2010 (Ne) 10043

Appeal Case of Seeking Injunction against Patent Infringement

Appellant: Teva Gyogyszergyar Zartkoruen Mukodo Reszvenytarsasag
Appellee: Kyowa Hakko Kirin Co., Ltd.

Intellectual Property High Court, Special Division

Contents

Rendition of judgment: January 27, 2012
2010 (Ne) 10043, Appeal case seeking injunction against infringement of patent right (Court of prior instance: Tokyo District Court, Case No. 2007 (Wa) 35324)
Date of conclusion of oral argument: October 28, 2011

Judgment

Appellant: Teva Gyogyszergyar Zartkoruen Mukodo Reszvenytarsasag
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Appellee: Kyowa Hakko Kirin Co., Ltd.
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Same as above: HIROTA Masanori
Same as above: SUGIMURA Junko

Main Text

1. The appeal is dismissed.
2. The appellant shall bear the cost of the appeal.
3. The additional period for filing a final appeal and a petition for acceptance of the final appeal from this judgment shall be 30 days.

Facts and reasons

No.1 Object of the appeal

1. The judgment in prior instance shall be rescinded.
2. The appellee shall not manufacture and sell the medicine named "Pravastatin Na Tablets 10mg "KH"."
3. The appellee shall dispose of the medicine named "Pravastatin Na Tablets「KH」" in stock.
4. The appellee shall bear the court costs for both the first instance and second instance.
5. Declaration of provisional execution.

No. 2 Outline of the case (the same abbreviations as those used in the judgment in prior instance shall be used in this judgment)

1. In this case, the appellant (Teva company), which served as the plaintiff in the first instance and holds the patent right in question as mentioned in (1) below (hereinafter such patent right shall simply be referred to as the "Patent Right"), sought an injunction of the manufacture and sale of the appellee's products as mentioned in (2) below and disposal of the stock thereof against the appellee (Kyowa Hakko Kirin Co., Ltd), which served as the defendant in the first instance, pursuant to Article 100 of the Patent Act.

Description

(1) Contents of the Patent Right

- Patent number: Patent No. 3737801
- Name of the invention: Pravastatin sodium substantially free of pravastatin lactone and epipravastatin, and compositions containing the same"
- Priority date: October 5, 2000
- Date of international filing: October 5, 2001
- Applicant: Biogal Gyogyszergyar RT (the predecessor of the appellant)
- Date of submission of translations: November 27, 2002
- Date of registration: November 4, 2005
- Number of claims: 9

(2) Details of the appellee's products

Pravastatin Na Tablet「KH」 which is a medicine (Former name: Pravastatin Na Tablets

10mg “Merck”)

2. The scope of claims of the patent in question (prior to correction), which served as the basis for this lawsuit, is as described below, and Claim 1 states an “invention of a product” that specifies the product by stating the process to manufacture the invention (hereinafter the manufacturing processes stated in (a) to (e) in Claim 1 may be referred to as “process (a)” and the like, and the overall manufacturing process may be referred to as the “requirements for the manufacturing process”).

Description

[Claim 1]

Pravastatin sodium prepared by a process comprising the steps of:

(a) forming an enriched organic solution of pravastatin;

(b) precipitating pravastatin as its ammonium salt;

(c) purifying the ammonium salt by recrystallization;

(d) transposing the ammonium salt to pravastatin sodium; and

(e) isolating pravastatin sodium,

and containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava.

[Claim 2]

The pravastatin sodium stated in Claim 1 wherein the enriched organic solution of pravastatin is formed by extracting an aqueous fermentation broth with a first organic solvent, back-extracting pravastatin with an aqueous solution at pH of about 8.0 to 9.5, acidifying the basic aqueous solution to a pH of about 2.0 to 3.7 and extracting the acidified aqueous solution with a second organic solvent.

[Claim 3]

The pravastatin sodium stated in Claim 2 wherein the first and second organic solvents are isobutyl acetate.

[Claim 4]

The pravastatin sodium stated in Claim 1 wherein the ammonium salt is purified by at least one crystallization from a mixture of water and an anti-solvent.

[Claim 5]

The pravastatin sodium stated in Claim 4 wherein the anti-solvent is selected from the group consisting of isobutyl acetate and acetone.

[Claim 6]

The pravastatin sodium stated in Claim 4 wherein ammonium chloride is added to the mixture of water and anti-solvent to induce crystallization of the ammonium salt.

[Claim 7]

The pravastatin sodium stated in Claim 1 wherein the ammonium salt is transposed using an

acidic or chelating ion exchange resin.

[Claim 8]

The pravastatin sodium stated in Claim 1 wherein the pravastatin sodium is isolated by recrystallization.

[Claim 9]

The pravastatin sodium stated in Claim 1 wherein the pravastatin sodium is isolated by lyophilization.

3. On March 31, 2010, the Tokyo District Court, which served as the court of prior instance, dismissed the appellant's claim, by generally holding as below. Dissatisfied with the judgment, the appellant filed this appeal.

(i) For an invention of a product, when the scope of claims states a process to manufacture the product, it is impermissible to interpret the technical scope excluding said manufacturing process;

(ii) When there are special circumstances where it is difficult to specify the relevant product by stating the constitution of the product and thus the product must be specified by the process to manufacture it, the technical scope can be interpreted excluding said manufacturing process.

(iii) Taking into account that it is unnecessary for the patent in question (hereinafter such patent shall simply be referred to as the "Patent") to state the manufacturing process to specify the product, and the circumstances in filing an application which resulted in such statement in the scope of claims, the abovementioned special circumstances cannot be found.

(iv) The appellee's products do not fulfill the requirement of process (a) and thus do not infringe the Patent Right.

4. As a related case, the appellee filed a request for a trial for patent invalidation with regard to Claims 1 to 9 of the Patent (Request for Invalidation No. 2008-800055), but on August 25, 2009, the Japan Patent Office (JPO) rendered a trial decision where it found such request to be invalid after it approved the request for correction of the following contents filed by the appellant who is the patentee. Accordingly, a litigation rescinding the trial decision where the appellee in this case serves as the plaintiff and the appellant in this case serves as the defendant (Case No. 2009 (Gyo-Ke) 10284) is pending before this court.

Description

(i) The phrase "(e) pravastatin sodium isolating" shall be modified into "(e) <u>isolating pravastatin sodium</u>";

(ii) The phrase "0.5 wt% of pravastatin lactone" shall be modified into "<u>0.2</u> wt% of pravastatin lactone"; and

(iii) The phrase "0.2 wt% of epiprava" shall be modified into "0.1 wt% of epiprava," respectively (the underlined parts are the parts for correction).

In addition, in accordance with the order of the claims, the inventions prior to the correction shall be referred to as "Invention 1" and the like, and the corrected inventions shall be referred to as "Corrected Invention 1" and the like.

No.3 Allegations of the parties

With regard to the allegations made by the parties in this court, in addition to the following allegations, they are as stated in the judgment in prior instance (pages 5 to 56), and thus, such statement shall be quoted.

1. Allegations of the appellant in this court

(1) Technical scope of the inventions in question

A. The judgment in prior instance, while recognizing that the inventions in question were inventions of a "product," found that the process to manufacture the relevant product was stated in the claim (this type of claim is generally referred to as a "product-by-process claim"), and held that there were no "special circumstances" with regard to the Patent, under which the constitution of the product stated in the scope of claims must be specified by the process to manufacture the relevant product, and thus, the technical scope of Invention 1 should be interpreted as being limited to the products manufactured in accordance with the requirements for the manufacturing process (hereinafter this theory may be referred to as "Manufacturing Process Limitation Theory").

However, the findings and determinations made in the judgment in prior instance are erroneous for the following reasons.

(A) With regard to the scope of right of a patent defined by a claim which is generally referred to as a product-by-process claim, it is unnecessary to interpret the subject matter of the patent as being limited to the products manufactured by the manufacturing process even if the scope of claims states a product specified by said manufacturing process, and rather such subject matter should be interpreted as covering the products identical to the relevant product but manufactured through a different process (hereinafter this theory may be referred to as the "Product Identity Theory"). This theory has been widely accepted in the past court precedents and examination guidelines published by the JPO, and thus, the theory presented in the judgment in prior instance is contrary to the traditional court precedents and examination guidelines, and is unreasonable.

(B) Even granting that the theory presented in the judgment in prior instance was reasonable, the judgment in prior instance erred in finding and determining that there were no "special circumstances" as prescribed in such theory with regard to Invention

1.

Specifically, although the inventions in question are “publicly known” as a compound called highly pure pravastatin sodium, they define a chemical substance which has novelty in the sense that “impurities are extremely reduced.” Thus, in order to allege that such inventions have “inventive step,” it is vital to allege that the new manufacturing process has made it possible for the first time to obtain a highly pure substance which could not be obtained by prior art. The judgment in prior instance overlooked this point and determined that it was unnecessary for Invention 1 to state the manufacturing process just because Invention 1 is specified as a substance by means of the statement, “pravastatin sodium containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava” (pages 57 to 58 and 62 of the judgment in prior instance), but such determination is erroneous in that it overlooked the necessity to clarify the “inventive step” of the inventions in question.

Moreover, the judgment in prior instance held that there were affirmative circumstances to limit the technical scope of the patented invention to the products manufactured in accordance with the requirements for the manufacturing process, in light of the background of filing an application for the Patent, especially the deletion of all of the claims that had no statements of the manufacturing process (such as Claim 3 and Claim 6 at the time of filing the application) (pages 62 to 63 of the judgment in prior instance). Nevertheless, it is obvious from the statements in Exhibit Ko No.43 (written opinion of the Commissioner of the JPO) that the inventions in question can be patented regardless of the existence or absence of the statement of the requirements for the manufacturing process. Moreover, the deletion of claims such as Claims 3 and 6 at the time of filing the application by the applicant (the appellant) after receiving an examiner’s decision of refusal was nothing more than an act to seek early establishment of rights for the claims for which no reason for refusal had been found, and this kind of amendment is frequently made in patent practice. The facts that the abovementioned claims which had no statements of the requirements for the manufacturing process had been deleted cannot lead to the conclusion that these claims lack novelty and inventive step in relation to a prior art document.

As described above, in this case, although the inventions in question could essentially be patented regardless of the statement of the requirements for the manufacturing process, an examination was made without following the examination guidelines, and the reasons for refusal were notified in regard to the claims which had no statements of the manufacturing process, and therefore, rights were

established with priority to the claims for which the manufacturing process was stated in accordance with the practices. In such a case, if the scope of the patent right was interpreted as being limited to the manufacturing process stated in the claims based on the "Manufacturing Process Limitation Theory" adopted in the judgment in prior instance, not only would it be an extremely disadvantageous interpretation for the patentee but it would also lead to an unreasonable conclusion.

Moreover, it may be considered that the judgment in prior instance adopted the "Manufacturing Process Limitation Theory" in principle but admitted the application of the "Product Identity Theory" as an exception where "special circumstances" were found, because if the "Product Identity Theory" was not adopted, the interpretation might be extremely disadvantageous to the patentee in some cases. Then, the abovementioned circumstances should also be deemed to fall under the "special circumstances" as prescribed in the judgment in prior instance.

Accordingly, even from the viewpoint taken in the judgment in prior instance, it should be considered that there were "special circumstances" for the inventions in question to interpret the technical scope thereof by excluding the manufacturing process stated in the claims and that the products obtained by a manufacturing process different from the requirements for the manufacturing process shall be included in the scope of rights of said inventions.

B. Counterarguments to the allegations of the appellee

The appellee alleges that there were affirmative circumstances to limit the technical scope of the inventions in question to the products manufactured in accordance with the requirements for the manufacturing process, on the grounds that if the requirements for the manufacturing process were excluded, said technical scope would be deemed to have only defined the amount of pravastatin lactone and epiprava contained and not the purity of the pravastatin sodium itself, and would further include compositions wherein the ratio (wt%) of the pravastatin lactone and epiprava contained has been merely reduced. The reasons for finding that the abovementioned allegation is groundless are as stated in (7) A. below.

Moreover, the appellee alleges that if the manufacturing process was prescribed to clarify that the relevant invention has inventive step, the statement prescribing the manufacturing process for such invention of a product should be considered to have some importance in characterizing the invention and thus the technical scope cannot be understood in disregard of such statement.

However, even if a product-by-process claim is interpreted based on the judgment in prior instance, "special circumstances" are found in the case where it is necessary to state the manufacturing process in the scope of claims for reasons such that the product stated in the

scope of claims can only be specified by the manufacturing process.

Accordingly, although the inventions in question are "publicly known" as a substance called highly pure pravastatin sodium, they define a chemical substance which has novelty in the sense that "impurities are extremely reduced." Thus, in order to allege that such inventions have "inventive step," it is vital to allege that the new manufacturing process has made it possible for the first time to obtain a highly pure substance which could not be obtained by prior art. Therefore, it is obvious that it was necessary to state the manufacturing process in the scope of claims of the Patent.

(2) The appellee's products' fulfillment of the constituent features of the inventions in question

A. Product identity between Invention 1 and the appellee's products

As mentioned above, with regard to a product-by-process claim, it is unnecessary to interpret the subject matter of the patent as being limited to the products manufactured by the manufacturing process even if the scope of claims states a product specified by said manufacturing process, and it should be considered that products which have been manufactured by a manufacturing process different from that for the first-mentioned products but are substantially identical thereto would also be covered. Then, it is obvious that the appellee's products which contain less than 0.2 wt% of pravastatin lactone and less than 0.1% epiprava fall within the technical scope of Invention 1 and that of Corrected Invention 1.

In this regard, the appellee alleges in 2(2)A. below that, unless it is proved that the constituents of pravastatin sodium and the compositions including various impurities in addition to pravastatin lactone and epiprava manufactured by the appellee's manufacturing process are identical to those of the products manufactured in accordance with the requirements for the manufacturing process, the appellee's products do not fall within the technical scope of the Patent.

However, Claim 1 only states "pravastatin sodium…containing less than 0.5 wt% (0.2 wt% after correction) of pravastatin lactone and less than 0.2 wt% (0.1 wt% after correction) of epiprava" and does not prescribe any impurities other than pravastatin lactone or epiprava. Hence, the appellee's allegation, stating that the subject products to be manufactured in accordance with the requirements for the manufacturing process are compositions (mixtures) containing impurities in addition to pravastatin lactone and epiprava, is not based on the statements in the claims of the Patent and is unreasonable.

B. Fulfillment of the requirements for the manufacturing process by the appellee's manufacturing process

Even if a product-by-process claim should be interpreted based on the theory that the technical scope of the relevant invention should be limited to the product obtained in accordance with the requirements for the manufacturing process, the judgment in prior instance which held

that the appellee's manufacturing process does not fulfill process (a) (pages 72 to 75 of the judgment in prior instance) is erroneous for the following reasons.

(A) Regarding the fact that the judgment in prior instance held it appropriate to consider that the "enriched organic solution" of pravastatin formed in process (a) does not contain water (pages 72 to 73 of the judgment in prior instance)

a. The judgment in prior instance explained the reasons for such holding as that in cases where the term "organic solution" is stated, a person skilled in the art (i.e. a person ordinarily skilled in the art of the invention) would normally consider that such "organic solution" will not contain water, and further held that there were no statements in the description in question (hereinafter such description shall be simply referred to as the "Description") suggesting that "organic solution" could contain water.

However, organic solvents, which are solvents for "organic solution," widely vary, from those that can contain water to those that cannot, and many of such organic solvents do contain water. Therefore, there is no common general technical knowledge that a person skilled in the art will naturally construe that "organic solution" will not contain water.

Thus, the construction of the judgment in prior instance is also erroneous in that it held that the "enriched organic solution" of pravastatin should be considered not to contain water based on the fact that there were no statements in the Description suggesting that the "enriched organic solution" could contain water. The correct construction should be that, unless there are statements in the Description suggesting that an "enriched organic solution" cannot contain water, there are no reasons to construe that the "enriched organic solution" does not contain water.

On this point, the appellee alleges in 2(2)B.(a) below that, as long as the Description only states the "liquid-liquid extraction method" and only refers to an organic solution that will not mix with water and separate into two phases as that to be used for the "liquid-liquid extraction method," the "organic solution" of the "enriched organic solution" formed in process (a) can only be recognized as an organic solution that does not mix with water.

However, no such wording of "liquid-liquid extraction method" is used in process (a) and, as the "liquid-liquid extraction method" is described as the "preferred embodiment of the process" at the beginning of paragraph [0008] of the Description, it should be considered that the "liquid-liquid extraction method" is an optional step and that process (a) shall not be limited to the "liquid-liquid extraction method."

Moreover, there is no fact that the appellant emphasized the importance of the "liquid-liquid extraction method" in the course of filing the application.

As stated in Exhibit Otsu No. 25 (Comprehensive Dictionary of Chemistry), the "liquid-liquid extraction method" is a method that uses the phenomenon that when water and an

organic solvent are mixed, they eventually separate into two phases. Nevertheless, even after water and an organic solvent have separated into two phases, it is possible for the organic solvent to be mixed in the water phase and for water to be mixed into the organic solvent phase. Thus, the phenomenon that an organic solvent and water separate into two phases after being mixed does not necessarily mean that the organic solvent does not mix with water at all (i.e. the organic solvent will not contain water after being mixed with water and then having separated), and the two are absolutely different concepts.

