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**Datasheet for the decision
of 17 October 2018**

Case Number: T 0633/13 - 3.3.08

Application Number: 01974095.0

Publication Number: 1305440

IPC: C12P7/64, C11B1/00

Language of the proceedings: EN

Title of invention:
ISOLATION OF MICROBIAL OILS

Patent Proprietor:
DSM IP Assets B.V.

Opponent:
ROQUETTE FRERES, S.A.

Headword:
Arachidonic acid Mortierella alpina/DSM

Relevant legal provisions:
EPC Art. 54, 56
EPC R. 99(1) (a)
RPBA Art. 12(4), 13(1)

Keyword:

Admissibility of opponent/appellant II's appeal (yes)
Main request (granted claims) and first auxiliary request -
novelty (no)
Second auxiliary request - admitted - novelty and inventive
step (yes)

Decisions cited:

G 0002/88, G 0006/88, T 0483/90, T 0848/93, T 0304/08,
T 0350/13

Catchword:



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Case Number: T 0633/13 - 3.3.08

D E C I S I O N
of Technical Board of Appeal 3.3.08
of 17 October 2018

Appellant I: DSM IP Assets B.V.
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Appellant II: ROQUETTE FRERES, S.A.
(Opponent) F-62136 Lestrem (FR)

Representative: Cabinet Plasseraud
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Decision under appeal: **Interlocutory decision of the Opposition**
Division of the European Patent Office posted on
21 December 2012 concerning maintenance of the
European Patent No. 1305440 in amended form.

Composition of the Board:

Chairman B. Stolz
Members: P. Julià
R. Winkelhofer

Summary of Facts and Submissions

I. European patent No. 1 305 440 was opposed on the grounds set out in Articles 100(a) and 100(b) EPC. The opposition division considered the main request (claims as granted) not to fulfil the requirements of Article 54 EPC and the patent was maintained in amended form on the basis of an auxiliary request filed on 23 July 2012.

II. Appeals were lodged by the patent proprietor and the opponent (appellants I and II, respectively).

With its statement of grounds of appeal, appellant II filed new documentary evidence (documents (10) and (11)) and maintained the objections raised under Articles 54 and 56 EPC but did not contest the findings of the opposition division on Articles 123(2) and 83 EPC.

III. Appellant I replied to the appellant II's statement of grounds of appeal and filed new auxiliary requests 2 and 3.

IV. In a communication pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA), annexed to the Summons to oral proceedings, the parties were informed of the board's provisional opinion on the issues of the appeal, in particular that:

i) the main request and auxiliary request 1 appeared to lack novelty over document (4); ii) documents (10) and (11) were likely not to be admitted into the proceedings; iii) the requirements of Article 56 EPC regarding auxiliary request 1 were to be discussed based on document (5) as closest prior art in

combination with document (9); iv) new auxiliary requests 2 and 3 were likely to be admitted into the proceedings and appeared to overcome the objection of lack of novelty.

V. In reply thereto, appellant II, without filing any substantive submissions, informed the board of its intention not to attend the oral proceedings. Appellant I replied to the board's communication and filed further substantive submissions concerning Article 56 EPC.

VI. Oral proceedings were held on 17 October 2018 in the absence of appellant II.

VII. Claim 1 of the main request (claims as granted) reads as follows:

"1. A process for obtaining an oil from microbial cells which are *Mortierella alpina* cells, the oil comprising arachidonic acid (ARA), the process comprising:

(a) disrupting the cell walls of the microbial cells to release the oil; and

(b) separating, by centrifugation, the oil from at least part of the cell wall debris formed in (a); and wherein no solvent for the oil is employed in stages (a) and (b)."

VIII. Claim 1 of auxiliary requests 1 and 2 differs from claim 1 as granted by the following amendments:

AR1: "1. [...] ; and (c) extracting, purifying or isolating the microbial oil, wherein no solvent for the oil is employed."

AR2: "1. [...] , (b) separating, by centrifugation, the oil from at least part of the cell wall debris formed in (a), wherein the separation results in the formation of an oily layer and an aqueous layer; and wherein no solvent for the oil is employed in stages (a) and (b)."

IX. The following documents are cited in this decision:

(4): J.P. Wynn *et al.*, Microbiology 1999, Vol. 145, 1911 to 1917;

(5): WO 97/04121 (A1) (publication date: 6 February 1997);

(9): E. Enssani, "Fundamental parameters in extraction of lipids from wastewater-grown microalgal biomass", Thesis/Dissertation, 1987, California University, Berkeley, CA, USA;

(10): "Alternative Methods of Extraction", Oils & Fats International Issue six, 1992, 29, 30 and 32;

(11): GB 808,128 (publication date: 28 January 1959).

