

Specification

Title

COMPOSITION FOR GUMMY JELLY AND PREPARATION METHOD OF GUMMY JELLY USING SAME

5 Technical Field

The present invention relates to a composition for a gummy jelly, and a method for preparing a gummy jelly using the same.

Background

Gummy jelly is a type of candy prepared by using gelatin or pectin as a gelling
10 agent in a sugar base. Most gummy jellies commercially available are manufactured based on a mixed concentrate of sugar and corn syrup, to which a gelling agent is essentially added, and flavorings, colorants, acidulants, or fruit juice concentrates are additionally added. A sugar base, such as a mixed concentrate of sugar and corn syrup, not only serves to impart sweetness to gummy jelly but also acts as a core raw material that provides
15 formability to the jelly as a bulking agent.

Recently, consumer awareness regarding simple sugar components such as sugar in food has been strengthening due to increasing interest in health, particularly in low-carbohydrate diets, diabetes, and the prevention of cavities in childhood. For this reason, many food companies are attempting to meet consumer needs by launching various
20 products, led by sugar-free options.

However, when jellies are manufactured by replacing sugar and corn syrup, which have been traditionally used in jellies, with sugar-free raw materials such as sugar alcohols, there are technical difficulties. Not only is it difficult to realize a quality (physical properties, texture, color, taste, etc.) equal to or higher than that of conventional jellies
25 using sugar, but it also fails to meet the criteria that phenomena such as browning, moisture absorption, recrystallization, and syneresis should not occur during production

and distribution processes.

Detailed Description of the Invention

Technical Problem

The present invention provides a composition for gummy jelly which has low
5 calories and low cariogenicity by not containing sugar and corn syrup, while having
excellent sweetness, texture, and sensory characteristics, and nutritional effects due to
the inclusion of Vitamin C and prebiotics, a method for preparing the same, and a gummy
jelly using the same.

In addition, the present invention provides a method for preparing gummy jelly
10 using the composition for gummy jelly.

Furthermore, the present invention provides a gummy jelly prepared by the
method for preparing gummy jelly.

Technical Solution

The inventors of the present invention have made intensive efforts to solve the
15 aforementioned conventional problems. As a result, it was confirmed that by using sugar
alcohols and oligosaccharides instead of sugar and/or starch syrup, it is possible to
prepare a gummy jelly composition and a gummy jelly using the same that not only
possess sensory characteristics equal to or superior to those of conventional jellies but
also prevent browning, recrystallization, and the reduction of nutrients such as Vitamin
20 C over time, while exhibiting a beneficial bacteria proliferation effect in the intestine by
including prebiotics, thereby completing the present invention.

Hereinafter, the present invention will be described in more detail.

25 The terms used in the present application are used only to describe specific
embodiments and are not intended to limit the present invention. In the present

application, when a part is said to "include/comprise" a certain component, this means that it does not exclude other components but may further include other components, unless specifically stated otherwise.

5 Since the composition for gummy jelly of the present invention becomes a jelly by only changing its appearance without changing its constituent components except for purified water, the content ratio of each constituent component in the composition for gummy jelly in the present invention is substantially the same as the content ratio of each corresponding constituent component of the gummy jelly.

Composition for gummy jelly

(1) The present invention provides a composition for gummy jelly comprising sugar alcohols, oligosaccharides, and a gelling agent.

10 (2) In (1), the sugar alcohols may be at least one selected from maltitol syrup, polyglycitol syrup, maltitol, sorbitol, maltotriitol, xylitol, reduced oligosaccharide, erythritol, and sugar alcohol having a degree of polymerization of 4 or more.

15 The maltitol syrup is a mixture including maltitol, sorbitol, reduced oligosaccharide, and the like, and may include 50.0 wt% or more of maltitol and 99.0 wt% or more of total hydrogenated saccharides, based on the weight converted to an anhydrous basis.

20 Specifically, the maltitol syrup may include 70 to 75 wt% of maltitol, 1 to 4 wt% of sorbitol, 16 to 20 wt% of maltotriitol, and 5 to 8 wt% of sugar alcohol having a degree of polymerization of 4 or more, based the weight converted to an anhydrous basis.

