

Trial decision

Invalidation No. 2014-800209

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The case of trial regarding the invalidation of Japanese Patent No. 5116884, entitled "Packaged Tomato-Containing Beverage, and Method for Producing the Same," between the parties above has resulted in the following decision.

Conclusion

The correction of the scope of claims of Japanese Patent No. 5116884 regarding the corrected claims (1-9), 10, 11, and 12 shall be approved as the corrected scope of claims attached to the written correction request.

The patent for the invention according to Claim 12 of Japanese Patent No. 5116884 shall be invalidated.

The demand for trial regarding Claims 1-11 of Japanese Patent No. 5116884 shall be dismissed.

The costs in connection with the trial shall be borne by the demandee.

Reason

1. History of the procedures

The patent application for Japanese Patent No. 5116884 was filed on February 28, 2012 and the establishment of the patent right for the invention (the number of claims was 12) was registered on October 26, 2012.

The brief history of the procedures in connection with the demand for invalidation trial of the case is as follows:

December 17, 2014	demand for invalidation trial
March 16, 2015	submission of written reply for the trial case
March 16, 2015	request for correction
April 24, 2015	submission of written refutation of the trial case
June 18, 2015 (approved)	decision on whether amendment is approved or not
July 23, 2015	submission of written reply for the trial case
October 9, 2015	submission of Oral proceedings statement brief (demandant)
October 30, 2015	submission of Oral proceedings statement brief (demandee)
November 12, 2015 (demandant)	submission of Oral proceedings statement brief (2)
November 13, 2015	oral proceeding
January 25, 2016	advance notice of trial decision
April 4, 2016	request for correction
April 27, 2016	submission of written refutation
May 9, 2016	notice of reasons for refusal of correction (to demandee)
May 9, 2016	notice of proceeding result by ex officio (to demandant)
June 10, 2016	submission of written reply for the trial case
June 10, 2016	submission of written opinion (demandee)
June 10, 2016	submission of written amendment (amendment of written correction request)

The aforementioned correction request dated March 16, 2015 shall be deemed withdrawn in accordance with the provisions of Article 134-2(6) of the Patent Act.

2. Request for correction

2-1. Amendment

(1) Detail of Amendment

Amendment (hereinafter, referred to as "Amendment of the case") according to the written amendment dated June 10, 2016 submitted by the demandee (the requester of the correction request) amends, regarding Correction D of the written correction request dated April 4, 2016,

"'Brix is 6-12' stated in Claim 12 of the scope of claims is corrected to 'Brix to 9.46-9.56'" stated on page 7, lines 2-3 in the written correction request to "'Brix is adjusted to 6-12' stated in Claim 12 of the scope of claims is corrected to 'Brix to 9.46-9.56'" (Amendment A); and

the lower limit of pH, "4.4" on page 7, line 10, page 8, lines 5 and 24, page 10, line 14, and the table on pages 11 and 12 in the written correction request and Claim 12

of the corrected scope of claims attached to the written correction request is corrected to "4.44" (Amendment B).

(2) Propriety of amendment

Amendment A is an amendment of a simple error and does not change the gist of the written correction request.

Amendment B will now be discussed below. According to the statement on page 8, lines 16-24 in the written correction request dated April 4, 2016, "4.4" of the lower limit of pH before the amendment is a configuration that can be derived from the ranges of the amounts of components and physical properties of Present Inventions 1-4 in paragraph [0065] (Table 3) in the description of the Patent. However, it does not correspond with "4.44" of the minimum pH in (Table 3) mentioned above.

Moreover, paragraph [0050] in the description of the Patent states regarding the lower limit of pH that the most preferred range is "4.4-4.6." However, the upper limit of pH and the lower and upper limits of all other numerical ranges in the corrected Claim 12 are set to the minimum and maximum values of the amounts of components and the physical properties of Present Inventions 1-4 in (Table 3) mentioned above. Accordingly, setting the lower limit of pH to "4.4" is not regarded as a rational setting of a numerical value, since only the lower limit of pH is based on other statements in the description of the Patent and the lower limit is different in the number of significant figures from "4.48" of the upper limit of pH.

Furthermore, "4.44" is included in "4.4" before the amendment in consideration of the significant figures.

Also, "4.4" of the lower limit is construed to include values equal to or higher than "4.35" in consideration of the significant figures. Thus, the amendment restricts the range of pH and does not hurt the interest of a third party.

Considering the foregoing, Amendment of the case does not change the gist of the written correction request and complies with the provision of Article 131-2(1) of the Patent Act which is applied mutatis mutandis in the provisions of Article 134-2(9) of the Patent Act. Thus, the amendment shall be approved.

2-2. Details of Correction

The demandee requested to "correct Description and the scope of claims of the Japanese Patent No. 5116884 regarding the corrected Claims 1-12 as the corrected scope of claims attached to the written correction request." The details of the correction (hereinafter referred to as "Correction of the case") according to the written correction request dated April 4, 2016 are corrections of the scope of claims attached to the application for Japanese Patent No. 5116884 as follows (the underlined parts show the corrected parts).

(1) Correction A (the correction relating to Claims 1-9)

Claims 1-9 are deleted.

(2) Correction B (the correction relating to Claim 10)

Claim 10 is deleted.

(3) Correction C (the correction relating to Claim 11)
Claim 11 is deleted.

(4) Correction D (the correction relating to Claim 12)

In Claim 12 of the scope of claims, "adjusting Brix to 6-12" is corrected to "Brix to 9.46-9.56" (Correction D-1) and "adjusting the weight ratio of glutamic acid to the group of amino acids consisting of aspartic acid, glutamic acid, asparagine, serine, glutamine, arginine, and alanine to 0.1-0.65" is corrected to "adjusting the weight ratio of glutamic acid to the group of amino acids consisting of aspartic acid, glutamic acid, asparagine, serine, glutamine, arginine, and alanine to 0.43-0.47, the amount of citric acid to 800-900 mg/100 mL, the viscosity to 436-494 cP, and pH to 4.44-4.48" (the correction relating to the weight ratio of glutamic acid to the group of amino acids is designated as Correction D-2, the correction relating to the amount of citric acid is designated as Correction D-3, the correction relating to the viscosity is designated as Correction D-4, and the correction relating to pH is designated as Correction D-5).

2-3. Propriety of Correction

(1) Corrections A-C

Corrections A-C delete claims before the correction and therefore aim at "restriction of the scope of claims" as provided in Article 134-2(1), proviso No. 1 of the Patent Act. Also, the corrections do not substantially expand or change the scope of claims. Therefore, the corrections comply with Article 126(6), which is applied mutatis mutandis in the provisions of Article 134-2(9).

(2) Correction D

Correction D-1 corrects "adjusting Brix to 6-12" in Claim 12 before the correction to "adjusting Brix to 9.46-9.56" to restrict the numerical range and therefore aims at restriction of the scope of claims.

Correction D -2 corrects "the weight ratio of glutamic acid to the amino acids to 0.1-0.65" in Claim 12 before the correction to "the weight ratio of glutamic acid to the group of amino acids to 0.43-0.47" to restrict the numerical range and therefore aims at restriction of the scope of claims.

Correction D-3 adds citric acid to the components to be adjusted in the method for suppressing color deterioration of a packaged tomato-containing beverage over time relating to claim 12 before the correction and restricts the adjusted range to "the amount of citric acid to 800-900 mg/100 mL," and therefore aims at restriction of the scope of claims.

Correction D-4 adds viscosity to a property to be adjusted in the method for suppressing color deterioration of a packaged tomato-containing beverage over time relating to claim 12 before the correction and restricts the adjusted range to "the viscosity to 436-494 cP" and therefore aims at restriction of the scope of claims.

Correction D-5 adds pH to the properties to be adjusted in the method for suppressing color deterioration of a packaged tomato-containing beverage over time relating to Claim 12 before the correction and restricts the adjusted range to "pH to 4.44-4.48" and therefore aims at restriction of the scope of claims.

For the foregoing reasons, Corrections D-1 to D-5 aim at "restriction of the scope of claims" as provided in Patent Act Article 134-2(1) proviso No. 1. Also, the corrections do not substantially expand or change the scope of claims. Therefore, the corrections comply with Article 126(6), which is applied mutatis mutandis in the provisions of Article 134-2(9).

Also, the matters of correction are matters that can be derived from Examples stated in the description attached to the application. Therefore, all the matters of correction are within the matters stated in the description and the like attached to the application and comply with Article 126(5), which is applied mutatis mutandis in the provisions of Article 134-2(9) of the Patent Act.

Accordingly, Correction of the case aims at matters prescribed in Patent Act Article 134-2(1) proviso No. 1 and complies with the provisions of Article 126(5) and (6) of the Patent Act, which is applied mutatis mutandis in the provisions of Article 134-2(9). Therefore, the corrections shall be approved.

The demandant asserts, in the written refutation of the trial case (pages 4-8) dated April 27, 2016, that Corrections D-1 to D-5 are not corrections within the description or the scope of claims, both of which are attached to the application, and fall under what is called addition of new matter.

The reason is stated that in Paragraph [0065] (Table 3) in the description, Present Invention 1 is a tomato-containing beverage "filled in a PET container," Present Invention 2 is a tomato-containing beverage "filled in a can container," and Present Inventions 3 and 4 are tomato-containing beverages "filled in a paper container" and therefore the Present Inventions cannot be generalized to "packaged" tomato-containing beverage, which is their generic concept.

However, the invention stated in Claim 12 before the correction was also "a packaged tomato-containing beverage" without any limitation on the type of container. Therefore, it is apparent that none of the aforementioned matters of correction changes the interpretation of "packaged." Thus, the corrections are not corrections that introduce a new technical matter.

Therefore, the allegation of the demandant cannot be accepted.

However, details of the allegation of the demandant will be examined in "7-2. Reason for Invalidation 2 (violation of requirements for support)" discussed later.

3. The patent invention

The invention relating to Claim 12 of Japanese Patent No. 5116884 of the case (hereinafter, also referred to as "the patent invention 12") is, as viewed from the statement of the aforementioned corrected description and the scope of claims, an invention stated in Claim 12 of the scope of claims as follows.

"[Claim 1] (deleted)

[Claim 2] (deleted)

[Claim 3] (deleted)

[Claim 4] (deleted)

[Claim 5] (deleted)

[Claim 6] (deleted)

[Claim 7] (deleted)
[Claim 8] (deleted)
[Claim 9] (deleted)
[Claim 10] (deleted)
[Claim 11] (deleted)
[Claim 12]

A method for suppressing color deterioration of a packaged tomato-containing beverage over time, comprising adjusting Brix to 9.46-9.56, the weight ratio of glutamic acid to the group of amino acids consisting of aspartic acid, glutamic acid, asparagine, serine, glutamine, arginine, and alanine to 0.43-0.47, the amount of citric acid to 800-900 mg/100 mL, the viscosity to 436-494 cP, and pH to 4.44-4.48."

Hereinafter, amino acids may be abbreviated as follows:

Aspartic acid: "Asp"
Glutamic acid: "Glu"
Asparagine: "Asn" or "AspNH₂"
Serine: "Ser"
Glutamine: "Gln" or "GluNH₂"
Arginine: "Arg"
Alanine: "Ala"

4. The demandant's allegation and means of proof

The demandant demands the decision, "The patent for the inventions according to Claims 1-12 of the scope of the claims of Japanese Patent No. 5116884 shall be invalidated. The costs in connection with the trial shall be borne by the demandee." and asserts that the gist of the reason for invalidation against the invention relating to Claim 12 is as follows.

(1) Reason for invalidation 1 (violation of enablement requirement)

The statement of the detailed explanation of the invention of the Patent is not clear and sufficient as to enable any person ordinarily skilled in the art to which the invention pertains to work the invention, in accordance with Ordinance of the Ministry of Economy, Trade and Industry and therefore does not comply with the requirements as provided in Article 36(4)(i) of the Patent Act. Thus, the Patent falls under Article 123(1)(iv) of the Act and should be invalidated.

(2) Reason for invalidation 2 (violation of requirements for support)

The invention according to Claim 12 of the Patent is not stated in the detailed explanation of the invention and does not comply with the requirements as provided in Article 36(6)(i) of the Patent Act. Therefore, the Patent falls under Article 123(1)(iv) of the Act and should be invalidated.

(3) Reason for invalidation 3 (lack of novelty due to public use, lack of inventive step)

The invention according to Claim 12 of the Patent is an invention publicly worked (Publicly Worked Product 1-5) in Japan prior to the filing of the patent application and therefore the inventor should not be granted a patent for the invention in accordance with the provisions of Article 29(1)(ii) of the Patent Act. Also, the invention according to Claim 12 after the correction is an invention that could have been easily conceived based on the publicly worked invention and therefore the inventor

should not be granted a patent for the invention in accordance with the provisions of Article 29(2) of the Patent Act. Thus, the Patent falls under Article 123(1)(ii) of the Act and should be invalidated.

(4) Reason for invalidation 4 (lack of novelty of invention due to description in publication)

The invention according to Claim 12 of the Patent is an invention that was described in a distributed publication (Evidence A No. 31), or an invention that was made publicly available through an electric telecommunication line in Japan or a foreign country, prior to the filing of the patent application and therefore the inventor should not be granted a patent for the invention in accordance with the provisions of Article 29(1)(iii) of the Patent Act. Thus, the Patent falls under Article 123(1)(ii) of the Act and should be invalidated.

(5) Reason for invalidation 5 (lack of inventive step, preliminary allegation)

The invention according to Claim 12 of the Patent is an invention that a person skilled in the art of the invention could have easily made based on an invention prescribed in any of the items of Article 29(1) of the Patent Act, prior to the filing of the patent application and therefore the inventor should not be granted a patent for the invention in accordance with the provisions of Article 29(2) of the Patent Act. Thus, the Patent falls under Article 123(1)(ii) of the Act and should be invalidated.

(6) Reason for invalidation 6 (lack of novelty of invention due to public use)

The invention according to Claim 12 is an invention publicly worked (Publicly Worked Product 6) in Japan prior to the filing of the patent application and therefore the inventor should not be granted a patent for the invention in accordance with the provisions of Article 29(1)(ii) of the Patent Act. Thus, the Patent falls under Article 123(1)(ii) of the Act and should be invalidated.

(7) Reason for invalidation 7 (lack of inventive step)

The invention according to Claim 12 is an invention that could have been easily made based on an invention publicly worked (Publicly Worked Product 6) in Japan prior to the filing of the patent application and therefore the inventor should not be granted a patent for the invention in accordance with the provisions of Article 29(2) of the Patent Act. Thus, the Patent falls under Article 123(1)(ii) of the Act and should be invalidated.

The demandant submitted, as means of proof, the following Evidence A Nos. 1-58.