Hence, it is undoubtedly erroneous to find that the "enriched organic solution" does not contain water, on the basis of the "liquid-liquid extraction method."

b. The "enriched organic solution" of pravastatin used in the Patent inevitably contains water, because the process of "extracting and back-extracting" is adopted in the Patent.

Specifically, the main ester organic solvents mentioned as the solvents to be used for the "extraction" of pravastatin from fermentation broth (aqueous solution) in paragraph [0012] of the Description (i.e. methyl acetate, ethyl acetate, and i-butyl acetate) have a rather high polarity among organic solvents and have an affinity for water. If the "extraction" of pravastatin from fermentation broth is conducted by using such kind of ester organic solvents, not only will water and ester organic solvent be dissolved in each other, but also some amount of the ester organic solvent will get mixed in with the water phase and some water will get mixed in with the organic phase (organic solution). Moreover, even in the process of further "re-extracting" pravastatin into the organic phase (organic solution) from the aqueous solution into which the pravastatin in the organic phase (organic solution) obtained from the abovementioned "extract" shall be "back-extracted" (paragraph [0015] of the Description), the same organic solvent (i.e. ester organic solvent with a relatively high polarity) as that used in conducting the abovementioned "extraction" shall be used, and thus water will still get mixed in with the obtained organic phase (organic solution). This is also obvious from the statement that it is preferable to "dry" (i.e. dehydrate) the obtained organic phase (organic solution) before using it for "salting out" in the following step (in the sixth to fourth lines from the bottom of paragraph [0015]).

Therefore, it may be construed, from the abovementioned constitution stated in the Description, that the "organic solution" contains water in Invention 1 as well.

In regard to this, the appellee alleges in 2(2)B.(b) below that, if the appellant meant to allege that an organic solvent such as i-butyl acetate may contain some water (i.e. 0.55% or less), it is a pointless argument that is completely divorced from the meaning of "does not contain water" as recognized in the judgment in prior instance.

Nevertheless, not only i-butyl acetate but also other various kinds of organic solvents such as alkyl esters are mentioned as examples of organic solvents to be used in the

“liquid-liquid extraction method” in paragraph [0012] of the Description, and the preferable organic solvents (i.e. ethyl acetate, propyl acetate, ethyl formate) among them include those with much higher water miscibility than i-butyl acetate, and thus it is impossible to conclude that the enriched organic solution does not contain water by arguing the amount of water contained in i-butyl acetate alone.

Moreover, according to the statement in the Description, the process of (iii) “re-extraction” in “liquid-liquid extraction method” is optional, and in light of the fact that the aqueous solution obtained through the (ii) back-extraction process before re-extraction contains water, an “enriched organic solution” can be deemed to contain water. More specifically, the process of (iii) “re-extraction” of pravastatin from an aqueous solution mentioned in paragraph [0014] into the organic solution is stated in paragraph [0015], but in light of the term “preferably” stated at the beginning of the paragraph, the process of (iii) “re-extraction” may be considered to be optional. Furthermore, taking into account that the addition of only an ammonium salt such as ammonium chloride, which dissolves in water but not in the organic solvent used in the “re-extraction” (as mentioned in paragraph [0012]; an organic solvent that contains almost no water), is mentioned as one of the embodiments of the salting out with ammonium in process (b) in paragraph [0017], the process, (iii) “re-extraction,” is supposed to be omitted. If this process of (iii) “re-extraction” is omitted, the aqueous solution stated in paragraph [0014], i.e. the aqueous solution obtained through the process of (ii) “back-extraction” from the organic solution as stated in paragraph [0013], will be an aqueous solution containing some “organic” solvent. Then, a person skilled in the art would be able to understand that, when the process of “re-extraction” is omitted, the solution containing water (the solution obtained after the process of (ii) “back-extraction”) will fall under the “enriched organic solution” stated in paragraph [0016].

In addition, as it is stated that “the enriched organic solution is preferably dried…… A dried….enriched organic solution” (in the fifth to second lines from the bottom in paragraph [0015]) before using the organic phase (organic solution) obtained in process (a) in the following step, “salting-out,” the enriched organic solution is mentioned to be in a condition requiring drying (i.e. dehydration) (which means the enriched organic solution contains water), and thus, under an unfavorable condition, a solution containing water falls under an “enriched organic solution,” and will proceed to the following step, “salting out.” Accordingly, it may also be recognized from the statement in paragraph [0015] that an enriched organic solution contains water.

c. The judgment in prior instance finds that, “if the organic solution obtained in process (a) of the appellant’s manufacturing process contains water, it is obvious that it would be difficult to precipitate an ammonium salt of pravastatin, and thus, from a technical viewpoint, it is

inappropriate to venture to consider that the "organic solution" contains water."

Nevertheless, in the process of "salting-out" in process (b), "water" contained in the "organic solution" does not necessarily act as an obstacle. For example, when "salting-out" is conducted by using ammonium chloride (see paragraph [0017] of the Description), it is possible to precipitate an ammonium salt of pravastatin from an aqueous solution or organic solution containing water, without any problem.

At the same time, even if there are any circumstances where it becomes difficult to precipitate an ammonium salt because an "organic solution" contains water, the fact that "it becomes difficult to precipitate an ammonium salt of pravastatin" does not immediately mean that "an ammonium salt of pravastatin is not at all precipitated." Even if the precipitation rate of an ammonium salt slightly declines, there is more than one way to achieve the precipitation of an ammonium salt.

Moreover, if one desires to eliminate "water" from the "enriched organic solution," as the requirements for the manufacturing process state that the process is "comprising" the steps of process (a) and process (b), it is allowed to include another process between process (a) and process (b), and thus it is possible to "dry" (dehydrate) the "organic solution" obtained in process (a) and eliminate water before using it in process (b) (see the sixth to fourth lines from the bottom in paragraph [0015] of the Description).

Hence, the abovementioned findings by the judgment in prior instance are unreasonable.

(B) With regard to Example 5 stated in the Description, the judgment in prior instance held as follows: (i) As the fermentation broth of pravastatin (100 L) is extracted with i-butyl acetate (150 L), the i-butyl acetate solution obtained does not fall under an "enriched" organic solution; (ii) The "aqueous extract" obtained by extracting i-butyl acetate solution with basified water (35 L) (i.e. basified water that extracted pravastatin) does not contain an "organic" solvent nor does it fall under an enriched "organic" solution; and (iii) Accordingly, Example 5, in which no "enriched organic solution" is formed, and which does not fulfill process (a), does not fall under the working example of Invention 1 (line 13 of page 73 to line 1 of page 74 of the judgment in prior instance).

However, the abovementioned holding of the judgment in prior instance is erroneous. Not only an "enriched organic solution" of pravastatin as mentioned in process (a) is obtained in Example 5, but also Example 5 is absolutely a working example of Invention 1.

To be specific, the "aqueous extract" obtained in the aforementioned step in Example 5 contains i-butyl acetate, which is an organic solvent, and thus, falls under an "enriched 'organic' solution." As an "i-butyl acetate" is an ester organic solvent with a relatively high polarity and an affinity for water, either in the aforementioned step (i.e. the step of "extracting" pravastatin from fermentation broth (aqueous solution) by using i-butyl acetate) and the following step (i.e.

the step of "back-extracting" pravastatin from i-butyl acetate solution by using basified water), water and i-butyl acetate will be dissolved in each other, and thus, a small amount of i-butyl acetate will get mixed in with the water phase and some water will get mixed in with the i-butyl acetate phase. Hence, the "aqueous extract" obtained in the aforementioned step in Example 5 contains an "organic" solvent (i.e. i-butyl acetate) which got mixed in at the time of "extracting" and "back-extracting." Here, it should be noted that the amount of the "organic" solvent contained in the solution obtained in process (a) is not in question.

Moreover, the "aqueous extract" obtained in the aforementioned step has been obtained by using water (35 L), which is far less than the fermentation broth (100 L), and such decrease in liquid measure from the fermentation broth (100 L) obviously means that what has been obtained is an "enriched" organic solution of pravastatin. Hence, the "aqueous extract" mentioned in Example 5 is an "enriched 'organic' solution." Then, it should be considered that Example 5 is demonstrating that the "enriched organic solution" of pravastatin to be formed in process (a) may contain water.

(C) Even if the process to manufacture the appellee's products is as found by the judgment in prior instance, it is apparent that such process fulfills process (a).

More specifically, according to the judgment in prior instance, the process to manufacture the appellee's products is as follows:

Xxx <the original text has been omitted>.

As described above, xxx <the original text has been omitted>.

With regard to the pravastatin in the fermentation broth, xxx <the original text has been omitted>, the formation of an "enriched" solution of pravastatin as prescribed in process (a) is achieved.

Based on the abovementioned findings, it is apparent that the appellee's manufacturing process fulfills process (a).

In this regard, the appellee alleges in 2(2)B.(d) below that, while chromatographic purification is excluded in Invention 1, the appellee's manufacturing process, xxx <the original text has been omitted> in its process corresponding to process (a), does not fulfill process (a).

Nevertheless, the use of chromatography is not excluded in Invention 1. Instead, the use of chromatography in process (a) is positively disclosed in the Description (i.e. paragraphs [0008], [0024] through [0027], and [0045]), and the statements in the Description as well as in "The Explanation of Circumstances Concerning Accelerated Examination" (Exhibit Otsu No. 3-5) as pointed out by the appellee are, in no sense, excluding the use of chromatography. Moreover, in the first place, the use of chromatography is a well-known method and thus, the allegation that the appellee's manufacturing process would be excluded from the manufacturing process stated in the claims of the Patent, on the grounds that the appellee's manufacturing

process adopts such method, is unreasonable in itself.

(D) Process (a) is nothing more than a non-core constitution.

The inventions in question are to attain highly pure pravastatin sodium through the main purification using the process of salting out crystallization, without increasing the amount of pravastatin lactone but substantially reducing the amount of pravastatin lactone and epiprava. Thus, the manufacturing process to obtain highly pure pravastatin sodium related to the inventions in question is characterized by the process to "purify" (main purification) pravastatin by using the process of salting out crystallization (i.e. process (b) and process (c)). In contrast to this, process (a) is nothing but a process of "enrichment" and "coarse purification" to obtain an enriched organic solution of pravastatin, and does not fall under the characteristic constitution of the manufacturing process to attain highly pure pravastatin sodium. Accordingly, the judgment in prior instance is erroneous in that it made an erroneous technical interpretation of "enriched organic solution" of pravastatin with regard to process (a), which in no way falls under the core constitution of the invention as mentioned above, and instantly reached a conclusion that "the appellee's manufacturing process does not fulfill the process stated in the claims and thus does not constitute infringement of patent" by holding that the appellee's manufacturing process does not fulfill process (a), which is a non-core constitution of the invention.

(E) Application by analogy of Article 104 of the Patent Act

While a patent in the form of a product-by-process claim is considered to be an invention of a product, if such patent should be interpreted as being limited to the products manufactured by the manufacturing process stated in the claims, it would also be difficult to prove infringement related to a producing process as in the case of an invention of the producing process.

Moreover, with regard to a patent in the form of a product-by-process claim, it is required that the product finally obtained is itself novel under the examination guidelines of the JPO, which means that said product must properly be a product not publicly known in Japan. In this context, the issue of difficulty to prove infringement can also be found in a patent in the form of a product-by-process claim as in the case of a patent related to a producing process as prescribed in Article 104 of the Patent Act. While the product finally obtained is itself novel, the patent in the form of a product-by-process claim deserves to receive the same legal protection as an invention of a producing process, and further, the burden of proof should be shifted by application by analogy of Article 104 of the Patent Act. If the theory to limit the patent to the product obtained by the relevant manufacturing process is taken and the application by analogy of Article 104 of the Patent Act is not allowed, the patentee will bear the burden to prove the producing process used by the infringer despite the fact that the patentee's product finally obtained has novelty, which would result in a significant lack of legal protection in comparison

to the case where the patentee's invention is patented as an invention of a producing process.

Accordingly, if the theory to limit a patent in the form of a product-by-process claim to the products manufactured by the manufacturing process is to be taken, it should at least be allowed to shift the burden of proof by the application by analogy of Article 104 of the Patent Act.

C. Irregularities, etc.

(A) Violation of the adversary system

Whether or not an "enriched organic solution" contains water was not an issue in the court of prior instance, and thus, the fact finding in the judgment in prior instance regarding the important facts, which were not treated as issues as mentioned above, without taking into account the allegations of the parties and evidence is nothing but a surprise and is in violation of the adversary system.

(B) Unlawfulness of the reasoning of the judgment in prior instance which is different to the determination disclosed

When the court of prior instance recommended a settlement by holding that the appellee's manufacturing process did not fulfill process (b) and process (c) and disclosing its determination that said appellee's manufacturing process is found to be a "non-infringement," the court stated the fact that the appellee's manufacturing process did not use an ammonium salt as the reasons for finding "non-infringement." Nevertheless, after the appellant (plaintiff in the first instance) pointed out that such approach was technically erroneous, the court held the appellee's manufacturing process to be a "non-infringement," by reasoning that the "enriched organic solution" of pravastatin in Invention 1 did not contain water, which was different from the determination it previously disclosed, without giving the appellant (plaintiff in the first instance) any opportunity to make an allegation or give proof. Such a surprise holding is unlawful.

(C) Inadequate disclosure of the appellee's manufacturing process

Because the appellee does not disclose the details of the constitutions of the appellee's manufacturing process that are equivalent to processes (b) through (e) of Invention 1, not only is the appellant unable to prove that the appellee's manufacturing process fulfills process (a) as well as processes (b) through (e), but also it cannot make any allegations based on the doctrine of equivalents. More specifically, with regard to the manufacturing process to provide highly pure pravastatin sodium with a substantially reduced amount of pravastatin lactone and epiprava while overcoming the problem of increase of pravastatin lactone in the process of purification as prescribed in Invention 1, the characteristic feature that constitutes the core of the technical idea which underlies such manufacturing process lies in the process of "salting out crystallization" to be conducted in process (b) and the subsequent processes. On the other hand, process (a) of

Invention 1 is a process to eliminate medium by-products and metabolite, but is not a characteristic feature of Invention 1. As mentioned above, in relation to the problems to be solved by Invention 1 by overcoming the increase of pravastatin lactone in the process of purification and providing highly pure pravastatin sodium with a substantially reduced amount of pravastatin lactone and epiprava, the principles to solve the problems, such as the way to remarkably reduce pravastatin lactone and epiprava or the way to substitute sodium salt for pravastatin and block possible conversions of pravastatin to other forms (i.e. free acid, ion, or other salt), have not been clarified in the least in the manufacturing process of the appellee's products disclosed by the appellee.

Hence, the appellee has by no means disclosed the principles it used to solve the problems in the process to manufacture the appellee's products, which is indispensable in determining the existence of infringement under the doctrine of equivalent, and thus, the disclosure of the appellee's manufacturing process by the appellee is inadequate.

Then, as the "salting out crystallization" prescribed in Invention 1 is the only method of "main purification" known as eligible to obtain "highly pure pravastatin sodium" prescribed in Invention 1, unless another specific method for "main purification" that will be an alternative for the first-mentioned method is disclosed, there is no choice but to presume that the appellee's products were manufactured by the process stated in the requirements for the manufacturing process by application by analogy of Article 104 of the Patent Act. Accordingly, the findings made in the judgment in prior instance which overlooked the abovementioned inadequacy of disclosure are erroneous.

(3) In regard to the gist of the inventions in question in relation to the determination on novelty and/or inventive step

A. The appellant construes that an invention defined by a product-by-process claim, shall not be limited to the manufacturing process stated in the claims and shall mean the product itself (i.e. Product Identity Theory).

Hence, the appellant considers that, if a product identical to the relevant product can be manufactured by a process different from the manufacturing process stated in the claim and if the product is publicly known, the novelty of the invention defined by said claim shall be denied, as prescribed in the JPO's examination guidelines.

In other words, the patentability of an invention defined by a product-by-process claim should be determined based on the product itself stated in the relevant claim.

With regard to this case, the gist of Invention 1 is "pravastatin sodium containing less than 0.2 wt% (0.5 wt% before correction) of pravastatin lactone and less than 0.1 wt% (0.2 wt% before correction) of epiprava."

Although the manufacturing process is stated in the claims for the Patent, it is obvious that

the product itself could be patented regardless of the additional statement of the manufacturing process. Moreover, it is also apparent that the applicant of the Patent did not intend to obtain a patent exclusively for products manufactured by the manufacturing process stated in the requirements for the manufacturing process.

B. On the other hand, since Invention 1 is an invention of a "new chemical substance" which is a highly pure substance where impurities are extremely reduced to a level that could not be accomplished in the past, in order to allege the existence of inventive step, it would be necessary to allege that the new manufacturing process made it possible for the first time to obtain a highly pure substance which could not be obtained by prior art. Hence, in the context of the inventive step of Invention 1, the appellant argues the features of the manufacturing process of Invention 1 (i.e. "salting out crystallization" process).

More specifically, Invention 1 is a first-ever patented invention to achieve a high level purification of "pravastatin sodium" by a new manufacturing process using "salting out crystallization," and thus, has inventive step in that regard in relation to prior art.

Moreover, at the time of the priority date (October 5, 2000), a person skilled in the art did not have an idea to perform a high level purification of "pravastatin sodium" through the process of "salting out crystallization." In other words, there was a difficulty in applying the process of "salting out crystallization" for the high level purification of "pravastatin sodium."

