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**Datasheet for the decision
of 8 December 2010**

Case Number: T 1849/09 - 3.3.08

Application Number: 98109967.4

Publication Number: 0867504

IPC: C12N 9/28

Language of the proceedings: EN

Title of invention:
Oxidation-stable alpha-amylase

Patentee:
GENENCOR INTERNATIONAL, INC.

Opponent:
NOVOZYMES A/S

Headword:
Alpha-amylase/GENENCOR

Relevant legal provisions:
EPC Art. 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Claim request - inventive step (yes)"

Decisions cited:
T 0596/99, T 1300/06

Catchword:
-



Case Number: T 1849/09 - 3.3.08

D E C I S I O N
of the Technical Board of Appeal 3.3.08
of 8 December 2010

Appellant I: GENENCOR INTERNATIONAL, INC.
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
13 July 2009 concerning maintenance of the
European patent No. 0867504 in amended form.

Composition of the Board:

Chairman: L. Galligani
Members: P. Julià
R. Moufang

Summary of Facts and Submissions

- I. European patent no. 0 867 504, based on European patent application no. 98 109 967.4 (a divisional application of the earlier European patent application no. 94 909 609.3, published under the PCT as WO 94/18314), was granted with 18 claims.

- II. The patent was opposed on the grounds as set forth in Articles 100(a), (b) and (c) EPC and maintained in a first decision of the opposition division in amended form based on a third auxiliary request then on file. Appeals against this decision of the opposition division were filed by both the patentee and the opponent. During appeal proceedings, the patentee made the third auxiliary request its main request and withdrew all other requests. The then competent board of appeal decided to remit the case to the first instance for further prosecution, in particular in order to carry out the examination with respect to the requirements laid down in Articles 76(1) and 123(2) EPC (cf. T 1300/06 of 8 April 2008).

- III. In its decision of 13 July 2009, the opposition division considered the main request to contravene the requirements of Article 76(1) EPC and the first auxiliary request then on file to fulfil all requirements of the EPC.

- IV. Notices of appeal were filed by both the patentee and the opponent (appellants I and II, respectively). Statements setting out their grounds of appeal were filed as well as further submissions in reply to their respective statements of grounds of appeal. In its

- submissions, appellant I filed a new claim request to replace all its previous requests then on file.
- V. Further submissions were filed by appellant II to comment on appellant I's new claim request. In these submissions, appellant II raised only an objection for lack of inventive step of claims 18 to 21.
- VI. On 2 August 2010, the board issued a summons to oral proceedings to which a communication pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA) was attached. In that communication the parties were informed of the board's preliminary, non-binding view on the issues to be discussed at the upcoming oral proceedings.
- VII. Both parties replied to the communication of the board. In its reply of 1 November 2010, appellant I filed a new claim request to replace its previous request. The new claim request differed from the previous request by the correction of several claim dependencies. In its reply to the board's communication, appellant II maintained its sole objection for lack of inventive step of claims 18 to 21.
- VIII. Oral proceedings took place on 8 December 2010. During these proceedings, appellant I submitted an amended description in accordance with its claim request.
- IX. The following documents are cited in the present decision:

D2: WO-A1-91/16423 (publication date: 31 October 1991);

D9: H. Malmos, Chemistry & Industry, 19 March 1990,
pages 183 to 186;

D13: G.L. Gray et al., J. Bacteriol., 1986, Vol. 166,
pages 635 to 643;

D23: EP-B1-0 252 666 (publication date: 23 June 1993,
application published on 13 January 1988).

X. Appellant I's **sole claim request** contained 24 claims,
wherein claim 18 read as follows:

"18. A detergent composition which comprises a mutant
alpha-amylase and one or more additional enzymes
wherein said mutant alpha-amylase is selected from the
group consisting of

(a) an alpha-amylase that is the expression product of
a mutated DNA sequence encoding an alpha-amylase, the
mutated DNA sequence being derived from a precursor
alpha-amylase of *Bacillus licheniformis* by
site-specific substitution of an amino-acid at position
M+15, and

(b) an alpha-amylase that is the expression product of
a mutated DNA sequence encoding an alpha-amylase, the
mutated DNA sequence being derived from a precursor
alpha-amylase which is a *Bacillus* alpha-amylase by
site-specific substitution of a methionine residue that
corresponds in position in either the primary or
tertiary structure to M+15 in *Bacillus licheniformis*
alpha-amylase,

said alpha-amylase exhibiting an altered pH and/or temperature performance profile when compared to wild-type *Bacillus* alpha-amylase; wherein the substituent amino acid is Leu, Thr, Asn, Asp, Ser, Val or Ile."