[Means of proof]

Evidence A No. 1: the Patent register;

Evidence A No. 2: Hisao HIGASHIO, et al., "Relationship between Preference and Processing Method in Tomato Juice,* Nippon Shokuhin Kagaku Kogaku Kaishi Vol. 46, No. 6, June, 1999;

Evidence A No. 3: Japan Fruit Juice Association (corporate judicial person) (editorial supervision), "New Encyclopedia of Fruit Juice and Fruit Drinks (in Japanese)," Asakura Publishing Co., Ltd., October 1, 1997;

Evidence A No. 4: Yasushi KOMATA, "Science of 'deliciousness' and the taste (in Japanese)," Nihon Kogyo Shimbun October 1, 1986;

Evidence A No. 5: Yukiko YAMAMOTO, et al., "Effects of viscosity on the intensity of

salt or sweet taste in starch solutions," *Journal of Cookery Science of Japan*, Vol. 32, No. 4 (1999);

Evidence A No. 6: Toshihide NISHIMURA, "Characterization of novel 'koku'-enhancing compound and application to food (in Japanese)," Report of The 61st Annual Meeting of The Japanese Society for Food Science and Technology, August 28, 2014;

Evidence A No. 7: "Free Amino Acid Stability in Reducing Sugar Systems", *JOURNAL OF FOOD SCIENCE*, Volume 60, No. 2, 1995;

Evidence A No. 8: Masao FUJIMAKI, "Food Preservation (in Japanese)," Asakura Publishing Co., Ltd., March 25, 1980;

Evidence A No. 9: Kagome Co., Ltd., photograph of exterior of "SWEET RUBY 11.2.10," taken on May 24, 2013;

Evidence A No. 10: Kagome Co., Ltd., a copy of the compounding check table of "SWEET RUBY tomato juice 500 g," JA, ZEN-NOH, Yamaguchi Hagi Plant;

Evidence A No. 11: "2010 ISETAN gift" ("SWEET RUBY" 2010 gift catalogue);

Evidence A No. 12: Kagome Co., Ltd., photograph of exterior of "SWEET RUBY 12.2.9", taken on May 24, 2013;

Evidence A No. 13: Kagome Co., Ltd., a copy of the compounding check table of "SWEET RUBY tomato juice 500 g," Nihon Kajitsu Kougyou Co., Ltd., Hagi Plant;

Evidence A No. 14: "2011 ISETAN gift" ("SWEET RUBY" 2011 gift catalogue);

Evidence A No. 15: Kagome Co., Ltd., photograph of exterior of "Natsushibori 2010", taken on May 24, 2013;

Evidence A No. 16: Kagome Co., Ltd., a copy of the standard of type of packing, fourth edition of "Natsushibori Tomato juice in Season";

Evidence A No. 17: Kagome Co., Ltd., full-page advertisement (the evening edition of the *Sankei Shimbun*) of "Natsushibori 2010", August 26, 2010;

Evidence A No. 18: Kagome Co., Ltd., photograph of exterior of "Natsushibori 2011", taken on May 24, 2013;

Evidence A No. 19: Kagome Co., Ltd., copy of the standard of type of packing, fifth edition of "Natsushibori Tomato juice in Season";

Evidence A No. 20: Kagome Co., Ltd., Advertisement (the evening edition of the *Mainichi Shimbun*) of "Natsushibori 2011", September 12, 2011;

Evidence A No. 21: Kagome Co., Ltd., photograph of exterior of "Yasai Ichinichi Koreippon", taken on May 24, 2013;

Evidence A No. 22: news release of "Clear aftertaste by the power of tomato! 'Yasai Ichinichi Koreippon' series renewal", September 11, 2008;

Evidence A No. 23: "Assay result report of Kagome Co., Ltd., SWEET RUBY 11.2.10 17:02," Japan Food Research Laboratories (general foundational juridical person), No. 13049736001-01, August 12, 2013;

Evidence A No. 24: "Assay result report of Kagome Co., Ltd., SWEET RUBY 12.2.9 15:07," Japan Food Research Laboratories (general foundational juridical person), No. 13049736002-01, August 12, 2013;

Evidence A No. 25: "Assay result report of Kagome Co., Ltd., Natsushibori 2010 2012.8.21 B00821 V00," Japan Food Research Laboratories (general foundational juridical person), No. 13049736003-01, August 12, 2013;

Evidence A No. 26: "Assay result report of Kagome Co., Ltd., Natsushibori 2011 2013.8.25 B10825 001," Japan Food Research Laboratories (general foundational

juridical person), No. 13049736004-01, August 12, 2013;
 Evidence A No. 27: "Assay result report Kagome Co., Ltd., Yasai Ichinichi Koreippon 2012.12.24 B01224 N23," Japan Food Research Laboratories (general foundational juridical person), No. 13049736005-01, August 12, 2013;
 Evidence A No. 28: "Report" made by Tetsu IWATSUBO, a lawyer and patent attorney, November 28, 2014;
 Evidence A No. 29: "Test report on change of Sweet Ruby over time" made by an employee of Kagome Co., Ltd., December 1, 2014;
 Evidence A No. 30: a copy of "The first evaluation report of marketable product -Quality evaluation result of 2010 tomato juice-" (research report of Kagome Co., Ltd.) made by an employee of Kagome Co., Ltd.;
 Evidence A No. 31: Japanese Unexamined Patent Application Publication No. 2006-187233;
 Evidence A No. 32: Tatsuya MOCHIZUKI, et al., "Organic Acid Components of Tomato Fruits and Their Varietal Differences," Tohoku Agric. Res., 40 (1987);
 Evidence A No. 33: "Seiwa Labo, Rockwool Tomato News -No. 26-" (homepage of SEIWA CO., LTD.), March 30, 2010
 Evidence A No. 34: Yoshimasa YAMANO, et al., "Physical properties of canned fruit juices," Technical bulletin of Faculty of Agriculture, Kagawa University, Vol. 26(2) (1975), November 30, 1974;
 Evidence A No. 35: Japanese Unexamined Patent Application Publication No. H11-113542;
 Evidence A No. 36: Japanese Unexamined Patent Application Publication No. 2009-11287;
 Evidence A No. 37: Japanese Unexamined Patent Application Publication No. 2009-159818;
 Evidence A No. 38: "New knowledge of food processing and material," New Food Industry, January issue Vol. 23, NO .1, Shokuhinshizai Kenkyukai, January 1, 1981;
 Evidence A No. 39: "Unit conversion table for change into SI units"
 Evidence A No. 40: Misako KAWAI (Inst. of Life Sciences, Ajinomoto Co., Inc.), "Series 'Amino acid' No. 18, Taste of amino acid 2," Ajico News, No. 209, June, 2003;
 Evidence A No. 41: "Report of additional trial manufacture of Sweet Ruby" made by an employee of Kagome Co., Ltd., April 20, 2015;
 Evidence A No. 42: "Report of addition assay of Sweet Ruby" made by an employee of Kagome Co., Ltd., April 20, 2015;
 Evidence A No. 43: Homepage of Amazon "Celeb De TOMATO Aiko (small)";
 Evidence A No. 44: Homepage of Amazon "Celeb De TOMATO Aiko (large)";
 Evidence A No. 45: a copy of "The first evaluation report of marketable product -Quality evaluation result of 2010 tomato juice-" (research report of Kagome Co., Ltd.) made by an employee of Kagome Co., Ltd.;
 Evidence A No. 46-1: "Assay result report of sample name Ai150805," Japan Food Research Laboratories (general foundational juridical person), No. 14125641002-01, December 23, 2014;
 Evidence A No. 46-2: "Assay result report of sample name Ai150805," Japan Food Research Laboratories (general foundational juridical person), No.14125641002-02, December 23, 2014;
 Evidence A No. 46-3: "Assay result report of sample name Ai150805," Japan Food

Research Laboratories (general foundational juridical person), No. 14125641002-03, December 23, 2014;
Evidence A No. 46 -4: "Assay result report of sample name Ai150805," Japan Food Research Laboratories (general foundational juridical person), No. 14125641002-04, December 23, 2014;
Evidence A No. 47: Japanese Patent No. 5116884 (Official Gazette of the Patent);
Evidence A No. 48-1: notice of reason for refusal (drafted on June 27, 2012);
Evidence A No. 48-2: decision of refusal (drafted on August 14, 2012);
Evidence A No. 48-3: written demand for trial (dated August 27, 2012);
Evidence A No. 49-1: description;
Evidence A No. 49-2: notice of reason for refusal (drafted on April 12, 2012);
Evidence A No. 49-3: written opinion (dated June 4, 2012);
Evidence A No. 49-4: written amendment (dated June 4, 2012);
Evidence A No. 50: "Tetra Pak Aseptic Package," Nihon Tetra Pak K.K., October, 2012;
Evidence A No. 51: Zenki SERIZAWA, "Production technique of soft drinks (5) Production of tea-based drinks and coffee drinks," Food & Packaging, Vol. 49, No. 10, p.602-609, Kanzume Gijutsu Kenkyukai / Daiwa Can Company, October 1, 2008;
Evidence A No. 52: Japan Soft Drinks Bottlers Association (corporate juridical person) et al. (editorial supervision), "Latest Soft Drinks (in Japanese)," Korin Co., Ltd., September 30, 2003, page 358, pages 580-584;
Evidence A No. 53: written statement made by an employee of Kagome Co., Ltd., "Regarding purchase and analysis of "Celeb de TOMATO Aiko" etc.," October 5, 2015;
Evidence A No. 54: voucher board (receipts and expenditure of business places) and statement of delivery;
Evidence A No. 55: voucher board (receipts and expenditure of the business places) and statement of delivery;
Evidence A No. 56: laboratory notebook made by an employee of Kagome Co., Ltd.;
Evidence A No. 57: written statement made by an employee of Kagome Co., Ltd., "Regarding result of measurement of sugar content of Celeb de TOMATO 'Aiko,'" June 12, 2015;
Evidence A No. 58: "Report" made by an employee of Kagome Co., Ltd., July 14, 2015.

For Evidence A No. 10, Evidence A No. 13, Evidence A No. 16, Evidence A No. 19, Evidence A No. 30, and Evidence A No. 45, copies were submitted as the originals for request for examination of documentary evidence.

There is no dispute between the parties on validity of Evidence A Nos. 1-58.

Hereinafter, the product relating to Evidence A No. 9-11 (SWEET RUBY) is referred to as "Product 1,"
the product relating to Evidence A Nos. 12-14 (SWEET RUBY) as "Product 2,"
the product relating to Evidence A Nos. 15-17 (Natsushibori 2010) as "Product 3,"
the product relating to Evidence A Nos. 18-20 (Natsushibori 2011) as "Product 4,"
the product relating to Evidence A Nos. 21-22 (Yasai Ichinichi Koreippon) as "Product 5," and
the product relating to Evidence A No. 44 (Celeb de TOMATO tomato juice Aiko (large)) as "Product 6." (corresponding to "Publicly Worked Products 1-6" in the written demand for trial etc., respectively).

5. The demandee's allegation

The demandee demands the decision, "The demand for trial of the case was groundless. The costs in connection with the trial shall be borne by the demandant." and asserts that all of the demandant's allegations are groundless against the demandant's allegations.

The demandee submitted, as means of proof, the following Evidence B Nos. 1-18.

[Means of proof]

Evidence B No. 1: Japanese Unexamined Patent Application Publication No. 2012-223141;

Evidence B No. 2: Japanese Unexamined Patent Application Publication No. 2000-60454;

Evidence B No. 3: Japanese Unexamined Patent Application Publication No. 2007-195415;

Evidence B No. 4: Japanese Unexamined Patent Application Publication No. H9-225;

Evidence B No. 5: Notice of reason for refusal, drafted on February 12, 2013, for Japanese Patent Application No. 2012-173265;

Evidence B No. 6: "Comparison of different methods for deacidification of clarified passion fruit juice", Journal of Food Engineering, vol. 59, 2003, pp. 361-367 and an abridged translation;

Evidence B No. 7: Yoshiro ADACHI, et al., "Studies on Browning Mechanism of Tomato Products," Journal of food science and technology, Vol. 17(8), August, 1970, pp. 337-342;

Evidence B No. 8: Noboru MIKI, "Chemical and Color Changes in Tomato Juice by Heating during Processing," Journal of food science and technology, Vol. 21(2), February, 1974, pp. 76-80;

Evidence B No. 9: Japanese Unexamined Patent Application Publication No. 2009-232718;

Evidence B No. 10: Ito En, Ltd., a copy of "Report of change over time test";

Evidence B No. 11: Makoto TAJIMA, "Relation between market price and levels of quality components of tomato (in Japanese)," Journal of Food System Research, Vol. 1(1), December 27, 1994, pp. 74-81;

Evidence B No. 12: Japanese Unexamined Patent Application Publication No. H7-96994;

Evidence B No. 13: Japanese Unexamined Patent Application Publication No. 2009-112229;

Evidence B No. 14: Publication of decision on opposition of Opposition No. 2000-70449;

Evidence B No. 15: JIS Extract table of standard sieves;

Evidence B No. 16: a copy of "Certificate of experimental results" made by an employee of Ito En, Ltd.;

Evidence B No. 17: a printout of the web page entitled "Let's go to vegetable stores! Tokyo Fruit and Vegetables Co-operative Society" (http://www.shoukumi.or.jp/hdocs/yj/2009/090823/yj_090823_01.htm);

Evidence B No. 18: Judgment of Tokyo District Court 2012 (Wa) 36311.

For Evidence B No. 10 and Evidence B No. 16, copies were submitted as the originals for request for examination of documentary evidence.

6. Described matters in Evidence A

The following matters are described in Evidence A Nos. 2-42, 44-46-4, and 50-56.

[Evidence A No. 2]:

It is entitled "Relationship between Preference and Processing Method in Tomato Juice," and describes

(2a) compositions of amino acids in commercially available tomato juices in "Table 2. Comparison of characteristics of commercially available tomato juices-2 (amino acid compositions, mg/100 ml)" on page 412; and

(2b) glutamic acid (%) in test samples in "Table 3. Result of preference survey with commercially available (product of Company A) tomato juice in which known ingredients were adjusted by addition" and "Table 5. Result of quality characteristics and preference survey of tomato juices prepared experimentally at a laboratory level" on page 414.

