Appeal decision

Appeal No. 2018-12724

Appellant	Institut des Corps Gras Etudes et Recherches Techniques - ITERG
Patent Attorney	Sakai International Patent Office
Appellant	Centre National de la Recherche Scientifique (C.N.R.S)
Patent Attorney	Sakai International Patent Office
Appellant	Universite de Bordeaux
Patent Attorney	Sakai International Patent Office

The case of appeal against the Examiner's decision of refusal of Japanese Patent Application No. 2015-532426, entitled "Novel biobased pre-polymers and uses thereof for preparing polymers which are of use as additives in a poly(lactic acid) matrix" (National Publication of International Patent Application No. 2015-535867 published on December 17, 2015, which was internationally published on March 27, 2014 (WO2014/044809) has resulted in the following appeal decision:

Conclusion

The appeal of the case was groundless.

Reason

No. 1 History of the procedures

The application related to the appeal of the case (hereinafter, referred to as the "Application") is a patent application deemed to have been filed on the international filing date of September 20, 2013 (Heisei 25) (priority claim under the Paris Convention: September 21, 2012, France (FR)). A written amendment was submitted on May 27, 2015, a notice of reasons for refusal was issued on June 23, 2017, a written opinion was submitted on December 4, 2017, and a decision of refusal (Examiner's decision) was issued on May 18, 2018. In response to this, an appeal against the Examiner's decision

of refusal was requested on September 25, 2018.

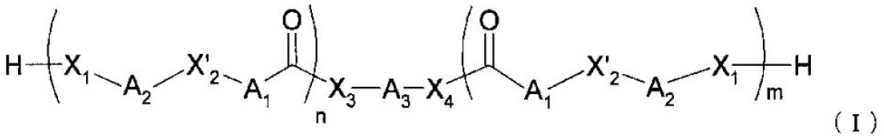
No. 2 The Invention

The inventions according to Claims 1 to 12 of the Application are recognized as those specified by matters stated in Claims 1 to 12 in the Scope of Claims for patent, which have been amended by the written amendment submitted on May 27, 2015. The inventions according to Claims 1, 4, 5, and 6 (hereinafter, respectively referred to as "Invention 1," "Invention 4," "Invention 5," and " Invention 6") are as follows:

"[Claim 1]

Use of a compound for preparing an additive in a polymer matrix selected from the group consisting of polyester, poly (vinyl chloride), polyurethane, polyamide, poly (alkyl acrylate), poly (alkyl methacrylate), polystyrene, and polyolefin, the compound having the following formula (I):

[Chemical 1]



(I)

[in the formula,

A1 represents a linear or branched divalent alkylene group containing 2 to 20 carbon atoms, wherein the group may contain one or more unsaturated bonds and may be substituted with at least one substituent-OAlk (Alk represents an alkyl group containing 1 to 10 carbon atoms);

A2 represents a linear or branched divalent alkylene group containing 2 to 20 carbon atoms, wherein the group may contain one or more unsaturated bonds and may be substituted with at least one substituent-OAlk (Alk represents an alkyl group containing 1 to 10 carbon atoms);

A3 is selected from the group consisting of the following divalent groups: a linear or branched alkylene group containing 2 to 600 carbon atoms, wherein the group may contain one or more unsaturated bonds, at least one hetero atom selected from O, N, and S may be interposed, and may be substituted with at least one substituent-OAlk (Alk represents an alkyl group containing 1 to 10 carbon atoms) and

an arylene group containing 6 to 30 carbon atoms, wherein the arylene group may be

substituted with at least one substituent-OAlk (Alk represents an alkyl group containing 1 to 10 carbon atoms);

X1, X3, and X4, which are identical or different from one another, represent, independently of one another, -O- or -NH-;

X'2 is selected from the group consisting of -S-, -CH2-, and a bond;

and

n and m represent, independently of each other, an integer in the range of 1 to 1000,

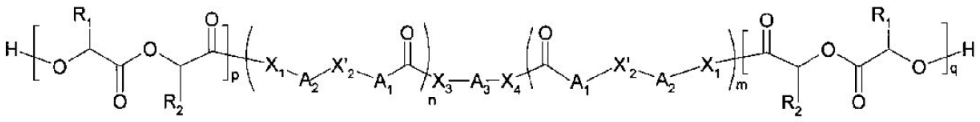
provided that the total number of carbon atoms of the groups A1, A2, and X'2 is 8 or more]."