25 More specifically, the maltitol syrup may consist of 70 to 75 wt% of maltitol, 1 to 4 wt% of sorbitol, 16 to 20 wt% of maltotriitol, and 5 to 8 wt% of sugar alcohol having a degree of polymerization of 4 or more, the weight converted to an anhydrous basis. In one

embodiment of the composition for the gummy jelly of the present invention, the maltitol syrup may include 72 wt% of maltitol, 4 wt% of sorbitol, 22 wt% of reduced oligosaccharide, etc., based on the weight converted to an anhydrous basis.

The polyglycitol syrup may include 7 to 10 wt% of maltitol, 3 to 5 wt% of sorbitol, 10 to 15 wt% of maltotriitol, and 70 to 80 wt% of sugar alcohol having a degree of polymerization of 4 or more, based on the weight converted to an anhydrous basis.

(3) In (1) or (2), as an embodiment, the sugar alcohol in the composition for gummy jelly of the present invention may be maltitol syrup. When maltitol syrup is used as the sugar alcohol, it possesses a sweetness profile similar to sugar, yet has a low calorie content of 2.4 kcal/g, making it low-calorie and non-cariogenic (does not cause cavities). Furthermore, it enables the production of gummy jelly with excellent humectancy, non-browning properties, and thermal stability without the occurrence of recrystallization.

(4) In any one of (1) to (3), "sugar alcohols" are produced through a hydrogenation reaction under high temperature and high pressure using saccharides as a raw material, and may be used interchangeably with terms such as hydrogenated saccharides or polyols.

(5) In any one of (1) to (4), "oligosaccharides" may refer to those in which three or more monosaccharides are linked by glycosidic bonds. The oligosaccharides have a prebiotic effect and may be at least one selected from fructo-oligosaccharide (FOS), isomalto-oligosaccharide (IMO), isomalto-oligosaccharide powder, malto-oligosaccharide, and galacto-oligosaccharide (GOS), but are not limited thereto. In one embodiment, the oligosaccharide in the composition for gummy jelly of the present invention may be isomalto-oligosaccharide powder or isomalto-oligosaccharide, and specifically, may be isomalto-oligosaccharide powder. The isomalto-oligosaccharide may be a saccharide having a degree of polymerization (DP) of 3 or more, including isomaltose, panose, isomaltotriose, isomaltotetraose, isomaltopentaose, isomaltohexaose, isomaltoheptaose, isomaltodecaose, nigerose, kojibiose, and the like.

The isomalto-oligosaccharide powder is an anhydrous form and may comprise 14 wt% or more of isomalto-oligosaccharide, including 2 to 6 parts by weight of isomaltose, 5 to 10 parts by weight of panose, 0 to 2 parts by weight of isomaltotriose, and 2 to 6 parts by weight of isomaltotetraose. In one embodiment, the isomalto-oligosaccharide powder of the composition for gummy jelly of the present invention is an anhydrous form comprising 14 wt% or more of isomalto-oligosaccharide, and the composition may include 2 to 6 parts by weight of isomaltose, 5 to 10 parts by weight of panose, 0 to 2 parts by weight of isomaltotriose, and 2 to 6 parts by weight of isomaltotetraose. When isomalto-oligosaccharide or a powder thereof is used as the oligosaccharide, heat resistance, acid resistance, and mild sweetness can be increased, and a gummy jelly capable of selective proliferation of *Bifidobacterium*, a physiologically beneficial bacterium, can be produced. In addition, a gummy jelly with excellent nutrition and quality can be produced due to the low rates of browning and Vitamin C content reduction.

(6) In any one of (1) to (5), the composition for gummy jelly of the present invention may comprise 65 to 90 wt%, specifically 70 to 85 wt%, of sugar alcohols and oligosaccharides based on 100 wt% of the composition. As an embodiment, it may comprise 80 wt% of sugar alcohols and oligosaccharides based on 100 wt% of the composition for gummy jelly. When the contents of sugar alcohols and oligosaccharides are within the above range, there is no need to increase the process temperature or extend the process time to improve the solubility reduction phenomenon, and the occurrence of recrystallization and diarrhea-inducing issues can be prevented.

