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Datasheet for the decision of 24 February 2020

Case Number: T 0825/15 - 3.3.08

Application Number: 06753304.2

Publication Number: 1893764

IPC: C12P7/62

Language of the proceedings: EN

Title of invention:
ENZYMATIC PRODUCTION OF DEGUMMED FATTY ACID ALKYL ESTERS

Patent Proprietor:
Novozymes A/S

Opponent:
DuPont Nutrition Biosciences ApS

Headword:
Degummed fatty acid alkyl esters/NOVOZYMES

Relevant legal provisions:
EPC Art. 54, 56, 113(1)
RPBA Art. 15(1)

Keyword:
Main request - requirements of the EPC met (yes)

Decisions cited:

G 0002/88, G 0002/10, T 0848/93, T 0190/99, T 0304/08, T 0301/12, T 1566/12, T 0633/13, T 2170/13, T 0875/14

Catchword:

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Case Number: T 0825/15 - 3.3.08

D E C I S I O N
of Technical Board of Appeal 3.3.08
of 24 February 2020

Appellant: (Opponent)	DuPont Nutrition Biosciences ApS Langebrogade 1 P.O. Box 17 1001 Copenhagen K (DK)
Representative:	McConchie, Connor D Young & Co LLP 120 Holborn London EC1N 2DY (GB)
Respondent: (Patent Proprietor)	Novozymes A/S Krogshøjvej 36 2880 Bagsvaerd (DK)
Representative:	Stevens, Ian E. Potter Clarkson The Belgrave Centre Talbot Street Nottingham NG1 5GG (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 2 February 2015 concerning maintenance of the European Patent No. 1893764 in amended form.**

Composition of the Board:

Chairman	M. Montrone
Members:	P. Julià
	R. Winkelhofer

Summary of Facts and Submissions

I. European patent no. 1 893 764 was granted with 19 claims. An opposition was filed on the grounds as set forth in Articles 100(a), (b) and (c) EPC. The opposition division considered a main request filed during the opposition proceedings to fulfil the requirements of the EPC and, accordingly, the patent was maintained in amended form on the basis of this request.

II. The main request upheld by the opposition division also had 19 claims; claim 1 read as follows:

"1. A method for producing phosphorous reduced fatty acid alkyl esters, comprising mixing an alcohol having 1 to 5 carbon atoms, a substrate comprising triglyceride and/or fatty acids, with one or more lipolytic enzymes selected from lipases, cutinases and acyltransferases, and one or more phospholipases and water."

Claims 2 to 19 defined preferred embodiments of claim 1.

III. The opponent (appellant) lodged an appeal against the opposition division's decision and filed a statement setting out its grounds of appeal. The patent proprietor (respondent) replied thereto. Both parties requested oral proceedings.

IV. In a communication pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA 2007), the parties were informed of the board's provisional opinion on the issues of the case, in particular that the grounds of opposition set out in Articles 100(b)

and 100(c) EPC did not form part of the appeal proceedings, that the main request fulfilled the requirements of Articles 54 and 56 EPC, and that the appeal was likely to be dismissed.

V. Without making any substantive submissions, both parties withdrew their requests for oral proceedings.

VI. The board canceled the oral proceedings scheduled for 24 February 2020.

VII. The following documents are cited in this decision:

(7): Yuanyuan Xu *et al.*, 2004, Biocatalysis and Biotransformation, Vol. 22(1), 45 to 48;

(8): Yuji Shimada *et al.*, 2002, J. Mol. Catalysis B: Enzymatic, Vol. 17, 133 to 142;

(11): K. Clausen, 2001, Eur. J. Lipid Sci. Technol., Vol. 103, 333 to 340;

(13): WO 00/32758 (publication date: 8 June 2000);

(14): WO 00/60063 (publication date: 12 October 2000);

(15): Chao-Chin Lai *et al.*, 2005, J. Chem. Technol. Biotechnol., Vol. 80, 331 to 337;

(21): Declaration of Jørn Borch Søe of 21 February 2011;

(23): Yomi Watanabe *et al.*, 2002, J. Mol. Catalysis B: Enzymatic, Vol. 17, 151 to 155;

(26): US 2005/0287250 (publication date: 29 December 2005);

(27): WO 01/39602 (publication date: 7 June 2001);

(28): T.N.B. Kaimal *et al.*, 2002, Eur. J. Lipid Sci. Technol., Vol. 104, 203 to 211.