Specifically, the following problems existed: (i) The addition of a large amount of inorganic salts (e.g. ammonium chloride) was necessary for the "salting out crystallization" of highly-hydrosoluble "crude pravastatin"; (ii) The added inorganic salts and inorganic ion derived therefrom will get mixed in with the purified "pravastatin sodium"; (iii) Not only do the inorganic salts and ion mixed in themselves have adverse effects on living organisms, but they also convert "pravastatin sodium" into another form of "pravastatin," and reduce the purity of "pravastatin sodium"; and (iv) The act of eliminating inorganic salts and ion from the purified "pravastatin sodium" itself was extremely difficult. Because there were a number of problems as mentioned above, the idea to apply the process of "salting out crystallization" for a high level purification of pravastatin sodium was not conceived nor did any person skilled in the art experiment with the application.

In contrast to this, Invention 1 adopts the following four processes in process (d) after process (c): (i) the process of extracting pravastatin free acid (as mentioned in paragraphs [0023] and [0043], etc.); (ii) the process of removing impurities (i.e. inorganic salts and ion) by washing (as mentioned in paragraphs [0023] and [0043], etc.); (iii) the process of introducing excess sodium cations and converting them into pravastatin sodium (as mentioned in paragraphs [0023] and [0043], etc.); and (iv) the process of scavenging excess sodium cations to attain a near 1:1 equivalence of sodium cation and pravastatin anion (as mentioned in paragraphs [0024]

and [0044], etc.), and thereby enables the application of the process of "salting out crystallization" while solving the abovementioned difficulties (obstructive factors) and further succeeds in the high level purification of "pravastatin sodium."

Accordingly, it is obvious that Invention 1 which overcame these obstructive factors and applied the process of "salting out crystallization," and thereby succeeded in the high level purification of "pravastatin sodium" has inventive step in relation to prior art.

However, the abovementioned explanation is only provided for the examination of the requirements for the manufacturing process as a ground for arguing that a person skilled in the art had no means to conceive of the constitution of the product manufactured by Invention 1, and is not an allegation that Invention 1 has inventive step on the basis that said product is manufactured by the manufacturing process stated in the requirements for the manufacturing process or that some difference can be found in said manufacturing process.

To be more precise, as the statement of "pravastatin sodium containing less than 0.5 wt% (0.2 wt% after correction) of pravastatin lactone and less than 0.2 wt% (0.1 wt% after correction) of epiprava" alone is insufficient to make it clear that such highly pure pravastatin sodium will actually be obtained, the requirements for the manufacturing process were stated to demonstrate that "pravastatin sodium containing less than 0.5 wt% (0.2 wt% after correction) of pravastatin lactone and less than 0.2 wt% (0.1 wt% after correction) of epiprava" will actually be obtained.

(4) In regard to the allegation of lack of novelty and/or inventive step based on Exhibit Otsu No. 30

A. Regarding the lack of novelty in Invention 1

The appellee cites an invention stated in Exhibit Otsu No. 30-1 (WO00/46175 "Microbial Process for Preparing Pravastatin"; Date of international publication: August 10, 2000; International filing number: PCT/US00/02993; Filing number in Japan: Patent Application No. 2000-597248; Japanese Translation of PCT International Application No. 2002-535977 [Exhibit Otsu No. 30-2]; hereinafter referred to as the "Otsu Document No. 30"; The abovementioned Japanese Translation of PCT International Application will be used as the translation of Otsu Document No.30) (the first-mentioned invention shall hereinafter referred to as "Otsu Invention No. 30") and compares Otsu Invention No. 30 with Invention 1 and thereby alleges that no difference can be found between Otsu Invention No. 30 and Invention 1, and thus Invention 1 lacks novelty and should be invalidated in a trial for patent invalidation.

Nevertheless, as mentioned in (3)A. above, the recognition of the gist of an invention for determining the patentability thereof should be made based on the Product Identity Theory, and thus, when determining the novelty of Invention 1, it would be sufficient if the matters stated in Otsu Document No. 30 are compared with the prescribed constitution (i.e. pravastatin sodium

containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava) alone and the comparison with the requirements for the manufacturing process (processes (a) through (e)) is unnecessary.

In regard to this point, the appellee cites the statement "the purity of which is higher than 99.5% by HPLC" in Otsu Document No. 30 (lines 25 to 26 of page 24 [i.e. the last sentence of paragraph [0064] of Exhibit Otsu No. 30-2]), and alleges that pravastatin sodium with an HPLC area purity of 99.9% is stated as well and thereby, concludes that pravastatin sodium containing less than 0.2 wt% of pravastatin lactone and less than 0.1 wt% of epiprava is already disclosed.

Yet, the statement of "higher than 99.5%" as mentioned above is nothing but merely indicating that the purity of the pravastatin sodium obtained was any figure "higher than 99.5%" (probably a figure slightly higher than 99.5%), and no specific statements that a purity of "99.9%" was achieved as alleged by the appellee can be found in Otsu Document No. 30.

As described above, the abovementioned cited part from Otsu Document No. 30 is not a statement of pravastatin sodium with 99.9% purity. Even more, no statements can be found in any part of Otsu Document No. 30, not to mention the abovementioned cited part, that pravastatin sodium containing less than 0.2 wt% of pravastatin lactone and less than 0.1 wt% of epiprava, which is the constitution of Invention 1, is obtained.

Therefore, Invention 1, which is at least clearly different from Invention Otsu No. 30 in terms of constitution, is novel, and thus, the appellee's abovementioned allegation is unreasonable.

B. Regarding the lack of inventive step in Invention 1

The appellee alleges that a person skilled in the art could have easily conceived of manufacturing pravastatin sodium containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava in accordance with the requirements for the manufacturing process, from the inventions stated in the publicly known documents and well-known art, on the following grounds: (i) Improvement of the purity of medicines by means of salting out crystallization is a well-known art in the relevant technical field, and a person skilled in the art could have easily conceived of conducting salting out using an ammonium salt to improve purity from the inventions stated in the publicly known documents and well known art; and (ii) Taking into account that pravastatin sodium, the purity of which is higher than 99.5% HPLC, is stated in Otsu Document No. 30, and pravastatin sodium, in which the amount of related substances of pravastatin, such as pravastatin lactone and epiprava, contained are reduced and the purity of which is 99% or higher, is disclosed in Otsu Document No. 1, Otsu Document No. 6, and Otsu Document No. 24 mentioned below, it is hard to accept that, in comparison to such highly pure pravastatin sodium, pravastatin sodium containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava has a technical effect beyond the prediction of a

person skilled in the art.

However, the manufacturing process by which pravastatin sodium containing less than 0.2 wt% of pravastatin lactone and less than 0.1 wt% of epiprava can be obtained is not disclosed nor suggested in Otsu Document No. 30. Thus, the purity of the pravastatin sodium to be obtained by the manufacturing process stated in paragraph [0064] of Otsu Document No. 30 as pointed out by the appellee would be limited to a level "higher than 99.5%" at best. The process to obtain "pravastatin sodium with 99.9% purity" as alleged by the appellee is not disclosed nor suggested in Otsu Document No. 30.

Even if the relevant manufacturing processes are compared, while the high level purification of pravastatin ammonium is achieved by the process of "salting out crystallization" (i.e. process (c)) under the requirements for the manufacturing process in question, the "recrystallization" of pravastatin benzyl amine salt alone is conducted in Otsu Invention No. 30 without any "salting out crystallization." As a mere "recrystallization" is different from the "salting out crystallization" in terms of separation principle, it is apparent that such "recrystallization" does not reduce the amount of pravastatin lactone or epiprava contained to the same level as achieved in accordance with the requirements for the manufacturing process.

Moreover, while pravastatin free acid is once isolated from pravastatin ammonium obtained from the salting out crystallization and is washed, and then converted into pravastatin sodium again, under the requirements for the manufacturing process, pravastatin benzyl amine salt is directly converted into pravastatin sodium by adding sodium hydroxide in Otsu Invention No. 30. If an amine salt is directly converted into sodium salt by adding sodium hydroxide without taking the steps of isolating and washing pravastatin free acid, it would be impossible to convert the entire pravastatin benzyl amine salt into sodium salt, and apparently, a substantial amount of amine salt would be mixed in.

Furthermore, while there is a process of scavenging excess sodium cations to attain a near 1:1 equivalence of sodium cation and pravastatin anion in the requirements for the manufacturing process (i.e. process (d)), there is no such process in Otsu Invention No. 30, and thus, it is obvious that the equivalence ratio between pravastatin anion and sodium cation is decayed in Otsu No. 30 Invention.

Accordingly, Invention 1 could not have been easily conceived of from Otsu Invention No. 30.

In addition, the appellee alleges that the difficulty in conceiving of Invention 1 may be denied on the grounds that salting out is a well-known art in the relevant technical field and that a person skilled in the art could have easily conceived of using an ammonium salt to improve purity, by citing Exhibit Otsu No. 28 (Notice of Reasons of Refusal for Patent Application No. 2004-278522 related to the division of the Patent) and Exhibit Otsu No. 29 (Notice of Reasons

of Refusal for Patent Application No. 2005-304900 related to the Patent).

However, while the difficulty in conceiving of the "invention of a process," namely a process to purify pravastatin sodium, was in question in the prosecution history of applications related to Exhibit Otsu No. 28 and Exhibit Otsu No. 29, what should be questioned in relation to Invention 1 is the difficulty in conceiving of the "invention of a product," which falls under a different category that is entirely irrelevant to the aforementioned prosecution history. Therefore, the appellee's abovementioned allegation is unreasonable.

(5) In regard to the allegation of lack of novelty and/or inventive step based on Exhibit Otsu No. 24

The appellee alleges that Invention 1 and Corrected Invention 1 lack novelty or inventive step and there are grounds for invalidation on the basis that the base powder of pravastatin sodium manufactured by a company called "Biogal Gyogyszergyar RT," which is the predecessor of the appellant, was distributed to company A (hereinafter referred to as "Company A") prior to the priority date of the Patent (hereinafter such distributed base powder of pravastatin sodium shall be referred to as "Otsu Sample No. 24") and based on the product specifications (certificate of analysis), "PRODUCT SPECIFICATIONS AND CERTIFICATE OF ANALYSIS: Certificate No. 120/00 Batch No. PR-20399" (i.e. Exhibit Otsu No. 24-3; hereinafter referred to as "Otsu Document No. 24"), which were prepared by the appellant and were delivered at the time of said distribution.

However, Otsu Document No. 24 is only a certificate of analysis prepared by Biogal Gyogyszergyar RT as is Otsu Document No. 6, and contains a statement of "Sample for experimental purpose only", and thus, the allegation concerning Otsu Document No. 6 which has been made by the appellant so far is applicable to Otsu Document No. 24.

To be more specific, the following facts are apparent with regard to Otsu Document No. 24 and Otsu Sample No. 24: (i) there was an obligation of confidentiality and thus the distribution of Otsu Sample No. 24 shall not lead to the conclusion that the relevant invention was publicly known or publicly worked; (ii) as the process to obtain Otsu Sample No. 24 (i.e. manufacturing process) is not disclosed in Otsu Document No. 24, a person skilled in the art would not be able to understand the "manufacturing process" and reproduce it, and therefore, Otsu Document No. 24 lacks eligibility to serve as a cited reference; and (iii) Otsu Document No. 24 is not a publication in the first place.

Accordingly, Invention 1 and Corrected Invention 1 have novelty and inventive step in relation to the inventions stated in Otsu Document No. 24 and Otsu Sample No. 24, and thus, the appellee's abovementioned allegation is unreasonable.

(6) In regard to the allegation of violation of the main clause of Article 29, paragraph (1) of the Patent Act

The appellee alleges that the pravastatin sodium prescribed in Invention 1 is not specified to be "highly pure."

However, as epiprava, which is an impurity with a structure very similar to pravastatin, is extremely difficult to be separated or removed and pravastatin lactone, which is also an impurity, may increase in the process of purification, "pravastatin sodium containing less than 0.2 wt% of pravastatin lactone and less than 0.1 wt% of epiprava" (Corrected Invention 1) cannot be obtained by merely repeating the existing purification process. To be more precise, the most difficult problem in obtaining highly pure pravastatin sodium through the purification process is the separation and removal of pravastatin lactone and epiprava. If this is achieved, other impurities will naturally be removed and highly pure pravastatin sodium will be obtained (i.e. object of the invention).

Invention 1 has succeeded in obtaining highly pure pravastain sodium while preventing the increase of pravastatin lactone in the purification process and considerably reducing the amount of pravastatin lactone and epiprava contained, by the adoption of the step, "salting out crystallization." Generally, medicines with higher purity are considered to have fewer side effects and more beneficial effects. Especially, with regard to pravastatin sodium which is to be taken over a long period of time, it is obvious that highly pure medicines, which could not be attained in the past, have prominent effects themselves (i.e. operational advantage of the invention).

Hence, in light of the fact that Invention 1 and Corrected Invention 1 share the same object and operational advantage, it is apparent that Invention 1 and Corrected Invention 1 are both referring to "pravastatin sodium with an extremely reduced amount of pravastatin lactone and epiprava," which is a "highly pure" pravastatin sodium, and thus are not in violation of the main clause of Article 29, paragraph (1) of the Patent Act. From the aforementioned reasons, the appellee's abovementioned allegation is unreasonable.

(7) Regarding the appropriateness of correction

A. In regard to the allegation that the correction in question is not for the restriction of the scope of claims

(A) The appellee alleges that the technical scope of Invention 1 should be construed to be a "figure slightly below 0.5 wt%" and "figure slightly below 0.2 wt%." However, this construction is made by adding matters which are not stated in the scope of claims and is unreasonable in that it is absolutely groundless. Moreover, this construction is also unreasonable in that it does not specifically clarify the extent to which the figure will fall below.

(B) The correction in question (hereinafter simply referred to as the "Correction") is to correct the amount of pravastatin lactone contained from "less than 0.5 wt%" to "less than 0.2 wt%" and the amount of epiprava contained from "less than 0.2 wt%" to "less than 0.1 wt%,"

and thus, it is obvious that this Correction falls under the "restriction" of the scope of claims.

In this regard, the appellee alleges that the Correction changes the figures into less than half of the original figures at once and thus, such Correction is equivalent to an alteration made outside the technical scope of Invention 1. However, in light of the literal construction, supports from the working examples, and object and operational advantage of the invention, it is apparent that "highly pure pravastatin sodium containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava" in whole is covered by the technical scope of Invention 1. Thus, even if the maximum amount of pravastatin lactone or epiprava to be contained is reduced from "less than 0.5 wt%" or "less than 0.2 wt%" to less than half thereof at once, there is no doubt that pravastatin sodium containing such amount of pravastatin lactone or epiprava is included in the technical scope of Invention 1, and therefore, the appellee's abovementioned allegation is unreasonable.

B. In regard to the allegation that the Correction falls under the enlargement or alteration of the scope of claims

The appellee alleges that, to say the least, the technical matters that actually make it possible to obtain "pravastatin sodium containing less than 0.2 wt% of pravastatin lactone and less than 0.1 wt% epiprava," which is the scope of claims after the Correction, are not stated in the description prior to the Correction.

However, pravastatin sodium with about 99.8% purity is actually obtained as a result of the following facts: (i) in Claim 1, processes (a) through (e) are stated as an example of a process to obtain "pravastatin sodium containing less than 0.2 wt% of pravastatin lactone and less than 0.1 wt% epiprava"; (ii) the preferred embodiments of the abovementioned processes (a) through (e) are stated in a specific and detailed manner in the "Detailed description of the invention" in the Description; (iii) in paragraph [0031] of the "Detailed description of the invention" in the Description, there is a statement that "Pravastatin sodium further may be isolated with less than 0.2% (w/w) pravastatin lactone and 0.1% (w/w) epiprava by adhering to the preferred embodiments of the invention, two of which are exemplified in Examples 1 and 3"; and (iv) in Examples 1 and 3 stated in the "Detailed description of the invention" in the Description, the specific examples of the preferred embodiments of the abovementioned processes (a) through (e) are actually followed.

Accordingly, taking into consideration the statement in paragraph [0031] as quoted above, it is obvious that the pravastatin sodium with about 99.8% purity obtained in Examples 1 and 3 satisfies the requirement of "containing less than 0.2 wt% of pravastatin lactone and less than 0.1 wt% epiprava," and thus, the appellee's abovementioned allegation is unreasonable.

2. Allegations of the appellee in this court

(1) In regard to the technical scope of the inventions in question

A. With regard to inventions defined by a claim generally called product-by-process claim, as long as the manufacturing process is clearly stated in the scope of claims, the technical scope of a patented invention should not be recognized in disregard of such manufacturing process. This is clear in light of the purpose of Article 70 of the Patent Act, which provides that "The technical scope of a patented invention shall be determined based upon the statements in the scope of claims attached to the application."

Thus, it should also not be allowed in this case to recognize the technical scope of the inventions in question excluding the statement of the manufacturing process on the grounds that they are defined by a product-by-process claim.

The judgment in prior instance approves that, where there are "special circumstances," the technical scope may be interpreted excluding the manufacturing process. Nevertheless, the judgment in prior instance determined that the technical scope of the inventions in question shall be limited to the product manufactured by the manufacturing process stated in the requirements for the manufacturing process, holding that the following circumstances are found in this case,: (i) although it is unnecessary to state the manufacturing process to specify the product, the manufacturing process is stated; and (ii) the scope of claims at the time of filing the application included claims of both the product with the statement of the manufacturing process and the product with no such statement, but all the claims in which the manufacturing process was not stated were deleted as the applicant had received a decision of refusal stating that such claims with no statement of the manufacturing process lacked inventive step, and as a result of such deletion, the applicant received a decision that a patent be granted. Therefore, the judgment in prior instance is not erroneous in terms of the conclusion and there are no grounds to rescind it.