Claims 19 to 21 were particular embodiments of claim 18. The mutant alpha-amylase was defined as being M15L in claim 19 and as further comprising one or more other site specific mutations in claim 20. Claim 21 defined the additional enzyme or enzymes present in the detergent composition as being selected from the group consisting of amylase, proteases, lipases and celluloses [sic].

- XI. The arguments of appellant I, insofar as they are relevant to the present decision, may be summarized as follows:

Inventive step (Article 56 EPC)

Although the patent-in-suit did not provide performance data for detergent compositions comprising the alpha amylase mutants of claim 18, experimental data showed them to be functional under detergent conditions and to have improved properties suitable for these detergent compositions. These alpha amylase mutants had a higher specific activity than the parent enzyme on a soluble substrate and under pH conditions used for detergent compositions (Example 7 and Figure 10). Higher specific activities were also shown on other substrates (Figure 12) and, although at a lower pH, these mutants had a reasonable heat stability (Figure 11) and oxidative resistance. There was no evidence on file to

show that these alpha amylase mutants were not suitable for detergent compositions. Therefore, in line with the case law (cf. "Case Law of the Boards of Appeal", 6th edition 2010, VI.H.5.1.1, page 564, in particular, decision T 596/99 of 5 December 2001), appellant II's arguments were not enough to discharge its burden of proof.

Document D23 did not refer to the possible use of the disclosed hybrid alpha amylases for detergent compositions. The document was only concerned with the enzymatic manufacture of high dextrose syrups and addressed a technical problem (presence of a disadvantageous residual alpha amylase activity from the liquefaction step in the saccharification step) that was completely unrelated to, and different from, that of the patent-in-suit. The hybrid alpha amylases were designed to have advantageous properties for solving a very specific technical problem but there was no indication to suggest that these properties could also be useful for detergent compositions. Nothing in document D23 could have led a skilled person to use the hybrid alpha amylases for detergent compositions and hindsight was required to contemplate such use.

Document D2 addressed the same technical problem as the patent-in-suit (improve stability of detergent enzymes towards oxidative reagents). However, it only referred to the mutation of Met to Cys and there was no mention at all of any of the specific substitutions defined in claim 18. Document D2 was exemplified by subtilisin proteases and amylases were only mentioned in general and within a group of other detergent enzymes. Starting from document D2 as closest prior art and in view of

the improved properties of the alpha amylase mutants of the patent-in-suit, the technical problem to be solved was not the mere provision of further detergent enzymes but the provision of improved enzymes in the detergent compositions mentioned in document D2. There was, however, no reason to combine documents D2 and D23 because both documents addressed different technical problems and were found in unrelated technical fields. There was nothing in document D23 to suggest to a skilled person that the hybrid alpha amylases of that document could provide an improvement when used in detergent compositions. The disclosure of the other prior art document D13 did not add anything to that of document D23.

Document D9 was not the best starting point to assess inventive step because it was a general review of detergent enzymes and did not address the problem of improving the properties of these enzymes. Hindsight was required to select the reference to heat-stable alpha amylases found in that document and from there go to the hybrid alpha amylases of document D23. The more so when account was taken of the heat stabilities of these hybrid amylases which were shown in Table III of document D23 to be similar to those of the wild type alpha amylases, if not worse. Similar results were shown for the hybrid alpha amylase of document D13. Moreover, documents D23 and D13 did not point out the importance of the Met substitution at position 15 nor did document D23 emphasize the relevance of heat stability for the hybrid amylases, let alone for their possible use in detergent compositions. The combination of document D2 with documents D23 or D13 was the result of an *ex post facto* approach that required hindsight.

XII. The arguments of appellant II, insofar as they are relevant to the present decision, may be summarized as follows:

Inventive step (Article 56 EPC)

Paragraph [0032] of the patent-in-suit acknowledged that not all the alpha-amylase mutants disclosed in the patent-in-suit were useful in formulating detergent compositions. Moreover, whereas that paragraph referred also to detergent compositions having a pH between 6.5 to 12.0, the examples of the patent-in-suit were all performed at lower pH. There was no experimental evidence to show that the disclosed alpha amylase mutants were functional under detergent conditions and, even less, that they provided a surprising effect or advantageous property over other alpha amylases known from the prior art. Claim 18 embraced embodiments that were not functional under the detergent conditions specified in the patent-in-suit. Since this fact was acknowledged by the patent-in-suit, there was no need to file experimental evidence to support it and, in line with the case law, the burden of proof laid on the patentee to show the contrary.

