0	4.6	4.8	5.0	4.6	4.6
aturally dried	4.0	4.2	4.8	4.4	4.2	4.8	3.8	4.2
dried	4.2	4.6	4.8	4.4	4.4	4.8	4.2	4.0

ide/polyethylene glycol methacrylate					3.0				
minopropylacrylamide/methoxypolyethylene s ratio: 52/25/2/21> (*7)						3.0			
	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance
	5.0	5.0	5.0	5.0	4.8	4.8	5.0	5.0	5.0
	5.0	4.8	5.0	4.8	5.0	5.0	5.0	5.0	5.0
	5.0	4.8	4.8	5.0	4.8	5.0	5.0	5.0	5.0
	5.0	4.8	4.4	4.8	5.0	5.0	5.0	5.0	5.0
	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	5.0	4.8	5.0	5.0	5.0	5.0	5.0	4.8	5.0
	5.0	5.0	4.8	4.8	5.0	5.0	5.0	5.0	5.0

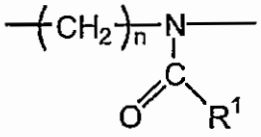
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CLAIMS

1. A hair styling method comprising the steps of:

applying a hair cosmetic composition containing the following component (A) to the hair:

Component (A): an organopolysiloxane, wherein at least two silicon atoms in an organopolysiloxane segments constituting a main chain of the organopolysiloxane are bound to poly(N-acylalkyleneimine) segments consisting of repeating units represented by the following general formula (1) via alkylene group containing hetero atom:



(1)

wherein R^1 is a hydrogen atom, an alkyl group having 1 to 22 carbon atoms, an aralkyl group, or an aryl group; and n is 2 or 3;

wherein the number-average molecular weight of the poly(N-acylalkyleneimine) segment is from 1,200 to 5,500,

wherein the mass ratio of the organopolysiloxane segments (a) constituting the main chain to the poly(N-acylalkyleneimine) segments (b) [i.e., a/b] is from 35/65 to 60/40,

wherein the weight-average molecular weight of the adjacent poly(N-acylalkyleneimine) segments is from 1,300 to 5,500, and

wherein the weight-average molecular weight of the organopolysiloxane segment constituting the main chain is from 7,000 to 100,000;

forming the hair style at a hair temperature of 50°C or higher;

and subsequently cooling the hair temperature to lower than 50°C to fix the formed hair style;

2. The hair styling method according to claim 1, wherein at least one silicon atom in the component (A) to which the poly(N-acylalkyleneimine) segments are bounded via the heteroatom-containing alkylene group is a silicon atom other than silicon atoms at both ends of the organopolysiloxane segments constituting the main chain.

3. The hair styling method according to claim 1 or 2, wherein R^1 in the general formula (1) is an alkyl group having 1 to 3 carbon atoms.

4. The hair styling method according to any one of claims 1 to 3, wherein the timing of cooling to a temperature lower than 50°C after the hair style is formed is "before releasing", "simultaneous with the releasing", or "after the releasing" an action for forming the hair style.

5. A hair styling method comprising: re-forming the hair style of the hair formed by the hair styling method according to any one of claims 1 to 4 at a hair temperature of 50°C or higher, and subsequently cooling the hair temperature to lower than 50°C to fix the formed hair style.

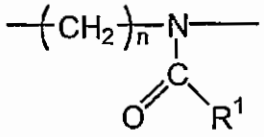
6. The hair styling method according to any one of claims 1 to 5, wherein water is applied to the hair before the hair

cosmetic composition containing the component (A) is applied to the hair.

7. The hair styling method according to any one of claims 1 to 6, wherein the hair is dried after the hair cosmetic composition containing the component (A) is applied to the hair and before the hair style is formed at the hair temperature of 50°C or higher.

