Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 23 January 2019

Case Number: T 1361/14 - 3.3.09

Application Number: 07704502.9

Publication Number: 1988786

IPC: A23L1/09, A23L1/29, A61K31/702

Language of the proceedings: EN

Title of invention:
OLIGOSACCHARIDE MIXTURE

Patent Proprietor:
Nestec S.A.

Opponent:
N.V. Nutricia

Headword:

Relevant legal provisions:
EPC Art. 54(2), 54(3), 56, 83, 87, 100(a), 100(b), 100(c), 123(2)

Keyword:
Main request: added matter - (No)
Main request: sufficiency of disclosure - (Yes)
Main request: novelty - (Yes)
Main request: inventive step (Yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1361/14 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 23 January 2019

Appellant: (Opponent)	N.V. Nutricia Eerste Stationsstraat 186 2712 HM Zoetermeer (NL)
Representative:	Nederlandsch Octrooibureau P.O. Box 29720 2502 LS The Hague (NL)
Respondent: (Patent Proprietor)	Nestec S.A. Avenue Nestlé 55 1800 Vevey (CH)
Representative:	Elkington & Fife LLP Prospect House 8 Pembroke Road Sevenoaks, Kent TN13 1XR (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 27 May 2014 concerning the maintenance of European patent No. 1988786 in amended form.**

Composition of the Board:

Chairman	W. Sieber
Members:	A. Veronese
	D. Prietzel-Funk

Summary of Facts and Submissions

I. This decision concerns the appeal filed by the opponent against the interlocutory decision of the opposition division finding that European patent No. 1 988 786 as amended meets the requirements of the EPC.

II. With its notice of opposition, the opponent had requested the revocation of the patent in its entirety on the grounds under Article 100(a) EPC (lack of novelty and inventive step) and Article 100(b) EPC.

III. The documents submitted during the opposition proceedings included:

D2: WO 2006/087391 A1

D5a: WO 2007/101675 A1

D5b: EP application 06110805, priority document of D5a

D8: R. Mehra et al., International Dairy Journal, 2006, 16, 1334-1340

D9: P.K. Gopal et al., British Journal of Nutrition, 2000, 84 Suppl. 1, S69-S74

D10: A. Martinez-Ferez et al., International Dairy Journal, 2006, 16, 173-181

D11: Table showing the composition of various oligosaccharide mixtures (filed by patentee)

D13: WO 2005/003329

IV. In its decision, the opposition division decided that the subject-matter of the main request, filed with a letter of 19 February 2014, did not enjoy the claimed priority right but fulfilled the requirements of

Articles 123(2) and 83 EPC and was novel over documents D1-D5. Furthermore, considering D2 as the closest prior art, it decided that said subject-matter involved an inventive step over the available prior art documents. It also decided to admit D11, filed by the patent proprietor, into the opposition proceedings. Claims 1 and 2 of the main request read:

"1. *An oligosaccharide mixture which comprises 5-20 wt% of at least one N-acetylated oligosaccharide selected from the group comprising GalNAcα1,3Galβ1,4Glc and Galβ1,6GalNAcα1,3Galβ1,4Glc, 60-90 wt% of at least one neutral oligosaccharide selected from the group comprising Galβ1,6Gal, Galβ1,6Galβ1,4Glc, Galβ1,6Galβ1,6Glc, Galβ1,3Galβ1,3Glc, Galβ1,3Galβ1,4Glc, Galβ1,6Galβ1,6Galβ1,4Glc, Galβ1,6Galβ1,3Galβ1,4*Glc, *Galβ1,3Galβ1,6Galβ1,4*Glc and *Galβ1,3Galβ1,3Galβ1,4*Glc and 5-30 wt% of at least one sialylated oligosaccharide selected from the group comprising NeuAcα2,3*Galβ1,4*Glc and NeuAcα2,6*Galβ1,4*Glc."

"2. A*n oligosaccharide mixture as claimed in claim 1 which is derived from animal milk*"

V. This decision was appealed by the opponent ("the appellant").

VI. With its reply to the appeal dated 19 February 2015, the patent proprietor ("the respondent") filed auxiliary requests 1 to 11, corresponding to those filed by letter dated 19 February 2014 during the opposition proceedings and by letter dated 7 July 2016, it further filed auxiliary requests 12 to 17.