Furthermore, if the content of sugar alcohols and oligosaccharides is less than 65 wt%, there may be a problem where the jelly becomes too hard due to a relatively high proportion of the gelling agent. If it exceeds 90 wt%, the relative proportion of the gelling agent decreases, which may lead to weakened physical properties and structural integrity of the jelly.

(7) In any one of (1) to (6), in the composition for gummy jelly of the present invention, 40 to 75 parts by weight of the sugar alcohols and 25 to 60 parts by weight of the oligosaccharides may be included based on 100 parts by weight of the sugar alcohols and oligosaccharides.

5 Also, as an embodiment, in the composition for gummy jelly of the present invention, 60 wt% of the sugar alcohols and 40 wt% of the oligosaccharides, or 40 wt% of the sugar alcohols and 60 wt% of the oligosaccharides may be included based on 100 wt% of the total of the sugar alcohols and oligosaccharides. Here, the sugar alcohols and oligosaccharides may be the maltitol syrup and isomalto-oligosaccharide powder
10 mentioned in (1) to (6), respectively.

In addition, when the composition for gummy jelly of the present application comprises the sugar alcohols and oligosaccharides in the aforementioned parts by weight or wt%, respectively, it is possible to not only prevent the browning phenomenon and the rapid decrease in Vitamin C content of the jelly but also prevent the induction of diarrhea
15 caused by an excessive content of sugar alcohols.

(8) In any one of (1) to (7), the gelling agent included in the composition of the present invention may serve to adjust viscosity and may be at least one selected from gelatin, pectin, carrageenan, and agar. In one embodiment, the gelling agent may be gelatin. When gelatin is used as the gelling agent, the formulation property, as well as the
20 properties and appearance of the jelly, may be superior, and the texture is firm and chewy, thereby exhibiting an excellent effect on the mouthfeel of the jelly.

(9) In any one of (1) to (8), the gelling agent may be included in an amount of 3 to 35 wt%, specifically 10 to 35 wt%, based on 100 wt% of the composition for gummy jelly of the present invention. As an embodiment, the gelling agent may be included in an
25 amount of 7 wt% based on 100 wt% of the composition for gummy jelly of the present invention. If the content of the gelling agent is less than 3 wt%, there may be problems

such as weakened gel physical properties and difficulty in maintaining the appearance. If it exceeds 35 wt%, there may be a problem where the jelly becomes too hard and difficult to chew.

(10) In any one of (1) to (9), as an embodiment, the composition for gummy jelly of the present invention may comprise 80 wt% of the sugar alcohols and oligosaccharides and 7 wt% of the gelling agent based on 100 wt% of the composition. Here, the sugar alcohols and oligosaccharides may be the maltitol syrup and isomalto-oligosaccharide powder mentioned in (1) to (6), respectively, and the gelling agent may be gelatin.

(11) In any one of (1) to (10), the composition for gummy jelly of the present invention is a composition that does not contain sugar and starch syrup, and may further comprise at least one selected from a sweetener, an acidulant, a flavoring agent, and purified water.

The sweetener may be at least one selected from enzymatically modified stevia, enzymatically modified rutin, sucralose, and aspartame, but is not limited thereto. As an embodiment of the present invention, the sweetener may be enzymatically modified stevia. In one embodiment, these sweeteners may be included in an amount of 0.4 wt% based on 100 wt% of the composition for gummy jelly, but are not limited thereto.

The acidulant may be at least one selected from citric acid, anhydrous citric acid, tartaric acid, lactic acid, fumaric acid, and succinic acid, but is not limited thereto. As an embodiment of the present invention, the acidulant may be anhydrous citric acid. In one embodiment, these acidulants may be included in an amount of 1.3 wt% based on 100 wt% of the composition for gummy jelly, but are not limited thereto.

The flavoring agent may be at least one selected from food-grade flavoring agents such as fruit scents (e.g., strawberry scent), floral scents, mint scents, vanilla scents, cream scents, chocolate scents, and caramel scents, but is not limited thereto. In one embodiment, these flavoring agents may be included in an amount of 2 wt% based on 100

wt% of the composition for gummy jelly, but are not limited thereto.

