Unified Patent Court
Einheitliches Patentgericht
Juridiction unifiée du brevet

Action n°: UPC 829/2024
Revocation action
Central Division (Section Munich)

Decision

of the Court of First Instance of the Unified Patent Court
Central Division (Section Munich)
Issued on 24 February 2026

HEADNOTES:

1. The patentee is responsible for drafting claims that adequately define the subject matter for which protection is sought. This is particularly the case for composition claims containing numerical ranges of ingredients. For such claims, the skilled person may reasonably expect that the patentee is precise and diligent in specifying the components of a claimed composition.

2. Absent an inextricable link between a claimed composition and an inventive process for the production of a known end-product, no inventive step can be acknowledged for an otherwise non-inventive composition relied upon as an intermediate product.

KEYWORDS:

Claim interpretation. Intermediate product. Numerical ranges. Composition claims. Sugar compositions. Marker molecule. Product-by-process features. Added matter. Inventive step of intermediate products. Inextricable link. Subsequent Auxiliary Requests. Revocation.

CLAIMANT:

UPM-Kymmene Oyj, Alvar Allon katu 1 - FI-00101 - Helsinki - Finland

represented by Clemens Tobias Steins of Hoffmann Eitle PartmbB.

DEFENDANT:

International N&H Denmark ApS, Parallelvej 16 - 2800 Kongens Lyngby - Denmark (substituted for **Virdia Inc.**)

represented by Matthew Naylor of Mewburn Ellis LLP.

PATENT AT ISSUE

European Patent number 2 611 800.

PANEL/DIVISION

Panel 1 of the Central Division (Section Munich).

DECIDING JUDGES

This decision has been delivered by András Kupecz (as Presiding Judge and judge-rapporteur), Daniel Severinsson (legally qualified judge) and Anna Hedberg (technically qualified judge).

LANGUAGE OF THE PROCEEDINGS:

English.

SUBJECT-MATTER OF THE PROCEEDINGS

Revocation action.

ORAL HEARING

15 January 2026.

SUMMARY OF THE FACTS

1. UPM-Kymmene Oyj ("the Claimant") lodged a Statement for Revocation dated 20 December 2024 regarding European patent EP 2 611 800 ("the Patent") against Virdia Inc., 1319 Highway 182, Raceland, LA 70394, United States of America, at the Central Division (Section Munich) ("CD Munich") of the Unified Patent Court ("UPC").

2. By order dated 28 February 2025, the originally-named defendant (Virdia Inc.) was substituted by International N&H Denmark ApS (the "Defendant").

3. The Claimant is one of the largest paper companies in Europe with more than 18.000 employees and long established in the wood industry, dealing with paper and pulp, but also a variety of other wood-based products from biodiesel to sugars. The Claimant is building a biorefinery in Leuna, Saxony-Anhalt. A new generation of chemical base materials will be developed from hardwood.

4. The Defendant is a subsidiary of International Flavors & Fragrances Inc. ("IFF"), a US headquartered S&P500 company. IFF is a global leader in the creation and production of flavours, fragrances, and food ingredients. IFF is a major producer of sweeteners, including xylose and xylitol, and was the first company to manufacture xylitol in the 1970's. The company sells a xylitol product "XIVIA®", which is manufactured in Kotka, Finland from upcycled hard wood pulp. The Defendant acquired the patent from the previously-registered proprietor, Virdia LLC, in June 2024.

5. The Patent is based on a PCT application published as WO2012/031270 which was filed on 2 September 2011. At the European Patent Office ("EPO") the application was handled under the application number 11822761.0. The application as originally filed was submitted as Exhibit HE R800-4 (hereinafter: "the Application"). The Patent claims priority of US 201161529277 P (31 August 2011), PCT/US2011/046153 (1 August 2011), PCT/IL2011/000517 (28 June 2011), PCT/IL2011/000424 (1 June 2011), IL 20794510 (2 September 2010) and PCT/IL2011/000509 (26 June 2011). The mention of the grant of the Patent was published on 12 June 2019.

6. The Patent is in force in the UPC Contracting Member States Austria (AT), Finland (FI), France (FR), Germany (DE), The Netherlands (NL) and Sweden (SE).

7. The Patent, which was granted in the English language, is entitled "*Methods and systems for processing sugar mixtures and resultant compositions*" and has the following claims:

    1. A sugar composition comprising:

        (a) at least 60% xylose by weight relative to total sugar concentration;

        (b) at least 100 PPB, but not exceeding 0.5%, of a total concentration of marker molecule, wherein the marker molecule is at least one molecule

selected from the group consisting of furfural, hydroxy-methylfurfural, products of furfural or hydroxy-methylfurfural condensation, color compounds formed on heating a sugar, levulinic acid, acetic acid, methanol, galacturonic acid, an alcohol of more than four carbon atoms, betaine, amino acids, proteins, phosphate and glycerol, and optionally at least one fermentation residue; and

(c) 0.001% to 10% oligosaccharides by weight relative to total sugar concentration.

2. The sugar composition according to claim 1, further comprising at least two marker molecules.

3. The sugar composition according to claim 1, further comprising at least one fermentation residue.

4. The sugar composition according to claim 3, wherein said at least one fermentation residue is a component of an ingredient selected from the group consisting of sugar molasses, yeast extract and corn steep liquor.

5. The sugar composition according to claim 3, further comprising at least two fermentation residues, preferably at least three fermentation residues.

6. The sugar composition according to claim 1, wherein glucose comprises between 0.001% and 5% of total sugars on a weight basis.

7. The sugar composition according to claim 1, further comprising at least one sugar selected from the group consisting of mannose, galactose and arabinose.

8. The sugar composition according to claim 1, further comprising at least 0.001% arabinose of total sugars on a weight basis.

9. The sugar composition according to claim 1, further comprising at least 2% arabinose relative to total monosaccharides by weight.

10. The sugar composition according to claim 1, wherein said oligosaccharides include at least one member selected from the group consisting of maltose, isomaltose and trehalose.

11. The sugar composition according to claim 1, wherein said oligosaccharides include at least one member selected from the group consisting of gentiobiose, sophorose and cellobiose.

12. The sugar composition according to claim 1, further comprising a second pentose.

13. The sugar composition according to claim 12, wherein said second pentose is selected from the group consisting of xylulose, lyxose, ribulose, and arabinose.

14. The sugar composition according to claim 1, further comprising a disaccharide.

15. The sugar composition according to claim 14, wherein said disaccharide is selected from the group consisting of trehalose, gentiobiose, kojibiose, nigerose, sophorose and laminarobiose.

8. A divisional application of the Patent, 19172614.0, was granted as EP 3 540 068 (hereinafter: "EP '068"). This patent is subject of a parallel revocation action at the CD Munich (case number UPC_CFI_830/2024). An opposition was filed against the grant of EP '068 which resulted in the revocation of EP '068 by the Technical Board of Appeal of the EPO after oral proceedings held on 18 November 2025. The UPC action UPC_CFI_830/2024 is currently stayed.

POINTS IN DISPUTE AND REQUESTS OF THE PARTIES

9. The Claimant argues that the Patent is invalid based on the grounds that its subject matter extends beyond the content of the earlier application as filed, Art. 65(1) and (2) of the Agreement on a Unified Patent Court ("UPCA") in combination with Art. 138(1)(c) of the European Patent Convention ("EPC"), and that its subject matter is not patentable within the terms of Art. 52 to 57 EPC (Art. 65(1) and (2) UPCA in combination with Art. 138(1)(a) EPC), since it lacks novelty (Art. 54 EPC) and is not based on an inventive step (Art. 56 EPC).

10. Based thereon, the Claimant requests:

I. EP 2 611 800 be revoked in its entirety with effect to the territories of Austria (AT), Finland (FI), France (FR), Germany (DE), The Netherlands (NL), and Sweden (SE).