"[Claim 4]

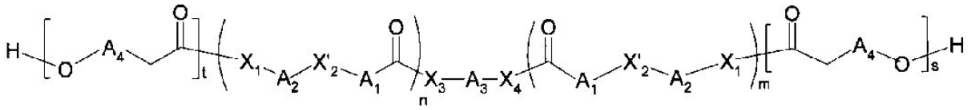
Use of the compound of any one of Claims 1 to 3, wherein

the additive is selected from the group consisting of compounds of the following formulas (II), (III) (IV), (V), and (VI):

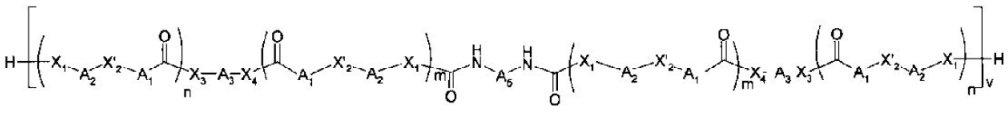
[Chemical 2]



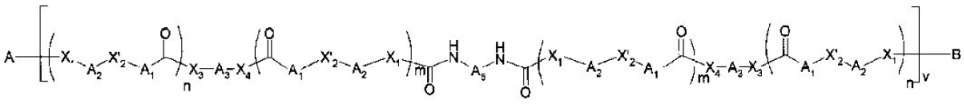
(II)



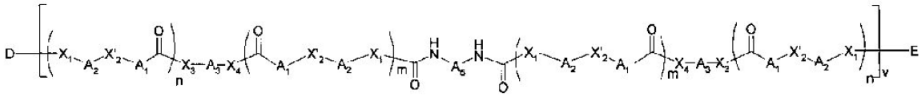
(III)



(IV)



(V)



(VI)

[in the formulas,

X1, X'2 X3, X4, A1, A2, A3, n, and m are as defined in Claim 1;

R1 and R2 represent, independently of each other, H or a linear or branched alkyl group containing 1 to 20 carbon atoms, wherein the alkyl group may contain at least one double bond or one triple bond;

A4 represents a linear or branched divalent alkylene group containing 1 to 20 carbon atoms, wherein the group may contain at least one unsaturated bond;

A5 is selected from the group consisting of the following groups:

a linear or branched alkylene group containing 1 to 20 carbon atoms, wherein the alkylene group may contain at least one unsaturated bond,

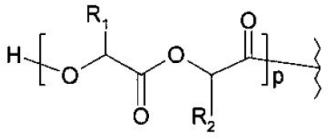
an arylene group containing 6 to 20 carbon atoms, wherein the arylene group may be

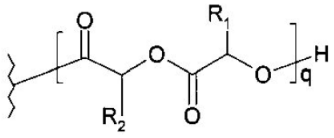
substituted,
cycloalkylene group containing 3 to 20 carbon atoms, wherein the cycloarylene group may be substituted,
a cycloalkylene-alkylene-cycloalkylene group containing 6 to 30 carbon atoms, and
an alkylene-cycloalkylene group containing 4 to 15 carbon atoms;

v is an integer from 1 to 5000;

A and B represent the following groups:

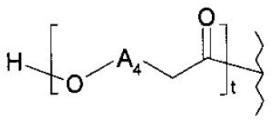
[Chemical 3]

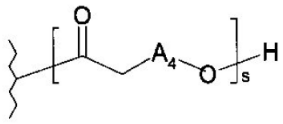
A: 

B: 

D and E represent the following groups:

[Chemical 4]

D: 

E: 

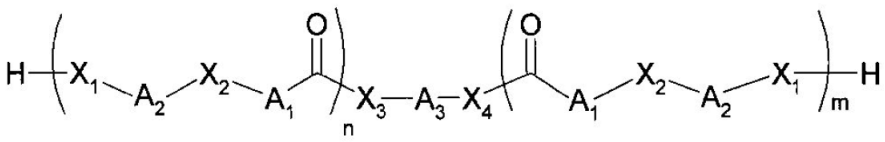
p and q represent, independently of each other, an integer in the range of 1 to 5000; and

t and s represent, independently of each other, an integer in the range of 1 to 5000].

[Claim 5]