8. A hair cosmetic composition comprising the following component (A):

Component (A): an organopolysiloxane wherein at least two silicon atoms in an organopolysiloxane segment constituting a main chain of the organopolysiloxane are bound to poly(N-acylalkyleneimine) segment consisting of repeating unit represented by the following general formula (1):



(1)

wherein R^1 is a hydrogen atom, an alkyl group having 1 to 22 carbon atoms, an aralkyl group, or an aryl group; and n is 2 or 3 via an alkylene group containing a hetero atom,

wherein the number-average molecular weight of the poly(N-acylalkyleneimine) segment is from 1,600 to 3,500,

wherein the mass ratio of the organopolysiloxane segments (a) constituting the main chain to the poly(N-acylalkyleneimine) segments (b) [i.e., a/b] is from 42/58 to 58/42,

wherein the weight-average molecular weight of the organopolysiloxane segment between adjacent

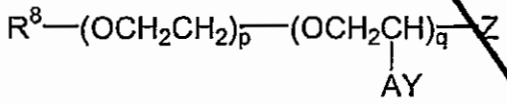
poly(N-acylalkyleneimine) segments is from 1,600 to 3,500, and

wherein the weight-average molecular weight of the organopolysiloxane segment constituting the main chain is from 7,000 to 100,000.

9. The hair cosmetic composition according to claim 8, further comprising the following components (B) and (C):

Component (B): an organic solvent selected from the group consisting of the following (b1) to (b5):

(b1) a compound represented by the following general formula (5):



(5)

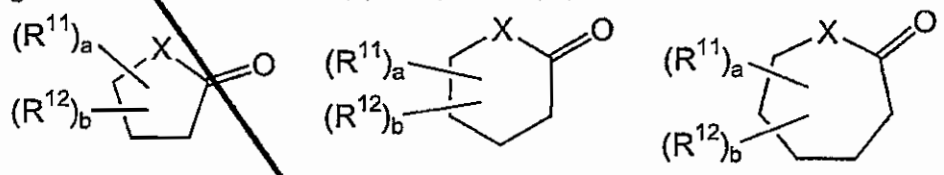
wherein R^8 is a hydrogen atom, an alkyl group having 1 to 6 carbon atoms, or a group of R^9-Ph-R^{10}- wherein R^9 is a hydrogen atom, or a methyl or methoxy group, R^{10} is a linking bond, or a saturated or unsaturated bivalent hydrocarbon group having 1 to 3 carbon atoms, and Ph is a p-phenylene group; A is a linking bond, or a saturated bivalent hydrocarbon group having 1 to 4 carbon atoms; Y and Z are independently a hydrogen atom or a hydroxyl group; and p and q are independently an integer of 0 to 5 provided than when p and q are each zero, Z is a hydroxyl group and R^8 is neither a hydrogen atom, an alkyl group having 1 to 3 carbon atoms nor a group of $-R^9$-Ph-,

(b2) an N-aklylpyrrolidone or N-alkenylpyrrolidone having a nitrogen atom to which an alkyl or alkenyl group having 1 to 18 carbon atoms is bound,

(b3) an alkylene carbonate having 2 to 4 carbon atoms,

(b4) polypropylene glycol having a number-average molecular weight of 100 to 1,000, and

(b5) a lactone or cyclic ketone represented by the following general formula (6), (7) or (8):



(6) (7) (8)

wherein X is a methylene group or an oxygen atom; R^{11} and R^{12} are substituents different from each other; and a and b are independently 0 or 1; and

Component (C): an organic carboxylic acid which may have a hydroxyl group, or a salt thereof.

10. The hair cosmetic composition according to claim 9, wherein the component (B) is benzyl alcohol or 2-benzyloxyethanol.

11. The hair cosmetic composition according to claim 9, wherein the component (C) is lactic acid or malic acid, or salts thereof.

12. The hair cosmetic composition according to any one of claims 9 to 11, wherein the contents of the components (B) and (C) are respectively from 0.1 to 40% by mass and from 0.1 to 30% by mass.

13. The hair cosmetic composition according to any one of

claims 8 to 12, further comprising the following component (D),

Component (D): a set polymer.

14. The hair cosmetic composition according to claim 13, wherein the component (D) is selected from the group consisting of an acrylic polymer and a vinylpyrrolidone based polymer.

15. The hair cosmetic composition according to claim 13 or 14, wherein the content of the component (D) is from 0.05 to 20% by mass.

16. The hair cosmetic composition according to any one of claims 8 to 15, wherein the content of the component (A) is from 0.01 to 50% by mass.

17. The hair cosmetic composition according to any one of claims 8 to 16, which is a hair styling agent or a hair conditioning agent.