B. Affirmative circumstances to limit the technical scope of the patented invention to the product manufactured by the manufacturing process stated in the requirements for the manufacturing process

If the technical scope of Invention 1 is limited to "pravastatin sodium containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% epiprava" as alleged by the appellant, such technical scope shall be deemed to have only defined the amount of pravastatin lactone and epiprava contained and not the purity of the pravastatin sodium itself. In the absence of the definition of the purity of the pravastatin sodium itself, the ratio of the amount of impurities other than pravastatin lactone and epiprava contained in the compositions would become higher unless such impurities are rigorously removed, and consequently, it would be easy to reduce the ratio of the amount (wt%) of pravastatin lactone and epiprava contained in the compositions as a whole. Then, it follows that the technical scope would also include compositions that contain a high ratio of impurities other than pravastatin lactone and epiprava and as a result show a

relatively reduced ratio of the amount (wt%) of pravastatin lactone and epiprava
. Taking into consideration such specific characteristic of the Patent, it should be deemed that there are affirmative circumstances to limit the technical scope of the Patent to the products manufactured by the manufacturing process stated in the requirements for the manufacturing process.

Moreover, if the "pravastatin sodium containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava" is not limited to the products manufactured by the manufacturing process stated in the requirements for the manufacturing process, the statement shall be considered to include a yet to be achieved pravastatin sodium with a higher level of reduction in the amount of pravastatin lactone and epiprava contained than that which can be achieved by the manufacturing process stated in the claims to simply obtain highly pure pravastatin sodium by reducing the amount of pravastatin lactone and epiprava contained to 0 wt% or a figure extremely near thereto. Nevertheless, in light of the fact that the appellant has only disclosed the requirements for the manufacturing process in the Description, if such interpretation of the technical scope was allowed, it would result in granting an exclusive right to the applicant beyond the technical means disclosed in the description and would be contrary to purpose of the patent system. From the abovementioned points, it should be deemed that there are affirmative circumstances to limit the technical scope of the Patent to the products manufactured by the manufacturing process stated in the requirements for the manufacturing process.

C. In regard to the allegation that the findings and determination regarding "special circumstances" are erroneous

The appellant alleges as follows: Although the inventions in question are "publicly known" as a compound, i.e. highly pure pravastatin sodium, they define a chemical substance which has novelty in the sense that "impurities are extremely reduced." Thus, in order to allege that the inventions have inventive step, it is vital to allege that the new manufacturing process has made it possible for the first time to obtain a highly pure substance which could not be obtained by prior art, and therefore, the manufacturing process was stated in response to the necessity to clarify the existence of such inventive step.

Nevertheless, if the manufacturing process was prescribed to clarify the existence of inventive step, the part prescribing the manufacturing process with regard to the invention of such product should be considered to have a meaning that characterizes the invention and, it would be impossible to understand the technical scope of such invention in disregard of such part.

(2) In regard to the appellee's products' fulfillment of the constituent features of the inventions in question

A. Regarding the product identity

Even if the technical scope of Invention 1 was interpreted as not being limited to the products manufactured by the manufacturing process stated in the requirements for the manufacturing process, as alleged by the appellant, it is not proved that the appellee's products are identical to the products manufactured by the manufacturing process stated in the requirements for the manufacturing process, as stated below.

The subject products to be manufactured by the manufacturing process stated in the requirements for the manufacturing process are compositions (compounds) in which not only pravastatin lactone and epiprava but also other impurities are contained. In other words, because a fermentation culture in which various substances exist is used as the raw material in the requirements for the manufacturing process, various impurities in addition to pravastatin lactone and epiprava would coexist in the compositions. Then, unless it is proved that the constitution of the pravastatin sodium, as well as that of the compositions including various impurities in addition to pravastatin lactone and epiprava, manufactured by the appellee's manufacturing process, is identical to that of the product manufactured by the manufacturing process stated in the requirements for the manufacturing process in question, the appellee's products cannot be deemed to fall within the technical scope of Invention 1.

B. Regarding the fulfillment of the requirements for the manufacturing process by the appellee's manufacturing process

(A) In regard to the allegation that "an organic solution contains water"

It is true that there are various kinds of organic solutions such as those that mix with water and those that hardly do, as alleged by the appellant. Nevertheless, a person skilled in the art who reads the statement, "an enriched organic solution of pravastatin," which is to be obtained in process (a), would by no means understand such statement as allowing such organic solution to be of any kind.

According to the Description, the process of "forming an enriched organic solution of pravastatin" in Invention 1 is a process that involves "extraction of pravastatin from an aqueous fermentation broth into an organic solvent, back-extraction of pravastatin into a basic aqueous solution and a re-extraction into an organic solvent, resulting in an organic solution that is enriched in pravastatin relative to the initial concentration of pravastatin in the fermentation broth" as stated in paragraph [0008] of the Description. Specifically, it is a method of repeating the sequence of extraction and back-extraction steps where an organic solvent that does not mix with water, such as ethyl acetate, i-butyl acetate and propyl acetate, which clearly separate into two phases when they contact or get mixed with an aqueous solvent, and an aqueous solvent are used, and pravastatin is extracted in either of the aqueous solvent or organic solvent in turns by controlling pH, as exemplified in paragraph [0012] of the Description (see paragraphs [0011],

[0013], and [0015] of the Description), which is well known as a "liquid-liquid extraction method."

Hence, if the organic solution to be used in this process is miscible in water as is ethanol, the separation of liquids as mentioned above as well as the extractions thereby would be impossible.

As mentioned above, it is understood that the organic solution prescribed in process (a) must be an organic solution which will make it possible to achieve highly pure pravastatin sodium in the subsequent steps. Therefore, as long as the abovementioned "liquid-liquid extraction method" alone is stated as the preparation method to provide the enriched organic solution of pravastatin to be made available in process (b) and the subsequent processes, and an organic solution that does not mix with water and separates into two phases is the only organic solution stated to be used in the "liquid-liquid extraction," there is no choice but to understand that the "organic solution" of "enriched organic solution" prescribed in process (a) is an organic solution that does not mix with water.

(B) In regard to the adoption of the processes of extraction/back-extraction

The appellant's allegation that the "organic solution" has an affinity for water or that water will get mixed therein is not only contrary to the statements in the Description but is also against the common general technical knowledge.

For example, it is well known that organic solvents, such as i-butyl acetate that is stated as the most preferred extraction solvent in paragraph [0012] of the Description, are non aqueous (Exhibit Otsu No. 23 states that i-butyl acetate dissolves in water at a rate of only 0.55%, and falls within Category 4, Class I petroleums or Class II petroleums that are the hazardous materials provided for in Article 2 of the Fire Service Act and is a "non-aqueous liquid").

If the appellant meant to allege that organic solvents such as i-butyl acetate may contain a certain quantity (i.e. 0.55% or less) of water, such allegation would be nothing but a pointless discussion, which is completely divorced from the organic solvent technology used in the "liquid-liquid extraction method" disclosed in the Description or from the meaning of "does not contain water" as recognized in the judgment in prior instance.

Moreover, the appellant alleges that according to the statements in the Description, the process of (iii) "re-extraction" in the "liquid-liquid extraction method" is an optional process and the aqueous solution obtained through the process of (ii) back-extraction before the re-extraction contains water, and thus, the "enriched organic solution" contains water.

However, as stated in paragraph [0008] of the Description, "aqueous fermentation broth" and "aqueous solution" are clearly distinguished from "organic solvent" and "organic solution." More specifically, it is clearly stated that the "extraction" of pravastatin shall be made in an "organic solvent" and the "back-extraction" thereof shall be made in a "basic aqueous

solution." Thus, even if an organic solvent is slightly mixed in with the "basic aqueous solution" as alleged by the appellant, such "basic aqueous solution" is not prescribed as an "organic solution" in the Description. The appellant's allegation can be considered to be intended to either ignore the difference between "aqueous solution" and "organic solution," which are clearly distinguished in the Description, or intentionally mix them, and is against the common general technical knowledge of a person skilled in the art concerning "liquid-liquid extraction method," and thus is unreasonable.

(C) In regard to the finding that Example 5 does not fall within a working example

The appellant alleges that the judgment in prior instance erred in finding that the Example 5 stated in the Description is not a working example of Invention 1.

However, in Example 5, an "enriched organic solution of pravastatin" is not formed, as found in the judgment in prior instance.

To be more specific, the statement in paragraph [0050] of the Description reads that "Instead of….extracting with i-butyl acetate to obtain a further enriched organic solution as was done in Example 1, the aqueous extract was concentrated to 140 g/L under vacuum." This statement indicates that the aqueous extract obtained in the process of repeating the "liquid-liquid extraction method" is directly concentrated under vacuum without extracting it with organic solvent, and thus, the enriched solution obtained in such process is undoubtedly an aqueous solution but not the "enriched organic solution" as mentioned in process (a). Accordingly, the judgment in prior instance, which held that the "enriched "aqueous extract"" does not contain an organic solvent and does not fall under the enriched "organic solution"" (fifth to third lines from the bottom on page 73 of the judgment in prior instance) and determined that Example 5 is not a working example of Invention 1, is not erroneous.

The appellant alleges that the "aqueous extract" mentioned in Example 5 is an "enriched organic solution" on the grounds that a small amount of i-butyl acetate will get mixed in, and that the amount of the organic solvent contained in the enriched organic solution obtained in process (a) is not in question. Yet, as the Description clearly states the extraction of pravastatin from a fermentation broth into an organic solvent (paragraph [0012]), back-extraction of pravastatin into a basic aqueous solution (paragraph [0013]), re-extraction into an organic solvent, resulting in the enrichment of pravastatin into an enriched organic solution (paragraph [0013]) and the salting out of pravastatin from the enriched organic solution in the next step (paragraph [0014]), the "enriched organic solution" obtained in process (a) and used in process (b) is an organic solution that does not mix with water. Thus, the appellant's abovementioned allegation that the "aqueous solution," which only contains a very small amount (i.e. 0.55% or less) of i-butyl acetate, falls under the "enriched organic solution" mentioned in process (a) is clearly unreasonable.

(D) In regard to the fulfillment of process (a) by the appellee's manufacturing process

The appellant alleges that in the appellee's manufacturing process, regarding the pravastatin in a fermentation broth, xxx <the original text has been omitted>, extraction with an "organic" solvent as prescribed in process (a) is achieved.

However, with regard to the process in the appellee's manufacturing process corresponding to process (a), xxx <the original text has been omitted>, as there is a statement in paragraph [0006] of the Description that "The present invention.…in high purity, in high yield, on a preparative scale and without the need for chromatographic purification" and the appellant itself has emphasized the difference between the chromatography process and the requirements for the manufacturing process in the course of filing an application for the Patent (Exhibit Otsu No. 3-5, etc.), it is obvious that Invention 1 does not cover the chromatographic purification.

On this point, the appellant alleges that the use of chromatography is disclosed in the statements in paragraphs [0008], [0024] through [0027], and [0045], but these are mere statements of the scavenging of excess ion by ionic-exchange resin and measurement of yield by HPLC. It is also clear from the statements in the Description that the use of chromatography is related to the process adopted in process (d) and the subsequent processes and that chromatography will not be used in the process (a), which is a process to form an enriched organic solution. Therefore, the appellant's abovementioned allegation is unreasonable.

At the same time, xxx <the original text has been omitted> is clearly different from the "organic solvent" used in "liquid-liquid extraction method" as stated in paragraph [0012] of the Description.

Furthermore, xxx <the original text has been omitted>, only an "enriched organic solution" is formed.

Based on the abovementioned findings, it is obvious that the appellee's manufacturing process does not have a process of "forming an enriched organic solution of pravastatin" as mentioned in Invention 1 and thus, does not fulfill process (a).

(E) In regard to the allegation that process (a) is nothing more than a non-core constitution

The appellant alleges that process (a) is nothing but a process of "coarse purification" that is a preliminary step for the "main purification" and thus is not a core constitution of the invention.

However, the fact that process (a) is a process of "coarse purification" is an arbitrary allegation made by the appellant at this point of time, which is not stated in the Description at all. Moreover, it is completely unclear what the "core purification" refers to, i.e. to what extent pravastatin will be purified through this process. So far as we have no choice but to interpret the technical scope of Invention 1 as covering process (a), it is pointless to argue on the importance of process (a) and the fact remains that pravastatin sodium manufactured by the manufacturing

process which does not involve process (a) does not fall within the technical scope of Invention 1.

(F) In regard to the application by analogy of Article 104 of the Patent Act

The appellant alleges that if the theory to limit the subject matter of a patent defined by a product-by-process claim to the products obtained by the relevant manufacturing process, the application by analogy of Article 104 of the Patent Act should be allowed.

However, a product-by-process claim is also a claim related to an "invention of a product," and thus, Article 104 of the Patent Act shall not be applied.

Moreover, with regard to a product-by-process claim, the manufacturing process will be stated in the claims as a means to specify the product just because there is no other way to specify the subject product. Article 104 of the Patent Act is a provision which clarified that, if there is any substance which can be specified by means other than the manufacturing process, such as the name of the compound or chemical structural formula, such substance shall be presumed to have been obtained by the same manufacturing process. The allegation that the identity of a product can be determined without consideration to the manufacturing process despite the fact that the relevant invention is defined by a product-by-process claim is itself unreasonable, and this is nothing but an allegation based on ignorance about the product-by-process claim.

C. In regard to irregularities, etc.

(A) Regarding the allegation of violation of the adversary system

Whether or not an "enriched organic solution" contains water was a main issue in the dispute on infringement in the prior instance, as alleged by the appellee in page 28 of the brief for the prior instance (The appellee's Exhibit No. 6), i.e. "B. The process to manufacture the appellee's products does not fulfill the requirement of '(a) forming an enriched organic solution of pravastatin' stated in Claim 1 of the Patent." Hence, the appellant's allegation that the fact finding in that regard is in violation of the adversary system is incomprehensible.

(B) Regarding the reasoning of the judgment in prior instance which was different from the determination disclosed

Settlement proceedings are not open to the public, and thus the details of the discussions made between the court and one of the parties would remain unknown to the other party. Moreover, the disclosure of the determination of the court at the settlement proceedings shall be made based on a temporary determination, and thus, the court's statements, etc. at such settlement proceedings shall be made from a free position without being constrained by the proceedings in the original lawsuit from the standpoint of the settlement of dispute. Furthermore, the discussions made between the court and both parties in the settlement proceedings, including the responses of the parties, do not affect the oral arguments nor the judgment.

Accordingly, the appellant's abovementioned allegation is unreasonable.

(C) In regard to the allegation of inadequate disclosure of the appellee's manufacturing process, etc.

The appellant alleges that the disclosure of the appellee's manufacturing process is inadequate.

However, the appellant is unilaterally requiring the disclosure of the appellee's manufacturing process without specifying the appellee's manufacturing process by itself nor meeting the burden of allegation, and thus, the appellant's allegation is extremely unreasonable. Be that as it may, it is at least apparent that the appellee's manufacturing process does not fulfill process (a) as found in the judgment in prior instance, and therefore, there is no necessity to further disclose the appellee's manufacturing process.

(3) With regard to the gist of the inventions in question in relation to the determination of novelty and/or inventive step

With regard to an invention defined by a claim generally called as a product-by-process claim, as long as the manufacturing process is clearly stated in the scope of claims, the gist of the invention should not be recognized in disregard of such manufacturing process. This is apparent, in light of the purpose of Article 70 of the Patent Act and the judgment rendered by the Supreme Court (judgment of the Supreme Court on March 8, 1991, Minshu Vol. 45, No. 3, at 123; [Lipase Case]) which held that, unless there are special circumstances, the recognition of the gist of an invention in examining the novelty and inventive step of an invention for which a patent application has been filed, should be made based on the statements in the scope of claims in the description attached to the application.

Accordingly, it should also be impermissible in this case to recognize the gist of the inventions in question by excluding the requirements for the manufacturing process just because the inventions are defined by a product-by-process claim.

(4) Regarding the lack of novelty and/or inventive step based on Otsu Document No. 30

A. As mentioned above, it should be considered impermissible to recognize the gist of the invention by excluding the requirements for the manufacturing process. Accordingly, the inventions in question lack novelty or inventive step on the basis of Otsu Document No. 30 for the following reasons, and should be invalidated in a trial for patent invalidation (Article 104-3 of the Patent Act).