II. Defendant bears all legal costs and other expenses incurred by Claimant.

11. The Defendant requests:

i) the revocation action be dismissed with the effect that the patent is maintained in the form as granted by the European Patent Office in the UPC Contracting Member States in which the patent has effect (Austria (AT), Finland (FI), France (FR), Germany (DE), The Netherlands (NL) and Sweden (SE));

ii) in the event that the Defendant's request under i) cannot be granted, maintenance of the patent based on the Auxiliary Requests (ARs) in the numerical order as summarised in Table 1 below, and, supplementarily, that permission from the Court is granted to replace original Auxiliary Requests 6, 14 and 18 with Auxiliary Requests 6a, 14a and 18a filed with the Defendant's submissions dated 19 June 2025;

Table 1:

Auxiliary Request	Exhibit Number	Date Filed
Auxiliary Request 1	ME D800-6	14 March 2025
Auxiliary Request 3	ME D800-8	14 March 2025
Auxiliary Request 4	ME D800-9	14 March 2025
Replacement Auxiliary Request 6a	ME D800-26	19 June 2025
Auxiliary Request 6 (only if Replacement Auxiliary Request 6a is not admitted)	ME D800-11	14 March 2025
Auxiliary Request 7	ME D800-12	14 March 2025
Auxiliary Request 13	ME D800-18	14 March 2025
Replacement Auxiliary Request 14a	ME D800-29	19 June 2025
Auxiliary Request 14 (only if Replacement Auxiliary Request 14a is not admitted)	ME D800-19	14 March 2025
Replacement Auxiliary Request 18a	ME D800-33	19 June 2025
Auxiliary Request 18 (only if Replacement Auxiliary Request 18a is not admitted)	ME D800-23	14 March 2025
Auxiliary Request 19	ME D800-24	14 March 2025

iii) in the event that the Defendant's requests under i) or ii) cannot be granted, and the patent as granted is deemed valid in part, that the patent be limited by a corresponding amendment of the claims of the patent as granted in accordance with Article 65(3) UPCA;

iv) the Claimant bears all legal costs and other expenses incurred by the Defendant.

12. Specifically with respect to the application to amend, the Claimant further requests:

i) to exercise the discretion provided under Rule 30.2 RoP to not admit into the proceedings the subsequent requests to amend the patent; and

ii) to dismiss Defendant's application to amend the Patent in Suit and thus to reject all Auxiliary Requests 1 to 19, including 6a, 14a and 18a.

13. The grounds and defences as brought forward by the parties will, to the extent relevant for this decision, be discussed in detail below.

GROUNDS FOR THE DECISION

14. The admissible revocation action is well-founded. The Patent is revoked in its entirety based on the grounds of added matter and/or lack of inventive step.

I. (International) Jurisdiction and Admissibility

15. Pursuant to Article 32(1) (d) UPCA, the UPC shall have exclusive competence for actions for revocation of (European) patents. In view of this exclusive competence, and since no opt-out from the exclusive competence of the Court in relation to the Patent is in effect (cf. Article 83(3) UPCA), the UPC – as a common court of the Member States to the UPCA (Art. 71a EU Regulation Brussels recast) – has international jurisdiction based on article 24(4) in connection with Art. 71b of Regulation Brussels I recast.

16. The CD Munich is competent in respect of the present Revocation action on the basis of Art. 33(4) EPC in connection with Rule 17.3 RoP and Annex II to the UPCA.

17. The revocation action is directed against the proprietor of the Patent (Rule 42 RoP). Thus, no concerns as to the admissibility exist in this respect.

II. The Patent and its interpretation

18. The Patent generally relates to processing of sugars (paragraph [0001] of the description, hereinafter only indicated with the respective paragraph numbers).

19. According to the background section of the description, plants are composed in large part of lignocellulosic material and smaller amounts of lipophilic materials (often referred to as “extractives”) and minerals (i.e. ash). The lignocellulosic material includes lignin, cellulose and hemicellulose. Cellulose and hemicellulose are each polymeric saccharides (i.e. polysaccharides) of monomeric saccharides (i.e. monosaccharides). Although cellulose and hemicellulose are carbohydrates in a strict chemical sense, the bond types used to connect the monomeric saccharides, and/or the specific monosaccharides in the polymer, make them less physiologically available than other polymeric carbohydrates such as amylan (starch) (paras. [0002]-[0004]).

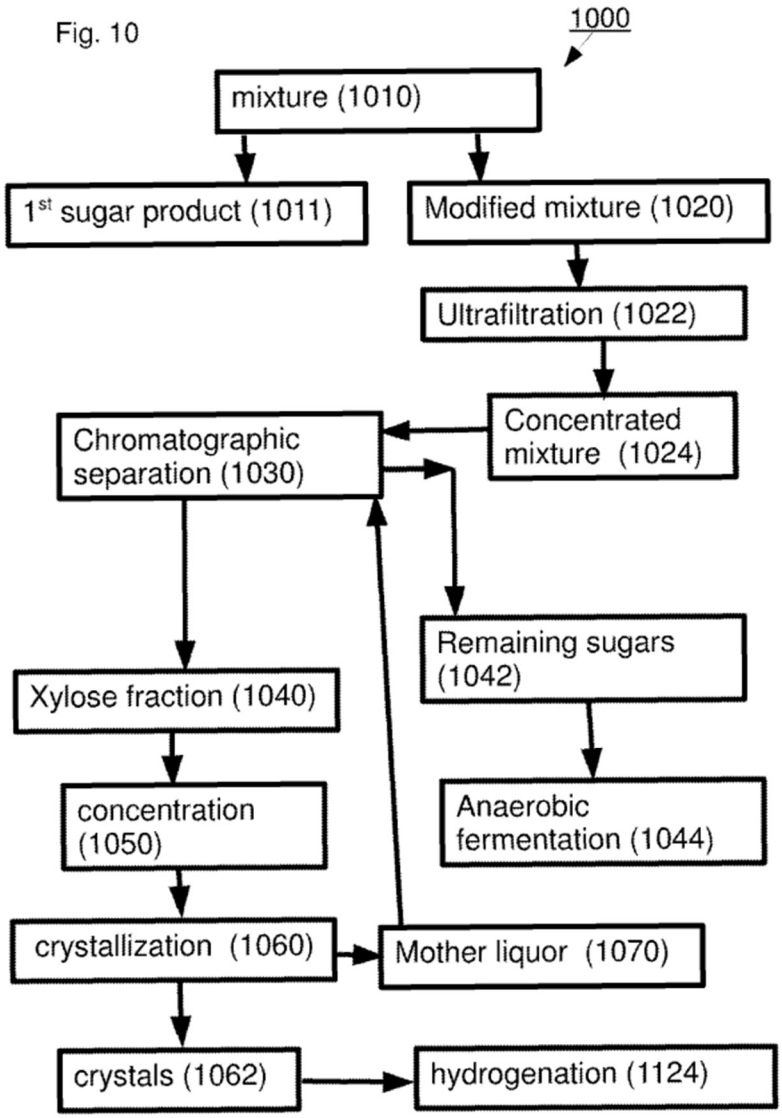
20. Cellulose is rich in six-carbon sugars (hexoses), such as glucose, mannose and galactose. Hemicellulose includes a significant amount of five-carbon sugars (pentoses), such as xylose and arabinose. Some of these monosaccharides form a large fraction of the total saccharides (e.g. glucose) in the lignocellulosic material, while others are present in relatively low amounts. Lignocellulosic material is available in a wide variety of forms. In many cases lignocellulosic material is a byproduct or waste product. For example, corn stover is a by-product of the corn industry. Alternatively or additionally, the bagasse remaining after initial extraction of sucrose from sugar cane is primarily lignocellulosic. When lignocellulosic material is the by-product, it is often present in a greater quantity by weight than the primary

product, as in the case of corn stover and sugar cane bagasse. In other cases, the primary product is lignocellulosic (e.g. wood produced from timber) (paras. [0005]-[0008]).

21. According to the description, prior art document US 2002/164731 discloses processes for the production of xylitol and ethanol and other products from solutions derived from lignocellulose-containing material in biomass (par. [0009]).