VIII. The submissions of the appellant, insofar as relevant to this decision, may be summarised as follows:

Main request
Interpretation of claim 1

The interpretation of claim 1 made by the opposition division as requiring the presence of "two separate enzymes" and a "single step" was contested.

As regards the interpretation of "two separate enzymes": in absence of a specific sequence or other enzyme identifier, a skilled person reading claim 1 had no reason to think that the lipolytic enzyme and the phospholipase could not be the same enzyme. On the contrary, (s)he understood that the claim required two activities to be present, since this was the reason for adding the enzymes, namely to take advantage of their activity. In absence of a specific definition, the mere mention of an enzyme equated to a mention of its activity. Thus, looking at claim 1 alone, it was not possible to infer that the claim required the presence of two different enzymes. In order to understand the boundaries of the terms "lipolytic enzyme" and "phospholipase enzyme", the patent itself taught the skilled person to consult documents (13) and (14). However, an overlap existed between the phospholipases disclosed in document (13) and the lipases defined in

claim 1 of document (14). At least five of the enzymes cited in Example 5 of document (13) fell within the scope of the enzymes defined in document (14); variant "3" of Example 5 of document (13) was an enzyme according to document (14). Thus, the patent itself taught that the very same enzyme could be present as a "lipolytic enzyme" and a "phospholipase enzyme". In Example 1 of the patent, an enzyme from Example 5 of document (13) and an enzyme according to document (14) were used, but they could also be the same enzyme. Document (21) showed that a single enzyme could act under the conditions of claim 1 as both, a phospholipase and a lipolytic enzyme.

As regards the interpretation of a "single step": although the patent referred to "one single process step", this feature did not limit claim 1 because the claim did not require that the enzymes (even if there were two) had to be added together. Claim 1 simply required to mix the components mentioned in the claim, but neither the order nor the number of mixing steps were specified; nor did the claim rule out other non-specified steps. In this sense, claim 1 had to be read as a method "comprising" the mixing of several components but without further limitations; it merely required to mix these components, but not their combination in a single step.

Article 54 EPC

Claim 1 was directed to a method which included specific steps that resulted in the making of a product, namely phosphorous reduced fatty acid alkyl esters. Thus, claim 1 was a method aimed at a certain purpose which resulted in the production of a product. Document (7) disclosed a reaction mixture with

Lipozyme TL IM, soybean oil and methanol which resulted in the production of fatty acid alkyl esters (page 46, left-hand column, first paragraph). Since document (21) showed that Lipozyme TL IM displayed both lipase and phospholipase activity, the fatty acid alkyl esters were also inevitably phosphorous reduced, even if it was not explicitly mentioned in document (7). Thus, document (7) provided an inevitable inherent disclosure of the same (product production) method, even though this was not specifically mentioned. Thus, in line with the case law, document (7) anticipated the method of claim 1.

Article 56 EPC

Starting from the closest prior art document (15), the objective technical problem was the provision of a simplified process for producing phosphorous reduced FAME [fatty acid methyl esters] products. Document (15) described a method that comprised a degumming step and referred to document (28) for details of this step. Document (28) described the use of a lipase (Lipase G) with phospholipase activity for carrying out a degumming. The phosphorous reduction achieved by this enzyme was shown to be very large. Thus, when faced with the objective technical problem, a skilled person not only could have, but would have, used a phospholipase as described in document (28). Difficulties as alleged by the opposition division were not supported by any evidence; there was no evidence of a prejudice concerning the ability of phospholipases to work under the conditions of the claimed method. Standard measures were known in the field and commonly used by the skilled person for overcoming some of the difficulties allegedly arising from using the lipase with phospholipase activity described in document (28).