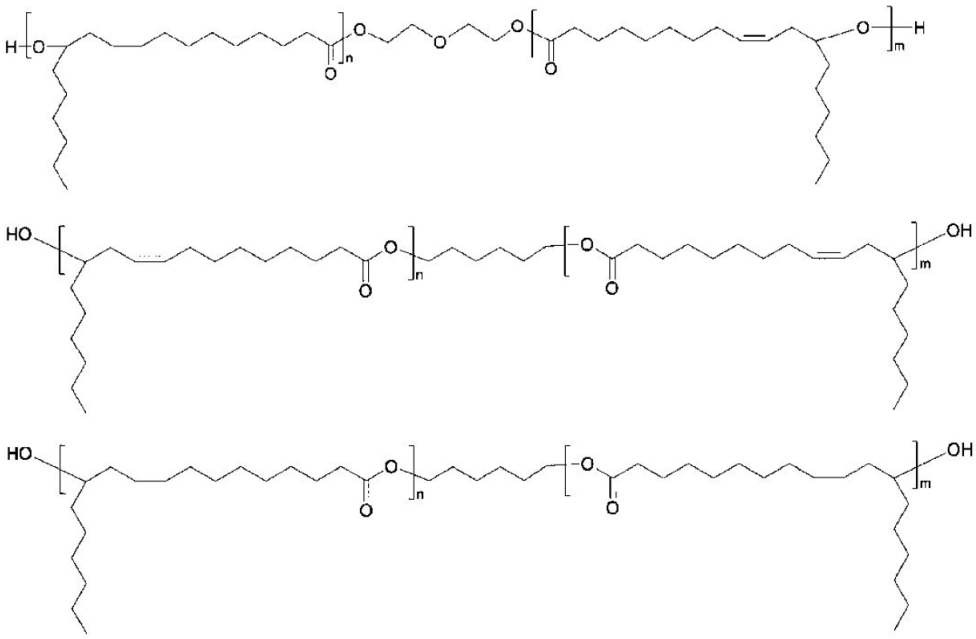
A compound of the following formula (IA):

[Chemical 5]



(IA)

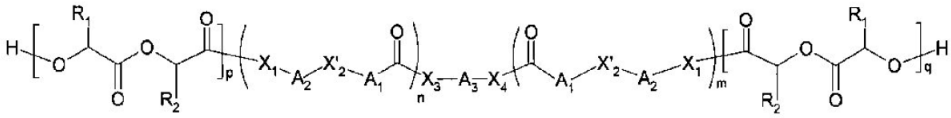
[in the formula,
X1, X3, X4, A1, A2, A3, n, and m are as defined in Claim 1; and
X 2 represents -CH2- or a bond,
provided that the total number of carbon atoms of the groups A1, A2, and X2 is 8 or more]
except that the following compound:
[Chemical 6]



is excluded.

[Claim 6]
A compound of the following formula (II):

[Chemical 7]



(II)

[in the formula,

X1, X'2, X3, X4, A1, A2, A3, n, and m are as defined in Claim 1; and

R1, R2, p, and q are as defined in Claim 4].

No. 3 Outline of the Examiner's decision of refusal

Among the reasons for refusal stated in the Examiner's decision, the main reasons for refusal to the inventions according to Claims 5 and 6 are as follows.

<Notice of reasons for refusal>

"Reason

1. (Novelty) The inventions in the respective claims listed below of this patent application shall not be granted a patent since they have fallen under the provision of Article 29 (1)(iii) of the Patent Act in that the inventions of the claims have been deemed to be identical with the inventions disclosed in the distributed publications listed below or made available to the public through electric telecommunication lines in Japan or other foreign countries prior to the filing of the patent application.

2. (Inventive step) The inventions in the respective claims listed below of this patent application shall not be granted a patent according to the provision of Article 29 (2) of the Patent Act since they could have easily been made by a person who has common knowledge in the technical field to which the inventions of the claims pertain, on the basis of the inventions disclosed in the distributed publications listed below or made available to the public through electric telecommunication lines in Japan or other foreign countries prior to the filing of the patent application.

.. (Omitted) ..

Note (See List of Cited Documents, etc. regarding cited documents, etc.)

.. (Omitted) ..

• Regarding Reason 1. (Novelty), Reason 2. (Inventive step)
[1]
· Claims 1 to 6, 12, and 13
· Cited Documents, etc. 1 and 2

.. (Omitted) ..

Cited Document 1 describes that an amide compound having a hydroxyl group, such as ethylene bis-12-hydroxystearic acid amide, is polymerized with a monomer containing lactide or lactic acid as a main component to obtain a polymer consisting of a unit derived from the lactic acid and a unit derived from the amide compound having a hydroxyl group; and use of such an amide compound in an amount of 0.001 to 10 parts by weight based on 100 parts by weight of a monomer containing lactide or lactic acid as a main component (paragraphs [0017] to [0019]). Thus, it is determined that the obtained compound satisfies the requirement of Claim 6.

In addition, the amide compound satisfies the requirement of Claim 5.

.. (Omitted) ..

<List of Cited Documents, etc.>
1. Japanese Patent Laid-Open No. 2007-332343
2. Japanese Patent Laid-Open No. 2005-113001 (a document showing well-known art)"

<Decision of refusal>
"The patent application should be rejected for Reasons 1 to 3 described in the notice of reasons for rejection dated June 23, 2017.

The details of the written opinion dated December 4, 2017 have been examined, but no sufficient grounds to overcome the reasons for refusal have been found.

• Regarding Reasons 1 and 2 (Article 29(1)(iii) and (2) of the Patent Act) [1]
· Claims 1 to 6, 12, and 13
· Cited Documents, etc. 1, 2, and 4 to 6

.. (Omitted) ..