22. The description of the Patent discloses various methods for the processing of sugars. One of these methods is depicted in Figure 10 ("Fig. 10"). Fig. 10 is a simplified flow diagram of a method depicted generally as 1000. Depicted exemplary method 1000 produces a first sugar product 1011 and a product of a second sugar 1020 from a mixture 1010 of sugars. Optionally, the product of the second sugar is xylitol (par. [0186]). Xylitol can be used as a sweetener in food products. Fig. 10 is depicted below.

Fig. 10



23. The Patent does not specifically formulate an underlying problem or objective. From par. [0191] it can be deduced that the Patent aims to produce a desired sugar-alcohol (such as xylitol) at relatively high purity.

24. In accordance with par. [0193], the invention relates to sugar compositions which exist as production intermediates in the various methods described. According to par. [0201] of the description, alternatively or additionally, practice of the procedure outlined in Fig 10 might produce, as an intermediate product, a sugar solution comprising (by weight relative to total sugar concentration) at least 60% xylose, at least 100 PPB of a marker molecule and 0.001% to 10% oligosaccharides.

25. Independent claim 1 of the Patent which, for reference only, can be broken down into the following features, claims:

[**1**] A sugar composition comprising:

[**2**] (a) at least 60% xylose by weight relative to total sugar concentration;

[**3**] (b) at least 100 PPB, but not exceeding 0.5%, of a total concentration of marker molecule,

[**3.1**] the marker molecule is at least one molecule selected from the group consisting of furfural, hydroxy-methylfurfural, products of furfural or hydroxy-methylfurfural condensation, color compounds formed on heating a sugar, levulinic acid, acetic acid, methanol, galacturonic acid, an alcohol of more than four carbon atoms, betaine, amino acids, proteins, phosphate and glycerol,

[**3.2**] optionally the marker molecule is at least one molecule selected from the group consisting of furfural, hydroxy-methylfurfural, products of furfural or hydroxy-methylfurfural condensation, color compounds formed on heating a sugar, levulinic acid, acetic acid, methanol, galacturonic acid, an alcohol of more than four carbon atoms, betaine, amino acids, proteins, phosphate and glycerol, and at least one fermentation residue.

[**4**] (c) 0.001% to 10% oligosaccharides by weight relative to total sugar concentration.

26. The parties debated about the interpretation of some of these features, which therefore requires discussion.

27. The principles applicable to claim construction have been set out by the UPC Court of Appeal in its final order in UPC_CoA_335/2023 (Order of 26 February 2024, as rectified, *Nanostring/10x Genomics*). The patent claim is not only the starting point, but the decisive basis for determining the protective scope of a European patent under Art. 69 EPC in conjunction with the Protocol on the Interpretation of Art. 69 EPC. The interpretation of a patent claim does not depend solely on the strict, literal meaning of the wording used. Rather, the description and the drawings must always be used as explanatory aids for the interpretation of the patent claim and not only to resolve any ambiguities in the patent claim. However, this does not mean that the patent claim merely serves as a guideline and that its

subject-matter also extends to what, after examination of the description and drawings, appears to be the subject-matter for which the patent proprietor seeks protection.

28. The patent claim is to be interpreted from the point of view of a person skilled in the art. In applying these principles, the aim is to combine adequate protection for the patent proprietor with sufficient legal certainty for third parties. These principles for the interpretation of a patent claim apply equally to the assessment of the infringement and the validity of a European patent.

29. The skilled person always interprets features in the light of the claim as a whole (e.g. UPC_CoA_768/2024, order of 30 April 2025, *Insulet/EOFlow*). From the function of the individual features in the context of the patent claim as a whole, the skilled person will deduce which technical function these features actually have individually and as a whole. With regard to the terminology used in a patent, this can lead to the skilled person attributing a meaning to a term that differs from its general usage. The patent specification can define terms independently and may thus represent its own lexicon (LD Munich, UPC_CFI_248/2024, decision dated 22 August 2025 (*Brita SE/AQUASHIELD*); CD Munich, UPC_CFI_836/2024, decision dated 20 November 2025 (*BAUSSMANN/Raimund Beck*); CD Paris seat, UPC_CFI_309/2023, decision dated 5 November 2024 (*NJOY/Juul*)).

The skilled person

30. The Claimant has defined the skilled person in the technical field of the Patent as having a Master's degree in chemistry. They will also have experience in the field of biomass processing to produce sugars and further downstream chemicals. This could be obtained either through working in the biomass processing industry for at least two years, or a PhD in this field. The Defendant has accepted the definition of the skilled person as proposed by the Claimant. The Court sees no reason to adopt a different definition than the parties.

Interpretation of the claims from the perspective of the skilled person

31. Claim 1 of the Patent claims a composition and is therefore a **product claim**. It relates to a **sugar composition** having the structural-chemical features of the claim. The skilled person, who consults the description, sees that in par. [0012] the term "**sugar**" is defined as a monosaccharide or an oligosaccharide containing at least two monosaccharide sub-units and having a solubility greater than 5% in water at 25 degrees centigrade. Both parties seem to have accepted this definition, and the Court sees no reason to find otherwise.

32. The Defendant argues that claim 1 corresponds to an "**intermediate product**" that is formed as part of a new and advantageous process for producing a xylose-enriched sugar mixture which can be subjected to crystallisation. According to the Defendant, par. [0201] specifies that an intermediate product, such as the sugar composition of claim 1, may be obtained by the procedure set out in Fig. 10. However, the Court notes that claim 1, being a product claim, is not limited to the use of the claimed sugar composition as an intermediate product

in any particular process. The scope of protection of a product claim typically extends to the product *per se*, irrespective of the use to which it is actually put (cf. LD Düsseldorf UPC_CFI_140/2024, decision dated 15 June 2025, *10x Genomics/Curio*). The claim is also not limited or defined by the process with which the composition was prepared (also see the below interpretation of "marker molecule"). Product claims typically confer protection to all processes for making that product (UPC_CoA_523/2024, order dated 3 March 2025, *Sumi Agro/Syngenta*).

33. According to **feature 1**, claim 1 is directed to a sugar composition **comprising** xylose, marker molecule and oligosaccharides as specified in features 2-4 (discussed further below). As agreed between the parties, and as commonly understood by the skilled person, the use of the word "comprising" implies that other components may be present in the claimed composition. Such components may be present in any amounts, as long as the amounts specified in features 2-4 are realised. This interpretation is confirmed by the description, par. [0051], which defines "comprising" as specifying the inclusion of the stated components without precluding the addition of one or more additional components or groups thereof. This term is broader than and includes the terms "consisting of" and "consisting essentially of". Even though the presence of other components is thus not excluded, the use of the term "comprising" in connection with numerical ranges defining the amount of a component, see features 2-4, (implicitly) means for the skilled person that the respective components cannot be present in amounts outside of the defined ranges.

34. There is no disagreement between the parties as to the interpretation of **feature 2,** according to which the composition comprises **at least 60% xylose by weight relative to the total sugar concentration**. As mentioned above, xylose is a five-carbon sugar (also referred to as a pentose). The skilled person, reading the claim in the context of the description, appreciates that xylose was known, inter alia as an intermediate product in processes for the production of the sweetener xylitol.

35. **Feature 3** requires the presence of a **marker molecule** in an amount of **at least 100 PPB, but not exceeding 0.5%, of a total concentration of marker molecule**. The parties are divided as to the interpretation of the term marker molecule and as to the amount of marker molecule that needs to be present in the claimed composition, i.e. whether that amount should be calculated relative to the total sugar concentration or relative to the total composition. **Features 3.1 and 3.2** set out which molecules the marker molecule can be selected from.