(12) In any one of (1) to (11), as an embodiment, the composition for gummy jelly of the present invention may comprise, based on 100 parts by weight of the composition:

a) 65 to 90 parts by weight of sugar alcohols and oligosaccharides; b) 5 to 10 parts by weight of a gelling agent; c) 0.01 to 3.0 parts by weight of a sweetener; d) 0.5 to 2.0 parts by weight of an acidulant; e) 0.2 to 3 parts by weight of a flavoring agent; and f) 0.5 to 20.0 parts by weight of purified water.

(13) In any one of (1) to (12), the composition for gummy jelly of the present invention may further comprise, in addition to the aforementioned components, at least

one other additive selected from zinc gluconate, zinc oxide, vitamins A, B12, C, D, E, sodium ascorbate, vitamin B6 hydrochloride, vitamin K1 mixed preparation, sodium selenite, manganese sulfate, nicotinate amide, biotin, folic acid and lactulose powder, chromogen, strawberry concentrate, cranberry concentrate powder, black elderberry powder, grape seed extract, broccoli powder, and tomato powder. The vitamins may be included in the form of a mixed preparation powder. These other additives may be included in an amount of 0.1 to 5 wt% based on 100 wt% of the composition for gummy jelly, and in one embodiment, may be included in an amount of 4.1 wt%, but are not limited thereto.

(14) In any one of (1) to (13), as an embodiment, the composition for the gummy jelly of the present invention may comprise: a) 80 wt% of sugar alcohols and oligosaccharides; b) 7 wt% of a gelling agent; c) 4.1 wt% of other additives; d) 0.4 wt% of a sweetener; e) 1.3 wt% of an acidulant; f) 2 wt% of a flavoring agent; and g) 4.6 wt% of purified water, based on 100 wt% of the composition.

Method for preparing a composition for gummy jelly and method for preparing gummy jelly

(1) The present invention provides a method for preparing a composition for gummy jelly, the method including:

(a) mixing and dissolving sugar alcohols and oligosaccharides; and

(b) adding a gelling agent to the resultant of step (a) and mixing.

5 (2) The present invention provides a method for preparing gummy jelly, the method comprising:

(a) mixing and dissolving sugar alcohols and oligosaccharides;

(b) adding a gelling agent to the resultant of step (a) and mixing; and

(c) solidifying the resultant of step (b).

10 (3) (3) In the method for preparing a composition for gummy jelly or the method for preparing gummy jelly of (1) or (2), the dissolving in step (a) may be performed at 60 to 100°C, specifically 60 to 80°C, for 20 to 30 minutes. More specifically, after mixing the sugar alcohols and oligosaccharides, the mixture may be heated at 80 to 100°C for 20 to 30 minutes to be completely dissolved, thereby obtaining a resultant adjusted to have a
15 final Brix of 78 to 80. When the temperature is within the above range, destruction of Vitamin C or nutritional components can be prevented, and the occurrence of recrystallization and browning phenomena can be avoided. In addition, since the processing time is short and a vacuum concentration device is not required, a process cost reduction effect can be provided.

20 (4) In any one of the method for preparing a composition for gummy jelly or the method for preparing gummy jelly of (1) to (3), the gelling agent in step (b) may be one hydrated using purified water. Further, it may be one heated to 50 to 70°C, specifically 60 to 70°C, and more specifically 60°C.

(5) In the method for preparing a composition for gummy jelly of any one of (1),
25 (3), and (4), the method may further comprise a step of adding and mixing at least one selected from a sweetener, an acidulant, a flavoring agent, and other additives to the

resultant of step (b).

(6) In the method for preparing gummy jelly of any one of (2) to (4), the solidifying in step (c) may be aging for 24 to 48 hours after depositing the resultant of step (b) into a starch mold.

5 (7) In any one of (2) to (4) and (6), the method for preparing gummy jelly of the present invention may further comprise a step of applying a release agent to the resultant of step (c).

The release agent may be a coating oil, a demolding oil, or an oblate powder, but is not limited thereto. Here, the release agent may be 0.1 parts by weight of the demolding
10 oil and 0.5 parts by weight of the oblate powder, but is not limited thereto (the parts by weight of the demolding oil and the oblate powder are based on 80 parts by weight of the sugar composition). Generally, hygroscopicity in jelly affects the deterioration of product quality, and the use of a release agent can reduce hygroscopicity in jelly production.