VII. On 23 January 2019, oral proceedings took place before the board.

VIII. The appellant requested that the decision under appeal be set aside and that the patent be revoked in its entirety. It further requested that none of the auxiliary requests be admitted into the appeal proceedings.

IX. The respondent requested that the appeal be dismissed or, alternatively, that the patent be maintained in amended form on the basis of the claims of auxiliary requests 1 to 11 filed with the letter dated 19 February 2015 or of auxiliary requests 12 to 17 filed with the letter dated 7 July 2016.

X. During the oral proceedings, after discussion of the claims of the main request the board noted that EPO Forms 2339 and 2327 of the appealed decision referred to amended pages of the description filed during the oral proceedings before the opposition division as well as pages of the patent specification, as the basis for maintaining the patent in amended form. Since this resulted in an unclear text the respondent filed a complete, adapted description and requested that the patent be maintained on the basis of the claims of the main request as filed by letter dated 19 February 2014, the new amended description filed during the oral proceedings before the board, and the drawings of the patent specification.

XI. The arguments of the appellant relevant for the present decision were as follows:

Claim 1 of the main request was obtained by replacing the ranges defined in claim 1 as filed (and as granted)

with those disclosed in claim 5 as filed (and as granted). However, the ranges in these claims related to different "concepts" which could not be combined. In claim 1 the ranges only corresponded to at least one of the oligosaccharides recited in each of three specified oligosaccharide classes. The skilled person would understand that more than one oligosaccharide could be present per class, with no restriction on the amounts of the further oligosaccharides. By contrast, the ranges in claim 5 defined the total amount of oligosaccharides in each class. Thus, the combination of features taken from these claims created originally undisclosed subject-matter.

The patent did not provide sufficient information for the skilled person to prepare the mixture defined in claim 1 of the main request. The mixture obtained from milk, according to the process of example 1, did not fall within the claimed scope. Modifying this process so as to obtain a mixture as defined in the claims would have required an undue burden. The reference to synthetic and enzymatic methods was too vague to carry out this modification. Furthermore, a mixture as defined in claim 1 could not be "derived from milk", as required by claim 2. Although this objection was initially presented in the context of a lack of clarity, during the oral proceedings it was eventually regarded as one concerning sufficiency of disclosure.

The claimed subject-matter did not enjoy the claimed priority right, since the earlier application did not disclose the specific oligosaccharides and the specific ranges mentioned in claim 1. The effective date for the claims was thus the filing date.

The subject-matter of claim 1 was not novel over the mixture disclosed in pages 7 and 9 of D5a. The document was filed after the filing date of the application for the opposed patent, but validly enjoying priority from the earlier application D5b, which had been filed before that date.

In the written proceedings, the appellant had proposed different documents, namely D2, D8-D10 and D13, as possible starting points for assessing inventive step but during the oral proceedings it conceded that D2 was the closest prior art. The oligosaccharide mixture defined in claim 1 of the main request differed from that disclosed in example 1 of D2 in that the amount of N-acetylated oligosaccharides was lower and that of neutral oligosaccharides was higher. The available technical evidence was unsuitable to prove that this difference was associated with a technical effect, in particular over the entire scope claimed. Thus, starting from D2, the underlying problem was the provision of a further oligosaccharide mixture. The last paragraph of page 4 and example 3 of D2 provided an incentive to increase the amount of neutral galacto-oligosaccharides (GOS) in the mixture. A OS:GOS ratio of from 1:2 and 1:6 was preferred, corresponding to an amount of GOS of 66.7 to 85.7 wt%. A mixture as defined in claim 1 would inevitably have been obtained by increasing the amount of GOS. Thus, a "one-way" street led to the claimed mixture. Any effect observed using this mixture could be considered, at most, as "bonus effect". Documents D9, D10 and D13 provided an additional incentive to increase the amount of neutral oligosaccharides to promote prebiotic effects.