36. As to the interpretation of the term **marker molecule**, the Defendant has taken the position that the term "marker" is a descriptor to convey that the listed compounds indicate something that goes beyond the mere presence of those compounds in the composition. In particular, the skilled person would understand that the "marker molecules" are indicative of hydrolysis of a lignocellulosic substrate and more generally that the marker molecules specified in present claim 1 are indicative of the specific lignocellulosic starting material and the specific process in which the composition according to present claim 1 is an intermediate. The Claimant disagrees that the claimed composition is limited to any kind of specific process

or starting compounds. In particular, in relation to the marker molecule, the Claimant disputes that it is characteristic for any particular history.

37. In the Court's opinion, **features 3, 3.1 and 3.2** in combination define in structural terms what is meant by "marker molecule". According to the literal wording of the claim a marker molecule is at least one (i.e. one or more) molecule(s) selected from the group consisting of furfural, hydroxy-methylfurfural, products of furfural or hydroxy-methylfurfural condensation, color compounds formed on heating a sugar, levulinic acid, acetic acid, methanol, galacturonic acid, an alcohol of more than four carbon atoms, betaine, amino acids, proteins, phosphate and glycerol, and optionally, and at least one fermentation residue. The claim itself contains no further definition or specification of the marker molecule (other than that it has to be present in a total concentration of 100 PPB to 0.5%, see below).

38. The skilled person, who looks beyond the strict literal meaning of the words, and who consults the description and drawings, notes that the description in paras. [0202]-[0203] mentions that there are marker molecules indicative of hydrolysis of a lignocellulosic substrate, and additional marker molecules indicative of fermentation of sugars in the resultant hydrolysate. However, neither the description nor the common general knowledge makes it clear, in structural terms, what characteristics specifically define a substance as a marker molecule other than it being selected from the group of chemical substances mentioned in the claim (which are also mentioned in the description, see e.g. par. [0202]). It is not in dispute that these chemical substances as such are not defined by their origin. It has not been argued by the Defendant, nor is it apparent, that the substances referred to as "marker molecules" in the claim will only be formed when a specific process was used to make the claimed composition. Therefore, if any of the possible marker molecules are present in a sugar composition as claimed (in the required amount), feature 3.1 is fulfilled.

39. Accordingly, the term marker molecule is not to be regarded as a "functional and self-limiting feature" or "fingerprint" as argued by the Defendant (the Court understands this to mean that this feature would thereby limit the scope of the claim to compositions in which the marker molecule is in fact indicative of a particular prior process step). Firstly, it is undisputed that in the claimed sugar composition, the marker molecule has no technical function in the sense that it contributes to a technical effect to be achieved by the claimed composition. To the contrary, it is common ground between the parties that in the claimed sugar composition, the marker molecules are regarded as contaminants by the skilled person (this also explains why there is an upper limit to the concentration of marker molecules, see below). In addition, as follows from the above, nothing in the claim (when read in light of the description) causally links the marker molecule to the process or starting material being used to obtain the composition. By way of example: the skilled person is not taught by the Patent how acetic acid, a common compound that can come from any source, would be in any way objectively (structurally and measurably) different depending on its origin. The skilled person, who considers the technical function of a claim feature, thus understands that a **marker molecule** is a molecule that is **capable of marking** something, i.e. has the potential

to be indicative of something. In that sense, a more appropriate way to view the "marker molecule" is as a *means-plus-function* feature, which must be understood as any feature *suitable for* carrying out a function (cf. UPC_CoA_382/2024; order of 14 February 2025, *Abbott/Sibio*). In this case the marker molecule is suitable for functioning as a marker for the hydrolysis and/or fermentation of a lignocellulosic substrate. However, such a feature does not typically limit the claim beyond that.

40. **Feature 3.1** requires that the **at least one marker molecule** is at least one molecule selected from a group consisting of (furfural, hydroxy-methylfurfural […] glycerol) and optionally at least one fermentation residue. There are, according to the claim wording, two options: either the marker molecule is at least one molecule selected from a group consisting of a number of molecules excluding the at least one fermentation residue or the marker molecule is at least one molecule selected from a group consisting of a number of molecules and at least one fermentation residue. Par. [0203] explains that, optionally, fermentation residues can serve as marker molecules. The skilled person is furthermore taught by the final sentence of that paragraph that there are marker molecules indicative of hydrolysis of a lignocellulosic substrate, and additional marker molecules indicative of fermentation of sugars in the resultant hydrolysate. Claim 1 will thus be interpreted by the skilled person as an "OR"-claim with two options, whereby in the second option a fermentation residue can be selected as an additional marker molecule.

41. The above considerations lead the Court to the conclusion that the skilled person will not interpret the claim as if it is limited to the use of any particular process or starting material for preparing the composition. The claim is a product claim, which is not limited to the way in which it is prepared. The marker molecule in the claimed composition can be indicative of the hydrolysis and/or fermentation of a (particular) lignocellulosic substrate. Whether the presence of a marker molecule is as a matter-of-fact indicative of a prior hydrolysis or fermentation step having been carried out depends on the method used to prepare the composition and the starting materials, to which the claims of the Patent are not limited.

42. As to the **amount of marker molecule** that needs to be present in the claimed sugar composition, the parties have different views. **Feature 3** requires the presence of a marker molecule in an amount of at least 100 PPB, but not exceeding 0.5%, of a total concentration of marker molecule.

43. The Claimant is of the opinion that since claim 1 defines the amount of xylose and oligosaccharides as a percentage by weight relative to total sugar concentration, and no such basis is provided for the marker molecule, the skilled person would understand that the total concentration of marker molecule is measured relative to the sugar composition as a whole including any solvent. The Defendant agrees with the Claimant that the skilled reader recognises that no explicit basis is given in the claim for calculating the amount of marker molecule, but the skilled person, upon consulting the description, would according to the Defendant understand that the amount is calculated by weight relative to total sugar concentration. Reference is made to, for example, paras. [0031] and [0201].

44. The Court agrees with the parties that the claim wording does not specify how, and specifically in relation to what, the amount of marker molecule is to be calculated. It is undisputed between the parties that the term "PPB" refers to "parts per billion". However, use of this term does not answer the question in relation to what the amount of marker molecule is to be calculated. The same holds true for the use of the term "0.5% of a total concentration". Consulting the description, the skilled person will notice that par. [0053] of the description clarifies that percentages (%) of chemicals typically supplied as powders or crystals (e.g. sugars) are W/W (weight per weight) unless otherwise indicated. Percentages (%) of chemicals typically supplied as liquids (e.g. alcohols) are W/W (weight per weight) unless otherwise indicated. These definitions still do not, however, explain relative to what any percentages must be calculated. Indeed, the skilled person will see that throughout the description, percentages are used relative to various components or to the composition as such. By way of example, amounts can be specified "by weight relative to the total sugar concentration" (e.g. claim 1, features 2 and 4), "% of total sugars on a weight basis" (e.g. par. [0039]), the composition "includes at least 0.001% on a weight basis" (e.g. par. [0043]), "relative to total monosaccharides by weight" (e.g. par. [0047]-[0050]) or the composition includes "at least 60% total sugars" (par. [0047]).

45. Furthermore, the skilled person will realise that it is important to know in relation to what the total concentration of marker molecule must be calculated as this directly affects the scope of the claim. This may be illustrated by the following example, taken from the Claimant's submissions, which has not been disputed by the Defendant:

An exemplary sugar composition with 50% total sugars that realises all other features may or may not realise feature 3, depending on the interpretation of the range of "at least 100 PPB, but not exceeding 0.5%, of a total concentration of marker molecule":

> a) if it contains 140 PPB marker molecule relative to the total sugar concentration:
>
> > i) it would be covered by the claim in Defendant's interpretation; but
> > ii) would not be covered if calculated relative to the sugar composition (140 x 0.5 = 70 PPB); and
>
> b) if the composition contains 0.8% marker molecule relative to the total sugar concentration:
>
> > i) it would not be covered by the claim in Defendant's interpretation; but
> > ii) it would be covered when calculated relative to the sugar composition (0.8 x 0.5 = 0.4%).