Cited Document 1 describes that an amide compound having a hydroxyl group, such as ethylene bis-12-hydroxystearic acid amide, is polymerized with a monomer containing lactide or lactic acid as a main component to obtain a polymer consisting of a unit derived from a lactic acid and a unit derived from an amide compound having a hydroxyl group; and the use of such an amide compound in an amount of 0.001 to 10 parts by weight based on 100 parts by weight of a monomer containing lactide or lactic acid as a main component (the Scope of Claims for patent and paragraphs [0017] to [0019] and [0031]).

Considering that the polymer is a "polymer containing an amide group in the polymer chain of a polylactic acid resin" ([0017]) and "is a polymer consisting of a unit derived from lactic acid and a unit derived from an amide compound having a hydroxyl group" ([0017]); and the ethylene bis-12-hydroxystearic acid amide itself is a compound that satisfies the requirements of formula (I) of Claim 1 and formula (IA) of Claim 5; and there is common technical knowledge (for example, paragraphs [0057], [0079], and FIGS. 1 and 2 of Reference 4, paragraphs [0031] and [0032] of Reference 5, and Claim 1 and paragraphs [0091] and [0092] of Reference 6), it is determined that polycondensation of lactide in the presence of this compound allows ethylene bis-12-hydroxystearic acid amide to act as an initiator to promote the polycondensation of lactide from its two hydroxyl groups as a starting point. Therefore, the obtained compound corresponds to the compound having the structure of the formula (II) of Claim 6 of the Application.

.. (Omitted) ..

<List of Cited Documents, etc.>

1. Japanese Patent Laid-Open No. 2007-332343
2. Japanese Patent Laid-Open No. 2005-113001
3. Japanese Patent Laid-Open No. 61-36373
4. International Publication No. WO 2010/082639 (newly cited document; a document showing well-known art)
5. Japanese Patent Laid-Open No. 2009-263680(newly cited document; a document showing well-known art)
6. Japanese Patent Laid-Open No. 2009-227717(newly cited document; a document showing well-known art)

No. 4 Description in the Cited Documents and Cited Invention

1. Regarding Cited Document 1

The above Cited Document 1 cited in the reasons for refusal stated in the Examiner's decision describes the following matters:

(The underlines are applied by the body, the same shall apply hereinafter.)

A "[0017]

Hereinafter, the present invention will be described in detail.

[Polylactic acid compound (A) having a specific structure]

The polylactic acid compound (A) having a specific structure shown in the present invention is a polymer containing a specific structure in the polymer chain of a polylactic acid resin (B) described later; specifically, a polymer containing an amide group in the polymer chain of a polylactic acid resin. The content of the amide group in the polylactic acid compound (A) having the specific structure is not particularly limited, but is preferably 0.01 to 5 mol%, more preferably 0.03 to 3 mol%. The polylactic acid compound (A) having the specific structure can be obtained by a publicly known method. For example, it can be obtained by polymerizing an amide compound having a hydroxyl group and a monomer whose main component is lactide or lactic acid. Other monomers other than lactide and lactic acid which can be used include cyclic esters (lactones), such as caprolactone, propiolactone, and butyrolactone, and hydroxyalkanoic acids, such as hydroxybutanoic acid and hydroxypropanoic acid. Preferably, it is a polymer consisting of a unit derived from lactic acid and a unit derived from an amide compound having a hydroxyl group.

[0018]

Examples of the amide compound having a hydroxyl group include 12-hydroxystearic acid amide, 12-hydroxy-cis-9-octadecenoamide, methylolstearic acid amide, methylol behenic acid amide, 2-acetamide ethanol, ethylene bis-12-hydroxystearic acid amide, butylene bis-12-hydroxystearic acid amide, hexamethylenebis-12-stearic acid amide, and m-xylylenebis-12-hydroxystearic acid amide. Among them, preferable are ethylene bis-12-hydroxystearic acid amide, butylenebis-12-hydroxystearic acid amide, hexamethylenebis-12-stearic acid amide, m-xylylenebis-12-hydroxystearic acid amide, and 12-hydroxy-cis-9-Octadecenoamide. These may be used alone or in combination of two or more.