XII. The arguments of the respondent relevant for the present decision were as follows:

Claims 1 and 5 of the application as filed had to be construed in the same manner. They both specified ranges defining the total amounts of N-acetylated, neutral and sialylated oligosaccharides. Thus, the definitions of claim 1 and 5 could be combined without generating new subject-matter. Other parts of the application, e.g. page 6, lines 16-18 and example 3, were in line with this interpretation. Thus, claim 1 of the main request did not contain added subject-matter.

The patent contained sufficient information for preparing a mixture as defined in the claims. The relevant oligosaccharides were commercially available and/or could be prepared by enzymatic or chemical methods. The claimed mixtures could be prepared by mixing the specific oligosaccharides listed in the claims or by adding them in the required amounts to a mixture obtained from milk. The wording "derived from animal milk" in claim 2 was to be interpreted broadly and encompassed mixtures obtained by adding specific oligosaccharides to milk products.

The respondent did not dispute the finding of the opposition division that the claimed matter did not enjoy the claimed priority right, that the relevant date for determining the state of the art was the filing date, and that D2 was part of that state of the art. It considered, however, that the embodiments disclosed in D5a which were possibly relevant for a novelty attack were not disclosed in D5b, the document from which D5a claimed priority. Thus, these embodiments could not be used to attack novelty of the claimed subject-matter under Article 54(3) EPC.

D2 was the closest prior art. It disclosed an oligosaccharide mixture differing from that defined in claim 1 in that the amount of N-acetylated oligosaccharides was higher and that of neutral oligosaccharides was lower. The results presented in the patent, together with the additional experimental evidence filed during the opposition proceedings, proved that the claimed mixture produced improved prebiotic effects. There was no evidence that the observed positive trend could not be achieved over the whole scope claimed. These unexpected results could not be disregarded. Taking them into account, the underlying technical problem was the provision of an improved mixture capable of promoting beneficial prebiotic effects. Neither D2 nor the other documents on file (e.g. D9, D10, D13) suggested a solution to this technical problem. No "one-way" street led to the claimed subject-matter. An increase in the amount of neutral oligosaccharides in the composition described in D2 would not necessarily have resulted in a mixture falling within the scope of claim 1. Furthermore, acetylated oligosaccharides were considered "neutral oligosaccharides" by some authors. Adding these would not have afforded the claimed oligosaccharide ratio.

Reasons for the Decision

Main request

1. *Added matter (Article 123(2) EPC)*

1.1 Claim 1 of the main request results from a combination of features disclosed in claims 1 and 5 as filed (which are identical to claims 1 and 5 as granted). Claim 1 as filed is worded as follows:

"*1. An oligosaccharide mixture which comprises 5-70% of at least one N-acetylated oligosaccharide selected from the group comprising GalNAcα1,3Galβ1,4Glc and Galβ1,6GalNAcα1,3Galβ1,4Glc, 20-90 wt% of ...*"

Conversely, claim 5 as filed is worded as follows:

"*5. An oligosaccharide mixture as claimed in claim 1 which comprises 5-20% of the N-acetylated oligosaccharides, 20-90 wt% of..*"

1.2 Both parties concurred that the wording "selected from the group comprising..." in claim 1 in this specific context means "selected from the group consisting of..." and that the claimed mixture comprises at least one oligosaccharide selected from each of the groups identified in that claim.

1.3 However, according to the appellant, the ranges defined in claims 1 and 5 as filed defined two different "concepts" which could not be combined. Claim 1 as filed merely required that at least one of the oligosaccharides recited for each class was present in the claimed amount. The skilled person understood that more than one oligosaccharide could be present per class, with no restriction to the amounts of the further oligosaccharides. By contrast, the ranges in claim 5 defined the combined amount of oligosaccharides of each class in the mixture, e.g. the combined amount of N-acetylated oligosaccharides. Thus, in the appellant's opinion, the replacement of the ranges defined in claim 1 as filed with those disclosed in claim 5 as filed led to a change of the technical teaching which resulted in the creation of originally undisclosed subject-matter.