										4.0							
											4.0						
												4.0					
													4.0				
														4.0			
															4.0		
																4.0	
		30.0		96.0	50.0												
	96.0	66.0	90.0			96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	100.0
he hair using	5.0	5.0	5.0	5.0	5.0	5.0	4.4	5.0	5.0	5.0	4.8	5.0	4.0	2.4	2.0	2.0	2.0
	5.0	5.0	5.0	5.0	5.0	4.8	4.4	5.0	5.0	5.0	4.8	5.0	4.0	2.4	2.0	2.0	2.0
iffness)	5.0	5.0	5.0	5.0	5.0	4.6	5.0	4.2	4.4	4.6	5.0	4.0	5.0	3.6	5.0	5.0	5.0
ith time	5.0	5.0	5.0	5.0	5.0	4.8	4.2	5.0	5.0	4.8	4.2	5.0	4.0	2.4	2.0	1.0	1.0
g the hair	5.0	5.0	5.0	5.0	5.0	5.0	4.6	5.0	5.0	5.0	4.8	5.0	4.0	2.4	2.0	2.0	2.0
	5.0	5.0	5.0	5.0	5.0	4.6	4.2	4.6	4.4	4.2	4.2	3.0	3.0	1.6	1.0	1.0	1.0

				0.50
				Appropriate amount
K-30, BASF SE)			2.50	
	0.10	0.10	0.10	0.10
	30.00	30.00	30.00	30.00
	Balance	Balance	Balance	Balance
Easiness for waving the hair using hair iron	5.0	5.0	5.0	5.0
Finish of hair style	5.0	5.0	5.0	5.0
Feel for touch (non-stiffness)	5.0	5.0	4.0	5.0
Hair-style retention with time	5.0	5.0	5.0	5.0
Easiness for re-waving the hair	5.0	5.0	5.0	5.0
Total evaluation	5.0	5.0	5.0	5.0

e	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance
	5.0	5.0	5.0	4.8	4.8	4.4	4.6	4.6	4.4	3.8	4.4	4.6	5.0	5.0	4.4	4.2
	5.0	5.0	5.0	4.8	4.8	4.4	4.6	4.8	4.8	4.0	5.0	5.0	5.0	5.0	5.0	5.0
	5.0	5.0	5.0	4.8	5.0	4.6	4.6	3.6	4.8	4.2	3.8	4.8	4.8	4.8	3.8	3.6
	4.6	4.6	4.8	5.0	5.0	4.4	4.8	4.8	4.8	4.4	3.8	4.4	4.8	5.0	4.4	4.0
	3.6	3.8	4.4	4.8	5.0	5.0	4.8	4.8	5.0	4.8	4.0	4.8	5.0	5.0	4.8	5.0
	3.6	3.8	4.2	4.8	5.0	5.0	4.8	4.8	4.8	5.0	4.2	4.2	5.0	5.0	5.0	5.0
	3.4	3.8	3.6	4.4	4.4	4.2	4.4	4.2	3.8	3.4	4.8	4.8	5.0	5.0	4.8	4.6
	4.6	4.8	4.6	4.6	4.8	4.8	4.4	4.4	4.6	5.0	4.2	4.8	5.0	5.0	4.8	4.8
	4.0	4.6	4.8	4.6	5.0	5.0	4.6	4.2	4.6	4.8	4.0	4.6	4.6	4.8	4.8	4.8

ed by BASF SE

						2.0	2.0	2.0
	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance
g hair iron	4.2	3.8	4.8	4.4	4.2	4.8	4.4	4.2
	3.8	3.6	4.6	4.0	3.8	4.8	4.0	3.8
	4.2	3.6	4.8	3.8	4.2	4.8	3.8	3.8
ce	3.8	4.2	5.0	4.2	3.8	4.6	3.6	4.0
ence)	4.8	4.8	5.0	4.6	4.8	5.0	4.6	4.8
	4.8	4.8	5.0	4.6	4.8	5.0	4.6	4.6
naturally dried	4.0	4.2	4.8	4.4	4.2	4.8	3.8	4.2
ly dried	4.2	4.6	4.8	4.4	4.4	4.8	4.2	4.0