[0019]

The addition amount of the amide compound having a hydroxyl group is not particularly limited, but is 0.001 to 10 parts by weight, preferably 0.01 to 5 parts by weight,

more preferably 0.1 to 3 parts by weight with respect to 100 parts by weight of a monomer containing lactide or lactic acid as a main component.
[0020]

A solvent may be used when polymerizing lactide, lactic acid, or other monomers. Examples of the solvent include aliphatic hydrocarbons, such as hexane, heptane, and decane; alicyclic hydrocarbons, such as cyclopentane and cyclohexane; aromatic hydrocarbons, such as benzene, toluene, and xylene; and ether-based solvents such as diethyl ether, dioxane, tetrahydrofuran (THF), and diglyme. These solvents may be used alone or in combination of two or more. From the viewpoints of solubility of lactide and lactic acid, reaction temperature, reaction rate, easiness of solvent removal after the reaction, and so on, aromatic hydrocarbons and ether solvents are preferably used. Xylene and toluene are particularly preferred. The amount of the solvent used is selected in the range of 0.1 to 20 times, particularly preferably 0.5 to 3 times, the total amount of lactide or lactic acid.

Known catalysts can be used for the polymerization, including, for example, tin-based catalysts, such as tin octoate (tin 2-ethylhexanoate), dibutyltin dilaurate, and tin chloride; titanium-based catalysts, such as titanium tetraisopropoxide; and zinc-based catalysts, such as zinc chloride and zinc acetate. Among them, the tin-based catalyst is preferable and tin octoate is more preferable. The amount of the catalyst used is 0.001 to 5 parts by weight, preferably 0.003 to 1 part by weight, and more preferably 0.005 to 0.1 part by weight with respect to 100 parts by weight of lactide."

B "[0049]

[Production Example 1]

L-lactide 299.4 g, D-lactide 3.02 g, ethylene bis-12-hydroxystearic acid amide 1.89 g, and tin octoate 15 mg (added with 0.30 g of a 5-wt% xylene solution) were placed in a 2000-ml separable flask, and then polymerized under flow of nitrogen for 4 hours at 190°C. After completion of the polymerization, the reaction product was dissolved in 1800 ml of chloroform and precipitated in methanol with stirring. The remaining lactide was removed with enough stirring and suction filtration was performed. After being washed and rinsed with methanol and then dried under 2 kPa at 50°C for 24 hours, 269.8 g of a polymer (A-1) having a weight average molecular weight of 148,000 was obtained. Furthermore, the presence of hydrogen in the amide group derived from ethylene bis-12-hydroxystearic acid amide and elimination of a hydrogen atom from the hydroxyl group was confirmed by means of 1H-NMR.
[0050]

[Production Example 2]
L-lactide 299.4 g, D-lactide 3.02 g, ethylene bis-12-hydroxystearic acid amide 1.76 g, and tin octoate 15 mg (added with 0.30 g of a 5-wt% xylene solution) were placed in a 2000-ml separable flask, and then polymerized under flow of nitrogen for 4 hours at 190°C. After completion of the polymerization, the reaction product was dissolved in 1800 ml of chloroform and precipitated in methanol with stirring, followed by being well stirred to remove the remaining lactide and then suction-filtered. Subsequently, the resulting product was washed and rinsed with methanol and dried under 2 kPa at 50°C for 24 hours to give 278.2 g of a polymer (A-2) having a weight average molecular weight of 168,000. Furthermore, 1H-NMR was used to confirm the presence of hydrogen in the amide group derived from ethylene bis-12-hydroxystearic acid amide and elimination of a hydrogen atom from the hydroxyl group."

In view of Production Examples 1 and 2 in Description B in particular, therefore, it is recognized that the above Cited Document 1 discloses the following invention:

"Ethylene bis-12-hydroxystearic acid amide." (hereinafter, referred to as Cited Invention 1.)

Furthermore, in view of the descriptions in Production Example 1 in Description B, it is recognized that the above Cited Document 1 discloses the following invention:
"A polymer prepared as follows: L-lactide 299.4 g, D-lactide 3.02 g, ethylene bis-12-hydroxystearic acid amide 1.89 g, and tin octoate 15 mg (added with 0.30 g of a 5-wt% xylene solution) were placed in a 2000-ml separable flask, and then polymerized under flow of nitrogen for 4 hours at 190°C; after completion of the polymerization, the reaction product was dissolved in 1800 ml of chloroform and precipitated in methanol with stirring, followed by being well stirred to remove the remaining lactide and then suction-filtered; subsequently, the resulting product washed and rinsed with methanol and dried under 2 kPa at 50°C for 24 hours to give 269.8 g of a polymer (A-1) having a weight average molecular weight of 148,000; and 1H-NMR was used to confirm the presence of hydrogen in the amide group derived from ethylene bis-12-hydroxystearic acid amide and elimination of a hydrogen atom from the hydroxyl group." (hereinafter, referred to as Cited Invention 2.)