1.4 The board does not agree. The appellant's interpretation may be theoretically possible, but appears not technically sensible and does not take into account the disclosure of those claims as a whole. It is noted that claim 5 as filed depends on claim 1 as filed. Thus, these claims must be construed in a manner which allows, rather than excludes, their combination. According to the appellant's interpretation, the scope of claim 5 as filed would extend beyond the scope of claim 1 on which it depends. For example, a mixture comprising both N-acetylated oligosaccharides in a combined amount of 5 wt% would fall within the scope of claim 5 as filed, but this mixture would not be within the scope of claim 1.
In the board's view it would, however, be very unusual for the skilled person to interpret a dependent claim as having a scope which extends in some way beyond the scope of the claim on which it depends. For these reasons, the boards considers that the dependency of claim 5 points to the respondent's interpretation of allowing the combination of claims 1 and 5. This means that the ranges specified in both claims 1 and 5 define the combined amounts of oligosaccharides belonging to the respective class.

1.5 This interpretation is supported by page 6, lines 16-18 of the description as filed, which states that:

"...*the mixture may conveniently comprise 5-20 wt% of the specified N-acetylated oligosaccharide(s), 60-90 wt % of the specified neutral oligosaccharide(s) and 5-30 wt% of the specified sialylated oligosaccharide(s)*".

1.6 The presence of an "s" in parentheses confirms that the application as filed envisages mixtures with the wt%

ranges of claim 1 of the main request, which contain more than one oligosaccharide of the relevant classes. A similar wording is present in examples 3 and 4 of the application as filed.

1.7 For these reasons, the board concludes that claim 1 of the main request is based on claims 1 and 5 of the application as filed and does not contain originally undisclosed subject-matter (Article 123(2) EPC).

2. Sufficiency of disclosure (Article 83 EPC)

2.1 According to the appellant, the opposed patent does not provide sufficient information for the skilled person to prepare a mixture as defined in claim 1 of the main request, let alone a mixture "derived from animal milk" as set out in claim 2.

2.2 It is not disputed that the only process exemplified in the patent (in example 1) affords an oligosaccharide mixture which does not fall within the scope of claim 1. This mixture, which is prepared starting from milk, comprises 30 wt% N-acetylated oligosaccharides, 50 wt% neutral oligosaccharides and 20 wt% sialylated oligosaccharides, whereas according to claim 1 these ingredients must be contained in amounts of 5-20 wt%, 60-90 wt% and 5-30 wt%, respectively. No further guidance is given in the patent as to how example 1 must be modified in order to obtain a composition within the claimed scope.

2.3 However, as explained in the patent, the claimed mixture can also be prepared by simply combining the required amounts of the specified oligosaccharides. These compounds are said to be commercially available and/or obtainable by isolation from natural sources or

by enzymatic or chemical modification of commercially available galactosyl-oligosaccharides. Some commercial suppliers of these ingredients are mentioned in paragraphs [0028] to [0030] of the patent.

2.4 No substantiated evidence was produced by the appellant that the relevant materials were not commercially available and/or could not be prepared following the methods described in the patent. There are no further reasons to believe that on the relevant filing date a skilled person would not have been able to prepare the claimed mixture by simply combining the required amounts of oligosaccharides, or alternatively, by adding one or more of them to a previously prepared composition obtained from milk, e.g. by the process of example 1. There is also no reason to assume that, in this latter case, the skilled person would not have considered the mixture as one "derived from milk", within the meaning of claim 2. This claim does not in fact rule out mixtures obtained enriching a composition prepared from milk with one or more of the required oligosaccharides.

2.5 For these reasons the board comes to the conclusion that the appellant's allegations are unsubstantiated and that the patent fulfils the requirement of sufficiency of disclosure (Article 83 EPC).

3. Validity of the priority right and relevant date for determining the state of the art (Article 87 EPC)

3.1 The opposition division found that the claimed matter did not enjoy the claimed priority right and that the relevant date for determining the state of the art was the filing date. It then concluded that D2 was part of the state of the art under Article 54(2) EPC. These

findings were not disputed by the respondent and the board does not see any reason to deviate from them.

4. Novelty (Article 54(3) EPC)

4.1 According to the appellant, the subject-matter claimed in the main request lacks novelty over mixtures disclosed on pages 7 and 9 of D5a.