opolymer (*6)				3.0					
amide/polyethylene glycol methacrylate					3.0				
ylaminopropylacrylamide/methoxypolyethylene ass ratio: 52/25/2/21> (*7)						3.0			
	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance
	5.0	5.0	5.0	5.0	4.8	4.8	5.0	5.0	5.0
	5.0	4.8	5.0	4.8	5.0	5.0	5.0	5.0	5.0
	5.0	4.8	4.8	5.0	4.8	5.0	5.0	5.0	5.0
	5.0	4.8	4.4	4.8	5.0	5.0	5.0	5.0	5.0
	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
ied	5.0	4.8	5.0	5.0	5.0	5.0	5.0	4.8	5.0
	5.0	5.0	4.8	4.8	5.0	5.0	5.0	5.0	5.0

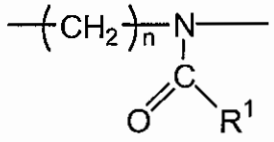
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ethod of JP-A-8-291206

The claims defining the invention are as follows:

1. A hair styling method comprising the steps of:

applying a hair cosmetic composition containing the following component (A) to the hair:

Component (A): an organopolysiloxane, wherein at least two silicon atoms in organopolysiloxane segments constituting a main chain of the organopolysiloxane are bound to poly(N-acylalkyleneimine) segments consisting of repeating units represented by the following general formula (1) via an alkylene group containing a hetero atom:



(1)

wherein R^1 is a hydrogen atom, an alkyl group having 1 to 22 carbon atoms, an aralkyl group, or an aryl group; and n is 2 or 3;

wherein the number-average molecular weight of the poly(N-acylalkyleneimine) segment is from 1,200 to 5,500,

wherein the mass ratio of the organopolysiloxane segments (a) constituting the main chain to the poly(N-acylalkyleneimine) segments (b) [i.e., a/b] is from 35/65 to 60/40,

wherein the weight-average molecular weight of the adjacent poly(N-acylalkyleneimine) segments is from 1,300 to 5,500, and

wherein the weight-average molecular weight of the organopolysiloxane segment constituting the main chain is from 7,000 to 100,000;

forming the hair style at a hair temperature of 50°C or higher;

and subsequently cooling the hair temperature to lower than 50°C to fix the formed hair style;

2. The hair styling method according to claim 1, wherein at least one silicon atom in the component (A) to which the poly(N-acylalkyleneimine) segments are bounded via the heteroatom-containing alkylene group is a silicon atom other than silicon atoms at both ends of the organopolysiloxane segments constituting the main chain.

3. The hair styling method according to claim 1 or claim 2, wherein R^1 in the general formula (1) is an alkyl group having 1 to 3 carbon atoms.

4. The hair styling method according to any one of claims 1 to 3, wherein the timing of cooling to a temperature lower than 50°C after the hair style is formed is "before releasing", "simultaneous with the releasing", or "after the releasing" an action for forming the hair style.

5. A hair styling method comprising: re-forming the hair style of the hair formed by the hair styling method according to any one of claims 1 to 4 at a hair temperature of 50°C or higher, and subsequently cooling the hair temperature to lower than 50°C to fix the formed hair style.

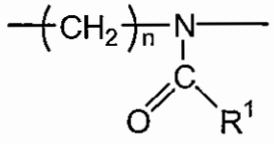
6. The hair styling method according to any one of claims 1 to 5, wherein water is applied to the hair before the hair

cosmetic composition containing the component (A) is applied to the hair.

7. The hair styling method according to any one of claims 1 to 6, wherein the hair is dried after the hair cosmetic composition containing the component (A) is applied to the hair and before the hair style is formed at the hair temperature of 50°C or higher.