46. Turning to the claimed sugar composition, in the opinion of the Court, the skilled person will first of all, upon reading the claim, notice that the amount of marker molecule in the

composition is specified as a range from at least 100 PPB to 0.5% of a total concentration of marker molecule. The skilled person, who reads the claim as a whole in light of the description, will understand that a minimum amount of marker is required for the marker molecule to be able to function as a marker. To be able to function as a marker, it has to be detectable. A minimum amount is required for that purpose. However, as mentioned above, both parties agree that the marker molecule does not contribute to the usefulness of the claimed composition as an intermediate or otherwise confers any beneficial properties to the claimed composition. To the contrary, the marker molecules are considered as impurities by the skilled person. Their sole function is, as said, to be able to mark or indicate a preceding step or product. This explains to the skilled person why there is an upper limit to the total concentration of marker molecule: above this limit, the skilled person will assume that the composition is not regarded as sufficiently pure, e.g. for further processing.

47. It has not been disputed by the Defendant that for the skilled person in the absence of a deviating specification, the basis for calculating the relative percentage of a component in a composition is always the composition itself, i.e. the total composition (Reply to the Defence to the Statement for Revocation, mn. 16). This is not contradicted, and if anything confirmed, by par. [0053] of the description which states that percentages are weight/weight, unless otherwise indicated (see above). A percentage range without any further indication (such as in the claim) would thus normally be interpreted by the skilled person as the weight of the component in relation to the total weight of the overall composition.

48. Rather, the Defendant argues that in this case there is a deviating specification which is to be found in the description. The Court does not agree. Even though the Defendant is correct in that the description is always used by the skilled person as an explanatory aid, and taking into account that a patent may provide its own lexicon, the parts of the description referred to by the Defendant, paras. [0031]-[0049] and [0201]-[0213], even accepting that these would be intimately linked with each other, do not contain a “deviating specification” that would lead to the conclusion that the skilled person interprets the amount of marker molecule as being relative to the total sugar concentration.

49. First of all, contrary to the position of the Defendant, the description does not provide a “definition” of the basis for calculating the amount of marker molecule in a sugar composition. As mentioned above, throughout the description, various ways of calculating components, including marker molecules, are described. The skilled person, being aware of the technical relevance of the way of calculating the amount of the various components (see the example above), would expect a clear definition of how to calculate the amount of marker molecule and absent such a clear definition, would revert to the normal technically sensible way of calculating an amount of a component expressed as a percentage without reference to a calculation basis in a composition claim, which is the percentage relative to the composition as a whole (see above).

50. The exemplary compositions described in par. [0031] and [0201], respectively, do not provide a definition which is universally applicable to all sugar compositions. In general, the

skilled person does not single out a specific composition and draw conclusions based on separate aspects of the invention as described in the patent specification. In particular, examples cannot generally be understood as limiting the scope of the claim (UPC_CoA_523/2024, order dated 3 March 2025, *Sumi Agro/Syngenta*, par. 52). Moreover, importantly, none of these compositions comprise a range of marker molecule as they do not include any upper limit for the marker molecule. The upper limit is introduced in par. [0044] and [0207], respectively. A link between these passages, even if accepted, does not clarify that the upper limit must be seen in relation to the total sugar concentration. Rather, the paragraphs directly preceding these paragraphs mention the presence of a non-volatile fermentation product on a "weight basis", pointing at the weight of the total composition as a basis for the calculation of this component. Moreover, the composition described in par. [0201] is a sugar solution, whereas the claimed composition may be, but is not limited to, a solution. The description finally in par. [0010] describes a composition as being provided by the invention which comprises all components of claim 1, in their claimed amounts, including the marker molecule range, which is not calculated relative to the total sugar concentration.

51. Interpreting the numerical marker molecule range as being relative to the sugar composition as a whole would furthermore make sense to the skilled person who takes into account the technical function of the feature. As discussed above, the skilled person will understand that there is an upper limit to the amount of marker molecule present in the sugar composition because it is considered to be an impurity. As the composition is described as being useful as an intermediate product in a stepwise process to produce xylitol, the skilled person would primarily be interested in the overall (maximum) amount of impurities in that intermediate composition (product). It would be at odds with this if the maximum amount of marker molecule would change depending on the total sugar concentration. The skilled person finds further confirmation that the concentration of marker molecule present in a product is to be calculated relative to the total concentration in par. [0152], wherein a consumer product (optionally) includes a marker molecule at a concentration of at least 100 PPB, i.e. in relation to the product as a whole.

52. The Court notes that the Defendant has argued that the purpose behind the intermediate of the invention is to enrich xylose relative to other sugars that are present in the sugar composition (rather than enriching xylose relative to the composition as a whole). However, even if this line of argument would be accepted, this does not support a calculation of marker molecule relative to the total sugar concentration. The marker molecules mentioned in the claim are (contrary to the other components specified in the claim) not sugars.

53. At the oral hearing, the Defendant (for the first time) argued that the use of the phrase "total concentration of marker molecule" as opposed to the use of the "total sugar concentration" in features 2 and 4 (the two phrases being similar but not quite the same language) would prompt the skilled person to question how to calculate the amount of marker molecule and would then lead the skilled person to paras. [0031] and [0201] where the marker molecule is calculated relative to the total sugar concentration. This line of argumentation does not convince the Court. First of all, the skilled person who reads the claim as a whole in the

context of the description understands that the "total concentration" of marker molecule in the claim refers to the combined concentration (i.e. "total concentration") of all marker molecules if more than one marker molecule is present in the sugar composition (see par. [0207], "the total concentration of the two, optionally the three, marker molecules does not exceed 0.5%."). This is a different context than calculating the amount of a component "relative to the total sugar concentration" and therefore would not prompt the skilled person to question whether the marker molecule concentration should – even though this is not expressed in the claim – be calculated also relative to the total sugar concentration. In addition, even if the skilled person would be triggered by the use of the words "total marker concentration", this does not alter the claim interpretation given above. To the contrary, if anything, this would confirm to the skilled person that the Patent intends to give a different meaning to the calculation basis for the marker molecule and the sugar components in the composition.

54. To the extent that the Defendant's argument is to be understood as there being an omission or inaccuracy in the claim, in general a linguistic error, a spelling mistake or any other inaccuracy in a patent claim can only be corrected by way of interpretation of the patent claim if the existence of an error and the precise way to correct it are sufficiently certain to the average skilled person on the basis of the patent claim, taking into account the description and the drawings and using common general knowledge (UPC_CoA_405/2024, order of 20 December 2024, *Alexion/Amgen*). In the present case, it follows from the above that it is all but sufficiently certain for the skilled person that omitting "relative to the total sugar concentration" from the marker molecule concentration was erroneous and, even if so, what the precise way to correct it was. Under the circumstances of this case, the skilled person would rather take the disclosure of exemplary compositions comprising at least 100 PPB of a marker molecule relative to the total sugar concentration in the description but a patent claim without that feature as an intention not to claim said feature (in a similar vein to the principle of "*disclosed but not claimed is disclaimed*" which has found its way into the jurisprudence of the courts of several UPC Member States). Third parties may therefore rely on the interpretation given above.

55. Against this background, the Court finds that the skilled person interprets the amount of marker molecule as being measured relative to the sugar composition rather than relative to the total sugar concentration in the composition.

56. Finally, the Court notes that the interpretation as follows from the above aligns with the overall aim of combining a sufficient degree of legal certainty for third parties with a fair scope of protection for the patentee. In the absence of a definition or technical teaching in the description (or the common general knowledge) that points in the direction of calculating the amount of marker molecule relative to the total sugar concentration, it is in the interest of legal certainty that third parties can rely on the ordinary wording of the claim read by the skilled person in its technical context, which results in calculating the amount of marker molecule relative to the total composition. The patentee is responsible for drafting claims that adequately define the subject matter for which protection is sought. This is particularly

the case for composition claims containing numerical ranges of ingredients. For such claims, the skilled person may reasonably expect that the patentee is precise and diligent in specifying the components of a claimed composition. A fair protection of the patentee is on the other hand not compromised by calculating the range of marker molecule relative to the composition as a whole. It has not been argued by the Defendant nor is it apparent to the Court that it would, in view of the patentee´s contribution to the art, be more appropriate to calculate the amount of marker molecule in relation to the total sugar concentration as opposed to the composition as a whole.