Whereas the first part of claim 18 defined a detergent composition as containing an alpha amylase, the second part of that claim defined the alpha amylase. The use of alpha amylases in detergent compositions was known in the prior art and alpha amylases falling within the definition given in claim 18 were also known in the art, as shown by the hybrid alpha amylases of document D23. According to the established case law, in the absence

of a surprising effect, no inventive step could be recognized for a known enzyme to be used in a known application or use. Since the patent-in-suit failed to disclose a surprising effect or advantageous property for the alpha amylase mutants defined in claim 18, the disclosure of document D23 was already sufficient to demonstrate that the subject-matter of claim 18 did not require an inventive contribution from a skilled person.

Document D2 disclosed detergent compositions comprising detergent enzymes (proteases, amylases, lipases and cellulases) with improved stability towards oxidative reagents - obtained by the substitution of Met residues. The disclosure of document D2 was centred on subtilisin proteases but referred to the presence of other enzymes - conventionally used in detergent compositions, such as alpha amylases - in the exemplified detergent compositions. The disclosure of document D2 differed from the subject-matter of claim 18 in that its detergent compositions did not comprise an alpha amylase as defined in claim 18, i.e. having an altered pH and/or temperature performance profile compared to that of the parent wild-type *Bacillus* alpha amylase. However, the technical effect on the detergent compositions arising from that difference was not evident from the patent-in-suit. Thus, starting from document D2 as closest prior art, the technical problem to be solved was the provision of further detergent enzymes in the detergent compositions of document D2, in particular, of alpha amylases with altered stability or profile.

Tables II and III of document D23 showed that the hybrid alpha amylases disclosed in that document

exhibited altered pH and temperature profiles compared to those of the parent alpha amylases. These hybrid alpha amylases had the N-terminus of the alpha amylase from *B. amyloliquefaciens* joined to the C-terminus of the alpha amylase from *B. licheniformis* and thereby, at the position corresponding to position 15 of the wild-type alpha amylase from *B. licheniformis*, the amino acid residue was Thr instead of Met. Thus, a skilled person, when facing the technical problem of providing detergent compositions comprising alpha amylases with altered stability and/or activity profile, would have combined the teachings of documents D2 and D23. There was nothing inventive in using the hybrid alpha amylases of document D23 in the detergent compositions of document D2. Moreover, in the absence of a surprising or advantageous effect, the selection of the hybrid alpha amylases of document D23 could not represent an inventive selection.

Document D9 showed the conventional use of alpha amylases in detergent compositions and referred to the interest and advantages of heat-stable alpha amylases, explicitly mentioning the heat-stable alpha amylase from *B. licheniformis*. Starting from this document as closest prior art, the technical problem to be solved was the provision of further heat-stable alpha amylases for use in detergent compositions. Table III of document D23 showed the disclosed hybrid alpha amylases from *B. licheniformis* to be heat-stable and, indeed, some of them had a higher heat stability than the parent wild type alpha amylase. Thus, document D9 provided a motivation to look for further heat-stable alpha amylases and document D23 disclosed hybrid alpha amylases having the desired property. Thus, the

combination of these two documents was obvious to a skilled person. Moreover, document D13 showed that the production of hybrid variants of alpha amylase was well known in the art and that these enzymes were easily available to a skilled person. No hindsight was required to combine the teachings of document D9 with those of document D23.

XIII. Appellant I (patentee) requested that the decision under appeal be set aside and the patent be maintained on the basis of claims 1 to 24 filed on 1 November 2010 and an amended description as filed during oral proceedings.

XIV. Appellant II (opponent) requested that the decision under appeal be set aside and the patent be revoked.

Reasons for the Decision

Articles 76(1) and 123(2) EPC

1. No objections were raised under these articles by appellant II nor does the board see any reason to raise one of its own. Thus, the claimed subject-matter is considered to fulfil the requirements of Articles 76(1) and 123(2) EPC.