4.2 Page 7, lines 5-12 of D5a discloses a prebiotic mixture comprising 5-70 wt% of at least one N-acetylated, 20-95 wt% of at least one neutral and 2-50 wt% of at least one sialylated oligosaccharide. Each of these oligosaccharides is selected from three closed lists corresponding to those defined in claim 1 of the main request. Page 9, lines 21-25 of D5a further specifies preferred ranges for the amounts of the oligosaccharide classes. The appellant drew the attention to some endpoints of these ranges, namely 10 wt% for the N-acetylated, 80 wt% for the neutral and 10 wt% for the sialylated oligosaccharides, which fell within the ranges of claim 1 of the main request. It then concluded that the teaching of pages 7 and 9 fell within the scope of said claim.

4.3 Since D5a was filed after the filing date of the application for the opposed patent, the subject-matter disclosed in this document which allegedly falls within the claimed scope may only become relevant under Article 54(3) EPC if it were also disclosed in D5b, the earlier application from which D5a claims a priority right.

4.4 D5b discloses a mixture comprising 10-70 wt% N-acetylated, 20-80 wt% neutral and 10-50 wt% acidic oligosaccharides (page 7, lines 4-5). However, the

specific oligosaccharides characterising claim 1 of the main request and the aforementioned passages of D5a are not mentioned in this passage. Further analysis of D5b reveals the following:

- The neutral oligosaccharides are not necessarily galacto-oligosaccharides, as the claimed ones. Fructo-oligosaccharides and fucosyl-oligosaccharides are equally mentioned on page 7, lines 15-19. The commercial products Vivinal® and Elix® mentioned on page 8, lines 2-5, which allegedly comprise the relevant neutral oligosaccharides, are also not necessarily included in the mixture disclosed in D5b. They are merely mentioned as a source - among others - of galacto-oligosaccharides.

- The acidic oligosaccharides mentioned in D5b are not necessarily the relevant sialylated oligosaccharides. Page 7, lines 21-28 refers to other acidic oligosaccharides, such as uronic acid and sialyl-lacto-tetraose. Although 3'- and 6'-sialyllactose, the two sialylated oligosaccharides of claim 1 are disclosed here, they are not necessarily present in the disclosed mixture.

- N-acetyl-galactosyl lactose, one of the N-acetylated oligosaccharides of claim 1, is disclosed on page 7, lines 13-14; however, only among other N-acetylated oligosaccharides which differ from those listed in claim 1, e.g. N-acetyl-lactoasmine and N-acetyl-galactosaminyl-glucose.

Taking into account the above, the board considers that, although D5b generically discloses mixtures encompassing those defined in D5a, multiple selections

would have to be made within the disclosure of D5b in order to arrive at the subject-matter disclosed in D5a which allegedly falls within the claimed scope. This subject-matter does not thus enjoy priority right from D5b. Consequently, the relevant disclosure of D5a cannot be used to attack novelty of the subject-matter of claim 1 of the main request under Article 54(3) EPC.

5. Inventive step (Article 56 EPC)

5.1 The invention claimed in the opposed patent relates to an oligosaccharide mixture having prebiotic properties, selectively stimulating the growth of certain bacteria having health promoting properties, such as *Bifidobacterium* and *Lactobacillus*, while inhibiting that of pathogenic ones, such as *Clostridium*. In preferred embodiments, the mixture is derived from an animal milk, is close to human milk, and can be incorporated into a food product (paragraphs [0002], [0009], [0011-0013], figures 1-3 and examples 3 and 4 of the patent).

The closest prior art

5.2 Both parties agreed, in line with the decision under appeal, that D2 represented the closest prior art. Like the opposed patent, this document relates to the preparation of a prebiotic oligosaccharide mixture derived from animal milk, preferably having an oligosaccharide profile close to that of human milk. The mixture, which comprises neutral and sialylated oligosaccharides, can be incorporated into a food product and can be used to induce beneficial effects (page 2, lines 6-15; page 4, lines 1-33; page 6, lines 25-30).