57. There is no real dispute between the parties as to the interpretation of **feature 4**, according to which the claimed sugar composition comprises 0.001% to 10% **oligosaccharides** by weight relative to total sugar concentration. It follows from the description (par. [0012]) that the term "sugar" indicates a monosaccharide or an oligosaccharide containing at least two monosaccharide sub-units and having a solubility greater than 5% in water at 25 degrees centigrade. The term oligosaccharide is therefore interpreted by the skilled person as a molecule containing at least two monosaccharide sub-units and meeting the solubility requirement.

III. Added matter

58. Under Article 138(1)(c) EPC a European patent may be revoked if its subject-matter extends beyond the content of the application as filed. In order to ascertain whether there is added matter contrary to Art. 123(2) EPC, the Court must thus first ascertain what the skilled person would derive directly and unambiguously using his common general knowledge and seen objectively and relative to the date of filing, from the whole of the application as filed, whereby implicitly disclosed subject-matter, i.e. matter that is a clear and unambiguous consequence of what is explicitly mentioned, shall also be considered as part of its content. The underlying rationale for this requirement is that the patentee cannot claim more than they actually contributed to the state of the art at the priority date. Therefore, an amendment that is made after the priority date should not provide the skilled person with additional technically relevant information which was not derivable from the original application. The assessment of whether there is added matter is a question of law to be decided on the basis of the facts brought forward by the parties. The facts are the relevant claims and the application as filed. Since the test is whether the relevant claims have basis in the application as a whole, the Court is allowed to look at the entire document. (cf. UPC_CoA_382/2024, order of 14 February 2025, *Abbott/Sibio*; UPC_CoA_528/2024, UPC_CoA_529/2024, order of 25 November 2025, *Amgen/Sanofi*).

59. Applying the above principles to the case at hand, the Court concludes that there is added matter.

60. During prosecution, the claims of the Patent (then, application) were amended so as to result in the claims as granted. To find basis for the amendments, the Defendant referred to pages 36-37 of the application as filed. For reference, these passages are depicted below:

Alternatively or additionally, practice of the procedure outlined in Fig 10 might produce, as an intermediate product, a sugar solution comprising (by weight relative to total sugar concentration) at least 60% xylose, at least 100 PPB of a marker molecule and 0.001% to 10% oligosaccharides. Optionally, the oligosaccharides include maltose and/or isomaltose and/or trehalose. Optionally, the oligosaccharides include gentiobiose, sophorose and cellobiose.

According to various exemplary embodiments of the invention the marker molecule includes at least one, optionally at least two, optionally at least three of furfural, hydroxy-methyl furfural, products of furfural or hydroxy- methylfurfural condensation, color compounds formed on heating a sugar, levulinic acid, acetic acid, methanol, galacturonic acid, an alcohol of more than four carbon atoms, betaine, amino acids, proteins phosphate and glycerol.

Alternatively or additionally, the composition includes at least one; optionally at least two; optionally at least three fermentation residue(s). According to various exemplary embodiments of the invention the fermentation residue includes a component of an ingredient selected from the group consisting of sugar molasses, yeast extract and corn steep liquor. Optionally, fermentation residues can serve as marker molecules. Thus, there are marker molecules indicative of hydrolysis of a lignocellulosic substrate, and additional marker molecules indicative of fermentation of sugars in the resultant hydrolyzate.

Optionally, the composition includes glucose at a concentration of 0.001; optionally 0.01; optionally 0.1% of total sugars on a weight basis. Alternatively or additionally, the composition optionally includes glucose at a concentration of not more than 5; optionally 3; optionally 1% of total sugars on a weight basis.

Alternatively or additionally, the composition optionally includes arabinose at a concentration of at least 0.001; optionally 0.01; optionally 0.1% of total sugars on a weight basis.

Alternatively or additionally, the composition optionally includes 0.001% non-volatile fermentation product on a weight basis.

In some exemplary embodiments of the invention, the concentration of marker molecule does not exceed 0.5%. Optionally, a total concentration of the two, optionally the three, marker molecules does not exceed 0.5%.

Optionally, the composition includes at least 60% total sugars.

61. This disclosure is in line with the disclosure of the claims of the application as filed, e.g. claim 111 and claim 124, also referred to by the Defendant:

111. A sugar composition comprising (by weight relative to total sugar concentration):

(a) at least 60% xylose;

(b) at least 100 PPB of a marker molecule; and

(c) 0.001% to 10% oligosaccharides.

124. A composition according to any one of claims 111-123, wherein a concentration of said marker molecule does not exceed 0.5%.

62. As, correctly assumed by both parties, the application as filed discloses to the skilled person a composition comprising the same components a (xylose), b (marker molecule) and c (oligosaccharides) as the claimed composition. The application as filed discloses that the amounts of the components a, b and c must be calculated by weight relative to the total sugar concentration in the sugar composition (see p. 36, line 32-33 and claim 111, both depicted above).

63. However, as follows from the claim interpretation given above, the skilled person regards the composition as claimed in claim 1 of the Patent as comprising a range of marker molecule calculated in respect of the total sugar composition. This amendment adds technically relevant information, which was not derivable from the application as filed, i.e. a sugar composition may or may not fall under the scope of the claim, depending on the amount of marker molecule calculated relative to the total composition as opposed to relative to the sugar concentration in the composition. That this information is technically relevant is clear to the skilled person based on their common general knowledge as is shown in the example discussed above: depending on the total sugar concentration (i.e. relative to the other components in the composition), there may be a significant difference between the amount of marker molecule present when calculated relative to the total sugar concentration compared to when calculated relative to the total composition. This is also the common understanding of the parties.

64. The Defendant has not brought forward any other added matter defence in relation to the calculation for the marker molecule than that the claim interpretation of the Claimant is wrong and no such defence is apparent to the Court. Claim 1 therefore extends beyond the content of the application as filed. The Patent is invalid for added matter accordingly.

IV. Auxiliary Requests

Originally filed Auxiliary Requests

65. As claim 1 of the Patent is invalid, the revocation action is successful, in any event to that extent, so that the Patent cannot be maintained in the form as granted in the UPC Contracting Member States in which the Patent has effect. The condition under which the Defendant proposed amendments in the form of a number Auxiliary Requests therefore applies. The Court will therefore now consider the Auxiliary Requests.

66. None of the Auxiliary Requests originally filed with the Defence to Revocation, as narrowed down with the submission of 28 November 2025 to Auxiliary Requests 1, 3, 4, 6, 7, 13, 14, 18 and 19 (adhering to the original numbering for the sake of clarity, as helpfully done by the Defendant, “Original Auxiliary Requests”), have been submitted in order to or are able to overcome the issue of added matter discussed above. All of these claims comprise the feature of “at least 100 PPB, but not exceeding 0.5%, of a total concentration of marker molecule”. This feature is to be interpreted as explained above, i.e. the concentration of

marker molecule(s) has to be calculated relative to the total concentration of the composition and not relative to the total sugar concentration. Therefore, upon a proper claim construction, the subject matter covered by all of these Auxiliary Requests lacks basis in the application as filed, at least for the same reasons as claim 1 of the Patent as granted. No arguments to the contrary have been brought forward by the Defendant. Consequently, the Original Auxiliary Requests cannot save the Patent.

Subsequent application to amend

67. The Defendant has requested that permission from the Court is granted to replace original Auxiliary Requests 6, 14 and 18 with Auxiliary Requests 6a, 14a and 18a filed with the Rejoinder to the Reply to the Defence to Revocation. According to the Defendant, these contain a minor clarificatory amendment to express that the amount of marker molecule is calculated "by weight relative to total sugar concentration" as well as a deletion of claim 2 (that was deemed to be redundant by the Defendant in view of the requirement in claim 1 to have at least two marker molecules). The Claimant objects against these replacement Auxiliary Requests as being late filed.