Thus, the method of claim 1 was obvious in view of documents (15) and (28).

IX. The submissions of the respondent, insofar as relevant to this decision, may be summarised as follows:

Main request
Interpretation of claim 1

In line with the case law, claim 1 had to be read by a mind willing to understand. The claimed method comprised mixing the five components cited in the claim; all five components had to be present during at least one stage of the method. Claim 1 contained no limitation in the order of addition, it simply required a mixture of all components, which included at least two enzymes - at least one intended to function as a lipolytic enzyme and at least one intended to function as a phospholipase; this was entirely consistent with the disclosure throughout the patent. Lipolytic enzymes and phospholipases were differently defined in paragraphs [0022] and [0024] of the patent, and two different enzymes were always used in the examples. The fact that there was an overlap between the enzymes of Example 5 in document (13) and those of document (14) was irrelevant to the interpretation of claim 1. Although it was known in the art that some enzymes could have lipase and phospholipase activity and, even if a phospholipase of Example 5 of document (13) could fall within the generic lipase definition of claim 1 of document (14), this did not alter the meaning of claim 1 which still required the presence of one or more phospholipases (such as those according to Example 5 of document (13)) and one or more lipolytic enzymes (such as those according to document (14)).

Article 54 EPC

The method described in document (7) used a single enzyme, namely Lipozyme TL IM, and thus it did not disclose a combination of "one or more lipolytic enzymes" and "one or more phospholipases". It was irrelevant whether Lipozyme TL IM had, or did not have, both activities, because it was still only one enzyme. Moreover, there was no suggestion in document (7) that Lipozyme TL IM exhibited a phospholipase activity and, in light of the deficiencies present in the assays carried out in document (21) - as shown in documents (26) and (27) - it was not possible to rely on these assays for asserting that Lipozyme TL IM (inherently) reduced the phosphorus content by acting as a phospholipase. Thus, document (7) did not disclose a combination of a lipase and a phospholipase and, even if claim 1 was misconstrued, nor had it been shown that both activities were (inherently) present in Lipozyme TL IM.

Article 56 EPC

Starting from the closest prior art document (15), the objective technical problem was the provision of a simplified process for producing fatty acid alkyl esters and reducing the content of phosphorous impurities, thereby making the process less time consuming and costly. The claimed method solved this problem as shown by the examples in the patent. The finding that it was possible to effect degumming and ester formation in the same step was surprising. Document (15) referred to the inactivation of lipases by phospholipids and other minor impurities, and showed, by comparing ester formation from crude rice bran oil (RBO) and from previously degummed/dewaxed

RBO, that the degumming/dewaxing step was an essential pretreatment step of RBO - before carrying out the lipase-catalysed ester formation - for improving conversion efficiency. Thus, document (15) led a skilled person away from carrying out degumming and ester formation in the same step. The more so, because the method of claim 1 required the presence of water, whilst document (15) disclosed that water reduced the lipase-catalysed reaction. These findings were also reported elsewhere in the art (documents (8) and (23)), reflecting a prejudice against carrying out both steps simultaneously. Document (15) referred to document (28) for carrying out a simultaneous dewaxing/degumming process step, thereby leading the skilled person to a dewaxing/degumming using boiling water as a pretreatment of the crude RBO prior to esterification, but not to an enzymatic degumming. Document (28) also led away from an enzymatic degumming because this step formed high amounts of free fatty acids in the product. The conditions for enzymatic degumming using a phospholipase (document (11)) were different from those used with a lipolytic enzyme. Therefore, it was not obvious to combine the two steps or to expect such a combination to be successful; hindsight knowledge of the patent was required for arriving at the claimed method.