[Evidence A No. 3]

(3a) It states "Above all, sweetness and acidity give a stimulation incorporated as sweet acidity and this is an important quality of fruit juices." and "The ranges of concentration of sugar and acid that provide comfortable sweet acidity of a fruit juice is ... the expression of the relation between the sugar content and the acid content is $6X + 8 > Y > 6X + 6$ " in the section of "2.2 flavor of fruit juice, 2.2.1 sweet acidity" on pages 22 and 23;

(3b) It states "The contents of amino acids are low, but amino acids are important ingredients providing so-called 'koku' in terms of the taste. The kinds and contents of amino acids are considerably different depending on the kind and the degree of ripeness of the fruit. The amino nitrogen content is prescribed for every fruit as a quality standard of fruit beverage in JAS." and "The higher the temperature, the faster browning progresses, and amino acids also decrease in association with it" in the section of "Amino acid compositions" on pages 33 and 34;

(3c) It states, "The concentrations and balance of sweetness (sugar) and acidity (acid) are important for the taste of fruit juice" in the section of "3.1.1 Important points in production" on page 273;

(3d) It states, "The method of filling should be determined based on the conditions of the liquid to be filled in (viscosity, foaming property, corrosiveness, and the presence of the pulp)" in the section of "7.1.3 filler and capper" on page 403; and

(3e) There are the section "7.2 Food-canning apparatus" on page 406, the section "7.3

PET bottle (line)" on page 411, and the section "7.4 paper containers" on page 415 in "7. Filling apparatus."

[Evidence A No. 4]

(4a) It states, "All the factors that determine 'deliciousness' and the taste of 'food' are listed in Table 6. I suppose that you be surprised by the fact that many and various factors are connected with each other" in the section entitled "4. 'Deliciousness' and the taste of 'food,' Deliciousness and the five senses of 'food'" on page 34;

(4b) It states, "Regarding the sweetness substances ... when the strength of the sweetness of the α type is defined to be 1, the β type is about 0.666 ... D-fructose is abundant in fruits and has a pleasant sweetness. As to D-fructose, the β type has a stronger sweetness than the α type, in contrast to D-glucose. When the β type is defined to be 1, the sweetness of α type fructose is 0.33." on pages 134-136.

(4c) It states, "The taste is strongly influenced by the temperature of the item taken in, as described above ..." in the section "Taste and temperature" on page 191.

[Evidence A No. 5]

(5a) It is entitled "Effects of viscosity on the intensity of salt or sweet taste in starch solutions," and states, "The temperature range in which the taste strength decreased markedly in both saltiness (Fig. 4a) and sweetness (Fig. 4b) was that in which such a viscosity rises sharply. ... The strength of sweetness and flavor decreases by a rise of the viscosity ... tomato juice ..." on page 336.

[Evidence A No. 6]

(6a) It is entitled "Characterization of novel 'koku'-enhancing compound and application to food (in Japanese)," and states, "However, there is no proper definition for 'Koku,' currently" on page 43.

[Evidence A No. 7]

(7a) It is entitled "Free Amino Acid Stability in Reducing Sugar Systems," and describes, on page 406, the change in absorbance (Absorbance) over days (Time (Days)) in graphs A-D, which is explained as "Fig. 1-Absorbance changes during storage. Data at 0-time was after sterilization. (A)-Amino acid solution containing glucose, stored at 50°C and pH 5.5 (■), pH 6.5 (◆) and pH 7.5 (▲) ... (C)-Amino acid solution at pH 7.5 stored at 50°C and containing 9.13% (w/w) sucrose (■), 6.39% (w/w) sucrose and 2.74% (w/w) glucose (◆), 2.74% (w/w) sucrose and 6.39% (w/w) glucose (▲) or 9.13% (W/W) glucose (★)."

[Evidence A No. 8]

(8a) It describes "Relation between browning degradation and pH of sugar" as a graph in "Figure 54" in the section "a. Maillard reaction" on page 165.

[Evidence A No. 9]

(9a) It is a set of photographs of the PET bottle beverage "SWEET. RUBY".

On page 1, a photograph of a PET bottle with a cap marked "11.2.10" and a

label marked with "KAGOME", "SWEET. RUBY" is exhibited.

Similarly, on page 2, a cap marked "11.2.10" is exhibited.

Similarly, on page 3, "KAGOME SWEET RUBY," "● Product name: Tomato Puree ● Raw material name: tomato ● Content: 500 g ● Expiration date: indicated on the cap ● Storage: Please avoid sunlight and store at normal temperature. ● Distributor: Kagome Co., Ltd. NKH Nishiki 3-14-15, Naka-ku, Nagoya-shi," "*This product is a juice made for drinking, while the product name is 'Tomato Puree.'"

[Evidence A No. 10]

(10a) It is a copy of a "compounding check table" of JA, ZEN-NOH, Yamaguchi Hagi Plant and states, under the "compounding check table," "Kagome" in the column of "Brand," "SWEET RUBY tomato juice 500 g" in the column of "Product name," and "100517" in the column of "Production date."

It states, "11.63" in the column of "Bx" of "Primary examination" and "11.05" in the column of "Bx" of "Secondary examination."

[Evidence A No. 11]

(11a) It is a catalogue of "2010 ISETAN gift" of Isetan and states, "2010 ISETAN gift, ISETAN summer gift" and "From June 16 (Wednesday) to July 19 (Monday and holiday)," "■ Shinjuku store, ... Main Building 6th floor" and "■ Matsudo store, ... Main Building 10th floor" in "Guide to the gift center" on page 1; "<Kagome> SWEET RUBY" and "Choice of <Kagome>, which has about 7,500 cultivars of tomato, for deliciousness of fully ripe tomato. The juice is squeezed from a sweet full ripe tomato raised outdoors in Portugal, which is selected from cultivars, harvest times, and farms all over the world" on page 24; and "*Orders can be placed by Internet, mail, or FAX" on page 3.

[Evidence A No. 12]

(12a) It is a set of photographs of the PET bottle beverage "SWEET. RUBY".

On page 1, a photograph of a PET bottle with a cap marked "12.2.9" and a label marked "KAGOME", "SWEET. RUBY" is exhibited.

Similarly, on page 2, a cap marked "12.2.9" is exhibited.

Similarly, on page 3, "KAGOME SWEET RUBY," "● Product name: Tomato Puree ● Raw material name: tomato ● Content: 500 g ● Expiration date: indicated on the cap ● Storage: Please avoid direct sunlight and store at normal temperature. ● Distributor: Kagome Co., Ltd. NKH Nishiki 3-14-15, Naka-ku, Nagoya-shi," "*This product is a juice made for drinking, while the product name is 'Tomato Puree.'"

[Evidence A No. 13]

(13a) It is a copy of a "compounding check table" of JA, ZEN-NOH, Yamaguchi Hagi Plant and states, under the "compounding check table," "Kagome" in the column of "Brand," "SWEET RUBY tomato juice 500 g" in the column of "Product name," and "110516" in the column of "Production date."

It states, "12.35" in the column of "Bx" of "Primary examination" and "11.11" in the column of "Bx" of "Secondary examination."

[Evidence A No. 14]

(14a) It is a catalogue of "2011 ISETAN gift" of Isetan and states, "2011 ISETAN gift, ISETAN summer gift" and "From June 15 (Wednesday) to July 18 (Monday and holiday)" and "■ Shinjuku store ... Main Building 6th floor" and "■ Matsudo store ... Main Building 10th floor" in "Guide to the gift center" on page 1; "<Kagome> SWEET RUBY" and "The tomato is sweet like fruit. The juice is squeezed from sweet tomato grown in Portugal found by worldwide search by <Kagome> and prepared to have a sugar content of 11° by unique squeezing and concentration techniques" on page 61; and "Orders can be also placed by Internet" in the bottom column on page 60.

[Evidence A No. 15]

(15a) It is a set of photographs of the canned tomato juice "Natsushibori 2010."

The side of a can marked with "KAGOME", "Natsushibori 2010," and "100% tomato, free of salt and sugar" is exhibited on page 1.

The bottom of the can marked "2012.8.21 B00821 V00" is exhibited on page 3.

Page 4 exhibits "● Product name: Tomato juice ● Raw material name: tomato ● Content: 190 g ● Expiration date: indicated on the upper bottom of the can ● Manufacturer: Kagome Co., Ltd. KGMT Nishiki 3-14-15, Naka-ku, Nagoya-shi."

[Evidence A No. 16]

(16a) It is "the standard of type of packing" and states, Date of setting "09/07/10" and "This standard sets the standard of type of packing of Natsushibori Tomato juice in Season."

[Evidence A No. 17]

(17a) It is a [full-page advertisement] printed in the evening edition of the Sankei Shimbun dated August 26, 2010 and states on Kagome "Natsushibori" that "Products will be sent in order from the middle of September" relating to the application in "the Sankei selections of excellent mail--order goods."

[Evidence A No. 18]

(18a) It is a set of photographs of the canned tomato juice "Natsushibori 2011."

The side of a can marked "KAGOME", "Natsushibori 2011," and "100% tomato, free of salt and sugar" is exhibited on page 1.

The bottom of a can marked "2013.8.25 B10825 001" is exhibited on page 3.

Page 4 exhibits "● Product name: Tomato juice ● Raw material name: tomato ● Content: 190 g ● Expiration date: indicated on the upper bottom of the can ● Manufacturer: Kagome Co., Ltd. KGMT Nishiki 3-14-15, Naka-ku, Nagoya-shi."

[Evidence A No. 19]

(19a) It is a copy of "the standard of type of packing" and states, Date of setting "10/08/25" and "This standard sets the standard of type of packing of Natsushibori Tomato juice in Season."

[Evidence A No. 20]

(20a) It is an advertisement printed in the evening edition of the Mainichi Shimbun dated September 12, 2011 and states on Kagome "Natsushibori" as "special tomato juice provided only by mail order once a year" and "Products will be sent in order from the

middle of September" relating to the application.

[Evidence A No. 21]

(21a) It is a photograph of the canned vegetable juice "Yasai Ichinichi Koreippon".

The side of a can marked "KAGOME," "Yasai Ichinichi Koreippon," "25 vegetables," and "100% vegetable juice, free of salt and sugar" is exhibited on page 1.

The bottom of a can marked "2012.12.24 B01224 N23" is exhibited on page 3.

Page 4 states "● Product name: Concentrated mixed vegetable juice ● Raw material name: vegetables (tomato, carrot, red pepper, brussels sprouts (petit vert), kale, spinach, ginger, broccoli, lettuce, celery, cabbage, watercress, parsley, pumpkin, asparagus, onion, molokheiya, beet, Japanese radish, komatsuna (*Brassica campestris* var. *perviridis*), purple potato, ashitaba (*Angelica keiskei*), Chinese cabbage, eggplant, burdock), lemon fruit juice●: Content: 190 g● Expiration date: indicated on the upper bottom of the can● Manufacturer: Kagome Co., Ltd. KGMT Nishiki 3-14-15, Naka-ku, Nagoya-shi."

[Evidence A No. 22]

(22a) It is a news release from Kagome Co., Ltd. entitled "Clear aftertaste by the power of tomato! 'Yasai Ichinichi Koreippon' series renewal -free of nutrition potentiators, preservatives, coloring agents, and fragrance-" and states "Since the release of the 280g PET bottle in August, 2004, 'Yasai Ichinichi Koreippon' series ... have become a product ..." on page 1.

(22b) Page 2 states,

"Product name... content/type of packing ... Expiration date (before opening), Yasai Ichinichi Koreippon ...190g/30 ... 2 years" and

"■Date of sale: 1000 ml paper pack ... from the end of September, 2008, in order The others ... from the middle of October, 2008, in order"

[Evidence A No. 23-27]

(23 - 27a) These are "Assay result reports" relating to Products 1-5 made by Japan Food Research Laboratories (general foundational juridical person) on August 12, 2013 and exhibit the following ingredients and physical properties of Products 1-5.

製品	糖度	遊離アミノ酸 (mg/100g)							粘度 (mPa·s)		pH	クエン酸 (g/100g)
		Glu	Asp	Arg	Ala	Ser	Asn	Gln	20°C	25°C		
製品1 (SWEET RUBY)	11.0	307	130	15	58	21	81	0	260	240	4.3	0.52
製品2 (SWEET RUBY)	11.0	332	142	16	53	23	79	0	210	200	4.3	0.55
製品3 (夏しぼり)	6.1	254	115	8	17	11	42	0	210	200	4.2	0.53
製品4 (夏しぼり)	6.1	265	99	7	11	10	36	0	240	230	4.3	0.50
製品5 (これ1本)	10.0	175	84	26	34	15	74	0	310	290	4.2	0.55

製品 Product

糖度 Sugar content

遊離アミノ酸 Free amino acid

粘度 Viscosity

クエン酸 Citric acid

製品 1	Product 1
製品 2	Product 2
製品 3 (夏しぼり)	Product 3 (Natsushibori)
製品 4 (夏しぼり)	Product 4 (Natsushibori)
製品 5 (これ一本)	Product 5 (Koreippon)

[Evidence A No. 28]

(28a) It is a "Report" made by Tetsu IWATSUBO, a lawyer and patent attorney, on November 28, 2014 and reports the storage place and conditions of Publicly Worked Products 1-5 until the ingredient analysis.

Relating to the storage conditions, it reports that Publicly Worked Product 1-5 are "stored in a refrigerator at a temperature of 4°C" or "stored at room temperature" after the production; and "stored in a refrigerator at a temperature of 4°C" after the expiration date.

[Evidence A No. 29]

(29a) It is "Test report on change of Sweet Ruby over time" made by an employee of Kagome Co., Ltd., on December 1, 2014 and states, "1. Purpose
Tests are conducted to examine the change in measurements during the storage of Sweet Ruby.

2. Preparation of test sample

Date of preparation: 2013.5.29

Person of preparation: Person in charge of the test

Product name: Sweet Ruby

Place of preparation: Beverage trial manufacture room, Research and development head office 3F, Kagome Co., Ltd.

Preparation process

Samples were prepared according to Sweet Ruby manufacture standard (2010/5/10, the first revision, Document number KGQA411) (Attached Document 1). ... This was mixed with RO with no centrifugation such that Brix became 11.0 according to the product standard of the manufacture standard ... The mixture was heated to 90°C and water was added to compensate the evaporation to adjust the water content. Citric acid was then added to adjust pH to a value less than 4.4 and small PET bottles were filled with the mixture by hot-pack filling. ... The filled samples were kept at a constant temperature warehouse of 37°C until the day of measurement."

The stated properties to be measured include "Brix" "amino acid (Glu, Asp, Asn, Ser, Gln, Arg, Ala)", "pH", "citric acid" and "type B viscosity".

It states, "4. Measurement Result

Brix, acid content, Glu/(Glu, Asp, Asn, Ser, Gln, Arg, Ala), pH, citric acid, and type B viscosity (indicated in cP in the graph because 1 mPa.s = 1 cP) exhibited no big change during the storage period."

Moreover, graphs illustrate the change over equivalent months.

(29b) As Document 1, "Manufacture standard" and "Blending standard" are attached, which describe the production standard and the blending standard, respectively.

(29c) As Document 2, "List of measurements" made by an employee of Kagome Co., Ltd. dated November XX, 2014 is attached, which states the values of equivalent months, Brix, pH, acid content, viscosity, citric acid, Glu/(Glu, Asp, Asn, Ser, Gln, Arg, Ala) vs. days of storage (storage at 37°C).