Furthermore, in view of the descriptions in Production Example 2 in Description B, it is recognized that the above Cited Document 1 discloses the following invention:

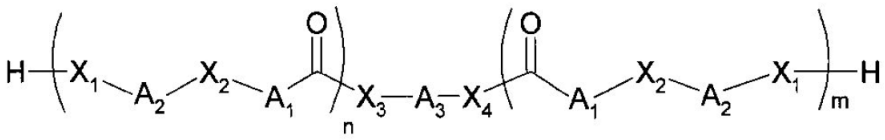
"A polymer prepared as follows: L-lactide 299.4 g, D-lactide 3.02 g, ethylene bis-12-hydroxystearic acid amide 1.76 g, and tin octoate 15 mg (added with 0.30 g of a 5-wt% xylene solution) were placed in a 2000-ml separable flask, and then polymerized under flow of nitrogen for 4 hours at 190°C; after completion of the polymerization, the reaction product was dissolved in 1800 ml of chloroform and precipitated in methanol with stirring, followed by being well stirred to remove the remaining lactide and then suction-filtered; subsequently, the resulting product washed and rinsed with methanol and dried under 2 kPa at 50°C for 24 hours to give 278.2 g of a polymer (A-2 having a weight average molecular weight of 168,000); and 1H-NMR was used to confirm the presence of hydrogen in the amide group derived from ethylene bis-12-hydroxystearic acid amide and elimination of a hydrogen atom from the hydroxyl group." (hereinafter, referred to as Cited Invention 3).

No. 5 Comparison / Judgment

1. Regarding Invention 5

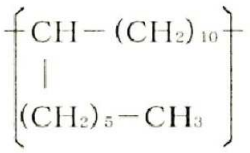
Comparison between Invention 5 and Cited Invention 1 results in the following:

It can be said that the "ethylene bis-12-hydroxystearic acid amide" of Cited Invention 1 satisfies formula (IA) of Invention 5



(IA)

in which "X1" is "-O-," "X3" and "X4" are "-NH-," "A3" is "a divalent linear alkylene group containing 2 carbon atoms," and each of "n" and "m" is "1." In addition, the portion of the "ethylene bis-12-hydroxystearic acid amide" of Cited Invention 1 in which the hydroxy group and the carboxylic acid residue are removed from the "hydroxystearic acid"



(C in the upper left corner binds to X1)

corresponds to "A2-X2-A1" of Invention 5. Then, it is determined that "the total number of carbon atoms in groups A1, A2, and X2 is 17."

Here, each of "A1" and "A2" of Invention 5 is defined as "a linear or branched divalent alkylene group containing 2 to 20 carbon atoms," and "X2" is defined as "-CH2- or a bond." For convenience, the above structure of the "ethylene bis-12-hydroxystearic acid amide" of Cited Invention 1 is divided into

–CH–
|
(CH2)5–CH3

and

– (CH2)10–

In the above portion, the leftmost

–CH–
|
(CH2)5–CH3

is "a branched divalent alkylene group containing 7 carbon atoms" and corresponds to "A2."

Also,

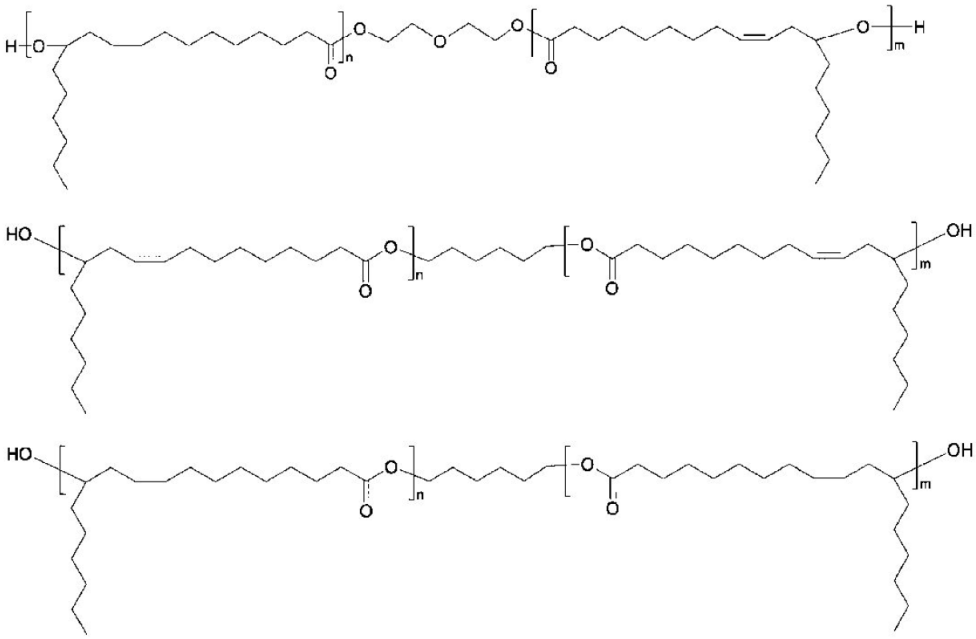
– (CH2)10–

corresponds to "A1-X2." If "X2" is "CH2," it can be said that "A1" is "a linear divalent

alkylene group containing 9 carbon atoms." If "X2" is "a bond," it can be said that "A1" is "a linear divalent alkylene group containing 10 carbon atoms."