X. The appellant (opponent) requests that the decision under appeal be set aside and that the patent be revoked.

XI. The respondent (patent proprietor) requests, as its main request, that the appeal be dismissed and that the patent be maintained in amended form as upheld by the opposition division or, alternatively, the patent be

maintained on the basis of any of auxiliary request 1 to 7 filed in opposition proceedings.

Reasons for the Decision

1. The present decision is based on the same grounds, arguments and evidence on which the board's provisional opinion was based. It was neither questioned by any of the parties, nor did other aspects come up that would require its reconsideration.

Main request (claims as maintained by the opposition division)
Articles 123(2),(3) and 83 EPC

2. In the decision under appeal, the opposition division decided that the main request does not contravene Articles 123(2),(3) EPC and fulfils the requirements of Article 83 EPC. In the statement of grounds of appeal, the appellant stated that it maintained "our previous arguments on these points and reserve the right to present additional submissions on these at a later stage in the proceedings".

3. In the communication pursuant to Article 15(1) RPBA 2007, the board informed the parties that:

"Article 12(1) RPBA 2007 states that appeal proceedings shall be based on the statement of grounds of appeal. Article 12(3) RPBA 2007 requires the statement of grounds of appeal to contain a party's complete case and to set out clearly and concisely the reasons why it is requested that the decision under appeal be reversed, amended or upheld, and should specify expressly all the facts, arguments and evidence relied on. According to the case law, a mere reference in

general to submissions made at first instance, as a rule, cannot replace an explicit account of the legal and factual reasons for the appeal (cf. "Case Law of the Boards of Appeal of the EPO", 9th edition 2019, V.A.2.6.4, 1173 and V.A.3.2.1.j), 1195; *inter alia*, T 1566/12 of 9 November 2018, point 20 of the Reasons, and T 301/12 of 30 May 2018, points 29 to 31 of the Reasons).

In line therewith, the related grounds of opposition under Articles 100(b) and 100(c) EPC do not form part of the appeal proceedings".

4. As outlined above, no reasons can be seen for the board to deviate from its provisional opinion. Therefore, the grounds of opposition set out in Articles 100(b) and 100(c) EPC do not form part of the appeal proceedings.

Interpretation of claim 1

5. For the assessment of Articles 54 and 56 EPC, the interpretation of claim 1 is decisive. In the decision under appeal, the opposition division, after considering the parties' submissions which included a reference to documents (11), (13) and (14), concluded that the subject-matter of claim 1 relates to the use of two separate enzymes - each with a different activity, namely a lipase and a phospholipase - in a single step.

6. This assessment is perfectly correct. The board also agrees with the respondent that the claims have to be read by a mind willing to understand and interpretations have to be ruled out which are illogical or do not make technical sense (cf. T 190/99 of 6 March 2001, Catchword). Although appellant's

reference to a method using a single enzyme with both, lipase and phospholipase activity, may not be illogical and may make technical sense, as shown in the declaration of document (21), such a method is different from the claimed method and does not fall within the scope of claim 1. The term "and" in the last part of claim 1 requires, clearly and unambiguously, the presence of a second enzyme, namely "one or more phospholipases", in addition to that of a first enzyme, namely "one or more lipolytic enzymes". The "one or more lipolytic enzymes" is not only defined as being "selected from lipases, cutinases and acyltransferases", but it is also clearly distinguished from "one or more phospholipases" by using the term "and" in claim 1. A single enzyme with both activities cannot be "mixed" with itself. To follow appellant's interpretation would require to ignore the clear and unambiguous linguistic structure of claim 1 and to misconstruct the claim so as to interpret it differently.