(8) The present invention provides a gummy jelly prepared by the method for
15 preparing gummy jelly of any one of (2) to (4), (6), and (7), wherein the gummy jelly does not contain sugar and starch syrup.

Matters mentioned in each of the items of the present invention, that is, the composition, the preparation method, or the jelly may be applied the same, if not
20 contradictory to each other. Besides, the terms and abbreviations used in the present specification may have their original meanings, unless defined otherwise.

Advantageous Effects

The present invention can provide a composition for gummy jelly and a gummy jelly using the same, which exhibit low calories, cavity prevention effects, and beneficial
25 bacteria proliferation effects by including sugar alcohols and oligosaccharides, while having a low probability of inducing diarrhea and excellent sensory characteristics, and

preventing the occurrence of browning, recrystallization, syneresis, and a rapid decrease in Vitamin C content.

Brief Description of Drawings

FIG. 1 is a graph showing the results of evaluating changes in Vitamin C content in the jelly.

FIG. 2 is a photograph evaluating the occurrence of sugar recrystallization in the jelly.

Mode for Invention

Hereinafter, the present invention will be described in more detail through exemplary embodiments. However, these exemplary embodiments are provided only for the purpose of illustrating the present invention, and thus the scope of the present invention is not limited thereto.

<Preparation Example>

Preparation Example 1. Preparation of sugar composition

Each raw material was mixed in the composition ratio of Table 1 below, and then heated to 80 to 100°C for 20 to 30 minutes to completely dissolve the same. After dissolution, a sugar composition for a gummy jelly was prepared by adjusting the final Brix to be 78 to 80.

[Table 1]

Classification	Raw material name	Weight ratio (%)					
		Example 1	Example 2	Comparative Example 1	Comparative Example 2	Comparative Example 3	Comparative Example 4
1	Maltitol syrup	60	40	-	-	40	-
2	Maltitol powder	-	-	-	-	60	-
3	Isomaltooligosaccharide powder	40	60	-	60	-	-
4	Fructooligosaccharide (liquid)	-	-	60	40	-	-
5	Fructooligosaccharide (powder)	-	-	40	-	-	-
6	Sugar	-	-	-	-	-	50

7	Starch syrup	-	-	-	-	-	50
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Here, the following products were used as the raw materials.

- Maltitol syrup: Manufactured by Samyang Corporation, Product name: Maltitol syrup (70Bx)

(Maltitol syrup includes 72 wt% of maltitol, 4 wt% of sorbitol, 22 wt% of reduced oligosaccharide, etc., based on the weight converted to an anhydrous basis.)

- Maltitol powder: Manufactured by Samyang Corporation, Product name: Maltitol powder

- Isomaltooligosaccharide powder: Manufactured by Samyang Corporation, Product name: Oligofiber

(The isomaltooligosaccharide powder is an anhydrous form comprising 14 wt% or more of isomalto-oligosaccharide, which includes 2 to 6 parts by weight of isomaltose, 5 to 10 parts by weight of panose, 0 to 2 parts by weight of isomaltotriose, and 2 to 6 parts by weight of isomaltotetraose.)

- Fructooligosaccharide: Manufactured by Samyang Corporation, Product name: Fructooligosaccharide (liquid or powder 100%)

- Sugar: Manufactured by Samyang Corporation, Product name: Sugar

- Starch syrup: Manufactured by Samyang Corporation, Product name: Malt syrup (82Bx)

Preparation Example 2. Preparation of composition for gummy jelly

Each raw material was mixed in the weight ratio of the following Table 2 to prepare a composition for a gummy jelly.

Gelatin was swollen and hydrated in advance by adding purified water, and then heated at 60°C and mixed with the sugar composition prepared in Preparation Example

1. All raw materials except gelatin and the sugar composition were weighed and added into a heat-resistant container, and a mixture of the sugar composition and gelatin was

added thereto and then rapidly mixed to prepare the composition for the gummy jelly.

[Table 2]

Classification	Raw material name	Weight ratio (%)
1	Sugar composition	80.0
2	Gelatin	7.0
3	Vitamin C	0.7
4	Vitamin E powder	0.3
5	Strawberry concentrate	3.0
6	Enzymatically modified stevia	0.4
7	Anhydrous citric acid	1.3
8	Chromogen	0.1
9	Natural strawberry scent	2.0
10	Purified water	4.6

Here, the following products were used as the raw materials.