As stated above, therefore, it can be said that Cited Invention 1 is a compound corresponding to Invention 5.

Furthermore, Cited Invention 1 is not the following compound defined in [Chemical 6], which is supposed to be excluded in Claim 5.



Hence, Invention 5 and Cited Invention 1 are identical in that they have formula (IA) of Invention 5 and diifer from compounds represented by [Chemical 6].

In view of the above, Invention 5 is Cited Invention 1, or the invention disclosed in Cited Document 1.

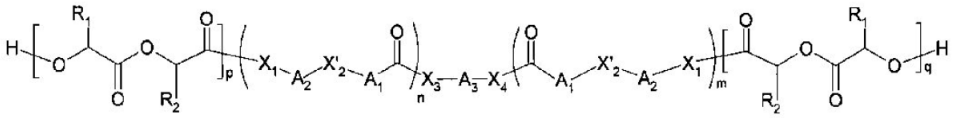
2. Regarding Invention 6

Comparison between Invention 6 and Cited Invention 2 results in the following:

The "ethylene bis-12-hydroxystearic acid amide" of Cited Invention 2 has a

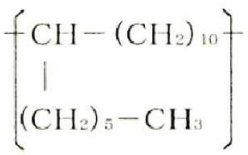
hydroxyl group (synonymous with "-OH group"). In Production Example 1 (Description B in the above IV 1), with respect to the polymer (A-1) obtained by polymerization of the "ethylene bis-12-hydroxystearic acid amide" with "L-lactide" and "D-lactide," "1H-NMR was used to confirm the presence of hydrogen in the amide group derived from ethylene bis-12-hydroxystearic acid amide and elimination of a hydrogen atom from the hydroxyl group." Thus, a polymer is formed by polymerization of L-lactide and D-lactide from the hydroxyl group of "ethylene bis-12-hydroxystearic acid amide" as a starting point, causing the hydroxyl group of "ethylene bis-12-hydroxystearic acid amide" to disappear while allowing hydrogen to remain on an amide group. Therefore, it is determined that the hydrogen on the amide group does not participate in the polymerization reaction.

In view of the above, it can be said that polymer (A-1) of Cited Invention 2 satisfies formula (II) of Invention 6



(II)

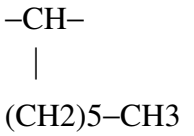
in which "X1" is "-O-," each of "X3" and "X4" is "-NH-," "A3" is "a divalent linear alkylene group containing 2 carbon atoms," and each of "n" and "m" is "1." In addition, the portion of the "ethylene bis-12-hydroxystearic acid amide" of Cited Invention 1 in which the hydroxy group and the carboxylic acid residue are removed from the "hydroxystearic acid"



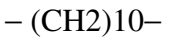
(C in the upper left corner binds to X1)

corresponds to "A2-X'2-A1" of Invention 6. Then, it is determined that "the total number of carbon atoms in groups A1, A2, and X'2 is 17."

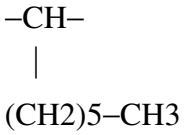
Here, each of "A1" and "A2" of Invention 6 is defined as "a linear or branched divalent alkylene group containing 2 to 20 carbon atoms," and "X'2" is defined as "-CH2- or a bond." For convenience, if the "ethylene bis-12-hydroxystearic acid amide" of Cited Invention 2 is examined by dividing it into



and

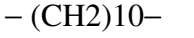


, in the above portion, the leftmost



is "a branched divalent alkylene group containing 7 carbon atoms" and corresponds to "A2."

Also,



corresponds to "A1-X2." If "X2" is "CH2," it can be said that "A1" is "a linear divalent alkylene group containing 9 carbon atoms." If "X2" is "a bond," it can be said that "A1" is "a linear divalent alkylene group containing 10 carbon atoms."

Furthermore, according to Description B describing that "a hydrogen has been caused to disappear from the twelfth hydroxyl group" of the "ethylene bis-12-hydroxystearic acid amide", it is determined that repeating units of [] in "[]p" and "[]q" (R1 and R2 are methyl groups) are formed through bonding of CO groups of L-lactide and D-lactide at the hydroxyl group of "ethylene bis-12-hydroxystearic acid amide" as a starting point and ring-opening polymerization.

Regarding "p" and "q" in formula (II) of Invention 6, since the polymer (A-1) has

a weight average molecular weight of 148,000 and L-lactide and D-lactide each have a molecular weight of 144.13, it is a compound satisfying the definition "independently of each other, an integer in the range of 1 to 5000".