Article 83 EPC

2. Although there are no comments in the decision under appeal as regards Article 83 EPC, it is noted that in the decision of the opposition division appealed in the first appeal (T 1300/06, *supra*), the opposition

division considered the third auxiliary request - with subject-matter closely related to that of the request now under consideration - to fulfil the requirements of this article. These findings were not contested by appellant II nor has any objection under this article been further pursued in the (second) appeal proceedings. Thus, the claimed subject-matter is considered to fulfil the requirements of Article 83 EPC.

Article 54 EPC

3. The objection for lack of novelty raised by appellant II in its grounds of appeal against the request on which the patent was maintained by the opposition division has not been further pursued for the claim request now under consideration. The limitation of the subject-matter to that now claimed overcomes the original objection raised under that article. Thus, the claimed subject-matter is considered to fulfil the requirements of Article 54 EPC.

Article 56 EPC

4. The objections of appellant II against the claimed subject-matter were solely raised under Article 56 EPC and, only and exclusively, against claims 18 to 21. Those were also the sole objections pursued at the oral proceedings before the board (cf. points V, VII and VIII *supra*).

The claimed subject-matter and the disclosure of the patent-in-suit

5. Claim 18 is directed to a detergent composition comprising a mutant alpha amylase with one or more additional enzymes. The mutant alpha amylase is not limited to those having only the Met+15 substitution mentioned in claim 18 but includes amylases that have this specific mutation and other mutations - as shown by claim 20 which explicitly refers to those additional mutations (cf. point X *supra*). In line with the case law regarding product-by-process claims (cf. "Case Law", *supra*, II.B.6.1, page 287 and I.C.3.2.7, page 116), the board understands the (site-specific mutation) method cited in claim 18 for producing the mutant alpha amylase not to be of relevance as far as the mutant alpha-amylase exhibits the same features as those of a mutant alpha amylase obtained by that method, in particular the M+15 substitution and the substituents indicated in claim 18 (cf. point X *supra*).

6. In view of paragraphs [0013] and [0034] of the patent-in-suit, the board understands the feature "... exhibiting an altered pH and/or temperature performance profile ..." cited in claim 18 to cover any possible change in the mutant alpha amylase's pH and/or temperature performance profile when compared to the profiles of the precursor alpha amylase. A range of altered profiles may allow the skilled person to select those which are more suitable for the detergent conditions used in a particular detergent composition (powdered, liquid, dish care, laundry, etc.), as stated in the patent-in-suit "... any change (increase or decrease) in the mutant's enzymatic characteristic(s),

as compared to its precursor, may be beneficial depending on the desired end use of the mutant alpha amylase ..." (cf. page 3, paragraph [0013] of the patent-in-suit). It is in this sense that the board interprets appellant I's argument regarding the provision of an improvement or advantageous effect by the mutant alpha amylases of the patent-in-suit.

7. According to the patent-in-suit, the mutant alpha amylases can be formulated into known detergent compositions having pH between 6.5 to 12.0 (cf. page 6, paragraph [0032] of the patent-in-suit). Example 7 reports the specific activity of these mutants on a soluble substrate under the conditions specified in Example 3 (pH 6.7) (cf. page 15, paragraph [0060] and page 11, paragraph [0048] of the patent-in-suit). Figure 10 shows that the mutants having the substituents cited in claim 18 have a specific activity higher than that of the parental enzyme. Example 7 reports a heat stability assay (90°C for 5 min) and these mutant alpha amylases are shown in Figure 11 to have a reasonable stability (at least 60% of the parental enzyme). Although this assay is performed at a lower pH (5) than those indicated for detergent compositions, there is no evidence on file to show that similar altered profiles are not obtained at higher pH (between 6.5 to 12.0). In view of the fact that the results achieved by these alterations are not critical (increase or decrease), the board does not see any reason to doubt that the appellant I's submissions are correct (cf. point XI *supra*) and considers the patent-in-suit to provide enough information to support the subject-matter of claims 18 to 21.

The cited prior art and their combination

8. For its objection of lack of inventive step, appellant II has mainly relied on documents D23, D9 and D2, either alone or in combination. Document D13 has also been cited in support of its arguments (cf. point XII *supra*). Documents D23, D9 and D13 are discussed in detail below, whereas document D2 will be considered immediately thereafter.