[Evidence A No. 30]

(30a) It is recognized as a screenshot (copy) of "The first evaluation report of marketable product -Quality evaluation result of 2010 tomato juice-" (research report of Kagome Co., Ltd.) made by an employee of Kagome Co., Ltd. (same as Evidence A No. 45).

For "Kagome, Tomato Juice in Season, Natsushibori 2010," it states, "RI % : 6.1," "citric acid 0.55%," and "free amino acid contents (mg %) Glu: 199, Asp: 91, Asn: 33, Gln: 92, Ala: 14, Ser: 9, Arg: 6."

[Evidence A No. 31]

(31a) "[Claim 1]

A method for increasing tomato flavor, comprising treating tomato with esterase.

[Claim 2]

The method for increasing tomato flavor according to claim 1, further comprising a treatment with one or more selected from protease, a glycoside-degrading enzyme, and cellulase.

[Claim 3]

A method for producing a tomato enzymatic treatment product with increased flavor, comprising treating tomato with esterase.

[Claim 4]

The method for producing a tomato enzymatic treatment product with increased flavor according to claim 3, further comprising a treatment with one or more selected from protease, glycoside-degrading enzyme, and cellulase.

[Claim 5]

The method according to claim 2 or 4, wherein the glycoside-degrading enzyme is one or more selected from β -glucosidase, β -xylosidase, and β -primeverosidase.

[Claim 6]

The method according to any of claims 1-5, wherein one of esterase, protease, and cellulase is derived from an animal, a plant (other than tomato), or a microorganism.

[Claim 7]

The method according to any of claims 1-6, wherein the tomato is a tomato sterilized with heat.

[Claim 8]

A tomato enzymatic treatment product with increased flavor obtained by the method according to any of claims 1-7."

(31b)

"[Technical Field]

[0001]

The present invention relates to a method for increasing flavor by an enzymatic treatment of tomato or a method for producing a tomato enzymatic treatment product with increased flavor."

(31c)

"[0008]

A purpose of the present invention is to provide a tomato enzymatic treatment product (tomato puree, crushed tomato, tomato juice, or tomato condensate) with increased taste and flavor by efficiently degrading a flavor precursor of tomato and using the flavor precursor effectively."

(31d) "[Advantageous Effects of Invention]

[0011]

According to the present invention, there can be provided tomato treatment products with much more increased flavor than conventional processed tomato products, or tomato products treated only with a glycoside-degrading enzyme, or tomato products treated with protease and cellulase."

(31e) "[Best Mode for Carrying Out the Invention]

[0012]

The present invention will be explained in more detail below.

[0013]

Tomato that can be used as a material in a method according to the present invention is not particularly limited in variety, as long as it is a fruit of tomato (*Lycopersicon esculentum*), and any variety of tomato can be used. Moreover, the mode of use of tomato is not particularly limited and any of a crushed product, a juice, an extract, a condensate (tomato paste, tomato puree), or a diluted product (liquid) of raw tomato or tomato sterilized with heat can be used. Of these, tomato sterilized with heat is preferably used for improving stability after use."

(31f) "[0022]

Thus obtained tomato enzymatic treatment products can be incorporated into, for example, flavorings such as ketchup, sauces, and seasonings; drinks such as juices, vegetable beverages, and alcoholic beverages; staple foods such as breads; and confectioneries such as candies, crackers, cakes, cookies, and jellies with any ingredient that is usually used in food."

(31g) "[Examples]

[0024]

Example 1

1222 g of commercially available raw tomatoes (11 fruits of Momotaro T-93 from Niigata) were washed with water, then boiled with steam for 40 minutes, then cooled to 40°C, and crushed with a mixer to obtain 1195 g of heated tomato homogenate. The obtained homogenate was at pH 4.39 and refractometric sugar content (Bx) was 7.96°. This homogenate was sterilized with heating to 90°C and then cooled to 40°C. 0.01 g of esterase from swine pancreas (Sigma-Aldrich Corporation)

was added to the homogenate and reacted at 40°C for 16 hours while standing. The homogenate was sterilized with heating to 90°C, then cooled to 35°C, and filtered through 40 mesh wire net to remove solids to obtain 1002 g of an enzyme-treated tomato separate liquid (Invention 1). pH of Invention 1 was 4.37, and the refractometric sugar content (Bx) was 8.21°.

[0025]

Example 2

1073 g of an enzyme-treated tomato separate liquid (Invention 2) was obtained in a similar process to that in Example 1, except that 0.01 g of esterase from swine pancreas (Sigma-Aldrich Corporation) and 1.22 g of Protease M (Amano Enzyme Inc.) were added as enzymes. pH of Invention 2 was 4.37 and the refractometric sugar content (Bx) was 8.41°.

[0026]

Example 3

1074 g of an enzyme-treated tomato separate liquid (Invention 3) was obtained in a similar process to that in Example 1, except that 0.01 g of esterase from swine pancreas (Sigma-Aldrich Corporation) and 55 units of emulsin (Sigma-Aldrich Corporation) were added as enzymes. pH of Invention 3 was 4.39 and the refractometric sugar content (Bx) was 8.47°.

[0027]

Example 4

1154 g of enzyme-treated tomato separate liquid (Invention 4) was obtained in a similar process to that in Example 1, except that 0.01 g of esterase from swine pancreas (Sigma-Aldrich Corporation) and 1.22 g of cellulase T were added as enzymes. pH of Invention 4 was 4.39 and the refractometric sugar content (Bx) was 8.98°."

(31h) "[0031]

Example 5

(Sensory evaluation)

The sensory evaluations of tomato separate liquids of Examples 1-4 and Comparative Examples 1-3 were conducted by 10 well-trained panelists (5 men and 5 women). 4 categories of fragrances: 'sweetness,' 'sourness,' 'fruity,' and 'freshness' and 3 categories of tastes 'umami,' 'acidity,' and 'sweetness' were set for the evaluation. For each of the categories, evaluation and scoring were conducted. As scoring standards, an enzyme-untreated liquid (Comparative Example 1) is first smelled and all categories of tastes are given the score 5, and the most sensory preferable one gets 10 points. The scores by 10 people were averaged. Furthermore, the average of fragrances (4 categories) and the average of tastes (3 categories) were calculated and the average of the obtained averages of fragrances and tastes was obtained as the overall evaluation. The result is shown in Table 1."

(31i) "[0043]

Example 7:

(Amino acid analysis)

Moreover, the amino acid analysis of tomato separate liquids obtained in Examples 1-4 and Comparative examples 1-3 was conducted and they were compared for the difference of amino acids. The result is illustrated in Table 3. The amino acid

analysis was conducted with Hitachi high speed amino acid analyzer L-8800A.

[0044]

[Table 3]

表3 本発明品1~4および比較品1~3のアミノ酸分析結果

アミノ酸(mg/100g)	本発明品1	本発明品2	本発明品3	本発明品4	比較品1	比較品2	比較品3
酵素	エステラーゼ	エステラーゼ プロテアーゼ	エステラーゼ エムルシン	エステラーゼ セルラーゼ	使用せず	セルラーゼ エムルシン	プロテアーゼ セルラーゼ
アスパラギン酸	48.9	55.6	51.9	49.2	48.8	48.9	54.1
スレオニン	6.3	10.3	6.7	7.2	6.3	6.9	9.8
セリン	11.0	15.2	12.2	12.3	10.2	10.5	14.3
アスパラギン	24.1	26.3	24.9	25.6	23.1	22.8	25.8
グルタミン酸	280.0	281.1	278.5	289.6	279.1	278.6	284.5
グルタミン	109.8	109.5	111.5	115.2	111.0	110.9	110.3
プロリン	5.9	11.5	6.3	6.9	5.7	6.5	10.4
グリシン	1.1	4.8	2.1	1.9	1.0	1.2	4.4
アラニン	10.3	15.2	12.3	11.9	9.2	9.1	15.0
バリン	2.2	7.9	2.4	2.4	2.1	2.3	7.2
メチオニン	0.8	4.2	0.9	1.1	0.7	0.9	3.9
イソロイシン	3.2	8.6	3.5	3.2	3.2	2.9	8.1
ロイシン	3.5	18.6	3.9	4.1	3.4	3.5	17.6
チロシン	1.9	9.5	1.9	2.2	1.8	2.1	9.1
フェニルアラニン	5.5	13.8	5.6	5.9	5.6	5.7	13.4
GABA	92.1	92.6	91.0	93.2	94.0	92.9	92.8
リジン	5.0	22.3	5.6	5.9	4.9	5.7	20.9
ヒスチジン	5.1	8.9	5.9	5.3	5.3	5.4	8.6
アルギニン	3.9	14.6	4.6	4.2	3.8	4.1	15.4
合計	620.6	730.5	631.7	647.3	619.2	620.9	725.6

表3 本発明品1~4および比較品1~3のアミノ酸分析結果

3. Result

of amino acid analysis of Present Inventions 1-4 and Comparative products 1-3

アミノ酸	Amino acid
本発明品1	Present Invention 1
本発明品2	Present Invention 2
本発明品3	Present Invention 3
本発明品4	Present Invention 4
比較品1	Comparative product 1
比較品2	Comparative product 2
比較品3	Comparative product 3
酵素	Enzyme
エステラーゼ	Esterase
プロテアーゼ	Protease
エムルシン	Emulsin
セルラーゼ	Cellulase
使用せず	Not used
アスパラギン酸	Aspartic acid
スレオニン	Threonine
セリン	Serine
アスパラギン	Asparagine

グルタミン酸	Glutamic acid
グルタミン	Glutamine
プロリン	Proline
グリシン	Glycine
アラニン	Alanine
バリン	Valine
メチオニン	Methionine
イソロイシン	Isoleucine
ロイシン	Leucine
チロシン	Tyrosine
フェニルアラニン	Phenylalanine
リジン	Lysine
ヒスチジン	Histidine
アルギニン	Arginine
合計	Total

[0045]

Table 3 indicates that amino acids that are abundant in the enzyme untreated tomato separate liquid (Comparative product 1) include glutamic acid, glutamine, GABA, and aspartic acid. Total amounts of amino acids in Present Invention 2 and Comparative product 3, which are treated with protease, are about 1.15 times increased in comparison with Comparative products 1 and 2 and Present Invention 1, 3, and 4, and especially, glycine, valine, methionine, isoleucine, leucine, tyrosine, phenylalanine, lysine, arginine, etc. are greatly increased. Meanwhile, acidic amino acids did not change significantly."

[Evidence A No. 32]

(32a) It is entitled "Organic Acid Components of Tomato Fruits and Their Varietal Differences," and states, "The most abundant organic acids in tomato juice is citric acid and malic acid and the content of the former is about 0.5-0.6%." in the section "3. Test result (1) Examination of organic acid composition" in the right column on page 279.

[Evidence A No. 33]

(33a) It is entitled "Rockwool Tomato News -No. 26-," and states, "It is reported that the amount of citric acid contained in the tomato fruit is about 0.5-0.6%." in the end line.

[Evidence A No. 34]

(34a) It is entitled "Physical properties of canned fruit juices," and states that "Specific gravity g.cm⁻³" of "Tomato Juice" is "1.03" in "Table 1 Test samples" on page 136.

[Evidence A No. 35]

(35a) It states, "Conventional tomato juice (660 cp)" in paragraph [0018].

[Evidence A No. 36]

(36a) "[0009]

In the present invention, first, the viscosity of the material tomato juice is adjusted to the range 250 mPa.s or more and 3000 mPa.s or less at 20°C. The material tomato juice in the present invention may be anything as long as it is a liquid material made from tomato as a material, and examples include squeezed tomato juice and a tomato concentrate (tomato puree, tomato paste, etc). Furthermore, other ingredients may be contained. The viscosity of such material tomato juice is adjusted to the aforementioned range and used."

[Evidence A No. 37]

(37a) "[0014]

Material vegetable juice and/or fruit juice may be obtained by squeezing a vegetable and/or a fruit by a usual method, e.g., screw press, and optionally adjusting its concentration. The viscosity of the juice is not particularly limited, but preferably is 100-2000 mPa.s (type B viscometer, 20°C). According to the present invention, vegetable juice and/or fruit juice having such a viscosity can be prepared into vegetable juice and/or fruit juice having a lower viscosity and going down smoothly, without removing water insoluble solid contents."

[Evidence A No. 38]

(38a) It is entitled "New knowledge of food processing and material," and states, and illustrates with an arrow that the viscosity of "tomato juice" is " 8×10^1 to 6×10^2 mPa.s (cP)." in "Figure 2 Data diagram of food viscosity" on page 85.

[Evidence A No. 39]

(39a) It is entitled "Unit conversion table for change into SI units," and states "1 Pa.s" = " 1×10^3 cP" in "Viscosity unit conversion table."

[Evidence A No. 40]

(40a) It is entitled "Taste of amino acid 2," and contains "Table 2 Structure and gustatory properties of amino acid" on page 5, stating gustatory properties of aspartic acid, glutamic acid, asparagine, serine, glutamine, arginine, and alanine.

[Evidence A No. 41]

(41a) "Report of additional trial manufacture of Sweet Ruby" made by an employee of Kagome Co., Ltd., April 20, 2015 and states,

"1. Purpose

For the purpose of examining the change of amino acids by heating, trial manufacture of Sweet Ruby was carried out."

" • Adjustment process

Samples were prepared according to Sweet Ruby manufacture standard (attached Document 1). ... Samples were adjusted with distilled water such that Brix became 11.0, acid content became 0.50, and pH became 4.29, according to the product standard. ..."

" • Heating process

Samples adjusted as described above were heat-treated according to the following 4 conditions:

...

- See Evidence A No. 42 about the result of sterilization with heat."

(41b) As Document 1, "Manufacture standard" and "Blending standard," which state the production standard and the blending standard, respectively, are attached.

[Evidence A No. 42]

(42a) "Report of additional assay of Sweet Ruby" made by an employee of Kagome Co., Ltd., April 20, 2015 and states, "Test summary and result. Trial manufacture of Sweet Ruby was conducted, which was sterilized with heat by laboratory equipment. The difference in behavior of amino acid depending on the sterilization conditions was examined.

As a result, the decrease in glutamine by heat was observed but no significant change was found in the values of Brix, pH, glutamic acid / group of amino acids of the Patent (7 amino acids)."

[Evidence A No. 44]

(44a) It is recognized to be a print out, on November 6, 2014, of the web page about the product of "Celeb de TOMATO tomato juice Aiko (large) 500 ml" of Amazon.co.jp. Relating to the product of "Celeb de TOMATO tomato juice Aiko (large) 500 ml," photographs of the exterior view of the container and the following statements are exhibited.