Accordingly, it can be said that polymer (A-1) in Cited Invention 2 is a compound corresponding to Invention 6 in view of the structure formula.

Therefore, Invention 6 and Cited Invention 2 are identical in that they are compounds satisfying formula (II) of Invention 6.

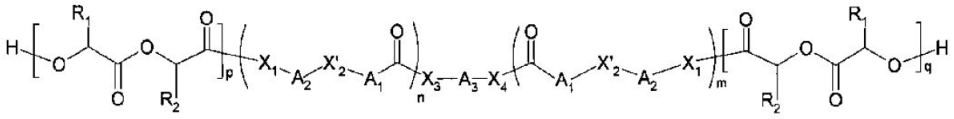
In view of the above, Invention 6 is Cited Invention 2, or the invention disclosed in Cited Document 1.

3. Regarding Invention 6

Cited Invention 3 is identical with Cited Invention 2 except for its amount of ethylene bis-12-hydroxystearic acid amide added as well as the weight average molecular weight and yield of the obtained polymer, which are different from those of Cited Invention 2.

Then, comparison between the compound having formula (II) of Invention 6 and Cited Invention 3 is as considered in the above 2.

From the above, in view of the structural formula, polymer (A-2) in Cited Invention 3 has the same structural formula as the compound of formula (II).



(I I)

Therefore, Invention 6 and Cited Invention 3 are identical in that they are compounds satisfying formula (II) of Invention 6.

In view of the above, Invention 6 is Cited Invention 3, or the invention disclosed in Cited Document 1.

4. Summary

As stated above, the Appellant should not be granted a patent for the inventions according to Claims 5 and 6 of the Application since they have fallen under the provisions

of Article 29(1)(iii) of the Patent Act.

5. Appellant's allegation

In the written demand for trial submitted on September 25, 2018, "3. (1) Novelty / Inventive step of the Invention," the Appellant alleges as follows: Cited Document 1 does not disclose formula (I) of Claim 1, which is a specific structure of the compound (prepolymer) of the Invention. Therefore, even if the monomers used as the starting molecules in the synthesis of the compound of the present invention are the same, it cannot be said that the structure of the compound obtained in the present invention is described in Cited Document 1. Regarding the synthetic reaction from monomers, reaction conditions similar to those described in this specification are not described in Cited Document 1. In light of this fact, therefore, the compound of the present invention is not described in Cited Document 1.

The above allegation will be examined.

As stated in the above 1, Cited Document 1 describes the compound of formula (IA) of Invention 5. Here, the compound of formula (IA) of Invention 5 corresponds to the compound of formula (I) of Claim 1 in which "X2" is limited to "-CH2- or a bond." Thus, the compound of formula (I) of Claim 1 of the Application includes "ethylene bis-12-hydroxystearic acid amide." As stated in the above 2, it is technically clear that "ethylene bis-12-hydroxystearic acid amide" in Production Examples 1 and 2 of Cited Document 1 results in a compound of formula (II) of Invention 6 by polymerizing the hydroxyl group therof with lactides.

Then, in Cited Document 1, it is determined that Cited Document 1 describes the compound of formula (I) of Claim 1 in addition to the compound of formula (IA) of Claim 5 (excluding the compound of [Chemical 6]) and the compound of general formula (II) of Claim 6. The "ethylene bis-12-hydroxystearic acid amide" and the polymers obtained in Production Examples 1 and 2 respectively correspond to the compound of formula (IA) of Invention 5, the compound of formula (I) of Claim 1, and the compound of formula (II) of Invention 6. These is no difference.

In the view of the above, the Appellant's allegation "Cited Document 1 does not disclose formula (I) of Claim 1, which is a specific structure of the compound (prepolymer) of the Invention. Therefore, even if the monomers used as the starting molecules in the synthesis of the compound of the present invention are the same, it cannot be said that the structure of the compound obtained in the present invention is described in the Cited Document" is not based on descriptions in the Cited Document 1 and is unreasonable. Therefore, the Appellant's allegation cannot be accepted.

Hence, the Appellant's allegation in the above written demand for trial is unreasonable. Therefore, the Appellant's allegation cannot be accepted and does not influence the results of the considerations in the above 1 to 4.

No. 6 Closing

As stated above, the Appellant should not be granted a patent for the inventions according to Claims 5 and 6 since they have fallen under the provisions of Article 29(1)(iii) of the Patent Act.

Hence, the Application should be rejected without discussing inventions concerning other claims.

Therefore, the appeal decision shall be made as described in the conclusion.

July 22, 2019

Chief administrative judge: OGUMA, Koji
Administrative judge: OWAKI, Hiroko
Administrative judge: HASHIMOTO, Shigekazu