B. Invention 1

(A) Lack of novelty

a. Otsu Document No. 30 states an invention concerning a microbial process for preparing pravastatin. In the statement in such Document, "pravastatin" is defined as pravastatin sodium as prescribed in Formula I on page 1 (Formula I stated in paragraph [0003] of the Japanese

translation of PCT international application), but pravastatin in a dissolved state is also included in the definition of "pravastatin."

b. Process (a)

According to line 22 on page 23 through line 2 on page 24 of Otsu Document No. 30 (paragraph [0064] in lines 8 through 17 on page 31 of the Japanese translation of PCT international application), the formation of 0.8 L of ethyl acetate containing pravastatin from 4.9 L of fermentation broth by "liquid-liquid extraction method" is stated in Otsu Document No. 30. Accordingly, it may be deemed that the process of forming an enriched organic solution of parvastatin, which is precisely process (a), is stated in Otsu Document No. 30.

c. Process (b)

According to lines 2 through 9 on page 24 of Otsu Document No. 30 (paragraph [0064] in lines 17 through 24 on page 31 of the Japanese translation of PCT international application), the process of precipitating pravastatin as dibenzylamine salt is stated in Otsu Document No. 30. In paragraph [0016] of the Description, it is stated that "Regardless of the absence, presence or multiplicity of substitution on nitrogen, a salt formed by reaction of ammonia or an amine is hereinafter referred to as an ammonium salt. Its meaning is intended to encompass salts of amines as well as a salt of ammonia." Then, as the benzyl amine used in Otsu Document No. 30 is literally "amine," it would be deemed that the Description, which includes the statement of "precipitating pravastatin as its ammonium salt" as mentioned in process (b), states that the process of precipitating pravastatin as its benzyl amine salt will be encompassed.

Accordingly, it may be deemed that process (b) is stated in Otsu Document No. 30.

d. Process (c)

According to lines 9 through 15 on page 24 of Otsu Document No. 30 (paragraph [0064] in lines 24 through 28 on page 31 of the Japanese translation of PCT international application), a process to purify pravastatin dibenzylamine salt by recrystallization is stated in Otsu Document No. 30. As alleged in b. above, the Description states a salt formed by reaction of an amine as an ammonium salt, and thus, it is obvious that the process of "purifying the ammonium salt by recrystallization" as mentioned as process (c) encompasses the purification of pravastatin dibenzylamine salt by recrystallization.

Accordingly, it may be deemed that process (c) is stated in Otsu Document No. 30.

e. Process (d)

According to lines 15 through 17 on page 24 of Otsu Document No. 30 (paragraph [0064] in line 28 on page 31 to line 2 on page 32 of the Japanese translation of PCT international application), a process to transpose pravastatin dibenzylamine salt to pravastatin sodium is stated in Otsu Document No. 30. As mentioned in b. above, the Description states a salt formed by reaction of an amine as an ammonium salt, and thus, it is obvious that the

process of "transposing the ammonium salt to pravastatin sodium" as mentioned in process (d) encompasses the process to transpose pravastatin benzyl amine salt to pravastatin sodium.

Accordingly, it may be deemed that process (d) is stated in Otsu Document No. 30.

f. Regarding process (e)

According to lines 17 through 26 on page 24 of Otsu Document No. 30 (paragraph [0064] in lines 2 through 10 on page 32 of the Japanese translation of PCT international application), the process of isolating pravastatin sodium, which is precisely process (e), is stated in Otsu Document No. 30.

g. Product identity

In lines 25 through 26 on page 24 of Otsu Document No. 30 (paragraph [0064] in lines 9 through 10 on page 32 of the Japanese translation of PCT international application), there is a statement that "(pravastatin was obtained,) the purity of which is higher than 99.5% by HPLC." Thus, it may be found that pravastatin sodium with an HPLC area purity of 99.9% is stated in Otsu Document No. 30. Then, according to the Description, it may also be found that pravastatin sodium containing less than 0.5 wt% (0.2 wt% after correction) of pravastatin lactone and less than 0.2 wt% (0.1 wt% after correction) of epiprava is stated therein.

h. As explained above, there is no difference between Otsu Invention No. 30 and Invention 1.

(B) Lack of inventive step

As mentioned in (a) above, it is reasonable to construe that a process of purification of pravastatin using an ammonium salt is disclosed in Otsu Document No. 30, but even if not, as it is clarified from the prosecution history of other patent applications filed by the applicant (Patent Application No. 2004-278522 and Patent Application No. 2005-304900) (Exhibit Otsu No. 28 and Exhibit Otsu No. 29), it is a well-known art in the relevant technical field to improve the purity of a medicine by the process of salting out crystallization. Therefore, a person skilled in the art could have easily conceived of conducting a salting out using an ammonium salt to improve purity, from the inventions stated in the publicly known document and well-known art.

Moreover, as mentioned in (a) above, not only is pravastatin, the purity of which is higher than 99.5% by HPLC, stated in Otsu Document No. 30, but also highly pure pravastatin sodium with a 99% or higher purity that contains a reduced amount of pravastatin-related substances, such as pravastatin lactone and epiprava, is disclosed in Otsu Document No. 1, Otsu Document No. 6, and Otsu Document No. 24, and it is absolutely impossible to consider that, in comparison to such highly pure pravastatin sodium, pravastatin sodium containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava has a technical effect beyond the prediction of a person skilled in the art.

Accordingly, a person skilled in the art can easily conceive of manufacturing pravastatin

sodium containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava by the manufacturing process stated in the requirements for the manufacturing process, from the inventions stated in the publicly known document and well-known art.

C. Invention 2

The constitution of Invention 2 is identical to the constitution stated in line 22 on page 23 to line 2 on page 24 of Otsu Document No. 30 (paragraph [0064] in lines 8 through 17 on page 31 of the Japanese translation of PCT international application).

D. Invention 3

Invention 3 is, as is Invention 2 above, an invention which a person skilled in the art could have easily conceived of as of the priority date of the Patent (October 5, 2000).

E. Invention 4

Invention 4 is, as is Invention 1 above, an invention which a person skilled in the art could have easily conceived of as of the priority date of the Patent.

F. Invention 5

Invention 5 is, as is Invention 4 above, an invention which a person skilled in the art could have easily conceived of as of the priority date of the Patent.

G. Invention 6

Invention 6 is, as is Invention 4 above, an invention which a person skilled in the art could have easily conceived of as of the priority date of the Patent n.

H. Invention 7

Invention 7 is, as is Invention 1 above, an invention which a person skilled in the art could have easily conceived of as of the priority date of the Patent.

I. Invention 8

Invention 8 is, as is Invention 1 above, an invention which a person skilled in the art could have easily conceived of as of the priority date of the Patent.

J. Invention 9

Invention 9 is, as is Invention 1 above, an invention which a person skilled in the art could have easily conceived of as of the priority date of the Patent.

(5) Regarding the lack of novelty and/or inventive step based on Otsu Document No. 24

A. Lack of novelty

Even if the gist of the invention should be recognized by excluding the requirements for the manufacturing process as alleged by the appellant, Invention 1 and Corrected Invention 1 are identical to the inventions stated in Otsu Document No.24 (i.e. the product specification delivered to Company A from Biogal Gyogyszergyar RT) or are inventions which had been publicly worked prior to the filing of application for the Patent, and thus, they cannot be patented pursuant to the provisions of Article 29, paragraph (1), item (ii) or (iii) of the Patent

Act.

More specifically, Biogal Gyogyszergyar RT, which is the predecessor of the appellant, had distributed Otsu Sample No. 24, which is a base powder of pravastatin sodium it manufactured, to Company A through Company B, without imposing an obligation of confidentiality, prior to the priority date of the Patent (Exhibit Otsu No. 24-1).

Upon such distribution, Otsu Document No. 24, which is a product specification (certificate of analysis) prepared by the appellant, was delivered as well, and there, it was stated that 0.03 % of pravastatin lactone and 0.08 wt% of epiprava were contained in the base powder of pravastatin sodium (Exhibit Otsu No. 24-3).

As a result of the analysis of the abovementioned Otsu Sample No. 24 by Company A, the quantity value of pravastatin sodium (measured by HPLC) was 99.9% (Exhibit Otsu No. 24-5).

As described above, both Invention 1 and Corrected Invention 1 are inventions stated in Otsu Document No. 24 and inventions publicly worked by the appellant prior to the priority date thereof through the distribution of Otsu Sample No. 24, and therefore, the grounds for invalidation falling under Article 29, paragraph (1), items (ii) and (iii) of the Patent Act can be found.

In this regard, the appellant alleges as follows concerning Otsu Document No. 24 and Otsu Sample No. 24: (i) an obligation of confidentiality was imposed and thus, the relevant invention was not publicly known nor publicly worked; (ii) the process to obtain Otsu Sample No. 24 (i.e. the manufacturing process) has not been disclosed and thus, Otsu Document No. 24 lacks eligibility to serve as a cited reference; and (iii) Otsu Document No. 24 is not a publication in the first place.

However, it is obvious that no confidentiality agreement was entered into between the appellant and Company A and no practice of confidentiality existed between them (moreover, the existence of any confidentiality agreement or practice should be alleged and proved by the appellant in the first place, but the appellant has not made such allegation or proof at all), and thus, the relevant invention was publicly known and publicly worked.

Moreover, in regard to the point that the manufacturing process of Otsu Sample No. 24 has not been disclosed in Otsu Document No. 24, in this case, Otsu Document No. 24 was delivered along with the base powder sample having the same constitution as the Patent distributed by the appellant itself, and the constitution of such base powder sample was clearly described by the appellant itself. In other words, it was externally obvious that the subject product of the Patent actually existed and that such subject product had the same composition as that of the Patent. Then, it is apparent that such Otsu Document No. 24 and Otsu Sample No. 24 fall under Article 29, paragraph (1), item (ii) of the Patent Act. Furthermore, the appellant is also disputing that Otsu Document No. 24 does not fall under the category of publications, but it is obvious that it

does in light of the past court precedents.

B. Lack of inventive step

A person skilled in the art could have easily conceived of Invention 1 and Corrected Invention 1 based on the inventions stated in Otsu Document No. 24 and the common general technical knowledge, and thus, there are grounds for invalidation under Article 29, paragraph (2) of the Patent Act.

C. Moreover, the same applies to Inventions 2 through 9 and Corrected Inventions 2 through 9 that cite Invention 1 and Corrected Invention 1.

(6) Regarding the violation of the main clause of Article 29, paragraph (1) of the Patent Act

As long as the purity of the pravastatin sodium itself and the amount of other impurities contained in the compositions are not defined in the statement in the scope of claims, Invention 1 and Corrected Invention 1 could possibly include compositions containing relatively less pravastatin sodium and epiprava just because it contains a larger amount of impurities, in addition to pravastatin sodium, and thus such inventions cannot be deemed to be inventions that specify that the pravastatin sodium to be obtained must be "highly pure." Then, either invention, which does not satisfy the requirement of industrial applicability, would be in violation of the main clause of Article 29, paragraph (1) of the Patent Act, and therefore, should be invalidated.

(7) Regarding the appropriateness of correction

A. The Correction is not made for the restriction of the scope of claims

Even if Invention 1 and Corrected Invention 1 were inventions to obtain highly pure pravastatin sodium, the Correction is not made for the restriction of the scope of claims, and thus should not be allowed.

More specifically, pravastatin sodium containing 0% (or a figure extremely near to 0) of pravastatin lactone and epiprava will be an achievement of a more advanced problem than that of Invention 1 (i.e. an invention with an advanced technology), and thus, the technical scope of Invention 1 should be considered to be "pravastatin sodium containing pravastatin lactone slightly less than 0.5 wt% and epiprava slightly less than 0.2 wt%."

Nevertheless, the Correction which changed the amount of impurities such as pravastatin lactone contained, from "0.5 wt%" into "0.2 wt%," a figure less than half of the original figure, and epiprava from "0.2 wt%" to its half, "0.1 wt%," at once, falls under an alteration outside the technical scope of Invention 1.

Therefore, the Correction shall not be deemed to be a "correction for the restriction of the scope of claims."

B. The Correction is an enlargement or alteration of the scope of claims

The description prior to the Correction, at least, does not state the technical matters to make it possible to actually obtain "pravastatin sodium containing less than 0.2 wt% of

pravastatin lactone and less than 0.1 wt% of epiprava," which is the scope of claims after the Correction. Hence, the technical scope of Invention 1 at least does not include the scope of claims of Corrected Invention 1, and then, the Correction, which would substantially enlarge or alter the scope of claims of Invention 1, should not be allowed.

The decision rendered in a trial for patent invalidation against the Patent (Invalidation Request No. 2008-800055) held that "With regard to the amount of pravastatin lactone and epiprava contained, the description of the Patent states in paragraph [0031] that 'As demonstrated in the examples that follow, pravastatin sodium may be isolated with less than 0.5% (w/w) contamination by pravastatin lactone and less than 0.2% (w/w) contamination by epiprava. Pravastatin sodium further may be isolated with less than 0.2% (w/w) pravastatin lactone and less than 0.1% epiprava by adhering to the preferred embodiments of the invention, two of which are exemplified in Examples 1 and 3.' This correction shall be made within the scope of matters disclosed in the description attached to the application" (Exhibit Ko No. 41; line 31 on page 6 to line 3 on page 7 of the written trial decision). Yet, the Patent Act is requiring that a correction will not "substantially alter the scope of claims" (Article 126, paragraph (4) of the Patent Act as applied mutatis mutandis pursuant to Article 134-2, paragraph (5) of said Act), as a requirement for the request of correction separately from the requirement that the correction will "remain within the scope of matters disclosed in the description…attached to the application" (Article 126, paragraph (3) of the Patent Act as applied mutatis mutandis pursuant to Article 134-2, paragraph (5) of said Act; such requirement is generally called as the "prohibition of addition of new matters"). Whether or not the correction is to "substantially alter the scope of claims" is exclusively a matter of the "scope of claims" and not a matter of the description in whole, and the identity of an invention should be determined by comparing the statements in the "scope of claims" made before the correction with those made after the correction. Based on such assumption, the Correction, which changed the amount of contained impurities such as pravastatin lactone from "less than 0.5 wt%" before correction to "less than 0.2 wt%," a figure less than half of the original figure, and epiprava from "less than 0.2 wt%" to its half, "less than 0.1 wt%," at once, has substantially reduced the figure for the amount of contamination. Accordingly, it is obvious that if the statements in the "scope of claims" made before the Correction are compared with those made after such Correction, the relevant invention lacks identity.

Furthermore, the point to be emphasized with regard to the Correction is that, mevalotin tablets described in "Drug Interview Form (Mevalotin tablets), October 1997 revised version" (Otsu Document No. 1) issued by Company C, and pravastatin sodium product described in "Product Specifications and Certificate of Analysis" (Otsu Document No. 6) prepared by Biogal Gyogyszergyar RT, the predecessor of the appellant, existed as prior arts that will serve as the

basis to deny the novelty of Invention 1 prior to the Correction. It has been also admitted in the trial decision (Exhibit Ko No. 41) that such prior arts are identical to Invention 1 prior to the Correction.

The trial decision compared the Corrected Invention 1 with these prior arts and affirmed that Corrected Invention 1 had inventive step. However, if that was the case, the invention disclosed in the scope of claims after the Correction will be found to have inventive step in comparison to Invention 1. In other words, such invention disclosed would not simply be an invention to which technical means well-known to the persons skilled in the art have been added, but an invention in which another technical matter has been introduced. Therefore, the Correction should be considered to be one that substantially alters the scope of claims.

No. 4 Judgment of this court

This court holds that the claim of the principal action made by the appellant should be dismissed as in the judgment in prior instance, on the following grounds: (i) the technical scope of Claim 1 of the Patent should be understood as being limited to the manufacturing process stated therein, and the appellee's products do not fulfill the requirements stated in said Claim (i.e. process (a)); and (ii) a person skilled in the art could have easily conceived of Claim 1 of the Patent from Otsu Invention No. 30, which was newly submitted in this court and thus, such Patent should be invalidated in a trial for patent invalidation pursuant to Article 29, paragraph (2) and Article 123 of the Patent Act (hereinafter referred to as the "Act") (Article 104-3 of the Act).

The reasons for the abovementioned holding are as follows.

1. Regarding the technical scope of the inventions in question

(1) The details of Claims 1 through 9 of the Patent (including those corrected) are as stated in the judgment in prior instance (pages 2 to 4 and 58 to 62).

(2) Regarding the definite determination of the technical scope of a patented invention in a patent infringement lawsuit

A. With regard to the definite determination of the technical scope of a patented invention in a patent infringement lawsuit, Article 70, paragraph (1) of the Act provides that "The technical scope of a patented invention shall be determined based upon the statements in the scope of claims attached to the application." Paragraph (2) of said Article provides that "In the case of the preceding paragraph, the meaning of each term used in the scope of claims shall be interpreted in consideration of the statements in the description and drawings attached to the application."

Therefore, where a claim for an injunction or damages has been made on the grounds of infringement of a patent right, statements in the "scope of claims" should be used as standards in definitely determining the technical scope of a patented invention, based on which such claim

has been made. The statements in the scope of claims should be understood as specifically demarcating the technical scope of the patented invention. If this idea is denied, and a specific "wording" used in the scope of claims is interpreted as not intending to limit the technical scope of the invention, this will undermine the trust of third parties who acted in accordance with the statements in the "scope of claims" appearing in the patent gazette, which will result in impairing legal stability.

Assuming so, where the scope of claims of an "invention of a product" states a "process to manufacture" the product, as it happens in this case, the technical scope of the invention should be interpreted or definitely determined as being limited to products manufactured by said manufacturing process. It is, in principle impermissible to interpret or definitely determine the technical scope of the invention as including other manufacturing processes beyond said manufacturing process stated in the scope of claims.

In the case of an "invention of a product," like with the one disputed in this case, it is desirable that the scope of claims is stated and defined by means of the structure or feature of the product. However, if there are circumstances where it is impossible or difficult to directly specify the product by means of the structure or feature of the product at the time of filing an application, it is also permissible to specify the product by means of a process to manufacture the product in light of the purpose of Article 1, etc. of the Act, i.e. encouraging inventions and thereby contributing to the development of industry, and such manner of specifying the product does not seem to go against Article 36, paragraph (6), item (ii) of the Act.