7. Although the case law allows to use the description as the patent's "dictionary" in cases in which it is necessary to asses the correct meaning of ambiguous terms used in the claims (cf. "Case Law", *supra*, II.A. 6.3.1, 309), this is not the situation in the present case. As stated above, there is no ambiguity in the clear linguistic structure of claim 1. Moreover, even if for the sake of argument, it would have been necessary to use the description of the patent, there would be no discrepancy between the above interpretation of claim 1 and the teaching derivable from the description. Paragraphs [0022] and [0023] and paragraphs [0024] to [0028] define - and provide examples of - lipolytic enzymes and phospholipases, respectively, clearly differentiating these two types

of enzymes, each having either one or the other activity; but there is no single reference therein to an enzyme having both activities, even though it is known in the art that some enzymes may have both activities.

8. In this context, it is worth noting the disclosure in paragraphs [0023] and [0032] of the patent relating to "another aspect [of] the present invention" that "includes two different lipolytic enzymes", and wherein the first and the second lipolytic enzymes may have a different specificity, i.e. different activities against triglyceride and free fatty acids. Again, there is no reference in these paragraphs to any lipolytic enzymes having also a phospholipase activity. In line with this aspect of the invention, claim 1 refers to "one or more" lipolytic enzymes, but without further defining the specificity of any of these enzymes.

9. The appellant argues that the interpretation of claim 1 should also be based on the existence of an overlap between the phospholipases disclosed in document (13) and the lipases defined in claim 1 of document (14), with reference to variant "3" in Example 5 of document (13). However, this interpretation of claim 1 appears to rely on an implicit disclosure which is allegedly derivable from the description of the patent. For arriving at this interpretation, it is necessary not only to use the description of the patent but to further examine and cross-check the contents of the documents cited therein in order to become aware of said overlap. It is questionable whether such a disclosure fulfils the criteria established in the case law for acknowledging an implicit disclosure (cf. G 2/10, OJ EPO 2012, 376; in the context of amendments to the claims). In any case, to drawn on, or to resort

to, such a disclosure for interpreting claim 1 - which is itself neither unclear nor ambiguous - would be too far fetched and not in line with the case law cited in point 7 *supra*.

10. Claim 1 does not exclude the use of an enzyme having both activities, such as the phospholipases referred to by the appellant or other lipolytic enzymes and/or phospholipases known in the art to have both activities. However, claim 1 requires, clearly and unambiguously, the mixing of two enzymes, a first one necessarily having a lipolytic activity (a lipolytic enzyme) and a second one necessarily having a phospholipase activity (a phospholipase), regardless of whether one of these enzymes, or even both of them, may have one or more additional (minor) enzymatic activities, including the "other" enzymatic activity mentioned in the claim. In this respect, it is worth noting that claim 1 does not require any particular yield, i.e. a degree of phosphorous reduction and amount of fatty acid alkyl esters produced.

11. As a final remark, the board agrees with the appellant that claim 1 neither requires a particular order of addition or mixture of the components cited in the claim nor does it rule out or exclude the presence of further steps, either before or after the mixing of these components. However, claim 1 requires to have a mixture wherein, simultaneously and together, all components cited in the claim are present, i.e. "one or more lipolytic enzymes" and "one or more phospholipases", water, an alcohol and a substrate as defined in the claim.

Article 54 EPC

12. In the decision under appeal, the opposition division considered that document (7) does not anticipate the subject-matter of claim 1. A brief reference was also made to other prior art documents but none of them were considered to be relevant, nor relied on by the appellant in its statement of grounds of appeal.

13. The case law referred to by the appellant (T 848/93 of 3 February 1998 and T 304/08 of 26 August 2009) for supporting its argument on lack of novelty of the claimed method relates to the applicability of the decision G 2/88 (OJ EPO 1990, 93) to process claims (cf. "Case Law", *supra*, I.C.8.1.3, 165) and, in particular, to the different treatment of "use" and "process" claims (cf. "Case Law", *supra*, I.C.8.1.3.b) and I.C.8.1.3.c), 165 and 167, respectively). In line therewith, the board agrees with the appellant that the purpose (intended use) of the method of claim 1, namely the production of "phosphorous reduced fatty acid alkyl esters", does not constitute a distinguishing feature of claim 1, since claim 1 is not a "use" claim in the sense of decision G 2/88, *supra*.