X. The submissions made by appellant I, insofar as relevant to the present decision, may be summarised as follows:

Admissibility of the appellant II's appeal

In the notice of appeal, appellant II's name (Roquette Frères S.A.) was incorrect (Roquette Frères) and there was no indication of its address. Thus, the notice of appeal did not fulfil the requirements of Rule 99(1) (a) EPC and the appeal of appellant II was not admissible.

Main request (Claims as granted)

Article 54 EPC

Document (4) described two methods for the production of extracts from *Mortierella alpina* cells that were used in the determination of several enzyme activities. Whilst glycerol was added in one of these methods, sucrose was added in the other. The presence of glycerol or sucrose in the extraction buffers hampered the separation of oil from the water layer by increasing the viscosity (glycerol) or keeping the oil and water in a sole homogeneous layer (sucrose). These additives were not adapted to break an emulsion and were added to preclude separation of oil from water. The methods described in document (4) resulted thus in a homogeneous aqueous solution, not in the production of oil. Moreover, from the information provided in Figure 1 of document (4), in particular the cell dry weight and cell lipid content, it was derivable that the amount of oil in the aqueous solution was extremely low (0.4%). Therefore, the methods described in document (4) differed from the method of claim 1 in their purpose (measurement of enzymatic activity instead of oil obtention) and in the product obtained (homogenous aqueous solution with extremely low amount or concentration of oil instead of a layered oil solution). These methods could not anticipate a method for obtaining oil from *M. alpina* cells according to claim 1.

Even if the term "oil" in the preamble of claim 1 was broadly interpreted, this interpretation had to be in line with the established case law which required to rule out illogical interpretations and those which did not make technical sense, and the interpretation had to

be technically sensible and take into account the whole disclosure of the patent. The terms of the claims had to be construed from the standpoint of a skilled person reading the patent with a mind desirous to understand the intention behind it; the description and drawings creating the context and casting light on the meaning to be reasonably attributed to these terms. In line therewith, the term "oil" in claim 1 could not be so broadly interpreted as to comprise a homogeneous aqueous solution with an extremely low amount of oil (about 0.4%) as described in document (4).

Indeed, the indication of a purpose in the preamble of claim 1 ("for obtaining an oil from microbial cells"), was a functional feature defining a technical step of the claimed method which established novelty over the methods described in document (4). This indication of a purpose was a functional feature similar to that in the method underlying decision T 848/93 of 3 February 1998 ("for remelting galvanic layers"). This situation was different from that described in decision T 304/08 of 26 August 2009, where the same product was obtained when using the claimed method and the methods known from the art (cf. "Case Law of the Boards of Appeal of the EPO", 8th edition 2016, I.C.8.1.3.b), 150). In the present case, the products resulting from the methods described in document (4) and from the method of claim 1 were different (homogenous aqueous solution with extremely low amount of oil instead of a layered oil solution). The methods described in document (4) were not even suitable to obtain the product obtained by the method of claim 1, since technical measures were taken (addition of glycerol or sucrose) in order to preclude or avoid the formation of an oil layer.

Auxiliary request 1

Since appellant II's appeal was not admissible, the decision of the opposition could not be challenged to appellant I's detriment, as this was prohibited by the principle of *reformatio in peius*.

Article 54 EPC

The reasons put forward for the main request applied also to this request. Moreover, the fact that "the supernatant [was] retained" in the methods described in document (4) could not be equated with, and did not correspond to, step (c) of claim 1. The terms "extracting", "purifying", "isolating" in step (c) of claim 1 had to be interpreted in the light of the purpose indicated in the preamble ("for obtaining an oil from microbial cells"). Even the broadest term "extracting" required to take out or remove something (oil) from somewhere, i.e. an active method step. This was not comparable to the mere "retention" of a homogeneous aqueous solution with an extremely low amount of oil. Therefore, none of these methods anticipated the method of claim 1.

Auxiliary request 2

Article 54 EPC

The reasons put forward for the main request applied also to this request. Moreover, the feature introduced into step (b) of claim 1 established novelty of the claimed method over the methods described in document (4) because measures were taken in these methods to preclude the production of oily and aqueous layers by addition of glycerol or sucrose.