" • Materials: mini-tomato from Nayoro, Hokkaido

- content: 500 ml
- Expiration date: 1 year (at normal temperature)
- Storage: normal temperature

(Note: Please avoid direct sunlight, keep in a refrigerator, and consume within 1 week after opening.)

- Sugar content: 10° or more, unsalted"

(44b) "Technical Details" in "Product information" states "Brand Celeb de TOMATO," "Type of container, bottle," and "Name of maker: Celeb de TOMATO," and "Additional Information" in the same states "Date First Available at Amazon.co.jp 2010/9/15" and "Product Description" states, "Rich and sweet tomato juice made from plenty of 'Aiko' tomato with high sugar content produced in Hokkaido."

[Evidence A No. 45]

(45a) It is recognized as a screenshot (copy) of "The first evaluation report of marketable product -Quality evaluation result of 2010 tomato juice-" (research report of Kagome Co., Ltd.) made by an employee of Kagome Co., Ltd.

(45b) Page 1 exhibits, in a screen of Internet Explorer, "Research and development information" and "□ research report DB" in a tag entitled "http://kgmupdate2/AA07/SiteMap/DefaultPage.aspx" and "map."

Page 2 states, in a screen of the Internet Explorer, "http://mosst02:1336/kagome.document.web/index_.aspx" and "Kagome document management," and, thereunder, "Search results Search results of 'marketable product evaluation tomato juice" displaying 1-19 of 19 hits' thereunder, "◆ Deliciousness and Security Research

Department," thereunder, "2010-014650 The first evaluation report of marketable product -Quality evaluation result of 2010 tomato juice-," and thereunder, "| Date of search: 2010/03/08 | fiscal year: 2010."

(45c) Page 8 states, in a screen of a Word file, "2010-95121-3-2 (protected view) Microsoft Word," thereunder "The first evaluation report of marketable product Quality evaluation result of 2010 tomato juice Table of contents," "2. Evaluation category," and "2. Result of physical and chemical analysis

1) Physical and chemical analysis data

○ Attached document: Physical and chemical analysis data sheet."

Page 9 states, in a screen of a Word file, "2010-95121-3-2 (protected view) Microsoft Word," thereunder, "Information on 2010-95121-3-2" and "Relevant dates

Date and time of update: 2011/03/02 10:38

Date and time of creation: 2011/03/02 10:15

Date of last print out: 2011/03/02 10:25."

(45d) Page 10 states, in a screen of a Word file, "2010-95121-3-2 (protected view) Microsoft Word," thereunder, "Aiko" and "bottle" in the cell "Unsalted" and further, "●: Categories for which all samples have been evaluated ○: Categories for which part of samples are unevaluated" in the under left section, in "2. Evaluation category", "Table 6 List of evaluation categories."

In the table, about "Aiko FTJ bottle," "RI," "Acid content," "Salt content," "Sugar composition" (fructose, glucose, sucrose)," "Organic acid composition" (citric acid, malic acid, PY-C), "Amino acid," "Specific viscosity of juice," "Sugiura viscosity" (C type)," "Sugiura viscosity" (E type)," and "pH" in "Manufacture and management standard category" are marked with "●."

Page 11 states, in a screen of a Word file, "2010-95121-3-2 (protected view) Microsoft Word" and thereunder, "2. Result of physical and chemical analysis

1) Physical and chemical analysis data

The physical and chemical analysis data are illustrated in Tables 7-1 to 7-2 (See the attached document for details). ...

Table 7-1 Physical and chemical analysis data (average)."

(45e) Page 12 states, in a screen of a Word file, "2010-95121-3-2 (protected view) Microsoft Word" and thereunder, "Aiko", "celeb de TOMATO Aiko (no NaCl added)," and "bottle" as "abbreviation," "Product name," and "Container type" in the section "Mail order" in "FTJ" in the table "Table 7-1 Physical and chemical analysis data (average)."

(45f) The following numerical values are indicated on pages 12-15.

製品	RI(%)	遊離アミノ酸(mg%)							pH	クエン酸(%)
		Glu	Asp	Asn	Gln	Ala	Ser	Arg		
製品6 (あいこ)	9.4	196	53	19	9	13	7	7	4.42	0.36

製品 Product

遊離アミノ酸 Free amino acid

クエン酸 Citric acid

製品 6 (あいこ) Product 6 (Aiko)

[Evidence A Nos. 46-1 to 4]

(46-1 to 4 a) These are "Assay result report" of the sample name "Ai150805" made by Japan Food Research Laboratories (general foundational juridical person) on December 23, 2014 and state

“The following ingredients and physical properties:
 Titrated acidity (in terms of citric acid): 0.47 g/100 g,
 Sugar content (Refractometric Brix): 10.4°,
 Citric acid: 0.49 g/100 g,
 Free arginine: 5 mg/100 g,
 Free alanine: 15 mg/100 g,
 Free glutamic acid: 240 mg/100 g,
 Free serine: 8 mg/100 g,
 Free aspartic acid: 64 mg/100 g,
 Free asparagine: 19 mg/100 g,
 Free glutamine: not detected, and
 Viscosity: 520 mPa.s.”

[Evidence A No. 50]

(50a) Page 9 contains the following table in the section "1. Instant sterilization by ultra-high-temperature (UHT) process" under the title "Aseptic techniques that enable long-term storage at normal temperature while keeping color, flavor, nutrition of food (aseptic loading technique).

テトラパックのアセプティック容器とその他の熱処理のちがい

容器別製品	中身飲料の熱処理		加熱温度	加熱時間	充填方法	保存方法
テトラパックのアセプティック容器入り製品	UHT滅菌	超高温瞬間滅菌	135~150度	3~6秒	常温まで急速に冷却後、無菌充填	常温保存可能
置換型容器入り製品	UHT殺菌	超高温瞬間殺菌	120~130度	1~3秒	10℃以下の温度で充填	要冷蔵
	HTST殺菌	高温短時間殺菌	72度以上	15秒以上	10℃以下の温度で充填	要冷蔵
	HTLT殺菌	高温保持殺菌	75度以上	15分以上	10℃以下の温度で充填	要冷蔵
	LTLT殺菌	連続式低温殺菌	65~68度	30分	10℃以下の温度で充填	要冷蔵
	LTLT殺菌	低温保持殺菌	63~65度	30分	10℃以下の温度で充填	要冷蔵
ペットボトル入り製品	UHT滅菌	超高温瞬間滅菌	135度	3~6秒	35度まで冷却後、無菌充填	常温保存可能
	ホット充填	超高温瞬間滅菌	135度	3~6秒	ホット充填(ホットパック)	常温保存可能
缶入り製品	レトルト殺菌	高温殺菌	115~135度	20~30分	ホット充填(缶の外、又は、常温環境)	常温保存可能
	UHT殺菌	超高温瞬間殺菌	135度	製品による	95度以下	常温保存可能

※殺菌が、肉質性微生物の死滅を目的としているのに対し、殺菌は、保菌能であることに限らず、すべての微生物と耐熱芽胞を死滅させます。
 ※上記は一般的な数値であり、実際の殺菌は飲料メーカーや製品によって異なります。

テトラパックのアセプティック容器とその他の熱処理のちがい

Difference between aseptic containers of Tetrapak and other heat-treatment

容器別製品	Product by container
中身飲料の熱処理	Heat-treatment of contained beverage
加熱温度	Heating temperature
加熱時間	Heating time
充填方法	Filling process
保存方法	Storage
テトラパックのアセプティック容器入り製品	Product in aseptic container of Tetrapak
UHT滅菌	UHT Sterilization
超高温瞬間滅菌	Instant sterilization by ultra-high-temperature processing
135～150度	135-150°
3～6秒	3-6 seconds
常温まで急速に冷却後、無菌充填	Aseptic filling after rapid cooling to normal temperature
常温保存可能	Storable at normal temperature
屋根型容器入り製品	Product in roof-shape container
ペットボトル入り製品	Product in PET bottle
缶入り製品	Canned product
UHT殺菌	UHT disinfection
HTST殺菌	HTST disinfection
HTLT殺菌	HTLT disinfection
LTLT殺菌	LTLT disinfection
ホット充填	Hot filling
レトルト殺菌	Retort disinfection
超高温瞬間殺菌	Instant disinfection by ultra-high-temperature processing
高温短時間殺菌	High-temperature short-time disinfection
高温保持殺菌	High-temperature long-time disinfection
連続式低温殺菌	Low-temperature long-time disinfection
低温保持殺菌	Low-temperature long-time disinfection
高温殺菌	High temperature disinfection
120～130度	120-130°
72度以上	72° or more
75度以上	75° or more
65～68度	65-68°
63～65度	63-65°
135度	135°
115～135度	115-135°
1～3秒	1-3 seconds
15秒以上	15 seconds or more
15分以上	15 minutes more

30分 30 minutes

3～6秒 3-6 seconds

20～30分 20-30 minutes

製品による depending on the product

10度以下の温度で充填 Filling at a temperature of 10° or less

35度まで冷却後、無菌充填 Aseptic filling after cooling to 35°

ホット充填（ホットパック） Hot filling (hot packing)

ホット充填（ホットパック）、または、常温充填 Hot filling (hot packing) or filling at normal temperature

95度以下 95° or less

要冷蔵 Refrigeration needed

常温保存可能 Storable at normal temperature

※殺菌が、病原性微生物の死滅を目的にしているのに対し、滅菌は、病原菌であるなしに関わらず、すべての微生物と耐熱芽胞を死滅させます。

*Disinfection is aimed to eliminate pathogenic microorganisms, while sterilization eliminates all microorganisms and heat-resistant spores regardless of pathogenicity.

※上記は一般的な数値であり、実際の数値は飲料メーカーや製品によつて異なります。 *Typical numerical values are shown above and the actual numerical values vary depending on the beverage maker and the product."

(50b) A figure illustrating filling of product into a paper container with a filling nozzle is exhibited in the section of "2. Filling in aseptic environment" on page 10.

[Evidence A No. 51]

(51a) It states, on page 605, that "• Production process with aseptic filling at normal temperature (aseptic production process)" is the "same as hot pack production process until UHT sterilization of the blend, but thereafter the blend is cooled to normal temperature and filled into a container (PET, LL paper pack) with a cap, which are disinfected with a drug solution, etc. and sealed in an aseptic environment."

(51b) It states, "The blend is disinfected with UHT process (135-140°C, about 30-60 seconds), then cooled to normal temperature, and filled and sealed in a container that is disinfected with a drug solution, etc. in an aseptic environment" as "9. Production process with aseptic filling at normal temperature" (aseptic production process), on page 608.

[Evidence A No. 52]

(52a) It states, "I will briefly describe fruit beverages in long-life paper containers. For example, sheets rolled up in a roll are formed into a shape and cut just before the filling and filled and sealed aseptically in Tetraaseptic, unlike other containers." (lines 2-4) and "(1) Filler Fruit beverage blends are sterilized and cooled in the high temperature, short time process with a plate sterilizer and cooler and filled into paper containers." (lines 5-7) in the section "2-4-9 Paper" on page 358.

(52b) It states, about the filling in ESL products (for example, products in a gable top container such as a milk pack), "The change in flavor of the product is minimized by using an aseptic filler (Figure 4-19)" (lines 4-5) on page 581.

[Evidence A No. 53]

Written statement made by an employee of Kagome Co., Ltd., "Regarding purchase and analysis of "Celeb de TOMATO Aiko" etc.," on October 5, 2015, states the following.

(53a) "1. Evaluation of marketable product" and "Duties of the department include evaluation of marketable products. In this duty, tomato juices sold in the market, including our products, are analyzed and evaluated about their qualities, approximately once a year, for maintenance and improvement of the qualities of our products."

(53b) "2. About Evidence A No. 45 report" and "In fiscal year 2010, the analysis and evaluation were conducted from August, 2010 to January, 2011 and the results were summarized in the report "The first evaluation report of marketable product -Quality evaluation result of 2010 tomato juice-" (hereinafter, referred to as "the Report"). A screenshot of the Report has been submitted as Evidence A No. 45 in the case of trial regarding the invalidation of Japanese Patent No. 5116884 (hereinafter, referred to as "the case of trial for invalidation of '884 patent')."

(53c) "3. About purchase of Celeb de TOMATO Aiko (large)" and "Samples used for the evaluation of marketable product are purchased from the market. 11 bottles in total of Celeb de TOMATO Aiko (large) (hereinafter, referred to as 'Aiko') were purchased, 4 bottles on August 25, 2010 and 7 bottles on August 29, 2010, from Brand Japan Co., LTD. which produces and sells 'Aiko' (attached Document 2 (Evidence A No. 54) [Voucher board (receipts and expenditure of establishments) and statement of delivery] and attached Document 3 (Evidence A No. 55) [the same as above]). The evaluation of marketable product was conducted using these purchased 'Aiko.' Products including 'Aiko' are stored as samples of analysis in a refrigerator after the purchase until analysis, and change in quality or the like of products does not occur."

(53d) It states, as the results of the analysis of "Aiko," that "RI (%)," "pH," each of "amino acids," and "citric acid" are the same as in Evidence A No. 45 in "4. Description of 'Aiko' in the Report.

(53e) It states, "5. About analysis, I made a laboratory notebook upon conducting the analysis described in the Report (hereinafter, referred to as 'the Analysis') and attached to the Report relevant parts of the laboratory notebook as Document 4 (Evidence A No. 56). The analysis consists of 2 parts conducted separately from September 1 to 21 in 2010 as the first part and from September 17 to October 22 in the same year as the second part. "Sample number" "63" and "64" are 'Aiko'."

The sections, "(1) RI analysis," "(2) pH analysis," "(3) Analysis of amino acid levels," and "(4) Citric acid analysis" state methods of analyzing respective samples, methods of evaluating analyzed values, and average values of the samples.

(53f) The report "The first evaluation report of marketable product, Quality evaluation result of 2010 tomato juice" corresponding to Evidence A No. 45 is attached as Document 1, "Voucher board (receipts and expenditure of establishments) and statement of delivery" the same as Evidence A No. 54 is attached as Document 2; "Voucher board (receipts and expenditure of establishments) and statement of delivery" the same as Evidence A No. 55 is attached as Document 3; and "Laboratory notebook" the same as Evidence A No. 56 is attached as Document 4.

(53g) "● Amino acid calculation sheet (L-8800A) Date of analysis: from 2010/9/3" is attached as Document 5. which states, about sample No. "F64," that "volume adjusted in measuring cylinder/of sampling" is "252.5209" and

	Data (ng)	Concentration (mg %)
Glu	3639.59	180
Asp	972.489	48
AspNH2	337.17	17
GluNH2	183.875	9
Ala	224.741	11
Ser	119.007	6
Arg	111.167	6".