68. Under R. 49.2 RoP, the Defence to revocation may include an application to amend the patent. Pursuant to R. 50.2 in conjunction with R. 30.2 RoP, a subsequent request to amend the patent may only be admitted into the proceedings with the permission of the Court. When deciding on a subsequent request to amend the patent, the Court must take into account all the relevant circumstances of the case, including whether the party seeking the subsequent amendment is able to justify that i) the amendment in question could not have been made with reasonable diligence at an earlier stage, and ii) the amendment will not unreasonably hinder the other party in the conduct of the action (UPC_CoA_464/2024 a.o., decision of 25 November 2025, *Meril/Edwards*, Headnote 2).

69. Applying the above principles to the case at hand, the Court notes that the subsequent application to amend the Patent was filed at a late stage in the current proceedings, i.e. with the last written pleading, the Rejoinder to the Reply to the Defence to Revocation, also Reply to the Defence to the Application to amend the Patent. The Defendant did not provide an explanation or justification as to why it was not possible to file the request earlier. During the oral hearing, the Defendant referred to section 5.2 of the Rejoinder and stated that Auxiliary Request 6a was filed in reply to the Claimant's submissions in the Reply to the Defence. However, no explanations for the late filing of Auxiliary Request 6a are provided in the Rejoinder nor are these apparent from the Defendant's submissions. To the contrary, the Defendant stated that the amendment preserves the meaning of original Auxiliary Request 6 and therefore merely brings this Auxiliary Request into compliance with their original arguments and therefore does not represent a substantive amendment to the Defendant's case.

70. That the amendment in the view of the Defendant is "only a minor clarificatory amendment" does not justify its late-filing. Moreover, the issue in relation to which the amendment is

proposed (i.e. the issue of claim construction) is, as follows from the above, not a minor issue, but constitutes a central plank of the Claimant's case and has been so from the beginning. This was also apparent to the Defendant as evidenced by the elaborate argumentation to this point in the Defence to Revocation. Therefore, the Court is of the opinion that the Defendant could and should have filed the subsequent auxiliary requests earlier. In addition, submitting the replacement auxiliary requests only in the last written submission makes it unnecessarily and unreasonable difficult for the Claimant and the Court to properly deal with the new request as it raises new substantive issues in relation to which there has not been a proper debate between the parties (for example, the Claimant raised the issues of lack of clarity, added matter and extension of subject matter).

71. In view of the foregoing, permission under Rule 50.2 RoP in connection with Rule 30.2 RoP is not given.

72. The Defendant's request under iii) to limit the patent by a corresponding amendment of the claims of the patent as granted in accordance with Article 65(3) UPCA is rejected. Even if this request were to be interpreted as referring only to the original (sub)claims of the Patent, as argued by the Defendant during the oral hearing, it is unclear to the Court which claims the Defendant wishes to uphold and in which combination. It may be so, as argued by the Defendant, that a patent proprietor has the substantive right to limit his Patent in revocation proceedings on the basis of Art. 65(3) UCPA. This right, however, does not imply that there cannot be any procedural framework that has to be observed in exercising that right. In UPC proceedings, the Court has to decide on the basis of the requests of the parties (Art. 76(1) UPCA) and hence, those requests have to be sufficiently clear. For amendments (in the form of auxiliary requests), the RoP provide for specific guidance in Rule 30 RoP, from which it follows that the patent proprietor must at least make clear which amendments to the patent as granted he wishes to propose. In the absence of a concrete and clear proposal, the request is to be rejected (similar: UPC_CFI_433/2024, CD Paris seat, decision dated 7 January 2026, *Microsoft/Suinno*).

73. In any event, none of the subclaims can save the Patent, as they merely add further features to claim 1, which itself lacks basis in the application as filed.

V. Inventive step

74. Apart from and in addition to the conclusions reached above on added subject matter, and regardless of the construction of claim feature 1.3 (calculation of the amount of marker molecule), the claimed sugar composition does not involve an inventive step.

75. As discussed under claim construction above, claim 1 of the Patent is a product claim relating to a sugar composition *per se*. It is not in dispute between the parties that sugar compositions having the general composition of claim 1 were known from the prior art (there is discussion between the parties about the novelty of the claimed composition, but this inventive step analysis applies regardless of the outcome of that discussion). The

Defendant has defended inventive step of the claimed subject matter exclusively on the basis that the composition of claim 1 is an intermediate product which, according to the Defendant, is accessible via the sugar processing methodology that is illustrated in Fig. 10 of the Patent and described in detail elsewhere in the Patent. Such a composition can, according to the Defendant, advantageously be used to generate crystals of substantially pure xylose, suitable for hydrogenation to xylitol. On that basis, the Defendant argues that the Court should take account of the context in which the intermediate product is produced and used, in order to assess whether a claim to the intermediate product satisfies the requirement for inventive step. The Defendant has not brought forward any arguments in support of inventive step of the claimed composition as a product *per se*, i.e. independent of its usefulness as an intermediate in an inventive process. The Defendant has in no other way rebutted the arguments of the Claimant that the claimed composition is nothing but an arbitrary modification of known xylose compositions (which were known as intermediates for the production of xylitol).

76. The Defendant has referred to decisions of national courts and the EPO in support of the acknowledgment of inventive step of intermediate products.

77. The approach to the assessment of inventive step taken by the UPC has been outlined by the Court of Appeal in its decisions UPC_CoA_528/2024, UPC_CoA_529/2024 (decision of 25 November 2025, *Amgen/Sanofi*) and UPC_CoA_464/2024 (and other numbers) (decision of 25 November 2025, *Meril/Edwards*).

78. In the UPC approach, it first has to be established what the object of the invention is, i.e. the objective problem. This must be assessed from the perspective of the skilled person, with their common general knowledge, as at the application or priority date (also referred to as the relevant date) of the patent. This must be done by establishing what the invention adds to the state of the art, not by looking at the individual features of the claim, but by comparing the claim as a whole in context of the description and the drawings, thus also considering the inventive concept underlying the invention (the technical teaching), which must be based on the technical effect(s) that the skilled person on the basis of the application understands is (are) achieved with the claimed invention.

79. In the present case, the Court does not accept that the inventive concept underlying the invention is, which is essentially Defendant's case, providing an intermediate product in an advantageous route to convert lignocellulosic materials into high purity crystalline xylose, suitable for subsequent hydrogenation into xylitol. This alleged contribution to the art by the claimed subject matter, which has been disputed by the Claimant in a substantiated way, does, however, not follow from the technical teaching as understood by the skilled person based on the Application. The skilled person is not taught, nor can they derive from the Application, how the purported intermediate product (i.e. the claimed sugar composition including xylose, marker molecule and oligosaccharides in the specified amounts) is produced, how and when it is formed and what its role or technical effect is in the (according to the Defendant inventive) process depicted in Fig. 10 nor what its effect is, if any, on the

end product xylitol. Xylitol was undisputedly generally known at the priority date and so was its preparation by the hydrogenation of xylose.

80. The process depicted in Figure 10 is very general and does not contain specific instructions to the skilled person on the process steps to be taken or the compositions to be used. The description of the exemplary method shown in Figure 10 (starting at p. 34, ln. 20 of the Application) does not provide much additional detail either. On p. 36, line 31-p. 37, line 1 of the Application (depicted in the added matter section above) it is mentioned that "Alternatively or additionally, practice of the procedure outlined in Fig 10 might produce, as an intermediate product, a sugar solution comprising (by weight relative to total sugar concentration) at least 60% xylose, at least 100 PPB of a marker molecule and 0.001% to 10% oligosaccharides (underline CD)". Similar information is provided on p. 37, line 34 "Compositions of this general type might occur at, for example, 1040 or 1050 in Fig. 10. (underline CD)"[1]. The Application does not provide any examples, experimental data or other technical information from which the skilled person would derive a technical effect being achieved by the use of the claimed compositions as an intermediate product. The mere mentioning that these "general compositions" "might" be formed does not give the skilled person any technical information in this respect. As argued by the Claimant, and not disputed by the Defendant, the compositions according to the sole example included in the Application do not fall within the respective ranges for all features of claim 1. In particular, the compositions according to the example do not contain any marker molecule. Moreover, the description is silent on any technical effect caused by the marker molecule in those compositions.