Article 56 EPC

The closest prior art document (5) disclosed a method with the same purpose as the claimed invention, namely a method for the production of arachidonic acid from *M. alpina* cells. An essential feature of this method was the use of a solvent and, indeed, high solvent concentrations were disclosed as being advantageous for the intended purpose. Thus, the claimed method differed from the method disclosed in document (5) by the absence of solvent and by the formation of an oily layer and an aqueous layer. Starting from this prior art, the technical problem was the provision of an improved method for the production of arachidonic acid from *M. alpina* cells, wherein the improvement consisted in the absence of any solvent residues. Since the use of solvents was excluded in the claimed method, the technical problem was solved over the whole scope of the claim. Moreover, the claimed method was not obvious because: i) the closest state of the art taught away (high solvent concentrations) from the solution (absence of solvent); ii) in view thereof, the combination of document (5) with any other prior art document not using a solvent required hindsight of the invention; iii) document (9) was silent on the presence (quantity) and relevance of solvent residues in the obtained oil, i.e. the quality of the oil was not relevant; iv) document (9) was concerned only with (green and blue-green) algae, it was silent on filamentous fungi and, in particular, on *M. alpina*; and v) document (9) taught away from the solution because it stated that, if solvents were not used, there was no expectation of success. Indeed, the combination of documents (5) and (9) itself required hindsight of the invention and was not obvious.

XI. The submissions made by appellant II, in writing and insofar as relevant to the present decision, may be summarised as follows:

Auxiliary request 1

Article 54 EPC

The methods for producing cell extracts described in document (4) comprised the centrifugation of the disrupted cell suspensions and the isolation of the supernatants, these steps corresponded to steps (b) and (c) of claim 1. Since the method of claim 1 did not require the formation of an oily layer or phase but referred only to microbial oil in general, the methods described in document (4) anticipated the method of claim 1.

XII. Appellant I (patent proprietor) requested that the decision under appeal be set aside and the patent be maintained as granted (main request), or the maintenance of the patent in amended form on the basis of auxiliary request 1, submitted on 23 July 2012, or on the basis of auxiliary requests 2 or 3, both as submitted with the reply to appellant II's statement of grounds of appeal on 19 August 2013.

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

Reasons for the Decision

Admissibility of the appellant II's appeal

1. The admissibility of the appellant II's appeal was contested by appellant I only at the oral proceedings,

claiming that in appellant II's notice of appeal its name was incorrectly stated, and its address was missing, so that the requirements of Rule 99(1)(a) EPC were not fulfilled.

2. Rule 101 EPC foresees the rejection of an appeal as inadmissible, if it does not comply with the requirements set therein. The admissibility of an appeal must be checked in every phase of the proceedings (cf. "Case Law", *supra*, IV.E.2.7, 1108). According to Rule 99(1)(a) EPC the notice of appeal shall, *inter alia*, contain the name and address of the appellant. It is established case law that these requirements are satisfied if the notice of appeal contains sufficient information for identification of the appellant (cf. "Case Law", *supra*, IV.E.2.5.2, 1087, notably T 483/90 of 14 October 1992 concerning - as in the case present - the appellant's name being given incorrectly, and its address missing; also T 350/13 of 18 October 2016).
3. It is generally deplorable that a substantial number of submissions filed with the boards contain deficiencies as to the identification of the case they belong to, and as to the party in whose name they were submitted, generating additional and unnecessary burden for all involved. Here, though, appellant II in the notice of appeal clearly indicated the number of the patent in dispute, and the decision to be attacked therewith, and furthermore stated the case number in the subsequent statement of grounds of appeal. Appellant II's address, already being on file, had not changed *vis-à-vis* the opposition proceedings, and the missing specification "S.A." did likewise not cause any problems for appellant II's proper identification. Apparently, no other enterprise than "Roquette Frères S.A." exists,

notably no different entity "Roquette Frères" that could be confused with "Roquette Frères S.A.".

4. To conclude, the appeal contains sufficient information for the identification of appellant II and is therefore admissible, and the issue of the prohibition of *reformatio in peius* as invoked by appellant I does not arise.