9. Document D23 is the "B" patent document published by the EPO on 23 June 1993 which corresponds to the "A" application document published on 13 January 1988 (cf. point IX *supra*). Although the parties have only referred in their submissions to the former document, the board notes that the content of both "B" and "A" documents are identical. This content is therefore prior art under Article 54(2) EPC. Document D23 discloses hybrid alpha amylases comprising a N-terminus of the alpha amylase derived from *B. amyloliquefaciens* (from 55 to 60 residues) joined to a C-terminus of the alpha amylase derived from *B. licheniformis* (from 390 to 400 residues). When compared to the wild type alpha amylase of *B. licheniformis*, the resulting hybrid alpha amylases have a Thr at position 15 - among many other substitutions (cf. page 7, lines 11 to 21 of document D23), and they also exhibit altered performance profiles (cf. page 11, Tables II and III of document D23). Regardless of the method used for their production, these hybrid alpha amylases have all the features characterizing the mutant alpha amylases of claim 18 (cf. point 5 *supra*) and thus, the sole difference between the subject-matter of claim 18 and the disclosure of document D23 lies in the fact that

the mutant alpha amylases of claim 18 are comprised in a detergent composition, whereas there is no reference whatsoever to such a composition in document D23.

10. Document D23 refers, only and exclusively, to the drawbacks encountered when known alpha amylases are used in the liquefaction stage of starch conversion into high dextrose syrups, namely the presence of a disadvantageous residual activity in the saccharification stage. The hybrid alpha amylases of that document allegedly have an advantageous changed action pattern, while retaining the thermostability of the parental enzyme derived from *B. licheniformis* (cf. *inter alia* page 2, lines 35 to 50 and page 7, point 5.3 of document D23). Apart from that very specific use, there is no reference whatsoever to any other possible use for these hybrid alpha amylases. Indeed, there is no evidence on file to show that their changed action pattern might also be of advantage in other known applications of alpha amylases, such as in the treatment or processing of (cotton and cellulosic) textiles, in pulp and paper industry, in the degradation of organic debris, etc. (cf. page 2, paragraph [0003] of the patent-in-suit). In the absence of any indication thereto and in the light of the very particular disclosure of document D23, the board considers that hindsight is required to contemplate other possible uses, in particular, to select among all those possible applications, the use of the disclosed hybrid alpha amylases in detergent compounds.
11. Document D9 is a general review concerning the use of enzymes for detergents, in particular proteases, amylases, cellulases and lipases. When describing

commercially available alpha amylase formulations, document D9 refers to the alpha amylase from *B. amyloliquefaciens* and to the heat-stable alpha amylase from *B. licheniformis*, further stating that the use of recombinant DNA techniques is an indispensable tool in the development of improved alpha amylases "... just as it has been within the field of detergent proteases for a number of years" (cf. page 184, left-hand paragraph, fourth full paragraph to right-hand column, last paragraph of document D9). Indeed, when genetic engineering is mentioned in the context of detergent proteases, this technique is said to be used for increasing the number of possible proteases for industrial applications, for screening of organisms and proteins that might be of interest, for increasing their production yields and for improving those enzymes by numerous possible modifications, such as by site-specific mutation and, in particular, to introduce mutations in their binding cleft (cf. page 184, left-hand column, first to third full paragraphs of document D9). However, there is no reference whatsoever to the production of hybrid enzymes, even though their production was well-known in the art - as shown by document D13 (published in 1986, four years earlier than document D9) which describes, as document D23 (*supra*), the production of hybrid alpha amylases - in that case from *B. licheniformis* and *B. stearothermophilus*.

12. Although document D9 refers to heat-stable alpha amylases as being the natural first choice of enzyme in machine dishwashing detergent formulations, the board does not concur with appellant II's argument that this observation would inevitably lead a skilled person to

the hybrid alpha amylases of document D23 (cf. point XII *supra*). First, not all hybrid alpha amylases disclosed in document D23 exhibit a thermostability comparable to that of the parental alpha amylase from *B. licheniformis*. In fact, for a majority of them (three out of five) the thermostability is lower than that of the parental enzyme and, at least for one of these enzymes (QL 1861), significantly lower (cf. page 11, Table III of document D23). In line with these results, document D13 reports a decrease of stability of the hybrid enzymes with respect to the parental enzyme from *B. licheniformis*, even though the hybrid enzymes exhibit an enhanced specific activity (cf. page 641, Figure 5 and page 642, left-hand column, first full paragraph). Second, and more important, there is nothing in document D23 to suggest that the properties of the disclosed hybrid alpha amylases might also be of relevance for an industrial application other than the very particular one disclosed in that document, i.e. the conversion of starch into high dextrose syrups (cf. point 10 *supra*). It is noted that there is no reference whatsoever in document D13 to any possible industrial application for the disclosed hybrid enzymes. Thus, in the board's view, the combination of documents D9 and D23 cannot be regarded as obvious without using hindsight knowledge from the patent-in-suit.