It states, about Sample No. "TJ63," that "volume adjusted in measuring cylinder/of sampling" is "252.5622" and

	Data (ng)	Concentration (mg %)
Glu	4344.23	212
Asp	1178.27	57
AspNH2	432.085	21
GluNH2	171.583	8
Ala	306.614	15
Ser	152.272	7
Arg	159.014	8".

(53h) "● Organic acid calculation sheet, date of analysis: 2010/9/3" is attached as Document 6, which states that citric acid concentrations (%) of sample name "10TJ64-1" are "0.37" and "0.36," citric acid concentrations (%) of sample name "10TJ64-2" are "0.37" and "0.36," citric acid concentration (%) of sample name "TJ63-1" is "0.36," and citric acid concentration (%) of sample name "TJ63-2" is "0.35."

[Evidence A No. 54]

(54a) It is "Voucher board" (receipts and expenditure of establishments) issued on "2010/8/26, 11:59:38" and "Statement of delivery" for the shipment on August 25, 2010, and states that the trade date is "2010/08/26" and "Title: Mail ordered tomato juice" and "Purpose: to use as a sample for evaluation of tomato juice marketable product" on page 1. A receipt issued on August 26, 2010 by Yamato Financial Co., Ltd. is affixed, stating that the addressee is "Kagome Co., Ltd. Research Institute Nishi-Tomiyama 17, Nasushiobara-shi, Tochigi," the sender is "Brand Japan Co., LTD, Celeb de TOMATO, Online Center, Shimoyugi 2-29-16, Hachioji-shi, Tokyo," and the product name is "tomato juice" and the amount of cash on delivery.

(54b) Page 2 states, in the top right corner, "Celeb de TOMATO Online center, Shimoyugi 2-29-16, Hachioji-shi, Tokyo, 192-0372," "Kagome Co., Ltd. Research Institute, Nishi-Toyama 17, Nasushiobara-shi, Tochigi" in the section of customer address, and thereunder, "Thank you very much for shopping at Celeb de TOMATO Online shop. Please confirm the delivery of the following products. In the case that the delivered products are different from the ordered products, please contact 'Celeb de TOMATO Online center,'" and that the product name is "Aiko (large)", the number of contents is "4," the unit is "bottles," the unit price is "2500," and the total price is "10000."

[Evidence A No. 55]

(55a) It is "Voucher board (receipts and expenditure of establishments)" issued on "2010/8/30, 12:26:33" and "Statement of delivery" for the shipment on August 29, 2010, and states that the trade date is "2010/08/30" and "Title: Evaluation of tomato juice marketable product" and "Purpose: purchased as a sample for evaluation of tomato juice marketable product by mail order" on page 1. A receipt issued by Yamato Financial Co., Ltd. is affixed, stating that the addressee is "Kagome Co., Ltd. Research Institute, Nishi-Tomiyama 17, Nasushiobara-shi, Tochigi," the sender is "Brand Japan Co., LTD, Celeb de TOMATO, Online Center, Shimoyugi 2-29-16, Hachioji-shi, Tokyo," and the product name is "tomato juice" and the amount of cash on delivery.

(55b) Page 2 states, in the top right corner, "Celeb de TOMATO Online center, Shimoyugi 2-29-16, Hachioji-shi, Tokyo, 192-0372," "Kagome Co., Ltd. Research Institute, Nishi-Toyama 17, Nasushiobara-shi, Tochigi" in the section of customer address, and thereunder, "Thank you very much for shopping at Celeb de TOMATO Online shop. Please confirm the delivery of the following products. In the case that the delivered products are different from the ordered products, please contact 'Celeb de TOMATO Online center,'" and that the product name is "Aiko (large)," the number of contents is "7," the unit is "bottles," the unit price is "2500," and the total price is "17500."

[Evidence A No. 56]

(56a) In the view connected with Evidence A No. 53, it is the cover and relevant parts of the laboratory notebook made by an employee of Kagome Co., Ltd. and states the following.

Page 1 states, "Analysis notebook Evaluation of marketable product fiscal year 2008-."

(56b) It states "Amino acid $2.5/25 \times 10n = 1$ " in the center of the upper part, on page 2 and "10.9.2", "64-1 5.0343 64-2 5.0546," "10.9.22," "63-1 5.0779 63-2 5.0560" in the 3rd to 2nd columns from the right, and "64. 2.5209" and "63 2.5622" in the 1st column from the right.

(56c) It states, "10.9.10 pH," "(64) 4.37 4.38 4.39 4.39 4.39," "10.9.22 pH," and "(63) 4.45 4.45 4.44 4.44 4.44" in the first column and "RI," "10.9.10 RI(2)," "(64) 9.28 9.30 9.25 9.3," "10.9.22 RI(2)," and "(63) 9.38 9.38 9.35 9.4." on the second column on page

3.

7. Judgment by the body

7-1. Reason for invalidation 1 (enablement requirement)

(1) The demandant's allegation

(A) Difficulty in understanding the problem (violation of Ministerial Ordinance)

"Having a reduced acidity of tomato" conflicts with "maintaining original tastes of tomato," in particular, maintaining "the natural acidity of tomato" and therefore the problem to be solved by the invention of the patent cannot be understood (written demand for trial, lines 2-22, page 30).

(B) Difficulty in reproducing Present Inventions 1-4 (so-called Examples)

a) Unclearness of realizing raw material

Only the definition of the raw material realizing "tomato paste", "turbid tomato juice A", "transparent tomato juice B", and "concentrated tomato juice C having reduced acidity" is the value of "Brix" and the "mass ratio of glutamic acid to the group of amino acids" and the "amount of citric acid" of the raw material are totally unclear. Therefore, excessive trials and errors are unavoidable to find the raw material realizing them (written demand for trial, line 8 from the bottom, page 31 to line 13, page 32).

b) Unclearness in method for decreasing "weight ratio of glutamic acid to the group of amino acids"

How to decrease "weight ratio of glutamic acid to the group of amino acids" while maintaining "sugar content" high with "adding no amino acids at all" (Paragraph [0041]) cannot be understood by a person skilled in the art (written demand for trial, line 14, page 32 to line 4 from the bottom, page 35).

c) Contradiction between values in analysis in Table 3 in the publication of examined patent application

Assuming that the same raw material was used in Present Inventions 1-4 and Comparative Products 1 and 2, the weight ratios of glutamic acid/the group of amino acids and the citric acid concentrations contradict each other in Paragraph [0065] (Table 3) in the publication of examined patent application (written demand for trial, line 3 from the bottom, page 35 to line 7, page 39).

(C) Difficulty in reproducing embodiments other than Present Inventions 1-4 (Examples)

Excessive trials and errors are unavoidable in reproducing execution of at least subordinate concepts 1-4, except Present Inventions 1-4, among the subordinate concepts of the invention according to claims 1-12 of the Patent (those whose raw materials are squeezed tomato juice, etc.) (written demand for trial, line 10 from the bottom, page 39 to line 12, page 42).

(2) Judgment

The description of the Patent states, "methods for adjusting Brix level include methods involving adding various sweeteners including artificial sweeteners, naturally occurring materials including a sweetener ingredient, and various dietary fibers

including polysaccharides, but, in the view of effects on the aftertaste and reduction of the production cost, addition of these is preferably reduced as much as possible and, if possible, no addition thereof is most preferable." (Paragraph [0039]), "methods for adjusting an amount of citric acid include methods involving additionally adding citric acid or naturally occurring materials containing citric acid, but in the view of effects on the aftertaste and reduction of the production cost, addition of these is preferably reduced as much as possible and, if possible, no addition thereof is most preferable." (Paragraph [0040]), and "methods for adjusting an amount of amino acids include methods involving additionally adding amino acids or naturally occurring materials containing amino acids, but in the view of effects on the aftertaste and reduction of the production cost, addition of these other than raw material of tomato is preferably reduced as much as possible and, if possible, no addition thereof is most preferable." (Paragraph [0041]) and states that no addition of sweeteners, citric acid, and amino acids is preferred, but the patent invention 12 does not exclude addition thereof.

Thus, even if reproducing Present Inventions 1-4, etc. is difficult when using materials derived from squeezed tomato juice as the demandant's allegation, it cannot be said that there is difficulty in adjusting values such as the weight ratio of glutamic acid to the group of amino acids within the ranges according to the patent invention 12 by adding sweeteners, citric acid, and amino acids as appropriate or adding water.

The patent invention 12 is "a method for suppressing color deterioration of a packaged tomato-containing beverage over time" and it is apparent that suppressing color deterioration (change) of a packaged tomato-containing beverage over time" is the problem to be solved by the invention (hereinafter, also referred to as simply the "problem"). The description of the Patent also states, "Tomato-containing beverages having a suppressed raw smell peculiar to tomato and maintaining original tastes of tomato without using additives such as a masking agent as much as possible have been desired." (Paragraph [0004]) as background art and "An object of the present invention is to provide a tomato-containing beverage having a suppressed raw smell peculiar to tomato and maintaining original tastes of tomato." (Paragraph [0008]) as the problem. Therefore, "having a suppressed raw smell peculiar to tomato and maintaining original tastes of tomato" is understood to be the problem that is a prerequisite of the patent invention 12.

This understanding is also apparent from the fact that the problem in the description (Evidence A No. 49-1) at the time of the patent application relating to the Patent was stated as "An object of the present invention is to provide tomato-containing beverages having a suppressed raw smell peculiar to tomato and maintaining original tastes of tomato, methods for producing the same, and methods for suppressing color change over time. Also, an object of the present invention is easiness of filling in the manufacturing process and to suppress color change over time while maintaining gustatory properties in such a tomato-containing beverage." (Paragraph [0008]).

Therefore, the prerequisite, "having a suppressed raw smell peculiar to tomato and maintaining original tastes of tomato" is examined. In the evaluation relating to Examples, nothing relating to the suppression of "the raw smell peculiar to tomato" is mentioned, but "natural sweetness of tomato," "natural acidity of tomato," "change in taste over time," and "change in fragrance over time" are stated as evaluation categories

for tastes of tomato-containing beverages (Paragraph [0060], [0062]). Also, based on the statement, "Present Inventions 1-4 were evaluated very highly, as were Comparative Products 1-2, in natural sweetness of tomato, natural acidity of tomato, change in taste over time, and change in fragrance." (Paragraph [0066]), it can be said that having "natural sweetness of tomato" and "natural acidity of tomato" and not having "change in taste over time" and "change in fragrance over time" is required to be confirmed in carrying out the patent invention 12.

Here, "natural sweetness of tomato" and "natural acidity of tomato" are examined. "Natural" means "state occurring of itself; state in nature but not made or caused by humans; state as it is." (translated from Kohjien, the sixth edition). Since how to modulate "weight ratio of glutamic acid to the group of amino acids" while maintaining "sugar content" high without adding any of amino acids is not stated in the description of the Patent, and therefore cannot be understood by a person skilled in the art; and the test results for "weight ratio of glutamic acid to the group of amino acids" in Present Inventions 1-4 and Comparative Products 1 and 2 exhibit contradicting values each other (see Attached Sheet 1 of the written demand for trial) and how to blend tomato juices specifically cannot be understood by a person skilled in the art from Examples stated in the description of the Patent, the patent invention 12 is difficult to carry out using only materials derived from squeezed tomato juice. Also, how to achieve "natural sweetness of tomato" and "natural acidity of tomato" cannot be understood by a person skilled in the art when amino acids, etc. are added as described above.

Also, the description of the Patent states, "Present Inventions 1-4 and Comparative Products 1-2 are tomato-containing beverages having high Brix. This is also clear from the fact that Brix levels of Present Inventions 1-4 and Comparative Products 1-2 deviate remarkably from the numerical range (4.83-5.81) of Brix levels of commercially available tomato-containing beverages (Comparative Products 3-5) and tomato-containing beverages obtained by squeezed tomato juice of commercially available fruits without further processing (Comparative Products 6-7)." (Paragraph [0066]).

However, Comparative products 6 and 7, etc., which are squeezed tomato juice of commercially available fruits considered to have "natural" taste are evaluated lower for "natural sweetness of tomato" and "natural acidity of tomato" than Present Inventions 1-4 (Paragraph [0065], Table 3), in which taste is adjusted with concentrated tomato juice having reduced acidity, etc. (Paragraph [0053]) and Brix deviated as described above. Therefore, the meaning of "natural" in the description of the Patent is unclear. Thus, having "natural sweetness of tomato" and "natural acidity of tomato" and thus maintaining "original tastes of tomato" cannot be confirmed in carrying out the patent invention 12.

Accordingly, how the patent invention 12 can accomplish the prerequisite; "having a suppressed raw smell peculiar to tomato and maintaining original tastes of tomato" cannot be understood from the statement of the detailed explanation of the invention of the Patent, and a person skilled in the art cannot carry out the invention.

(3) Summary

Accordingly, the statement of the detailed explanation of the invention of the Patent is not clear and sufficient enough to enable a person ordinarily skilled in the art

to which the invention pertains to carry out the invention, in accordance with Ordinance of the Ministry of Economy, Trade and Industry, and therefore does not comply with the requirements as provided in Article 36(4)(i) of the Patent Act. Therefore, the Patent relating to the patent invention 12 falls under Article 123(1)(iv) of the Act and should be invalidated by Reason for Invalidation 1.

7-2. Reason for invalidation 2 (violation of requirements for support)

(1) The demandant's allegation

(A) Comparison of range of Brix and weight ratio of glutamic acid to the group of amino acids

a) Violation of formal requirement for support

"Brix is 6-12" is a matter that is not stated or suggested in the detailed explanation of the invention. More specifically, what is stated in Paragraphs [0010], [0012], and [0039] in the publication of examined patent application of the Patent is "Brix is 7.3 or more" and "7.3-12" (written demand for trial, lines 2-8, page 44).

b) Comparison between statement of claims 1-12 of the Patent and Present Inventions 1-4 (so-called Examples)

b-1) The sensory categories for which Present Inventions 1-4 were evaluated highly were "natural sweetness of tomato", "natural acidity of tomato", "change in taste over time", "change in fragrance over time" and "change in color over time"; and suppression of "the raw smell peculiar to tomato" is not evaluated (written demand for trial, line 13 from the bottom, page 47 to line 16, page 48).

b-2) There are no experimental support for the effect of the combinations of physical properties other than the combinations of physical properties of Present Inventions 1-4, among the combinations of physical properties described in claims 1-12 of the Patent (written demand for trial, line 17-24, page 48).

b-3) The Invention 1 is an invention characterized only by the numerical ranges of Brix and weight ratio of glutamic acid to the group of amino acids. Such an invention cannot be recognized as an invention whose problem can be solved by a person skilled in the art based on the statement of the detailed explanation of the invention, unless there is a concrete measurement result illustrating that there is a critical significance in such a numerical range (written demand for trial, line 25, page 48 to line 19, page 49).

c) Difficulty in recognizing the effect of the patent invention from statement and common general knowledge other than Present Inventions 1-4 (so-called Examples)

c-1) None of Present Inventions 1-4 have solved the problem of the Invention, "having a suppressed raw smell peculiar to tomato" (paragraph [0008]) (written demand for trial, line 3 from the bottom, page 49 to line 4, page 50).

c-2) It is unknown whether values other than around 9.5 (the values of Present Inventions 1-4), the Brix level of Present Inventions 1-4, have the desired effect, "natural sweetness and 'koku' taste of tomato" (written demand for trial, line 5, page 50 to line 3, page 51).

c-3) It is unknown whether values other than around 0.45, the weight ratio of Present Inventions 1-4, have the desired effect, "natural taste and 'koku' taste of tomato" (written demand for trial, lines 4-19, page 51).

c-4) Definition of "the 'koku' taste" is not determined in the art and a person skilled in

the art cannot recognize that the desired effect, 'umami,' can be achieved by the combination of Brix and weight ratio of glutamic acid to the group of amino acids only, without the proof of sensory evaluation (written demand for trial, line 20 to the last line, page 51).

c-5) It is apparent that parameters change complexly by factors such as the choice of raw materials and this, in turn, has an influence on the vague problem, "natural tastes of tomato." However, the choice and the blending ratio of raw materials and the manufacturing process are not disclosed in the scope of claims, or even in the description of the Patent (written demand for trial, lines 1-11, page 52).