The parties have also agreed that the process described in example 1 of D2 affords an oligosaccharide mixture comprising 30 wt% acetylated, 50 wt% neutral and 20 wt% sialylated oligosaccharides. In fact, the process of example 1 of the opposed patent essentially corresponds to that of example 1 of D2.

5.3 The board does not have any reason to deviate from this choice of the closest prior art and/or for disputing the assumption that the mixture comprising the aforementioned oligosaccharide ratio was available to the skilled person before the filing date. This mixture differs from the claimed one in that it contains less neutral and more acetylated oligosaccharides.

Technical evidence related to the claimed invention

5.4 The opposed patent contains experiments (examples 3 and 4 and Figures 1-3) showing that mixtures which fall within the scope of the invention, comprising 5 wt% acetylated, 5 wt% sialylated and 90 wt% neutral oligosaccharides, stimulate the growth of *Bifidobacterium brevis* and *longus* and inhibit that of pathogenic *Clostridium perfringens*. The effects are improved, compared to those observed in control mice not receiving the mixture, or receiving only neutral oligosaccharides. These results make it credible that mixtures according to the invention induce beneficial prebiotic effects and that these effects are superior to those induced by a composition comprising only neutral oligosaccharides.

5.5 By letter dated 19 February 2015 the respondent re-filed additional experimental evidence, already filed during the opposition proceedings, which compared the effects induced by different oligosaccharide

mixtures. In the tests, a monolayer of intestinal epithelial model T84 cells was first incubated with *Lactobacillum rhamnosus* in the presence of different oligosaccharides mixtures, and then exposed to toxin A from the pathogenic bacterium *Clostridium difficile*. The composition of the tested mixtures is reported in D11 and the results can be summarised as follows:

- OS blend ratio 2 (OSBR-2), comprising a mixture according to claim 1, containing 8.75 wt% acetylated, 6.3 wt% sialylated and 88 wt% neutral oligosaccharides, provides the strongest protective effect against the toxin of the pathogenic bacterium. This effect exceeds largely that induced by a reference mixture OS blend ratio 1 (OSBR-1) comprising 35 wt%, 25 wt% and 40 wt% of these oligosaccharides, which is closer to the one obtained following the process described in D2,

- OSBR-2 is also far more effective than other mixtures comprising only neutral oligosaccharides, (GOS-1 and GOS-2), only sialyl-lactose alone (3SL), or a blend of sialyl-lactose and neutral galacto-oligosaccharides (3SL-GOS).

5.6 The appellant contested the statistical significance of these results. However, considering the magnitude of the observed normalised protection scores, the small overlap between the error bars relative to the OSBR-2 mixture and the other mixtures, and the absence of any evidence contradicting the results, the board considers that the tests provide credible evidence of the relevant effect. It is also worth noting that in the tests the OSBR-2 mixture was used at a concentration which was less than 50% that of the OSBR-1 mixture.

The board finds that these comparative tests render it credible that the mixture OSBR-2 provides better protective effects than the reference OSBR-1 mixture comprising less neutral and more acetylated oligosaccharides. These tests also show that if acetylated and sialylated oligosaccharides are not included in the mixture, the beneficial effect decreases substantially.

5.7 The appellant further questioned the significance of the results by noting that the amounts of the different oligosaccharides present in the OSBR-2 mixture were close to the "top" of the claimed ranges. It also noted that the mixture obtained according to D2 was closer to the mixtures falling within the claimed scope than the comparative mixture OSBR-1. In its opinion, this implied that the OSBR-2 mixture was not representative for the whole scope claimed and that the results were unsuitable for substantiating the alleged effects over that scope.

5.8 The board cannot agree with this argument either. On the contrary, the board considers it credible that, if the respective amounts of oligosaccharides of the mixture OSBR-1 are progressively modified towards those of the mixture OSBR-2, this modification is accompanied by a corresponding progressive improvement of the beneficial protective effects. Although it is reasonable to expect that the mixture obtained according to the teaching of D2 is more effective than the OSBR-1 mixture, it is equally reasonable to expect further improvements using mixtures which are even closer to OSBR-2 and fall within the claimed scope. For these reasons it is concluded that these results, taken as a whole, credibly demonstrate that there is a positive trend moving from the composition of the prior

art to the one defined in the claims. No evidence to the contrary was presented by the appellant in the course of the proceedings.