The closest prior art and the technical problem to be solved

13. Document D2 discloses a method to improve the stability of detergent enzymes towards oxidative agents which comprises the site-directed mutation of one or more Met residues of these enzymes into Cys and the subsequent

chemical modification "... into an amino acid that sterically resembles the methionine originally present, but is much more stable towards oxidative agents than methionine ..." (cf. *inter alia* page 4, last paragraph of document D2). Although document D2 is exemplified only by subtilisin proteases, it also mentions amylases among other detergent enzymes (proteases, lipases and cellulases) (cf. *inter alia* page 5, first paragraph of document D2). Inasmuch as the aim of that document and that of the patent-in-suit are identical, document D2 fulfils the criteria set out in the case law for the determination of the closest prior art (cf. "Case Law", *supra*, I.D.3.1, page 163).

14. It is, however, not argued that document D2 would lead a skilled person to modify an alpha amylase as a detergent enzyme and to select the M+15 position for site-directed mutation, let alone to use the specific substituents recited in claim 18. Appellant II's arguments with respect to lack of inventive step rely mainly upon the statement found in document D2 that "... the detergent compositions of the invention may advantageously include one or more other enzymes, e.g. lipases; amylases; cellulases; and/or peroxidases, conventionally included in detergent compositions ..." (cf. page 12, lines 6 to 9 of document D2). Starting therefrom and defining the technical problem as the provision of further enzymes for these detergent compositions, appellant II considers the selection of the hybrid alpha amylases of document D23 not to require an inventive contribution. The combination of documents D2 and D23 would result in detergent compositions falling within the scope of claim 18 (cf. point XII *supra*).

15. Whereas, in the light of document D2 and of the patent-in-suit, the board may agree with appellant II in the formulation of the technical problem, namely the provision of further detergent enzymes for the detergent compositions of document D2, the board considers that the references to alpha amylases with an altered stability and/or activity profiles in the formulation of the technical problem can only be made with the benefit of hindsight knowledge of the patent-in-suit. There is nothing in document D2 to suggest that the detergent enzymes "... *conventionally included in detergent compositions* ..." may also exhibit altered profiles or properties, let alone an altered pH and/or temperature performance profile as required by claim 18.
16. Although document D2 states that "... *detergent enzymes have been artificially modified by deletions or substitutions of amino acids within their molecule, in order to achieve novel detergent enzymes with altered chemical and enzymatic properties* ..." (cf. page 1, lines 26 to 30 of document D2), this statement is found only in the context of the background prior art relating to i) the (site-directed mutagenesis) technique used in document D2 to introduce the desired Met mutations and ii) the subtilisin proteases used to exemplify the teachings of document D2 (cf. page 1, line 26 to page 2, line 15 of document D2). There is, however, no reference in that context to the production of hybrid detergent enzymes, such as those of documents D23 or D13 and therefore, in the board's view, there is no immediate link to any of these two documents - both published earlier than document D2 (cf. point 11 *supra*).

17. In the absence of such a link and in view of the very particular disclosure of document D23 (cf. point 10 *supra*), the board fails to see any reason which would induce the skilled person to combine the teachings of document D2 with those of document D23. There is no evidence on file to show that the changed action pattern of the chimeric alpha amylases of document D23 (advantageously used in starch conversion into high dextrose syrups) might also be of relevance for the detergent compositions of document D2. The board fails to see any prompting in the prior art for the skilled person to combine these two documents (cf. "Case Law", *supra*, I.D.5, page 176).

Conclusion on Article 56 EPC

18. It follows from all the foregoing, that the claimed subject-matter fulfils the requirements of Article 56 EPC.

Adaptation of the description

19. No objections have been raised by appellant II to the amendments to the description which have been effected to bring it into line with the claimed subject-matter. Nor has the board any objection to this amended description filed at the oral proceedings.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of the first instance with the order to maintain the patent on the basis of the following documents:
 - claims 1 to 24 filed on 1 November 2010;
 - pages 2 to 16 of the description filed during the oral proceedings;
 - pages 17 to 52 of the description as granted (sequence listing);
 - figures 1 to 15 as granted.

The Registrar:

The Chairman:

A. Wolinski

L. Galligani