- Gelatin: Manufactured by Sammi-Gelatin, Product name Gelatin BL280

5 - Vitamin C: Manufactured by DSM, Product name Ascorbic acid powder

- Vitamin E powder: Manufactured by DSM, Product name Vitamin E mixed preparation

- Strawberry concentrate: Manufactured by Comax, Product Name Strawberry concentrate

10 - Enzymatically modified stevia: Manufactured by Daepyeong, Product Name Rebaten Prime

- Anhydrous citric acid: Manufactured by JUNG BUNZLAUER, Product Name Anhydrous citric acid

15 - Chromogen: Manufactured by GNT INTERNATIONAL B.V., Product name Berry Juice MC-0002

- Natural strawberry scent: Manufactured by Jeju Perfumery, Product Name Natural strawberry scent

Preparation Example 3. Preparation of gummy jelly

20 The gummy jelly composition prepared in Preparation Example 2 was put into

pre-prepared starch molds in amounts of 3 to 5g each, molded, aged for 24 to 48 hours, and solidified to prepare gummy jellies. For the solidified gummy jellies, starch was dusted off, and 0.1 parts by weight of demolding oil (manufactured by Ilshin Wells) and 0.5 parts by weight of oblate powder (manufactured by Yeongdong Oblate) were applied as release agents. Then, the gummy jellies were prepared by sealing and storing them to prevent moisture evaporation (the parts by weight of the demolding oil and oblate powder are based on 80 parts by weight of the sugar composition).

<Experimental Example>

Evaluations of color difference generated, recrystallization generated, browning generated, and vitamin C reduction rate and sensory properties of the jellies prepared in above Preparation Examples were conducted under (i) long-term conditions ($25\pm1^{\circ}\text{C}$, $60\pm5\%$ RH), (ii) intermediate conditions($30\pm1^{\circ}\text{C}$, $75\pm5\%$ RH), and (iii) accelerated conditions($40\pm1^{\circ}\text{C}$, $75\pm5\%$ RH).

Experimental Example 1. Evaluation of color difference generated and recrystallization generated

When recrystallization occurs in the jelly, a color difference occurs. Thus, it was evaluated whether recrystallization occurred and whether color difference occurred.

(1) Evaluation of color difference generated

Chromaticity was measured by a colorimeter (Chroma meter CR-200 Minolta, Tokyo, Japan), and L^* (lightness) representing lightness, a^* (redness) representing redness, b^* (yellowness) representing yellowness, and H° (hue angle) values were measured, and a color difference (ΔE) was calculated by using the chromaticity of the sample before drying as a control (Table 3).

As a result of the calculation, it was confirmed that the jellies prepared using Examples 1 and 2, which are the compositions of the present invention, do not produce a substantial color difference even after 30 days.

5

(2) Evaluation of recrystallization generated

In addition, it was confirmed that recrystallization does not occur at all in the jellies of Examples 1 and 2 even after storage for 30 days under long-term, intermediate, and accelerated conditions (Table 3, FIG. 2 show intermediate conditions, 30 days).

10 [Table 3]

Classification	Chromaticity				Recrystallization
	Initial L*(D65)	L*(D65)	a*(D65)	b*(D65)	
Example 1	23.51	24.94	6.46	0.44	Not generated
Example 2	24.15	35.52	5.89	-1.15	Not generated
Comparative Example 1	25.14	40.69	5.65	-1.25	Generated
Comparative Example 2	24.62	42.59	5.58	-1.08	Generated
Comparative Example 3	22.49	29.62	4.4	-0.6	Generated
Comparative Example 4	24.37	26.68	7.71	0.78	Not generated

In other words, it was confirmed that recrystallization does not occur in the jelly of the present invention, and thus no substantial color difference occurs.

15 Experimental Example 2. Evaluation of vitamin C content

The degree of Vitamin C reduction in the gummy jellies prepared in Preparation Example 3 was evaluated over time according to the Food Code analytical methods. The reduction rate (%) of Vitamin C was calculated according to the following <Equation 1>, and the values were compared.