14. However, this case law requires for a method disclosed in the prior art to anticipate the claimed method to have the same process (physical) steps and the same sequential order as the claimed method. A method for producing a product is characterised not only by said product - which might be obtained inherently or inevitably, even if not explicitly acknowledged in the prior art - but also by the process (physical) steps of the method and their sequential order. A method known in the prior art which results in the production of the same product - even if not explicitly acknowledged in

that prior art but inherently - as the claimed method but comprises process steps and/or a sequential order of these steps different from those of the claimed method, does not anticipate the claimed method (cf. *inter alia*, T 875/14 of 5 July 2017, point 1.4 of the Reasons; T 2170/13 of 6 February 2018, points 4.3 and 4.4 of the Reasons; T 633/13 of 17 October 2018, points 11 to 14 of the Reasons).

15. In the present case, the method described in document (7) is based on the use of a single enzyme, namely Lipozyme TL IM, and thus results in a mixture containing an alcohol and a substrate as required in claim 1 but using only one (single) enzyme. As stated above, in light of the clear linguistic structure of claim 1, it would mean to misconstruct the claim for considering it to embrace an embodiment comprising a single enzyme with both, lipase and phospholipase, activities. Since the appellant's interpretation of claim 1 requires to misconstruct the claim and it is thus not correct, it is not necessary to examine whether Lipozyme TL IM has, or does not have, both activities, and to further assess in detail the evidence provided by the parties on this issue, namely documents (21), (26) and (27).

16. Thus, the main request fulfils the requirements of Article 54 EPC.

Article 56 EPC

17. In the decision under appeal, document (15) was identified as the closest prior art. Starting from this prior art, the opposition division formulated the objective technical problem as the provision of a simplified method to produce fatty acid alkyl esters

with a reduced content of impurities. The claimed single-step method involving two separate enzymes, a lipolytic enzyme and a phospholipase, solved this problem. Although a skilled person could have replaced the (boiling-water) degumming step cited in document (15) (with reference to document (28)) by an enzymatic degumming process, in view of the unpredictable reaction conditions and the unlikelihood that both enzymes could be useful under the same reaction conditions, the skilled person could not have had any expectation of success. Therefore, even if the skilled person was always motivated to simplify processes, (s)he would not have combined these two known enzymatic processes into a single step. Accordingly, inventive step was acknowledged.

18. In view of the decision of the opposition division and the arguments put forward by the parties in appeal proceedings, the board, in its communication pursuant to Article 15(1) RPBA 2007, in essence stated that:

19. It is common ground between the parties that document (15) represents the closest prior art. There is no dispute on the teachings of this document nor on the relevance of the reference to document (28) for carrying out a simultaneous dewaxing/degumming of the crude RBO prior to the lipase-catalysed (methanolysis) reaction described in document (15).

20. The parties agree on the formulation of the objective technical problem, namely the provision of a simplified process for producing fatty acid alkyl (methyl) ester products with a reduced content of phosphorous impurities. This technical problem does not contain any pointer to the solution nor does it partially anticipate the solution (cf. "Case Law", *supra*, I.D.

4.3.1, 190). It is not disputed that the claimed method solves the problem and thus, there is no need to reformulate it (cf. "Case Law", *supra*, I.D.4.4, 192).

21. In view of the state of the art, in particular the one concerned with enzymatic degumming, the "could-would approach" has been applied by the opposition division and the parties (cf. "Case Law", *supra*, I.D.5, 197). Whilst it is not disputed that the skilled person could have replaced the dewaxing/degumming process step described in the closest prior art document (15) by an enzymatic degumming step, the essential question is whether (s)he would have done it. This question may be answered by assessing first whether there was any pointer or suggestion for the skilled person to do it and, if this is the case, to assess then the skilled person's expectations of success.