(B) Comparison between range of weight ratio of glutamic acid to group of amino acids and amount of citric acid

a) Comparison between statement of the scope of claims and Present Inventions 1-4

a-1) "Easiness of filling" is not defined in the description of the Patent, and what is the base of the evaluation, "increasing easiness of filling" ([0066]) is unclear. Moreover, it is common general knowledge in the patent application of the Patent that methods of filling into a container vary depending on the type of the container. Also, the nature of a container (for example, whether it is transparent or not, whether it breathes or not, etc.) is not unrelated to the influence on "color."

It is not supported experimentally that the combination of the physical properties, "amount of citric acid" and "weight ratio of glutamic acid to the group of amino acids" of Present Inventions 1 or 2 has a positive effect on "easiness of filling" (written demand for trial, line 7, page 53 to line 6, page 57).

a-2) It is common general knowledge as of the filing of the Patent that the higher pH enhances the browning and that the higher content of reducing sugar (glucose, fructose, etc.) enhances the browning and this phenomenon occurs similarly also in a low pH region. However, in comparison between Present Invention 2 and Comparative Products 6 and 7, Present Invention 2 is relatively superior in "color," while its sugar content and pH are relatively high.

It is not supported experimentally that any of the combinations of physical properties other than the combinations of physical property of Present Inventions 3 and 4 among the combinations of physical properties described in Claim 2 of the Patent has the effect, "increasing easiness of filling and suppressing color change" (written demand for trial, line 7, page 57 to the last line, page 58).

b) Difficulty in recognizing effect of the patent invention from statement other than Present Inventions 3 and 4 and common general knowledge

The Description of the Patent states, in Paragraph [0066], that "for increasing easiness of filling and suppressing color change," "it is important to design products considering both of the numerical ranges of ratio of amount of glutamic acid (glutamic acid/amino acids) and amount of citric acid." The value of "Brix" is not important for "increasing easiness of filling and suppressing color change."

Even if "amount of citric acid" and "weight ratio of glutamic acid to the group of amino acids" are within the ranges described in Claim 2 of the Patent (Comparative examples 3-7), the effect, "increasing easiness of filling and suppressing color change" is not obtained. Accordingly, even if "amount of citric acid" and "weight ratio of glutamic acid to the group of amino acids" are within the ranges described in Claim 2 of

the Patent, the desired effect, "increasing easiness of filling and suppressing color change" may not be obtained (written demand for trial, lines 1-20, page 59).

(2) Judgment

First, the violation of formal requirements for support that the demandant asserts was dissolved by the correction to "Brix to 9.46-9.56," which satisfies "Brix is 7.3 or more," the lower limit of Brix stated in the description of the Patent.

Next, whether or not the patent invention 12 is beyond the scope stated in the detailed explanation of the invention as to enable a person skilled in the art to recognize that the patent invention 12 can solve the problem relating to "having a suppressed raw smell peculiar to tomato and maintaining original tastes of tomato" is examined, since "having a suppressed raw smell peculiar to tomato and maintaining original tastes of tomato" is understood to be the problem that is a prerequisite of the patent invention 12 as stated in "(2) Judgment" in the Reason for Invalidation 1.

Therefore, examination on "having a suppressed raw smell peculiar to tomato" is made. Present Inventions 1-4 and Comparative Products 1-7 in Examples of the Patent are not evaluated for "having a suppressed raw smell peculiar to tomato" in the detailed explanation of the invention.

Accordingly, a person skilled in the art cannot recognize the patent invention 12 as "having a suppressed raw smell peculiar to tomato" from the statement of the detailed explanation of the invention of the Patent.

Also, as stated in "(2) Judgment" in the Reason for Invalidation 1, having "natural sweetness of tomato" and "natural acidity of tomato" is necessary for "maintaining original tastes of tomato," but the meaning of "natural" in the description of the Patent is unclear and therefore a person skilled in the art cannot evaluate for maintaining "original tastes of tomato."

Accordingly, a person skilled in the art cannot recognize that the patent invention 12 can solve the problem relating to "having a suppressed raw smell peculiar to tomato and maintaining original tastes of tomato" from the statement of the detailed explanation of the invention of the Patent.

Furthermore, whether or not the patent invention 12 is beyond the scope stated in the detailed explanation of the invention as to enable a person skilled in the art to recognize that the problem relating to "suppressing color degradation of a packaged tomato-containing beverage over time" can be solved is examined.

The description of the Patent states, in Paragraph [0006], "When tomato-containing beverages are filled into transparent containers such as PET containers, the color of contents can be directly seen by consumers, unlike the case of paper containers, and therefore it was a problem that there is a difficulty in maintaining the color of content tomato juice." Therefore, the aforementioned problem is recognized as a problem mainly in the cases where transparent containers such as PET containers were used. Products relating to PET containers stated in the detailed explanation of the invention of the Patent are Present Invention 1 and Comparative Products 4 and 5. However, Comparative Products 4 and 5 are not evaluated for "change in color over time."

Then, no data comparing Present Invention 1, which uses a PET container, and

another tomato-containing beverage using a PET container are exhibited in the detailed explanation of the invention of the Patent.

Also, "change in color over time" of a packaged tomato-containing beverage is not unrelated to the nature of container (for example, whether it is transparent or not, whether it breathes or not, etc.).

It is common general knowledge that higher pH enhances the browning and that higher content of reducing sugar (glucose, fructose, etc.) enhances the browning (see the described matter (7a) and (8a)). However, in comparison between Present Invention 2 and Comparative Products 6 and 7, Present Invention 2 is relatively superior in "change in color over time," while its sugar content and pH are relatively high (Paragraph [0065], Table 3). Thus, the test results are unpredictable for a person skilled in the art, and therefore the causal relationship or the mechanism of action of the matters specifying the invention relating to the patent invention 12 and "suppressing change in color degradation of a packaged tomato-containing beverage over time" are unclear for a person skilled in the art. Therefore, it is found to be necessary for recognizing that the aforementioned problem can be solved, to evaluate products for "change in color over time" every time when the type of container or what is to be adjusted in the raw materials varies confirm an effect.

Thus, even Present Invention 1, which uses a PET container, is evaluated in the evaluation for "change in color over time" as "4," the same as Present Invention 2, which uses a can container and whose effect has been confirmed in comparison with comparative products, and Present Inventions 3 and 4, which use paper containers (Paragraph [0065], Table 3). It cannot be considered to be recognizable for a person skilled in the art that the evaluation indicates that "change in color over time" was suppressed by ingredients and physical properties of Present Invention 1 being adjusted to the range defined in the patent invention 12, and it cannot be recognize that a thing was illustrated immediately.

In the detailed explanation of the invention of the Patent, Present Inventions 1-4 are evaluated for "change in color over time," but they are all tomato-containing beverages obtained using only tomato as raw materials under specific manufacturing conditions and it is not stated that "change in color over time" was suppressed in any of tomato-containing beverages other than Present Inventions 1-4; for example, those containing juice of a vegetable or fruit other than tomato. Furthermore, no data comparing with a commercially available conventional tomato-containing beverage for "change in color over time" are exhibited in the detailed explanation of the invention of the Patent.

Thus, 4 Examples in the detailed explanation of the invention of the Patent cannot be expanded or generalized to the patent invention 12 in which there is no specification on the type of container and raw materials, and therefore the patent invention 12 is beyond the scope stated in the detailed explanation of the invention so as to enable a person skilled in the art to recognize that the problem can be solved.

(3) Summary

Thus, the patent invention 12 of the Patent is not stated in the detailed explanation of the invention and does not comply with the requirements as provided in Article 36(6)(i) of the Patent Act. Therefore, the Patent falls under Article 123(1)(iv) of the Act and the patent relating to the patent invention 12 should be invalidated by

Reason for Invalidation 2.

7-3. Reasons for invalidation 3, 6, and 7 (lack of novelty of invention due to public use, lack of inventive step)

7-3-1. Public use

(1) Products 1 and 2 ("SWEET RUBY") Product 1 is marked "11. 2. 10" according to Evidence A No. 9, which indicates that the expiration date is February 10, 2011, and were produced on May 17, 2010 according to the blending check table of Evidence A No. 10.

The SWEET RUBY (produced by Kagome Co., Ltd.) made on May 17 in 2010 is, judging from the production date, "<Kagome> Sweet Ruby" exhibited in the catalogue of "2010 ISETAN gift ISETAN summer gift" of Evidence A No. 11. According to Evidence A No. 11, orders by Internet, mail, or FAX were accepted and orders for sale were made from June 16, 2010 to July 19, 2010 at the gift center of Isetan Shinjuku store Main Building 6F, etc. Therefore, orders for sale were made on June 16, 2010 at the latest. Furthermore, such Product 1 can be served for drinking until the expiration date and therefore is recognized to have been publicly transferred or ordered for transfer or the like since the start of order for sale on June 16, 2010 until the expiration date on February 10, 2011.

Thus, Product 1 is recognized to have been publicly transferred, ordered for transfer or the like; that is, publicly worked prior to the filing of the patent application of the Patent.

Product 2 is marked "12. 2. 9" according to Evidence A No. 12, which indicates that the expiration date is February 9, 2012, and was produced on May 16, 2011 according to the blending check table of Evidence A No. 13.

The SWEET RUBY (produced by Kagome Co., Ltd.) made on May 16 in 2011 is, judging from the production date, "<Kagome> Sweet Ruby" exhibited in the catalogue of "2011 ISETAN gift ISETAN summer gift" of Evidence A No. 14. According to Evidence A No. 14, orders by Internet were accepted and orders for sale were made from June 15, 2011 to July 18, 2011 at the gift center of Isetan Shinjuku store Main Building 6F, etc. Therefore, orders for sale were made on June 15, 2011 at the latest. Furthermore, such Product 2 can be served for drinking until the expiration date and therefore is recognized to have been publicly transferred, ordered for transfer or the like since the start of order for sale on June 15, 2011 until the expiration date on February 9, 2012.

Thus, Product 2 is recognized to have been publicly transferred, ordered for transfer or the like; that is, publicly worked, prior to the filing of the patent application of the Patent.

(2) Products 3 and 4 ("Natsushibori 2010, 2011")

Product 3 has the indication "2012 8.21 B00821 V00" at the bottom of can according to Evidence A No. 15, which indicates that the expiration date is August 21, 2012, and the production date of Product 3 is August 21, 2010 since the shelf life of Product 3 is 2 years according to Evidence A No. 16.

According to Evidence A No. 17, orders for sale of "Natsushibori 2010" relating to Product 3 started on August 26, 2010 at the latest. The shipment of

"Natsushibori 2010" started in the middle of September in the same year according to the orders. Based on the foregoing, such Product 3 circulated from the middle of September, 2010 to August 21, 2012.

Thus, Product 3 is recognized to have been publicly transferred, ordered for transfer or the like; that is, publicly worked prior to the filing of the patent application of the Patent.

Product 4 has the indication "2013 8. 25 B10825 001" at the bottom of the can according to Evidence A No. 18, which indicates that the expiration date is August 25, 2013 and the production date of Product 4 is August 25, 2011, since the shelf life of Product 4 is 2 years according to Evidence A No. 19.

According to Evidence A No. 20, orders for sale of "Natsushibori 2011" relating to Product 4 started on September 12, 2011 at the latest. The shipment of "Natsushibori 2011" started in the middle of September in the same year according to the orders. Based on the foregoing, such Product 4 circulated from the middle of September, 2011 to August 25, 2013.

Thus, Product 4 is recognized to have been publicly transferred, ordered for transfer or the like; that is, publicly worked, prior to the filing of the patent application of the Patent.

(3) Product 5 ("Yasai Ichinichi Koreippon")

Product 5 has the indication "2012. 12. 24 B01224 N23" at the bottom of the can according to Evidence A No. 21, which indicates that the expiration date is December 24, 2012 and the production date of Product 5 is December 24, 2010, since the shelf life of Product 5 is 2 years according to Evidence A No. 22.

According to Evidence A No. 22, the first shipment of the "Yasai Ichinichi Koreippon" series including Product 5 was in the middle of October, 2008. It is recognized that the series has been sold continuously thereafter. Based on the foregoing, such Product 5 circulated from about December, 2010 to December 24, 2012.

Thus, Product 5 is recognized to have been publicly transferred, ordered for transfer or the like; that is, publicly worked, prior to the filing of the patent application of the Patent.

(4) Product 6 ("Celeb de TOMATO tomato juice Aiko (large)")

It is recognized that orders for sale of Product 6 started on September 15, 2010 at the latest, according to Evidence A No. 44.

Moreover, Evidence A No. 45 states physical and chemical analysis data of "celeb de TOMATO" (no food added). It is recognized that "celeb de TOMATO (no food added)" used for physical and chemical analysis in Evidence A No. 45 was one of a total of 11 bottles of "Celeb de TOMATO tomato juice Aiko (large)": 4 bottles purchased on August 25, 2010 and 7 bottles purchased on August 29 in the same year by an employee of Kagome Co., Ltd., from Celeb de TOMATO Online shop of Brand Japan Co., LTD and corresponds to Product 6, according to Evidence A Nos. 53-55.

Thus, Product 6 is recognized to have been publicly transferred; that is, publicly worked, prior to the filing of the patent application of the Patent.