Where there are such circumstances, even if a specific manufacturing process is stated in the scope of claims, such manufacturing process is regarded as being stated for the purpose of specifying the product, and the technical scope is to be interpreted and definitely determined as not being limited to products manufactured through the manufacturing process stated in the scope of claims but also covering "products" in general.

B. Where, for an invention of a product, a process to manufacture the product is stated in the scope of claims, such a claim is generally called a "product-by-process claim." In light of the perspective mentioned in A. above, product-by-process claims as mentioned above fall into two types, specifically: (i) claims "in which a product is specified by means of a process to manufacture the product because there are circumstances where it is impossible or difficult to directly specify the product by means of the structure or feature of the product at the time of filing an application (in relation to this case, such claims are referred to as "Authentic Product-by-Process Claims" for convenience)"; and (ii) claims "in which a process to manufacture the product is stated in addition to a product, though it cannot be said that there are circumstances where it is impossible or difficult to directly specify the product subject to the invention by means of the structure or feature of the product at the time of filing an application

(in relation to this case, such claims are referred to as "Unauthentic Product-by-Process Claims" for convenience)." The court examines product-by-process claims based on this distinction. According to A. above, for Authentic Product-by-Process Claims, the technical scope of the invention is interpreted as "not being limited to products manufactured through the manufacturing process stated in the scope of claims but also covering any "products" that are identical to the products manufactured through said process." Contrarily, for Unauthentic Product-by-Process Claims, the technical scope of the invention is interpreted as being limited to "products manufactured through the manufacturing process stated in the scope of claims."

In addition, from the perspective of distribution of the burden of proof in a patent infringement lawsuit, where a manufacturing process is stated in the scope of claims of an invention of a product, the statement is in principle to be interpreted literally. Therefore, a person who asserts that the claim falls under Authentic Product-by-Process Claims should bear the burden of proving that "it is impossible or difficult to directly specify the product by means of the structure or feature of the product at the time of filing an application." If such a person is unable to fully prove this, it is reasonable to regard the claim as an Unauthentic Product-by-Process Claim and to interpret or definitely determine the technical scope of the invention as stated in the scope of claims.

C. Based on the abovementioned findings, this court examines whether or not there are "circumstances where it is impossible or difficult to directly specify the product by means of the structure or feature of the product at the time of filing an application" as mentioned above, with regard to Invention 1.

(A) Necessity to specify the product by the requirements for the manufacturing process

According to the evidence (Exhibits Ko No. 2, No. 36 and No. 37, and Exhibit Otsu No. 1) and entire import of oral argument, it is found that, at the time of the priority date of the Patent (October 5, 2000), the pravastatin sodium stated in Invention 1 was a publicly known substance for a person skilled in the art and that pravastatin lactone and epiprava were impurities contained in pravastatin sodium.

Hence, the constitution of "pravastatin sodium containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava" as stated in Claim 1 included in the scope of claims numerically limits the amount of contamination by pravastatin lactone and epiprava, which are impurities, in the pravastatin sodium, which was a publicly known substance, and thus, the pravastatin sodium in question shall be deemed to have been objectively and clearly stated by means of its structure.

More specifically, with regard to the statement, "pravastatin sodium containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava," in Claim 1 included in the scope of claims, it shall be found that there were no circumstances where it is impossible or

difficult to specify the product by means other than the process to manufacture it. In regard to this, the appellant has admitted that it was unnecessary to state the process to manufacture the relevant product to specify it.

(B) Thus, Invention 1 should be recognized as an Unauthentic Product-by-Process Claim mentioned above, and the technical scope thereof shall be limited to the products manufactured in accordance with the requirements for the manufacturing process, as follows.

Pravastatin sodium prepared by a process comprising the steps of:

(a) forming an enriched organic solution of pravastatin;

(b) precipitating pravastatin as its ammonium salt;

(c) purifying the ammonium salt by recrystallization;

(d) transposing the ammonium salt to pravastatin sodium; and

(e) isolating pravastatin sodium,

and containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava."

(3) Regarding the appellee's products' fulfillment of the constituent features

A. Existence or absence of product identity

(A) As described above, the appellee's products that are pravastatin sodium containing less than 0.2 wt% of pravastatin lactone and less than 0.1 wt% of epiprava, fulfill the constituent feature of Invention 1 prescribed as "pravastatin sodium containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava" in the latter part of the claim.

(B) In this regard, the appellee alleges in 2(2)A. of No. 3 above, that unless it is proved that the constitution of the pravastatin sodium as well as that of the compositions including various impurities in addition to pravastatin lactone and epiprava manufactured by the appellee's manufacturing process are identical to that of the product manufactured in accordance with the requirements for the manufacturing process, the appellee's products cannot be deemed to fall within the technical scope of the Patent.

Nevertheless, Invention 1 has not defined impurities other than pravastatin lactone and epiprava in the first place, and thus it cannot be considered that the specification of the product and the scope of rights remain unclear. Therefore, the appellee's abovementioned allegation, which is not based on the statement in the claims of the Patent, cannot be accepted.

B. Fulfillment of the requirements for the manufacturing process

As described in A. above, the appellee's products may be deemed to be the "pravastatin sodium containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava" as prescribed in the latter part of Invention 1. Accordingly, the product identity is fulfilled, so this court will proceed to the next step to examine the fulfillment of the requirements for the manufacturing process described as process (a) through process (e).

(A) Details of the appellee's manufacturing process

a. According to the evidence (Exhibit Ko No. 38 and Exhibit Otsu No. 5), the following statements are found in relation to the process to manufacture the appellee's products.

Xxx <the original text has been omitted>.

b. In light of the abovementioned statements and entire import of the oral argument, the process to manufacture the appellee's products (appellee's manufacturing process) shall be divided into the following processes.

Xxx <the original text has been omitted>.

In addition, the process mentioned in (E) above shall be further divided into the following processes.

Xxx <the original text has been omitted>.

Nevertheless, this document, which is a document seeking a consent to the changes in the appellee's manufacturing process and not a notice of change, cannot be used as a basis to find that the manufacturing process had already been changed.

(B) Meaning of the "enriched organic solution" prescribed in process (a) of Invention 1

a. With regard to the "enriched organic solution" prescribed in process (a), the Description (Exhibit Ko No. 2) states as follows.

* "The present invention meets a need in the art for an efficient method of isolating pravastatin sodium from a fermentation broth in high purity, in high yield, on a preparative scale and without the need for chromatographic purification." (paragraph [0006])

* "SUMMARY OF THE INVENTION

The present invention provides pravastatin sodium substantially free of pravastatin lactone and epiprava, the C-6 epimer of pravastatin. The invention further provides a process that can be practiced on an industrial scale for producing such substantially pure pravastatin sodium." (paragraph [0007])

* "A preferred embodiment of the process involves extraction of pravastatin from an aqueous fermentation broth into an organic solvent, back-extraction of pravastatin into a basic aqueous solution and re-extraction into an organic solvent, resulting in an organic solution that is enriched in pravastatin relative to the initial concentration of pravastatin in the fermentation broth. The pravastatin may be obtained from the enriched solution by precipitation as its ammonium salt and then purification by recrystallization of the ammonium salt." (paragraph [0008])

* "Enzymatic Hydroxylation of Compactin

The enzymatic hydroxylation broth from which pravastatin is isolated can be any of the aqueous broths known for industrial scale fermentation of compactin,…. Preferably, the enzymatic hydroxylation is conducted using a living culture of Steptomyces, with a nutrient

mixture of compactin and dextrose. If the broth is neutral or basic upon completion of the fermentation, then an acid is added to it to bring the broth to a pH of between about 1 and 6, preferably between 1 and 5.5 and more preferably between 2 and 4….. Acidification of the fermentation broth converts any pravastatin carboxylate salts in the broth to the free acid and/or lactone." (paragraph [0010])

* "Isolation of Substantially Pure Pravastatin Sodium

Pravastatin is first isolated from an aqueous fermentation broth in a relatively highly concentrated organic solution by a sequence of extraction and back-extraction steps." (paragraph [0011])

* "In the first step, pravastatin is extracted from a fermentation broth. C_2-C_4 alkyl formates and C_1-C_4 alkyl esters of C_2-C_4 carboxylic acids are capable of efficient extraction of pravastatin from an aqueous fermentation broth…Preferred esters include ethyl formate,….. Of these preferred organic solvents, we have found that ethyl acetate, i-butyl acetate, propyl acetate and ethyl formate are especially well suited. The most preferred extraction solvent is i-butyl acetate. Other organic solvents may be substituted for the esters. (Omitted)" (paragraph [0012])

* "Pravastatin is optionally back-extracted into a basic aqueous solution of pH from about 8.0 to about 9.5…. The extraction solvent is preferably contacted with the basic aqueous solution until the amount of pravastatin in the organic phase has been substantially depleted as determined by thin layer chromatography or any other method including the subjective judgment that sufficient contacting has occurred for complete extraction. Multiple back-extractions may be performed for optimal recovery….. Back-extraction may be used to concentrate the pravastatin by using a volume of aqueous base that is less than the volume of the organic extract. Preferably, the back-extraction is conducted with a volume of basic aqueous solution that is less than one third of the volume of the organic extract, more preferably less than one fourth and most preferably, about one fifth the volume of the organic extract." (paragraph [0013])

* "The aqueous solution is preferably acidified with an acid… to a pH of about 1.0 to about 6.5, more preferably about 2.0 to about 3.7." (paragraph [0014])

* "Pravastatin is preferably re-extracted into one of the organic solvents previously described as suitable for extracting pravastatin from the fermentation broth….. In this re-extraction, further enrichment of pravastatin may be accomplished by re-extracting into an amount of organic solvent that is preferably less than about 50 % (v/v) of the aqueous extract, more preferably from about 33% (v/v) to about 20% (v/v) and still more preferably about 25% (v/v) of the volume of the aqueous extract. Pravastatin may be concentrated from 100 L of fermentation broth to 8 L of enriched organic solution in 89% yield from the initial organic extract. It will be appreciated by those skilled in the art that a higher yield of purified pravastatin

may be attained by performing multiple extractions where only a single extraction has been described in this preferred mode for practicing the invention. This preferred mode achieves a balance of solvent economy and high product yield….. Before proceeding to obtain pravastatin from the enriched organic solution by "salting out," the enriched organic solution is preferably dried, which may be done using a conventional drying agent (Omitted), and optionally decolorized with activated carbon. A dried and/or decolorized enriched organic solution is preferably then separated conventionally, as for instance by filtration or decanting." (paragraph [0015])

* "In the next step, pravastatin may be salted out from the enriched organic solution with ammonia or an amine….. Regardless of the absence, presence or multiplicity of substitution on nitrogen, a salt formed by reaction of ammonia or an amine is hereafter referred to as an ammonium salt. Its meaning is intended to encompass salts of amines as well as a salt of ammonia." (paragraph [0016])

* "Precipitation of the ammonium salt of pravastatin may also be induced by addition of an ammonium salt either alone or in combination with the ammonia or amine….. Ammonium salts and high boiling liquid and solid amines may be added by conventional means, preferably in an area with good ventilation, either as solids, neat liquids or solutions in aqueous or organic solvent…. In an especially preferred embodiment, pravastatin is obtained from the enriched organic solution as the pravastatin salt of ammonia by addition of gaseous ammonia and NH_4C1 to the enriched organic solution." (paragraph [0017])

* Working example

"EXAMPLES

EXAMPLE 1

Purification of Pravastatin

The fermentation broth (100 L) was acidified to about 2.5 to about 5.0 by addition of sulfuric acid. The acidified fermentation broth was extracted with i-butyl acetate (3x50 L)….. The combined i-butyl acetate phases were then extracted with water (35 L) at about a pH of 7.5 to about 11.0 by addition of concentrated ammonium hydroxide. The resulting aqueous pravastatin solution was then reacidified to a pH of about 2.0 to about 4.0 by addition of 5M sulfuric acid and back-extracted with i-butyl acetate (8 L). The resulting solution of pravastatin in i-butyl acetate was partially dried over Perlite and Na_2SO_4. The pravastatin solution was decanted and then filtered from the drying agents and decolorized over activated charcoal (1.7 g). The solution was then filtered to remove the charcoal and transferred to a flask equipped with a gas inlet." (paragraph [0039])

* "Ammonia gas was then introduced into the headspace above the solution with rapid stirring. The precipitated crystals of ammonium pravastatin carboxylate salt were collected by

filtration and washed with i-butyl acetate and then acetone, which yielded pravastatin ammonium salt in about 94 % purity as determined by HPLC coupled with UV absorbance measured at λ=238nm." (paragraph [0040])

* "The pravastatin ammonium salt was further purified by crystallization from a saturated ammonium chloride solution as follows. The pravastatin salt containing 162 g of active substance was dissolved in water (960 ml) and diluted with acetone (96 ml) and i- butyl acetate (96 ml) at about 35-40°C. The solution was cooled to about 30-32°C and pravastatin ammonium was induced to crystallize by addition of solid NH_4C1 until further addition resulted in no apparent increase in crystal formation. After adding ammonium chloride, the solution was cooled to about 0-26°C. The pravastatin ammonium crystals were collected by filtration and washed with i-butyl acetate and acetone, as before, and then dried at about 40 °C. The resulting pravastatin ammonium salt crystals (155.5 g) were obtained in about 98 % purity as determined by HPLC employing the afore-mentioned conditions." (paragraph [0041])

* "The pravastatin ammonium salt was further purified by another crystallization as follows. The pravastatin ammonium salt (155.5 g of active substance) was dissolved in water (900 ml). Isobutanol (2 ml) was added and then the pH was raised to about pH 10 to about pH 13.7 by addition of a concentrated solution of sodium hydroxide and the solution was stirred for 30 min. at ambient temperature. The solution was neutralized to a pH of about 7 by addition of sulfuric acid and crystallization of pravastatin ammonium was induced by addition of solid NH_4C1. The crystals (150 g) were collected by filtration and washed with acetone. Pravastatin ammonium was found to be about 99.3% pure by HPLC detection using the above-described conditions." (paragraph [0042])

* "The pravastatin ammonium was then transposed to the sodium salt as follows. The pravastatin ammonium salt crystals were dissolved in water (1800 ml), and i-butyl acetate (10.5 L) was added. The solution was then acidified to a pH of between about pH 2 to about pH 4 by addition of sulfuric acid, which converted pravastatin back to its free acid. The i-butyl acetate phase, containing pravastatin, was washed with water (5x10ml). Pravastatin was then converted to its sodium salt and back-extracted into another aqueous phase by swirling the i-butyl acetate solution over water between about 900-2700 ml with intermittent addition of 8M NaOH until a pH of between about pH 7.4 and about pH 13 was reached." (paragraph [0043])

* "The pravastatin sodium salt solution was then treated with an ion exchange resin to scavenge excess sodium cations. After separation, the aqueous phase was stirred over IRC in the H+ ion exchange resin for 30 min. at ambient temperature. Stirring was continued until a pH of about pH 7.4 to about pH 7.8 was reached." (paragraph [0044])

* "The solution was then filtered to remove the resin and partially concentrated to a weight of 508 g under vacuum. Acetonitrile (480 ml) was then added and the solution was

stirred over activated carbon (5 g) to decolorize. Pravastatin sodium was obtained as crystals by crystallization in 90% yield after further addition of acetone and acetonitrile to form a 1/3/12 mixture of water/acetone/acetonitrile (5.9 L) with cooling to about -10 to about 0°C. Pravastatin sodium was obtained in an overall yield of 65 % in about 99.8% purity from the starting fermented active substance as measured by HPLC using the above-described conditions." (paragraph [0045])

* "EXAMPLE 5

Following the procedure of Example 1, the fermentation broth (100 L) was acidified to a pH of about 2.5 to about 5.0 by addition of sulfuric acid. The acidified fermentation broth was extracted with i-butyl acetate (3x50 L). The combined i-butyl acetate phases were then extracted with water (35 L) having been basified to a pH of about pH 7.5 to about pH 11.0 by addition of concentrated ammonium hydroxide." (paragraph [0049])

* "Instead of reacidifying the aqueous extract and extracting with i-butyl acetate to obtain a further enriched organic solution as was done in Example 1, the aqueous extract was concentrated to 140 g/L under vacuum. The resulting concentrated solution was then acidified to a pH of about pH 4.0 to about pH 7.5 by addition of 1M HC1." (paragraph [0050])

* "Ammonium chloride crystals (405 g) were then added to the concentrated solution and the pravastatin ammonium salt was allowed to crystallize at ambient temperature. The crystals were then isolated by filtration and washed with a saturated solution of ammonium chloride. The crystals were then added to water (1L) at 40°C. After dissolution, the temperature was reduced to 30 °C and ammonium chloride (330 g) was added to the solution. The solution was then stirred for 15 hours at ambient temperature and crystals of pravastatin ammonium salt were recovered by filtration and washed with i-butyl acetate and after that with acetone and dried. The resulting crystals were then further purified by recrystallization transposed to the sodium salt and isolated as described in Example 1. Pravastatin sodium was obtained in about 99.9% purity and 67.7% yield." (paragraph [0051])

b. Examination of the meaning of the "enriched organic solution" prescribed in process (a)

There is no dispute between the parties over the fact that the "enriched organic solution" prescribed in process (a) is manufactured from pravastatin fermentation broth.