21.1 Document (15) refers to document (28) as providing the information for subjecting crude RBO to a simultaneous dewaxing/degumming. This process step is carried out prior to the lipase-catalysed (methanolysis) conversion described in document (15) and it is shown to eliminate compounds that decrease the activity of the lipase and result in a substantial reduction in the conversion. The effect of phospholipids and wax esters in the methanolysis of RBO is analysed and, although with wax esters "no difference in conversion was observed", reference is made to phospholipids and to "other unknown components present in crude RBO" as being "responsible for the loss of lipase activity". And, immediately thereafter, it is stated that "[t]he dewaxing/degumming of crude RBO is essential in improving the conversion efficiency" (cf. page 332, right-hand column, point 2.4; page 334, right-hand column, point 3.3 of document (15)). Thus, even if the

effect of wax esters is not so detrimental as that of phospholipids, document (15) identifies a simultaneous dewaxing/degumming step as essential for the method; it is not suggested to carry out the degumming step alone and to discard the dewaxing for being superfluous and/or not necessary. Thus, the reference to document (28) in document (15) points the skilled person to a very specific disclosure, namely a simultaneous dewaxing/degumming of RBO with boiling water before a lipase catalysed reaction is carried out. In this specific disclosure, there is neither a reference to an enzymatic degumming nor to discard the dewaxing, let alone to alter or modify the sequential order between the simultaneous dewaxing/degumming step and the lipase-catalysed reaction (cf. page 204, right-hand column, point 2.3.1; page 206, left-hand column, point 3.1 of document (28)).

21.2 It is thus necessary for the skilled person to disregard the specific disclosure relating to a simultaneous dewaxing/degumming step and to consider a different disclosure present in document (28), namely that which is related to "Lipase G-assisted degumming of crude rice bran oil" (cf. page 205, left-hand column, point 2.3.2; page 207, right-hand column, point 3.2 of document (28)). In this context, it is stated that "lipases in general ... are not useful as degumming agents", although due to its properties, lipase G "fully hydrolyzes the phospholipids" and "achieves the nearly total removal of phosphorous from crude" RBO (cf. page 208, paragraph bridging left and right-hand columns). However, a degumming with this specific lipase results in a "negative aspect", namely "the drastic increase in the free fatty acids content ... [which] may reduce the commercial potential of this reaction" (cf. page 208, left-hand column,

first paragraph, third and fourth full sentences; right-hand column, full paragraph, last sentence). Reference is also made *en passant* to "degumming with conventional phospholipase A_2" as failing to achieve the same results, but without providing any further information (cf. page 207, second full paragraph, last sentence).

21.3 In light thereof, it is questionable whether a skilled person: (i) would discard the simultaneous dewaxing/ degumming step referred to in the closest prior art document (15) and described in document (28); (ii) would consider to replace a simultaneous dewaxing/ degumming step by only a degumming step; (iii) would carry out an enzymatic degumming step either with the specific lipase G exemplified in document (28) for which results - including a "negative aspect" - are described, or else with a conventional phospholipase A_2 for which no results are provided; (iv) would carry out the enzymatic degumming step simultaneously with the lipase-catalysed reaction ("single-step process"), bearing in mind the problems referred to it in the prior art (such as documents (8) and (23)), and (v) wherein the lipase and the phospholipase would be two different enzymes ("two separate enzymes").

These questions cannot all be answered in the affirmative.

21.4 As a consequence thereof, the method of claim 1 is not obvious from a combination of documents (15) and (28). It is thus not necessary to further assess the skilled person's expectation of success to overcome the difficulties arising from a combination of a simultaneous enzymatic (phospholipase) degumming and a lipase-catalysed reaction as alleged by the respondent

and by the opposition division in the decision under appeal.

22. From all these considerations, it follows that the main request fulfils the requirements of Article 56 EPC.

Conclusion

23. The main request fulfils the requirements of the EPC and thus, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

L. Malécot-Grob M. Montrone

Decision electronically authenticated