8. A hair cosmetic composition comprising the following component (A):

Component (A): an organopolysiloxane wherein at least two silicon atoms in an organopolysiloxane segment constituting a main chain of the organopolysiloxane are bound to poly(N-acylalkyleneimine) segment consisting of repeating units represented by the following general formula (1):



(1)

wherein R^1 is a hydrogen atom, an alkyl group having 1 to 22 carbon atoms, an aralkyl group, or an aryl group; and n is 2 or 3, via an alkylene group containing a hetero atom,

wherein the number-average molecular weight of the poly(N-acylalkyleneimine) segment is from 1,600 to 3,500,

wherein the mass ratio of the organopolysiloxane segments (a) constituting the main chain to the poly(N-acylalkyleneimine) segments (b) [i.e., a/b] is from 42/58 to 58/42,

wherein the weight-average molecular weight of the organopolysiloxane segment between adjacent

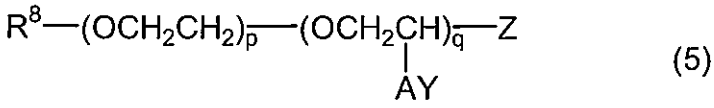
poly(N-acylalkyleneimine) segments is from 1,600 to 3,500, and

wherein the weight-average molecular weight of the organopolysiloxane segment constituting the main chain is from 7,000 to 100,000.

9. The hair cosmetic composition according to claim 8, further comprising the following components (B) and (C):

Component (B): an organic solvent selected from the group consisting of the following (b1) to (b5):

(b1) a compound represented by the following general formula (5):



(5)

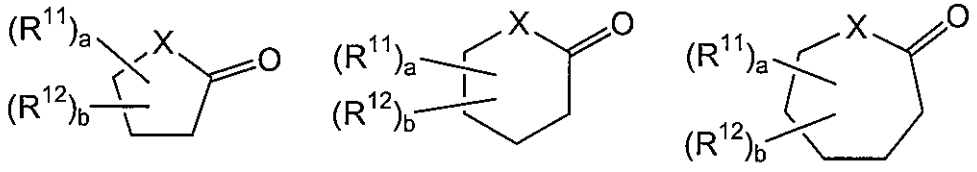
wherein R^8 is a hydrogen atom, an alkyl group having 1 to 6 carbon atoms, or a group of R^9-Ph-R^{10}- wherein R^9 is a hydrogen atom, or a methyl or methoxy group, R^{10} is a linking bond, or a saturated or unsaturated bivalent hydrocarbon group having 1 to 3 carbon atoms, and Ph is a p-phenylene group; A is a linking bond, or a saturated bivalent hydrocarbon group having 1 to 4 carbon atoms; Y and Z are independently a hydrogen atom or a hydroxyl group; and p and q are independently an integer of 0 to 5 provided that when p and q are each zero, Z is a hydroxyl group and R^8 is neither a hydrogen atom, an alkyl group having 1 to 3 carbon atoms nor a group of -R^9-Ph-,

(b2) an N-alkylpyrrolidone or N-alkenylpyrrolidone having a nitrogen atom to which an alkyl or alkenyl group having 1 to 18 carbon atoms is bound,

(b3) an alkylene carbonate having 2 to 4 carbon atoms,

(b4) polypropylene glycol having a number-average molecular weight of 100 to 1,000, and

(b5) a lactone or cyclic ketone represented by the following general formula (6), (7) or (8):



(6) (7) (8)

wherein X is a methylene group or an oxygen atom; R^{11} and R^{12} are substituents different from each other; and a and b are independently 0 or 1; and

Component (C): an organic carboxylic acid which may have a hydroxyl group, or a salt thereof.

10. The hair cosmetic composition according to claim 9, wherein the component (B) is benzyl alcohol or 2-benzyloxyethanol.

11. The hair cosmetic composition according to claim 9, wherein the component (C) is lactic acid or malic acid, or salts thereof.

12. The hair cosmetic composition according to any one of claims 9 to 11, wherein the contents of the components (B) and (C) are respectively from 0.1 to 40% by mass and from 0.1 to 30% by mass.

13. The hair cosmetic composition according to any one of

claims 8 to 12, further comprising the following component (D),

Component (D): a set polymer.

14. The hair cosmetic composition according to claim 13, wherein the component (D) is selected from the group consisting of an acrylic polymer and a vinylpyrrolidone based polymer.

15. The hair cosmetic composition according to claim 13 or 14, wherein the content of the component (D) is from 0.05 to 20% by mass.

16. The hair cosmetic composition according to any one of claims 8 to 15, wherein the content of the component (A) is from 0.01 to 50% by mass.

17. The hair cosmetic composition according to any one of claims 8 to 16, which is a hair styling agent or a hair conditioning agent.