<Equation 1>

Vitamin C reduction rate (%) =

$$\left(\frac{\text{Initial vitamin C content}(mg/g) - \text{Vitamin C content after aging}(mg/g)}{\text{Initial vitamin C content}(mg/g)} \right) * 100$$

5

As a result of evaluation after storage for 30 days (1 M) under long-term and intermediate conditions, it was confirmed that the gummy jellies prepared with the compositions of Examples 1 and 2 exhibited a significantly lower decrease in Vitamin C content compared to the comparative jellies (Fig. 1, Table 4).

10

[Table 4]

Classification	Vitamin C content (%)		
	Initial	Long-term 1 M	intermediate 1 M
Example 1	100.00	94.01	92.45
Example 2	100.00	95.23	93.45
Comparative Example 1	100.00	86.76	73.75
Comparative Example 2	100.00	89.14	75.52

Experimental Example 3. Sensory evaluation

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Sensory evaluation was performed on the gummy jellies prepared using the compositions of Examples 1 and 2 and Comparative Examples 1 to 4. The evaluation was conducted by a sensory panel consisting of 20 specialists majoring in food science and technology, who were trained to clearly recognize the experimental objectives and sensory quality factors. Sensory attributes, including color, flavor, taste, texture, and overall preference, were evaluated using a 5-point scoring method (Table 5).

Classification	Sensory evaluation (five-point scale)
Example 1	4
Example 2	4
Comparative Example 1	3

Comparative Example 2	3
Comparative Example 3	3
Comparative Example 4	5

As a result of the evaluation, it was confirmed that the jellies of Examples 1 and 2 exhibited excellent results in terms of color, flavor, taste, texture, and overall preference, despite not containing sugar and starch syrup.

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In other words, it was confirmed that the gummy jelly of the present invention can be provided as a consumer-preferred gummy jelly having low calories and excellent Vitamin C stability, while also possessing superior color, flavor, taste, and texture.

CLAIMS

1. A composition for a gummy jelly, comprising sugar alcohols, oligosaccharides, and a gelling agent.
- 5 2. The composition for the gummy jelly of claim 1, the composition comprising:
65 to 90 wt% of the sugar alcohols and the oligosaccharides, and 10 to 35 wt% of the gelling agent, based on the total weight of the composition for gummy jelly.
3. The composition for the gummy jelly of claim 1, the composition comprising:
10 80 wt% of the sugar alcohols and the oligosaccharides, and 7 wt% of the gelling agent, based on the total weight of the composition for gummy jelly.
4. The composition for the gummy jelly of claim 1, wherein the sugar alcohols comprise at least one selected from maltitol syrup, polyglycitol syrup, maltitol, sorbitol,
15 maltotriitol, xylitol, reduced oligosaccharide, erythritol, and a sugar alcohol having a degree of polymerization of 4 or more.
5. The composition for the gummy jelly of claim 1, wherein the oligosaccharides comprise at least one selected from fructooligosaccharide, isomaltooligosaccharide,
20 isomaltooligosaccharide powder, maltooligosaccharide, and galactooligosaccharide.
6. The composition for the gummy jelly of claim 1, wherein the gelling agent is at least one selected from gelatin, pectin, carrageenan, and agar.
- 25 7. The composition for the gummy jelly of claim 1, wherein the composition further comprises at least one selected from a sweetener, an acidulant, a flavoring agent, and

purified water.

8. A method for preparing a composition for a gummy jelly of claim 1, the method comprising:

- 5 (a) a step of mixing and dissolving sugar alcohols and oligosaccharides; and
(b) a step of adding a gelling agent to the resultant of step (a) and mixing the same.

9. A method for preparing a gummy jelly, the method comprising:

- 10 (a) a step of mixing and dissolving sugar alcohols and oligosaccharides;
(b) a step of adding a gelling agent to the resultant of step (a) and mixing; and
(c) a step of solidifying the resultant of step (b).

10. The method of claim 8, wherein the dissolving in step (a) is performed at 60 to 100°C.

15 11. The method of claim 9, wherein the method further comprising a step of applying a release agent to the resultant of step (c).

20 12. The method of claim 11, wherein the release agent is a coating oil, a demolding oil, or an oblate powder.

13. A gummy jelly prepared by the preparation method of claim 9.