Examining the abovementioned statements in the Description concerning the specific process to manufacture such "enriched organic solution" (i.e. paragraphs [0011] through [0017] and [0039]) and taking into account that only the "liquid-liquid extraction method," which uses a liquid phase that clearly separates into two phases, i.e. "phase of organic solution which do not mix with water" and "aqueous solution phase," is disclosed as the specific manufacturing process, and that the Description states that "The present invention meets a need in the art for an efficient method of isolating pravastatin sodium from a fermentation broth….without the need

for chromatographic purification" (paragraph [0006]), Invention 1 shall be recognized to be an invention based on the formation of an "enriched organic solution" by using the "liquid-liquid extraction method," without chromatographic purification.

According to the statement in paragraph [0015] as mentioned above, the specific process to manufacture an "enriched organic solution" through "liquid-liquid extraction method" shall be recognized to be as follows: (i) pravastatin is extracted from the pravastatin fermentation broth with an organic solvent; (ii) the pravastatin obtained is optionally back-extracted into a basic aqueous solution from the organic solvent; and (iii) the pravastatin is further re-extracted into an organic solvent from the basic aqueous solution. With regard to the abovementioned processes, it is obvious from a technical standpoint that the three processes, (i) extraction process, (ii) back-extraction process, and (iii) re-extraction process, must be carried out in the abovementioned order. According to paragraph [0013] as mentioned above, among the abovementioned three processes, the back-extraction process as mentioned in (ii) above is optional, and then the following process, (iii) re-extraction process, would naturally be an optional process as well.

Next, examining the terms used for the liquids related to all of the processes from (i) through (iii) in the Description, it is found that terms such as "organic phase," "organic extract," "aqueous base," and "aqueous extract" are used in addition to the terms "organic solvent" and "base aqueous solution," which are extraction solvents. Further examining the way these terms are used, it is found that the use of terms related to "organic" liquid, such as "organic solvent," organic phase," and "organic extract," and that of the terms related to "water," such as "basic aqueous solution," "aqueous base," and "aqueous extract" are clearly differentiated.

Based on such findings, it is appropriate to recognize that the "enriched organic solution" is an enriched organic solution which can be used for the extraction and re-extraction processes in the "liquid-liquid extraction method" as it does not completely mix with water, and which will separate into two phases consisting of the aqueous phase and organic phase due to the difference in the specific gravity between organic solvent and water, and in which pravastatin will be enriched.

c. Determination on the appellant's allegation concerning the meaning of an "enriched organic solution"

(a) In regard to the allegation that "'organics solution' contains water"

The appellant alleges that the appellee's allegation that an "enriched organic solution" obtained by using an "organic solvent which does not mix with water" in the "liquid-liquid extraction method" does not contain water on the basis that process (a) is an essential step in the "liquid-liquid extraction method" and the determination made in the judgment in prior instance to the same effect are erroneous for the following reason: As the "liquid-liquid extraction

method" is stated as a "preferred embodiment of the process" at the beginning of paragraph [0008] of the Description, the "liquid-liquid extraction method" is an optional step.

However, the statement of "preferred embodiment of the process" at the beginning of paragraph [0008] of the Description may be construed to be a statement that the other matters stated, such as whether or not to adopt the (ii) back-extraction process and (iii) re-extraction process in addition to the (i) extraction process, are optional on the premise that the "liquid-liquid extraction method" is an essential step in Invention 1. Therefore, the appellant's abovementioned allegation that the "liquid-liquid extraction method" itself is an optional step based on the abovementioned statement, cannot be accepted.

(b) In regard to the allegation concerning the "adoption of the processes of extraction/back-extraction"

The appellant alleges that the "enriched organic solution" obtained in process (a) contains water on the grounds that water miscibility varies among organic solvents, and that, when organic solvents are mixed with and separated from water through the adoption of the "extraction and back-extraction" processes, the organic solvents could possibly contain water at various levels depending on their water miscibility.

Yet, based on the abovementioned findings, the "enriched organic solution" formed in process (a) refers to an organic solvent which does not completely mix with water and which does not contain water that is completely mixed therewith so as to separate into two phases consisting of water and organic solvent when the "liquid-liquid extraction method" is used, which does not mean an organic solvent that does not contain water at all. More specifically, according to Exhibit Otsu No. 23 ("15710 Chemical Products" The Chemical Daily Co., Ltd), it is found that organic solvents such as "i-butyl acetate" stated in the Description could possibly contain a tiny amount of water, i.e. 0.55 % or less. However, such a tiny amount of water should not be considered to be water that constitutes an "aqueous phase" created due to the difference in the specific gravity between organic solvent and water in the "liquid-liquid extraction method." Accordingly, the appellant's abovementioned allegation that an "enriched organic solution" contains water on the basis of such tiny amount of water cannot be accepted.

Moreover, the appellant alleges that the "enriched organic solution" mentioned in process (a) contains water on the grounds that in the case where the optional process, (iii) re-extraction process, is omitted, a person skilled in the art will recognize the aqueous solution, which was obtained through the process, (ii) back-extraction, and which contains a small amount of "organic" solvent, as the "enriched organic solution."

However, based on the abovementioned findings and in light of the fact that the terms related to "organic" liquid and the terms related to liquid mainly consisting of "water" are used in a differentiated manner as extraction solvents for the "liquid-liquid extraction method" in the

Description, the liquid containing water which was obtained after the back-extraction process as mention in (ii) above cannot be deemed to be an "enriched 'organic' solution," and further, as described above, the mixture of a tiny amount of "organic" solvent, as alleged by the appellant, would not make such liquid to fall under an "enriched 'organic' solution."

Accordingly, the appellant's abovementioned allegation cannot be accepted.

Furthermore, the appellant alleges that the "enriched organic solution" contains water on the grounds that the Description states that "the enriched organic solution is preferably dried,….. A dried… enriched organic solution" (paragraph [0015]) and indicates that an enriched organic solution in an unfavorable condition may require drying (i.e. dehydration) (which means that an enriched organic solution could possibly contain water).

However, based on the aforementioned statements in the Description and the abovementioned findings, the abovementioned statement in the Description is not a statement for demonstrating the drying of a large amount of water which is completely mixed in with the organic solvent and cannot separate into two phases, but the possibility to dry a small amount of water mixed in with the organic solution phase which can separate into two phases, the aqueous phase and organic solution phase, due to the difference in the specific gravity between organic solvent and water. Hence, such statement does not demonstrate that the "enriched organic solution" is an organic solution that completely mixes with water and thereby contains water.

(c) In regard to the allegation that the "findings that an ammonium salt would not be precipitated are erroneous"

The appellant alleges that the findings and determination made in the judgment in prior instance that an "organic solution" does not contain water on the grounds that an ammonium salt will not be precipitated if the "organic solution" contains water are erroneous by alleging that, in the process of salting out in process (b), precipitation of an ammonium salt of pravastatin is possible even if the "organic solution" contains water and that it is also possible to remove water by drying (dehydrating) the "organic solution" before the salting-out process.

However, the judgment in prior instance only clarified that it "becomes difficult to precipitate" an ammonium salt if the "organic solution" contains water and has not found that an ammonium salt "would not be precipitated," and thus the appellant's abovementioned allegation lacks the prerequisite and is erroneous. Moreover, the fact that it is possible to remove water by drying (dehydrating) the "organic solution" before the salting-out process is insufficient to overturn the findings that it becomes difficult to precipitate an ammonium salt. Accordingly, there are no errors in the findings and determination made in the judgment in prior instance and the appellant's abovementioned allegation cannot be accepted.

(d) In regard to the allegation against the findings that "Example 5 is not a working example"

The appellant alleges that Example 5 is a working example of Invention 1 and the "aqueous extract" formed in such Example 5 falls under the category of "enriched organic solution," and therefore, it is disclosed that the "enriched organic solution" mentioned in process (a) may contain water.

Yet, according to the statement in the aforementioned paragraph [0049] of the Description, Example 5 follows the procedure of Example 1. Moreover, according the statement in the aforementioned paragraph [0039] concerning extractions in Example 1 and the statements in the aforementioned paragraphs [0049] and [0050] concerning extractions in Example 5, it is found that, in the process, (i) extraction process, of Example 1, 150L of i-butyl acetate is used as an organic solvent for extraction for 100 L of fermentation broth and pravastatin is not enriched in the organic solution obtained. Therefore, when only the process, (i) extraction process, of Example 1 is conducted, such organic solution will not fall under the category of "'enriched' organic solution."

Moreover, taking into account that, in Example 5, pravastatin is back-extracted with a basic aqueous solution from i-butyl acetate solution, and the aqueous extract obtained is enriched under vacuum and acidified, the enriched "aqueous extract" does not contain an organic solvent and thus does not fall under the category of enriched "organic solution." In this regard, Example 5 is not a working example of Invention 1.

Then, the aforementioned appellant's allegation that the "enriched organic solution" obtained in Invention 1 contains water based on the premise that Example 5 which involves the use of water is a working example of Invention 1, lacks the prerequisite and thus cannot be accepted.

(C) Whether or not the appellee's manufacturing process fulfills process (a) of Invention 1

a. As the appellant alleges that, xxx <the original text has been omitted> falls under the "enriched organic solution" formed in process (a) of Invention 1, the appellee's manufacturing process shall be examined as follows in order.

b. The appellee's manufacturing process (D)

As mentioned in (b) above, the "enriched organic solution" formed in process (a) of Invention 1 is an "organic" solution that may be separated into two phases due to the difference in the specific gravity with a liquid mainly consisting of water, when a "liquid-liquid extraction method" is used. In contrast to this, xxx <the original text has been omitted> completely mixes with water, and thus, when the "liquid-liquid extraction method," which is an essential step in Invention 1, is used, it would not be separated into two phases consisting of an organic phase and aqueous phase due to the difference in the specific gravity with water. Then, it is appropriate to find that xxx <the original text has been omitted> does not fall under the "enriched organic solution" formed in process (a).

c. The appellee's manufacturing process (E)-2

As xxx <the original text has been omitted>, which completely mixes with water when the "liquid-liquid extraction method" is used and thus cannot be separated into two phases consisting of an organic phase and aqueous phase due to the difference in the specific gravity, is added in the appellee's manufacturing process (E)-2, xxx <the original text has been omitted> cannot be separated into two phases consisting of an organic phase and aqueous phase due to the difference in the specific gravity. Then, it is reasonable to find that xxx <the original text has been omitted> does not fall under the "enriched organic solution" formed in process (a) of Invention 1.

d. Based on the abovementioned findings, the appellee's manufacturing process does not fulfill the requirements prescribed in process (a) of Invention 1.

C. According to the above, the appellee's products are recognized as not falling within the technical scope of Invention 1, without needing to determine other points.

D. Absence or existence of the fulfillment of Inventions 2 to 9 by the appellee's products

The appellee's products do not fall under the technical scope of Inventions 2 to 9 that directly or indirectly cite Invention 1, for the same reasons mentioned above.

E. Determination on the appellant's allegation concerning the appellee's products' fulfillment of requirements

(A) With regard to the allegation that process (a) is nothing more than a non-core constitution

The appellant alleges that the judgment in prior instance erred in reaching a conclusion of non-infringement promptly from the finding that the appellee's manufacturing process does not fulfill process (a) of Invention 1, which is a non-core constitution, on the grounds that process (a) of Invention 1 is only a process of "enrichment" and "coarse purification" to obtain an enriched organic solution of pravastatin and does not fall under the characteristic constitution of the process to manufacture highly pure pravastatin sodium.

However, regardless of whether or not process (a) is a non-core constitution, as long as such process serves as one of the processes in the requirements for the manufacturing process and constitutes the technical scope of Invention 1, it is obvious that non-fulfillment of such process means that the appellee's products do not fall within the technical scope of Invention 1, and thus the appellant's abovementioned allegation cannot be accepted.

(B) With regard to the application by analogy of Article 104 of the Act

The appellant alleges that if the theory to recognize the subject matter of a product-by-process claim as being limited to the product obtained by the relevant manufacturing process is to be taken, the application by analogy of Article 104 of the Act should be permitted.

However, with regard to an invention of a process of producing a product, Article 104 of

the Act provides that, if the product was not publicly known in Japan prior to the filing of the patent application, a product identical with such product shall be presumed to have been produced by the process. Accordingly, as long as the appellee's manufacturing process does not form the "enriched organic solution" prescribed in process (a) of Invention 1, as mentioned above, and does not fall within the technical scope thereof, there is no room to presume that the appellee's products have been produced by the same manufacturing process, and thus the appellant's abovementioned allegation cannot be accepted.

F. Determination on the allegation concerning irregularities, etc.

(A) With regard to the violation of the adversary system

The appellant alleges that the judgment in prior instance is in violation of the adversary system in that it made a determination on whether or not an "enriched organic solution" contains water without giving the parties the opportunity to make an allegation or give proof, although such point was not at issue in the court of prior instance.

Nevertheless, as presented in the "defendant's allegation" in the judgment in prior instance (lines 8 to 15 on page 17), it is clear from pages 28 to 29 of the brief dated May 25, 2009 (the appellee's Exhibit No. 6), xxx <the original text has been omitted>, that the appellee was disputing the fulfillment of the constituent features of process (a) of Invention 1 by the appellee's manufacturing process, on the grounds that an enriched "aqueous" solution of pravastatin is formed in the appellee's manufacturing process (E). Thus, it may be deemed that whether or not the "enriched organic solution" formed in process (a) contains water was at issue and that the appellant had sufficient opportunity to make arguments or give proof regarding such issue. Therefore, the appellant's abovementioned allegation cannot be accepted.

(B) Regarding the reasoning of the judgment in prior instance which was different from the determination disclosed

The appellant alleges that the judgment in prior instance made a determination of non-infringement for reasons different from those disclosed at the time of recommendation of settlement and thus, such surprise determination is unlawful.

However, the court is not bound by the expectation from the determination it disclosed at the time of recommendation of settlement, and is required to make an appropriate determination after closely investigating and examining the allegations and evidence thoroughly, and therefore, the judgment in prior instance cannot be found to be unlawful even if it made a determination of non-infringement for reasons different from those disclosed at the time of recommendation of settlement.

Accordingly, the appellant's abovementioned allegation cannot be accepted.

(C) Regarding the inadequacy of disclosure of the appellee's manufacturing process

The appellant alleges that the appellee's non-disclosure of the details of the constitutions

of the appellee's manufacturing process, which are equivalent to the purification processes prescribed in processes (b) through (e) of Invention 1, not only made it impossible for the appellant to make any allegations or give proof regarding the fulfillment of the constituent features of Invention 1 by the appellee's manufacturing process but also to make allegations based on the doctrine of equivalents.

Nevertheless, as long as the appellee's manufacturing process is recognized as not falling within the technical scope of the inventions in question because it does not form the "enriched organic solution of pravastatin" prescribed in process (a) of Invention 1, it is unnecessary to bring the disclosure or non-disclosure of the other parts of the appellee's manufacturing process into question, and thus the appellant's abovementioned allegation cannot be accepted.

In addition, although the appellant refers to making an allegation based on the doctrine of equivalents, the appellant has alleged such matters as a mere circumstance in the court of prior instance and has not made any specific allegations regarding the requirements for making allegations based on the doctrine of equivalents at all in this court, and therefore, this court will not make further determination on this point.

2. Regarding whether the Patent should be invalidated by a trial for patent invalidation

According to 1. above, the appellee's products manufactured and sold by the appellee (defendant in the first instance) do not fall within the technical scope of Invention 1. However, by way of caution, this court also makes a determination on the issue of whether "the patent should be invalidated by a trial for patent invalidation," argued by the appellee as a defense in the first instance.

(1) Regarding the recognition of the gist of the invention

Article 104-3 of the Act provides that "Where, in litigation concerning the infringement of a patent right or an exclusive license, the said patent is recognized as one that should be invalidated by a trial for patent invalidation, the rights of the patentee or exclusive licensee may not be exercised against the adverse part." However, the gist of the invention, which serves as a premise in determining the validity of a defense under Article 104-3 of the Act, should be recognized in the same manner as recognizing the specific content of the claims, which the Japan Patent Office, the decision-making entity, should understand in the aforementioned procedure of a request for a trial for patent invalidation.

More specifically, regarding the gist of the invention in the case of a product-by-process claim as mentioned above (where the scope of claims of an "invention of a product" states a "process to manufacture" the product), like with the one disputed in this case, the same reasons as those explained in connection with the aforementioned method of defining the technical scope of a patented invention in a patent infringement lawsuit would apply, that is: (i) if there

are circumstances where it is impossible or difficult to directly specify the constitution of the product subject to the invention by means of the structure or feature of the product, without referring to the manufacturing process, at the time of filing an application, the gist of the invention should be recognized as covering "products" in general, not limited to products manufactured through the manufacturing process stated in the scope of claims (Authentic Product-by-Process Claim); (ii) if it cannot be said that there are such circumstances as mentioned in (i) above, the gist of the invention should be recognized as being limited to the products manufactured through the manufacturing process stated in the scope of claims (Unauthentic Product-by-Process Claim).

In this case, it is reasonable to understand that a claim should be handled as an Unauthentic Product-by-Process Claim mentioned in (ii) above when it is not found that there are circumstances as mentioned in (i) above.

Examining the present case from the abovementioned perspective, as described above, there are no such circumstances as mentioned in (i) above (impossibility of or difficulty in specifying the product) with regard to the Patent. Therefore, the procedure to recognize the gist of the invention in the process of a request for a trial for patent invalidation should be carried out while regarding the claimed invention as relating to products manufactured through the manufacturing process as stated in the scope of claims. Consequently, the same understanding should also apply to a defense under Article 104-3 of the Act.