81. The Court, therefore, does not share the Defendant's view that the claimed composition is "inextricably linked" to an inventive process disclosed in the Application making it an (inventive) intermediate connected to such process. The description (as read by the skilled person) lacks the technical information to support the existence of such a link. In the light of the absence of information in the Application, it would have been up to the Defendant to provide further concrete substantiation for the existence of a connection or at least a concrete technical effect of the claimed intermediate composition as an instrumental part of an inventive process, or giving rise to beneficial properties of the end product. The Defendant has not done so nor has the Defendant submitted or offered any (expert) evidence in this respect.

82. Therefore, in the opinion of the Court, based on the technical information contained in the Application, the inventive concept underlying the claimed composition can only be seen by the skilled person as the provision of another sugar composition which may be suitable for crystallization of xylose and hydrogenation to xylitol. The parties rightfully appear to agree that no inventive step can be acknowledged on the basis of this objective problem. The solution, being the claimed composition, would have been obvious for the skilled person based on the prior art xylose compositions relied upon by the Claimant (for example the

[1] A similar disclosure can be found in the description, par. [201] and par. [0213], respectively.

compositions disclosed in WO 2010/046532, submitted by the Claimant as exhibit HE R800-11). Any differences between the prior art and the claimed subject matter are merely routine and arbitrary modifications of these known compositions. This, as such, has not been disputed by the Defendant.

83. The Court notes that the same principles appear to underly the Case Law of the Boards of Appeal of the EPO (see Ch. I.D.9.4.4, "Intermediate Products") which was also referred to in the national case law cited by the Defendant, according to which an intermediate intended for the preparation of a known end-product can be inventive if its preparation takes place in connection with an inventive manner of preparation, its inventive further processing, or in the course of an inventive complete process for preparing the end product. This case law requires an (inextricable) link between the (claimed) intermediate and an inventive process. Absent an inextricable link, as in the present case for the reasons given above, between the claimed sugar composition, relied upon as an intermediate, and an inventive process for the production of a known end-product, no inventive step can be acknowledged for the otherwise non-inventive composition as claimed.

Auxiliary Requests

84. The Court notes that none of the auxiliary requests that have been filed by the Defendant (and none of the sub-claims of the Patent as granted for that matter) can remedy this lack of inventive step as none of the auxiliary requests link the composition to a particular (inventive) process, specifically to the process of Fig. 10.

85. This is in particular also true for auxiliary requests 13 and 18 that introduce product-by-process features to the claimed sugar composition. Claim 1 of AR13 has been formulated in the following manner (changes shown over claim 1 as granted, the product-by-process features of AR18 are essentially identical):

1. A sugar composition comprising:

(a) at least 60% xylose by weight relative to total sugar concentration;

(b) at least 100 PPB, but not exceeding 0.5%, of a total concentration of marker molecule, wherein

the marker molecule is at least one molecule selected from the group consisting of furfural, hydroxy-methylfurfural, products of furfural or hydroxy-methylfurfural condensation, color compounds formed on heating a sugar, levulinic acid, acetic acid, methanol, galacturonic acid, an alcohol of more than four carbon atoms, betaine, amino acids, proteins, phosphate and glycerol, and ~~optionally~~ at least one fermentation residue; and

(c) 0.001% to 10% oligosaccharides by weight relative to total sugar concentration;

wherein the composition is obtainable by a method involving:

(i) selectively fermenting a first sugar in a mixture which includes at least one second sugar to form a first sugar product and a modified mixture;

(ii) separating said first sugar product from said modified mixture;

(iii) ultrafiltration of the modified mixture to produce a concentrated mixture;

(iv) chromatographic separation of the concentrated mixture to enrich the mixture for the second sugar;

~~(c)~~ wherein the second sugar is xylose.

86. Product-by-process claims are generally to be interpreted such that the claimed invention does not lie in the process features as such, but rather in the technical characteristics that are imparted to the product by the process. In other words, the process features define the product. The process itself is not the subject matter of protection and does not limit the scope of protection. What is therefore decisive is how the skilled person understands the information relating to the process and what conclusions they draw from this for the characteristics of the product (cf. LD Düsseldorf, UPC_CFI_50/2024 decision of 10 April 2025, *Yellow Sphere/Knaus Tabbert*). Applying these principles to the product-by-process claims that are the subject of AR13 (and 18), it follows from the above discussion on inventive step that there is no information in the Patent (application) nor in the common general knowledge from which it follows that the claimed sugar composition has any special properties that are imparted to it by, or that are intimately connected to, the process of its preparation (steps i-iv of the claim). The subject matter covered by these claims, and therefore their validity analysis, is identical to the product (composition) claim that was held to be unpatentable for lack of inventive step as per the above (apart from and in addition to the added matter problem which also applies to those claims). These claims are thus equally invalid for lack of inventive step.

87. In conclusion, the claimed subject matter lacks an inventive step, and the Patent is invalid also for that reason.

VI. Legal consequences

88. The legal consequence of the above is that the Patent must be revoked in its entirety on the ground of added matter and/or lack of inventive step.

89. The application to amend the Patent is dismissed. No permission is given for the subsequent application to amend the Patent.

90. Pursuant to Art. 69(1) UPCA in conjunction with R. 118.5 RoP, the Court shall decide on the obligation to bear costs. As follows from the above, the Claimant is to be regarded as the successful party. Therefore, the Defendant, as the unsuccessful party, must bear the legal costs and other expenses incurred by the Claimant. No reasons have been brought forward or are apparent to the Court as to why equity would require otherwise.

91. The value of the case was already set by the judge-rapporteur at 1.000.000 EUR (order dated 21 November 2025). Based on the table of maximum amounts for recoverable costs (published by the Administrative Committee on 24 April 2023 as D-AC/10/24042023_D) for a value in dispute of EUR 1.000.000, the ceiling is EUR 112.000.

Decision

1. European patent EP 2 611 800 is revoked in its entirety with effect to the territories of Austria (AT), Finland (FI), France (FR), Germany (DE), The Netherlands (NL), and Sweden (SE).

2. The application to amend the Patent is dismissed.

3. No permission is granted for the subsequent application to amend the Patent.

4. The Defendant as the unsuccessful party shall bear the legal costs incurred by the Claimant.

5. Any further request made is dismissed.

András Kupecz Presiding judge	András Ferenc Kupecz Digital unterschrieben von András Ferenc Kupecz Datum: 2026.02.19 15:20:55 +01'00'
Anna Hedberg Technically qualified judge	Anna Hedberg Digitally signed by Anna Hedberg Date: 2026.02.19 14:35:33 +01'00'
Daniel Severinsson Legally qualified judge	Sven Daniel Severinsson Digitally signed by Sven Daniel Severinsson Date: 2026.02.19 14:23:36 +01'00'
For the deputy-registrar	Natalie Gnaß Digital unterschrieben von Natalie Gnaß Datum: 2026.02.23 08:56:31 +01'00'

This decision was read out in open court on 24 February 2026.

Information about appeal

An appeal against the present Decision may be lodged at the Court of Appeal, by any party which has been unsuccessful, in whole or in part, in its submissions, within two months of service of the decision (Art. 73(1) UPCA, R. 220.1(a), 224.1(a) RoP).

Information about enforcement

Art. 82 UPCA, Art. 37(2) UPCS, R. 118.8, 158.2, 354, 355.4 RoP:
An authentic copy of the enforceable decision will be issued by the Deputy-Registrar upon request of the enforcing party, R. 69 RegR.

Instruction to the Registry

A certified copy of the decision shall be sent to the European Patent Office and the national Patent and Trademark offices as soon as the decision on the revocation action has become legally binding.