The underlying technical problem and non-obviousness of the proposed solution

5.9 Taking into account the aforementioned results, the underlying technical problem can be formulated as the provision of an oligosaccharide mixture providing improved beneficial prebiotic effects and protection against the effects of harmful bacteria. What needs to be established is whether the skilled person, starting from D2, would have considered to modify the ratio of the relevant oligosaccharides so as to afford the mixture defined in the claims, taking into account the cited prior art.

5.10 According to the appellant, D2 itself provides a pointer to the claimed solution because page 4, lines 26-32 and example 3 teach increasing the amounts of neutral oligosaccharides in the mixture of example 1 in order to obtain a mixture closer to human milk. Documents D9, D10 and D13, which acknowledge the prebiotic properties of neutral oligosaccharides, would provide a further incentive to do so. By increasing the amount of neutral oligosaccharides, the skilled person would inevitably obtain a composition according to the invention. Thus, a "one-way" street would lead the skilled person to the claimed mixture. Any effect observed with said mixture would have to be seen as a mere "bonus" effect.

5.11 This argument is not convincing. It is noted in the first place that D2 aims primarily at obtaining an oligosaccharide mixture comprising a lower amount of

lactose which has essentially the same spectrum of oligosaccharides as the milk from which it was derived (page 4, lines 9-11 and claim 1). Furthermore, even if, relying on D2, the skilled person would consider increasing the amount of neutral oligosaccharides in the mixture, they would not find any guideline in this document as to which specific oligosaccharides to add and as to how to share the corresponding decrease of acetylated and sialylated oligosaccharides.
An increase in neutral oligosaccharides may also result in mixtures comprising no or very low amounts of the other oligosaccharides outside of the claimed range. The experiments discussed above indicate that these mixtures are likely to perform even worse than those of the closest prior art as can be seen from the data reported for the use of the GOS-1, GOS-2, 3SL and 3SL-GOS mixtures. Furthermore, acetylated galactosyl-oligosaccharides have been considered as neutral oligosaccharides in the literature (see D8, table 1). Adding these oligosaccharides would afford mixtures falling outside the scope of the claims.

5.12 This means that even if the skilled person might have considered increasing the amounts of neutral galacto-oligosaccharides to achieve the ratio specified on page 4, lines 32-33 of D2, they would not have inevitably arrived at a mixture comprising the specific oligosaccharides listed in claim 1 in the required amounts. Neither could the skilled person have foreseen the beneficial effects mentioned above. The appellant's approach is tainted by hindsight and results from an *ex-post facto* analysis of the teaching of the prior art. For these reasons, it is concluded that the claimed subject-matter involves an inventive step over D2, alone or in combination with the other available prior art documents (Article 56 EPC).

6. Adaptation of the description

6.1 After the discussion of the claims of the respondent's main request, it became apparent that EPO Forms 2339 and 2327 of the appealed interlocutory decision, which specified the basis for maintaining the patent in amended form, referred *inter alia*, to description pages filed in the course of the oral proceedings before the opposition division (pages 3, 5, 6, 9 and 10 which were apparently based on pages of the patent application as filed), as well as to pages of the patent specification as granted (pages 1, 2, 4, 7, 8, and 11-13). The combination of these pages resulted in an unclear text.

6.2 The respondent then filed an adapted description based on pages 2 to 7 of the patent specification, including the same amendments made on the pages filed during the oral proceedings before the opposition division. Neither the appellant nor the board had any objection to the amended description.

7. Auxiliary requests

7.1 Having concluded that the main request meets the requirements of the EPC, there is no need to decide on the admissibility of the auxiliary requests.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division with the order to maintain the patent as amended in the following version:

Description: Pages 2 to 7 as filed during the oral proceedings before the board on 23 January 2019

Claims: Nos. 1 to 7 according to the main request filed with the letter dated 19 February 2014.

Drawings: Sheets 1/3 to 3/3 of the patent specification.

The Registrar: The Chairman:

M. Cañueto Carbajo W. Sieber

Decision electronically authenticated