(2) Examination of the present case

The appellee made a statement on the brief dated June 10, 2011 (Exhibit No. 3) on June 13 of the same year, i.e. the date of the third session for oral argument, during which the second instance was pending, and newly submitted Otsu Document No. 30 by alleging the grounds for invalidation of the Patent pursuant to Article 29, paragraph (1), item (iii) and paragraph (2) of the Patent Act (thus, such document is not submitted as a cited reference for the request for a trial for patent invalidation; Request for Invalidation No. 2008-800055, related to this case), and therefore, this court will examine the appropriateness of such claim as follows.

A. Contents of Otsu Document No. 30

(A) Otsu Document No. 30 (Date of filing: February 3, 2000; Date of international publication: August 10, 2000; PCT/US00/02993; WO00/46175; Name: "Microbial Process for Preparing Pravastatin"; Japanese translation of PCT international application No. 2002-535977) states as follows (provided; however, that the translation is based on the Japanese translation of PCT international application [Exhibit Otsu No. 30-2]).

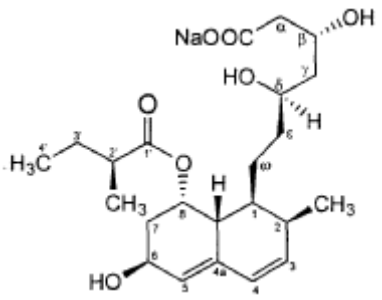
* "FIELD OF THE INVENTION

The present invention relates to a process for the preparation of pravastatin, and particularly to a microbial process for the manufacture of pravastatin on an industrial scale."

(lines 2 to 4 on page 1 of the Otsu Document No. 30; paragraph [0001] of the Japanese translation of PCT international application)

* "BACKGROUND OF THE INVENTION

The highest risk factor of atherosclerosis and especially coronary occlusion is the high cholesterol level of the plasma. In the last two decades, 3-hydroxy-3-methylglutaryl coenzyme A reductase (EC.1.1.1.34) as the rate limiting key enzyme of the cholesterol biosynthesis was extensively examined. Pravastatin, a compound of Formula I,



and other related compounds (compactin, mevinolin, simvastatin) are the competitive inhibitors of the HMG-CoA reductase enzyme [A. Endo et al., J. Antibiot. 29, 1346-1348 (1976); A. Endo et al., FEBS Lett. 72, 323-326 (1976); C.H. Kuo et al., J. Org. Chem. 48, 1991 (1983)]. (lines 5 through 12 on page 1 of Otsu Document No. 30; paragraphs [0002] through [0004] of the Japanese translation of PCT international application)

* "After finishing the bioconversion, pravastatin can be extracted either from the fermentation broth or from the filtrate obtained after the separation of the filamentous mold cells. Filamentous mold cells can be eliminated either by filtration or centrifugation; however, it is advantageous especially on an industrial scale to make a whole broth extraction. Before extraction, the pH of either the fermentation broth or the filtrate of the broth is adjusted to 3.5-3.7 with a mineral acid, or preferably with diluted sulfuric acid. The extraction is done with an ester of acetic acid and a 24 carbon atom containing aliphatic alcohol, or preferably with ethyl acetate or isobutyl acetate. Extraction steps should be done very quickly in order to avoid the formation of the lactone derivative from pravastatin at acidic pH." (lines 15 through 23 on page 14 of Otsu Document No. 30; paragraph [0042] of the Japanese translation of PCT international application)

* "Finishing the fermentation, the pH of the 4.9 L broth containing 650 μg/ml pravastatin was adjusted under continuous stirring with 2M sodium hydroxide to 9.5-10.0, then after one hour stirring, the pH was adjusted to 3.5-3.7 with 20% sulfuric acid. Subsequently, the acidic solution was extracted with 2.45 L ethyl acetate. The phases were separated, and with centrifugation, a

clear extract was prepared from the emulsified organic phase.

The broth was extracted again with 2x1.22 L ethyl acetate by the method given above. Then the pH of the mixture was adjusted to 8.0-8.5 with 1M sodium hydroxide. The phases were separated, and the ethyl acetate phase was extracted with 2x0.2 L deionized water of pH 8.0-8.5 as given above. The pH of the combined pravastatin containing weakly alkaline aqueous solution was adjusted under stirring with a 20% sulfuric acid solution to 3.5-3.7. The acidic solution obtained was extracted with 4x0.2 L ethyl acetate. The combined ethyl acetate extracts were washed with 2x0.2 L deionized water, then 150 mole% dibenzylamine (calculated for the pravastatin concentration measured by HPLC) was added into the ethyl acetate solution. The ethyl acetate solution was concentrated under vacuum to 0.2 L volume.

Further 20 mole% dibenzylamine was added to the enriched solution obtained, and the precipitated solution was kept overnight at 0-5 °C. The precipitated pravastatin dibenzylamine salt was filtered, then the precipitate was washed on the filter with cold ethyl acetate and then two times with n-hexane, and finally it was dried under vacuum at 40-50°C. The crude product obtained (3.9 g) was dissolved in 100 ml methanol at room temperature, then the solution was clarified by 0.45 g charcoal. Thereafter, the methyl alcoholic filtrate was concentrated under vacuum. The evaporated residue was dissolved in 120 ml acetone at an external temperature of 62-66 °C, then the solution was cooled to room temperature. Subsequently, the recrystallization was continued overnight at 0-5 °C.

Precipitated crystals were filtered, then the crystals were washed on the filter two times with cold acetone and two times with n-hexane. The recrystallized pravastatin dibenzylamine salt was suspended in the mixture of 160 ml isobutyl acetate and 80 ml deionized water. Subsequently, sodium hydroxide was added in an equivalent amount into the suspension under stirring. After the disappearance of the suspension, the phases were separated and the aqueous solution containing pravastatin was washed with 2x30 ml isobutyl acetate. The aqueous solution obtained was clarified with charcoal. Then the aqueous filtrate was concentrated to about 20 ml volume. The aqueous solution obtained was loaded on a chromatographic column (height: diameter = 22) filled with 0.4 liters Sephadex LH-20 gel (supplier: Pharmacia, Sweden). In the course of the chromatography, deionized water was used as the eluent, and 20 ml fractions were collected. Fractions were analyzed by TLC, then those containing pravastatin were also analyzed by HPLC using the methods described above. Fractions containing pure pravastatin were combined and lyophilized. In this way, 1.75 g pravastatin was obtained, the purity of which is higher than 99.5% by HPLC." (line 22 on page 23 through the second line from the bottom of page 24 of Otsu Document No. 30, paragraph [0064] of the Japanese translation of PCT international application).

(B) According to the abovementioned statements, it can be found that, with regard to the

microbial process for the manufacture of pravastatin on an industrial scale, Otsu Document No. 30 states the following processes as a manufacturing process of pravastatin, especially in Example 4: (i) a process to form 0.8 L of ethyl acetate containing pravastatin from 4.9 L of fermentation broth by the "liquid-liquid extraction method"; (ii) a process to precipitate pravastatin as dibenzylamine salt; (iii) a process to purify pravastatin dibenzylamine salt by recrystallization; (iv) a process to transpose pravastatin dibenzylamine salt to pravastatin sodium: and (v) a process to isolate pravastatin sodium (hereinafter the abovementioned processes will be referred to as "Otsu No. 30 Process (i)" and the like).

B. Comparison between Invention 1 and Otsu Invention No. 30

(A) Similarities

a. Process (a) of Invention 1

Otsu No. 30 Process (i) is a process to form 0.8 L of ethyl acetate containing pravastatin from 4.9 L of fermentation broth by a "liquid-liquid extraction method." As the 0.8 L of ethyl acetate containing pravastatin is an "organic solution, and is formed from 4.9 L of fermentation broth, such 0.8 L of ethyl acetate can be considered to be an "enriched" organic solution.

Thus, Otsu No. 30 Process (i) is equivalent to process (a) of Invention 1.

b. Process (b) of Invention 1

Otsu No. 30 Process (ii) is a process to precipitate pravastatin as dibenzylamine salt. As it is stated in paragraph [0016] of the Description that "Regardless of the absence, presence or multiplicity of substitution on nitrogen, a salt formed by reaction of ammonia or an amine is hereafter referred to as an ammonium salt. Its meaning is intended to encompass salts of amines as well as a salt of ammonia," and the benzyl amine used in Otsu Document No. 30 is literally amine, process (b) can be found to contain a process to precipitate pravastatin as benzyl amine salt.

Accordingly, Otsu No. 30 Process (ii) is equivalent to process (b) of Invention 1.

c. Process (c) of Invention 1

Otsu No. 30 Process (iii) is a process to purify pravastatin dibenzylamine salt by recrystallization. As mentioned above, benzyl amine salt will be included in ammonium salt, and thus, process (c) can be found to contain a process to purify pravastatin dibenzylamine salt by recrystallization.

Therefore, Otsu No. 30 Process (iii) is equivalent to process (c) of Invention 1.

d. Process (d) of Invention 1

Otsu No. 30 Process (iv) is a process to transpose pravastatin dibenzylamine salt to pravastatin sodium. As mentioned above, benzyl amine salt will be included in ammonium salt, and thus, process (d) can be found to contain a process to transpose pravastatin benzyl amine salt to pravastatin sodium.

Accordingly, Otsu No. 30 Process (iv) is equivalent to process (d) of Invention 1.

e. Process (e) of Invention 1

Otsu No. 30 Process (v) is a process to isolate pravastatin sodium and thus is equivalent to process (e) of Invention 1.

f. Based on the abovementioned findings, Otsu Invention No. 30 and Invention 1 are similar on the following points:

"Pravastatin sodium prepared by a process comprising the steps of:

(a) forming an enriched organic solution of pravastatin;

(b) precipitating pravastatin as its ammonium salt;

(c) purifying the ammonium salt by recrystallization;

(d) transposing the ammonium salt to pravastatin sodium; and

(e) isolating pravastatin sodium."

(B) Differences

With regard to the concentration of pravastatin sodium purified by the abovementioned manufacturing process, Otsu Invention No. 30 and Invention 1 differ in that, while the former states that "the purity of which [pravastatin] is higher than 99.5% by HPLC," the latter states "pravastatin containing less than 0.5 wt% of pravastatin lactone and less than 0.2 wt% of epiprava."

(C) Determination on the differences

a. According to the evidence (Exhibit Otsu No. 1; Drug Interview Form "Mevalotin Tabelts, etc.") and the entire import of oral argument, pravastatin sodium is used as a therapeutic medicine for diseases such as hyperlipidemia and hypercholesterolemia. In the "Drug Interview Form" of mevalotin tablets (Otsu Document No. 1), which is a publication distributed by Company C around October 1997, it is stated that the relevant mevalotin tablet is a highly pure product containing about 99 % of pravastatin sodium and further contains 0.02 to 0.06 % of "RMS-414" (i.e. pravastatin lactone) and 0.19 to 0.65 % of "RMS-418" (i.e. epiprava), both of which are related substances of pravastatin. Moreover, mevalotin tablets and fine granules were put on sale on October 2, 1989 and mevalotin tablets 10 and mevalotin fine granule 1% on December 6, 1991. Accordingly, it may be found that preparations of pravastatin sodium having the abovementioned ingredients could have been publicly acquired prior to the priority date of the Patent, and there is no evidence sufficient to overturn such findings.

b. As found above, before the priority date in question (October 5, 2000), it had been stated in Otsu Document No. 1 that pravastatin lactone and epiprava are impurities to be reduced with regard to pravastatin sodium which are used for medicines. Thus, to manufacture highly pure pravastatin sodium was a well-known technical problem in the technical field of medicines.

The broth used in the extraction process in the working example stated in Otsu Document

No. 30 is acidified by sulfuric acid in the working example stated in the Description, and thus it seems unlikely that the volume of pravastatin lactone contained in said broth prior to the purification substantially differs from that obtained in Invention 1.

Moreover, while the purity of pravastatin was limited to a level higher than 99.5 % by HPLC in Example 4 stated in Otsu Document No. 30 (paragraph [0064]), it is possible for a person ordinarily skilled in the art to purify pravastatin to a higher purity by repeating or optimizing the purification process stated in Otsu Document No. 30 to attain pravastatin sodium of a higher purity.

While Invention 1 is an invention to attain highly pure pravastatin sodium through processes (a) through (e) specified in claims, Otsu Invention No. 30 also involves processes (a) through (e) specified in Invention 1, and thus it is unlikely that the purity achieved in Invention 1 cannot be achieved by the purification process stated in Otsu Document No. 30. Rather, it is likely that the purity of the highly purified pravastatin sodium salt achieved by such purification process will be of the same level as that obtained in the working example stated in the Description.

Furthermore, as it is a common general technical knowledge that less impurities are better, a person ordinarily skilled in the art could have easily specified the upper limit of contained impurities which should be reduced with regard to the highly purified pravastatin sodium salt.

Accordingly, Invention 1 may be recognized as an invention which a person ordinarily skilled in the art could have easily conceived of, based on Otsu Invention No. 30, Otsu Document No. 1 and common general technical knowledge.

(D) Determination on the appellant's allegation

a. The appellant alleges that, while pravastatin ammonium is purified into a high purity by the "salting-out crystallization" (process (c)) under the requirements for the manufacturing process, only the "recrystallization" and not the "salting-out crystallization" is performed with regard to pravastatin dibenzylamine salt in Otsu Invention No. 30, and as a mere "recrystallization" is different from a "salting-out crystallization" in terms of separation principle, it is obvious that, under Otsu Invention No. 30, the amount of pravastatin lactone and epiprava will not be reduced to the same level as that achieved under the requirements for the manufacturing process.

However, process (c) is a process of "purifying the ammonium salt by recrystallization" and not specified as that conducting the "salting out crystallization," and thus, it may be found that process (c) is stated in Otsu Document No. 30. Moreover, as it is likely that a person ordinarily skilled in the art could have easily purified the ammonium salt to a higher purity by repeating or optimizing the manufacturing process stated in Otsu Document No. 30, the abovementioned appellant's allegation based on the grounds that the separation principle differs

between the “recrystallization” and “salting-out crystallization” cannot be accepted.

b. Moreover, the appellant alleges as follows: while pravastatin free acid, which is once isolated from the crystallized pravastatin ammonium obtained through the process of salting out, is washed, and then converted into pravastatin sodium again (process (d)) under the requirements for the manufacturing process, pravastatin dibenzylamine salt is directly converted into pravastatin sodium with the addition of sodium hydroxide in Otsu Invention No. 30. If amine salt is directly converted into sodium salt with the addition of sodium hydroxide without performing the process of isolating and washing pravastatin free acid, it is impossible to convert all the pravastatin dibenzylamine salt into sodium salt and thus, it is obvious that a substantial amount of amine salt will be mixed in pravastatin sodium salt.

However, Invention 1 specifies the amount of pravastatin lactone and epiprava to be contained, and even if a substantial amount of amine salt was contained in the pravastatin sodium salt, it is unlikely that the amount of pravastatin lactone and epiprava contained will increase thereby.

Accordingly, the appellant’s abovementioned allegation cannot be accepted.

c. Furthermore, the appellant alleges that, while there is a process to scavenge excess sodium cations to attain a near 1:1 equivalence of sodium cation and pravastatin anion (process (d)) under the requirements for the manufacturing process, there is no such process in Otsu Invention No. 30, and thus, it is obvious that the equivalence ratio between pravastatin anion and sodium cation has been decayed in Otsu Invention No. 30.

However, as mentioned in b. above, even if the equivalence ratio between pravastatin anion and sodium cation has been decayed, it is unlikely that the amount of pravastatin lactone and epiprava contained will increase thereby.

Thus, the appellant’s abovementioned allegation cannot be accepted.

C. As described above, Invention 1 can be recognized as an invention which a person ordinarily skilled in the art could have easily made based on Otsu Invention No. 30, Otsu Document No. 1, and common general technical knowledge as of the priority date. Thus, the patent related to Invention 1 was granted in violation of Article 29, paragraph (2) of the Act, and should be invalidated by a trial for patent invalidation.

Accordingly, without making determinations on the remaining points, the appellant who is the patentee, is not entitled to exercise its Patent Right against the appellee, in accordance with Article 104-3, paragraph (1) of the Act.

D. In addition, the appellant alleges that the correction to change the amount of pravastatin lactone and epiprava contained from “less than 0.5 wt%” to “less than 0.2 wt%” and from “less than 0.2 wt%” to “less than 0.1 wt%,” respectively in Invention 1 as mentioned above, should be allowed. However, even if such correction was allowed, it is apparent that Corrected

Invention 1 should be invalidated by a trial for patent invalidation in relation with Otsu Invention No. 30, etc. as described above, and thus the abovementioned allegation concerning correction is an inappropriate allegation to assert against the defense under Article 104-3 of the Patent Act.

3. Conclusion

Consequently, the judgment in prior instance which dismissed the appellant's claim is reasonable in terms of conclusion, and thus the appeal shall be dismissed and the judgment shall be rendered in the form of the main text.

Intellectual Property High Court, Special Division

Presiding judge: NAKANO Tetsuhiro

Judge: IIMURA Toshiaki

Judge: SHIOTSUKI Shuhei

Judge: TAKIZAWA Takaomi

Judge: SHOJI Tamotsu