The demandee asserts, in the written reply dated July 23, 2015, "Since Product

6 is not identified at all, it should be considered to be unclear that Evidence A No. 45 is a documentary evidence about Product 6" (lines 3-1 from the bottom, page 5). However, in comprehensive consideration of Evidence A No. 44, Evidence A No. 45, and Evidence A Nos. 53-56, it is apparent that Product 6 is one of a total of 11 bottles of "Celeb de TOMATO tomato juice Aiko (large)": 4 bottles purchased on August 25, 2010 and 7 bottles purchased on August 29 in the same year by an employee of Kagome Co., Ltd., from Celeb de TOMATO Online shop of Brand Japan Co., LTD among those circulated as "Celeb de TOMATO tomato juice Aiko (large)", prior to the filing of the patent application of the Patent.

7-3-2. Publicly worked invention

(1) Products 1-5

The measurements of Product 1 for ingredients and physical properties in Evidence A No. 23 are not those carried out at the time of production or sale. However, changes over time in the storage conditions were slight, since products were stored at low temperature (Evidence A No. 28); the sugar contents at the time of creation of the analysis report are not greatly different from the values at the time of the production (Evidence A No. 10); and judging from the test results of Evidence A No. 29, weight ratio of glutamic acid to the group of amino acids, viscosity, amount of citric acid, and pH are recognized to change only slightly over time and those of products 2-5 are recognized to be similar; and therefore comparing or judging the patent inventions with the measurements of Products 1-5 in Evidence A Nos. 23-27 is appropriate.

Products 1 and 2 are tomato puree filled in PET bottles and their raw material name is indicated to be tomato (see the described matters (9a) and (12a)).

Products 3 and 4 are canned tomato juices and their raw material name is indicated to be tomato (see, the described matters (15a) and (18a)).

Product 5 is a canned mixed vegetable concentrated juice and its raw materials names are indicated to be vegetables (tomato, carrot, red pepper, brussels sprouts (petit vert), kale, spinach, ginger, broccoli, lettuce, celery, cabbage, watercress, parsley, pumpkin, asparagus, onion, molokheiya, beet, Japanese radish, komatsuna (*Brassica campestris* var. *perviridis*), purple potato, ashitaba (*Angelica keiskei*), Chinese cabbage, eggplant, burdock), lemon fruit juice (see the described matter (21a)).

As to the amounts of citric acid in Evidence A Nos. 23-27, the unit g/100 g is converted into mg/100 mL by assuming the specific gravity of tomato juice, etc. as 1.03 (see Evidence A No. 34).

As to the viscosity, the viscosity at 20°C, which is the same as measurements of viscosity of general liquid foods (Evidence A No. 38, line 18, right column, page 84) as the demandee's claim (Oral proceedings statement brief, lines 3-5, page 8).

(2) Product 6

The physical and chemical analysis of Product 6 relating to Evidence A No. 45 is conducted within 2 months after the purchase of Product 6 on August 29, 2010 at the latest, according to Evidence A Nos. 53-56. The test result of Evidence A No. 29 is for a product different from Product 6, but illustrates the change over time of each ingredient. Judging from the test result of Evidence A No. 29, weight ratio of glutamic acid to the group of amino acids, viscosity, amount of citric acid, and pH hardly change over time. Therefore, comparing or judging the patent inventions with the

measurements of Product 6 in Evidence A No. 45 is appropriate.

Product 6 is a bottled tomato juice and its raw materials are indicated to be mini-tomatoes from Nayoro, Hokkaido (see the described matter (44a)).

"RI" in Evidence A No. 45 is recognized to indicate "sugar content."

(3) Levels of ingredients and physical properties of Products 1-6

Judging from the statement of Evidence A Nos. 23-27 and Evidence A No. 45, Products 1-6 are recognized to respectively have levels of ingredients and physical properties of "Table A" below.

Table A

成分及び物性	製品1 SWEET RUBY	製品2 SWEET RUBY	製品3 夏しぼり	製品4 夏しぼり	製品5 これ一本	製品6 あいこ
Brix	11.0	11.0	6.1	6.1	10.0	9.4
アミノ酸群に対するグルタミン酸の重量比率	0.502	0.515	0.568	0.619	0.427	0.645
pH	4.3	4.3	4.2	4.3	4.2	4.42
クエン酸量(mg/100mL)	536	567	546	515	567	371
粘度(cP)(20°)	260	210	210	240	310	-

成分及び物性 Ingredients and physical properties

製品 1 Product 1

製品 2 Product 2

製品 3 夏しぼり Product 3 Natsushibori

製品 4 夏しぼり Product 4 Natsushibori

製品 5 これ一本 Product 5 Koreippon

製品 6 あいこ Product 6 Aiko

アミノ酸群に対するグルタミン酸の重量比率 Weight ratio of glutamic acid to the group of amino acids

クエン酸量 Amount of citric acid

粘度 Viscosity

Note) Group of amino acids: aspartic acid, glutamic acid, asparagine, serine, glutamine, arginine, alanine

"- ": not determined

(4) Publicly worked invention

In comprehensive consideration of the foregoing, "Product 1" to "Product 6" are recognized to comprise the following matters. Inventions specified by these matters are hereinafter referred to as "Publicly worked invention 1" to "Publicly worked invention 6," respectively.

Product 1, "PET bottle-filled tomato puree having levels of ingredients and physical properties of Product 1 in Table A"

Product 2, "PET bottle-filled tomato puree having levels of ingredients and physical properties of Product 2 in Table A"

Product 3, "canned tomato juice having levels of ingredients and physical properties of Product 3 in Table A"

Product 4, "canned tomato juice having levels of ingredients and physical properties of Product 4 in Table A"

Product 5, "canned mixed vegetable concentrated juice having levels of ingredients and physical properties of Product 5 in Table A"

Product 6, "bottled tomato juice having levels of ingredients and physical properties of Product 6 in Table A"

7-3-3. Comparison and Judgment of the patent invention 12

(1) Comparison

Judging from the raw materials and the forms of the products, it is apparent that Publicly worked inventions 1-6 are "packaged tomato-containing beverages."

The weight ratio of glutamic acid to the group of amino acids in Publicly worked invention 6 is "0.427." Considering the number of significant figures of the patent invention 12, it can be expressed as "0.43" and satisfies "0.43-0.47" according to the patent invention 12.

In comparison of the patent invention 12 and Publicly worked inventions 1-6, they are different in that, while the patent invention 12 is "a method for suppressing color deterioration of the packaged tomato-containing beverage over time," Publicly worked inventions 1-6 are "packaged tomato-containing beverages."

Among these levels of ingredients and physical properties, matched and unmatched levels are indicated below. "○" indicates being matched and "×" indicates being unmatched.

本件特許発明12	公用発明1 SWEET RUBY	公用発明2 SWEET RUBY	公用発明3 夏しばり	公用発明4 夏しばり	公用発明5 これ一本	公用発明6 あいこ
Brixが9.46~9.56であり、且つ	×11.0	×11.0	×6.1	×6.1	×10.0	×9.4
アミノ酸群に対するグルタミン酸の重量比率が0.43~0.47であり、	×0.502	×0.515	×0.568	×0.619	○0.427	×0.645
クエン酸量が800~900mg/100mLであり、	×536	×567	×546	×515	×567	×371
粘度が436~494cPであり、	×260	×210	×210	×240	×310	×
pHが4.44~4.48である	×4.3	×4.3	×4.2	×4.3	×4.2	×4.42

本件特許発明 1 2 Patent invention 12

公用発明 1 Publicly worked invention 1

公用発明 2 Publicly worked invention 2

公用発明 3 夏しばり Publicly worked invention 3 Natsushibori

公用発明 4 夏しばり Publicly worked invention 4 Natsushibori

公用発明 5 これ一本 Publicly worked invention 5 Koreippon

公用発明 6 あいこ Publicly worked invention 6 Aiko

B r i x が 9 . 4 6 ~ 9 . 5 6 であり、且つ Brix is 9.46-9.56, and
アミノ酸群に対するグルタミン酸の重量比率が 0 . 4 3 ~ 0 . 4 7 であり、

Weight ratio of glutamic acid to the group of amino acids is 0.43-0.47,
クエン酸量が 8 0 0 ~ 9 0 0 m g / 1 0 0 m L であり、 Amount of citric
acid is 800-900 mg/100 mL,

粘度が 4 3 6 ~ 4 9 4 c P であり、 Viscosity is 436-494cP,

pHが4.44~4.48である pH is 4.44-4.48

Here, the group of amino acids consists of aspartic acid, glutamic acid, asparagine, serine, glutamine, arginine, and alanine.

(2) Judgment

Even if it is not a substantial difference that while the patent invention 12 is "a method for suppressing color deterioration of the packaged tomato-containing beverage over time," Publicly worked inventions 1-6 are "packaged tomato-containing beverages," and Publicly worked inventions 1-6 are different from the patent invention 12 in the levels of ingredients and physical properties except the weight ratio of glutamic acid to the group of amino acids in Publicly worked invention 5.

Thus, it cannot be said that the patent invention 12 is one of Publicly worked inventions 1-6.

Even if a person skilled in the art coming into contact with commercially available Products 1-6 could recognize Publicly worked inventions 1-6 by measuring their ingredients and physical properties for study, etc., there is no cause or motivation to pay attention to the aforementioned differing levels of ingredients and physical properties and to change them to those within the numerical range according to the patent invention 12 and therefore it cannot be said that the patent invention 12 is an invention that could be easily conceived based on Publicly worked inventions 1-6.

7-3-4. Summary

It cannot be said that the patent invention 12 is one of Publicly worked inventions 1-6 or that the patent invention 12 can be invented based on Publicly worked inventions 1-6. Therefore, the Patent cannot be invalidated by Reasons for invalidation 3, 6, and 7.

7-4. Reason for invalidation 4 (lack of novelty of invention due to description in publication)

(1) Invention stated in Evidence A No. 31

In consideration of Table 3 in the described matter (31i) while paying attention to Example 4 (Present Invention 4), in particular, in the described matters (31f) to (31i), it is recognized that the following invention (hereinafter, referred to as "A31 invention") is stated in Evidence A No. 31.

"An enzyme-treated tomato separate liquid made from a commercially available raw tomato (Momotaro T-93 produced in Niigata) and treated with esterase and cellulase, wherein the tomato separate liquid has pH of 4.39 and a refractometric sugar content (Bx) of 8.98° and comprises the following amino acids (mg/100 g):

Aspartic acid: 49.2

Glutamic acid: 289.6

Asparagine: 25.6

Serine: 12.3

Glutamine: 115.2

Arginine: 4.2

Alanine: 11.9"

The demandant has recognized a cited invention comprising the numerical ranges of the sugar content, pH, and the weight ratio of glutamic acid to the group of amino acids that Present Inventions 1-4 and Comparative Products 1-3 in Examples and Comparative examples have, from Evidence A No. 31, Cited Invention is authorized (written demand for trial page 69). Even if an invention of "tomato separate liquid" having the numerical values of sugar content, pH, and amounts of the amino acids for each of Present Inventions 1-4 and Comparative Products 1-3 could be recognized from Evidence A No. 31, Evidence A No. 31 does not disclose the technical idea of adjusting sugar content, pH, and weight ratio of glutamic acid to the group of amino acids within certain numerical ranges and therefore such a cited Invention as described above could not be recognized.

(2) Comparison and judgment with the patent invention 12 and A31 invention

In comparison with the patent invention 12 and A31 invention,

it is apparent that the "enzyme-treated tomato separate liquid" according to the A31 invention is filled into a container after production and it is also apparent that the "enzyme-treated tomato separate liquid" is a beverage judging from the description of the sensory evaluation by panelists in the described matter (31h), in which the tomato separate liquid itself is evaluated for tastes and therefore the "enzyme-treated tomato separate liquid" corresponds to "a packaged tomato-containing beverage" according to the patent invention 12.

In the A31 invention, the weight ratio of glutamic acid to the amino acids consisting of aspartic acid, glutamic acid, asparagine, serine, glutamine, arginine, and alanine, calculated from respective amino acid levels:

$(289.6 / (49.2 + 289.6 + 25.6 + 12.3 + 115.2 + 4.2 + 11.9))$

is "0.57" and the amount of citric acid and the viscosity thereof are not specified.

Even if it is not a substantial difference that while the patent invention 12 is "a method for suppressing color deterioration of the packaged tomato-containing beverage over time," the A31 invention is "an enzyme-treated tomato separate liquid," the A31 invention differs from the patent invention 12 in at least Brix, weight ratio of glutamic acid to the group of amino acids, and pH specified in the patent invention 12.

Thus, it cannot be said that the patent invention 12 is the A31 invention.

(3) Summary

Accordingly, it cannot be said that the patent invention 12 is the A31 invention and therefore the patent invention 12 cannot be invalidated by Reason for invalidation 4.

7-5. Reason for invalidation 5 (lack of inventive step)

As stated in "7-3." above, it cannot be said that the patent invention 12 is an invention that could be easily conceived based on one of Publicly worked inventions 1-5.

Also, there is no cause or motivation to pay attention to differing levels of ingredients and physical properties in the A31 invention, and to change or set them within the numerical range according to the patent invention 12, and thus it cannot be

said that the patent invention 12 is an invention that could be easily conceived based on the A31 invention.

Thus, the patent invention 12 cannot be invalidated by Reason for invalidation 5.

The demandant asserts, in the written refutation dated April 27, 2016, that the parameters in the corrected Claim 12 of the Patent are merely encompassed in general numerical ranges that tomato-containing beverages circulating at the time of filing of the patent application of the Patent have and selecting such numerical ranges is only a matter of designing belonging to the improvement of numerical ranges (pages 15 and 16). However, no evidence is exhibited that tomato-containing beverages satisfying all the numerical ranges of levels of ingredients and physical properties according to the patent invention 12 are common. As stated above, there is no cause or motivation to pay attention to differing levels of ingredients and physical properties in Publicly worked inventions 1 to 6 or the A31 invention, and to change or set them within the numerical ranges according to the patent invention 12, the demandee's allegation cannot be accepted.

7-6. Demand for trial of the case relating to Claims 1-11

As stated in "2." above, Correction of the case is approved and therefore the demand for trial of the case relating to Claims 1-11 has no subjects.

Accordingly, the demand for trial of the case relating to Claims 1-11 is illegal and cannot be amended and therefore should be dismissed in accordance with the provisions of Article 135 of the Patent Act.

8. Closing

As described above, the patent relating to the patent invention 12 should be invalidated by Reasons for Invalidation 1 and 2.

The demand for trial of the case relating to Claims 1-11 is dismissed.

The costs in connection with the trial shall be borne by the demandee in accordance with the provisions of Articles 61 and 62 of the Code of Civil Procedure which is applied mutatis mutandis in the provisions of Article 169(2) of the Patent Act.

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

August 19, 2016

Chief administrative judge: KIMOTO, Takashi
Administrative judge: TORII, Minoru
Administrative judge: YAMAZAKI, Katsushi