Admission of documents (10) and (11)

5. With its statement of grounds of appeal, appellant II filed documents (10) and (11). These documents were cited by appellant II in the context of auxiliary request 1 and Article 56 EPC.
6. According to the established case law, appeal proceedings are not an opportunity to re-run the proceedings before the first instance; the function of an appeal is to give a judicial decision upon the correctness of a separate earlier decision taken by a department of first instance (cf. "Case Law", *supra*, IV.E.1, 1065). Article 12(4) RPBA empowers the board not to consider facts, evidence or requests that could have been presented in the first instance proceedings.
7. In its statement of grounds of appeal, appellant II failed to provide reasons why documents (10) and (11) could not have been filed at an earlier stage of the proceedings, such as during the opposition procedure. Nor has appellant II provided such reasons in reply to the board's communication pursuant to Article 15(1) RPBA, which explicitly addressed this issue.

8. In the light of the above and in the exercise of the board's discretion (Article 12(4) RPBA), documents (10) and (11) are not admitted into the appeal proceedings.

Main request (*Claims as granted*)

9. There are no submissions on file from appellant II as regards the main request.

Article 54 EPC

10. Document (4), the sole document cited in the decision under appeal against the novelty of the claimed method, describes the production of cell extracts from *Mortierella alpina* by suspending mycelia of this fungus in an extraction buffer and disrupting them by passage through a French pressure cell. The disrupted cell suspensions are centrifuged and the supernatants are retained for enzyme analysis. In a first method used for the determination of enzyme activities other than diacylglycerol acyltransferase (DAGAT), glycerol (increases viscosity) is added to the extraction buffer and, in a second method used for the determination of DAGAT, sucrose (emulsive stabilizer) is added to the extraction buffer (cf. page 1912, right-hand column, first full paragraph). None of these additives prevents the disruption of mycelia - and the release of oil from the cell wall debris - by passage through the French pressure cell. Nor do they prevent the separation of oil from (at least part of) the cell wall debris by centrifugation. The presence of arachidonic acid in the supernatants or cell extracts obtained when performing the methods described in document (4) is not contested by the parties, even though appellant I argues that the amount or concentration of this acid in these supernatants or cell extracts is extremely low.

11. In the decision under appeal, the opposition division considered the process of claim 1 to be a method directed towards the production of a specific product, namely "an oil comprising arachidonic acid", and therefore, following the EPO Guidelines (Part F-IV 4.13, last paragraph), to be anticipated by a method which, although aiming at a different purpose, comprises the same physical steps and results in the same product. Although the methods described in document (4) aim at the production of cell extracts for the determination of enzyme activities of *M. alpina*, the opposition division considered them to comprise the same steps as the method of claim 1 and to result in the production of "an oil comprising arachidonic acid". Therefore, they were considered to anticipate the method of claim 1.

12. In the communication pursuant to Article 15(1) RPBA, the board observed that none of the parties had disputed the relevance of document (4) and of the case law on which the EPO Guidelines cited by the opposition division was based. This case law is concerned with the applicability of decisions G 2/88 and G 6/88 (OJ EPO 1990, 93 and 114, respectively) to process claims (cf. "Case Law", *supra*, I.C.8.1.3, 150) and, more particularly, with the different treatment of use and process claims (cf. "Case Law", *supra*, I.C.8.1.3.b), 150) and the interpretation of process claims (cf. "Case Law", *supra*, I.C.8.1.3.c), 152).

13. The principle set out in decisions G 2/88 and G 6/88, *supra*, for a second non-medical use has been interpreted in a very restrictive manner in the case law applying exclusively to the **use** of a product for attaining a technical effect underlying said use. For

this type of claims, the technical effect is interpreted as a functional technical feature. However, neither decision G 2/88 and G 6/88, *supra*, nor the case law concerned with these decisions, leave any room for expansion of this principle to claims worded otherwise. In particular, a **method** claim that includes physical steps resulting in the production of a product is not considered to be a "use" claim in the sense of decisions G 2/88 and G 6/88. The indication of the purpose for which such a method is performed, does not render it novel over a method described in the prior art that comprises the same physical step(s) and results in the production of the same product. For this type of claims, the indication of purpose cannot be taken into account as a distinguishing functional technical feature.

14. The process of claim 1 comprises the physical steps (a) and (b), and the indication of the purpose in its preamble clearly relates to the obtention of a product, namely an oil, from *M. alpina* cells comprising arachidonic acid (cf. point VII *supra*). Claim 1 is thus a **method** claim for the obtention of a product, not a use claim or a method claim for attaining a functional technical effect as in the case underlying decisions G 2/88 and G 6/88, *supra*. The board thus does not agree with appellant I and considers the present case not to be similar to that underlying decision T 848/93, *supra*. Therefore, in line with the case law (see also decision T 304/08, *supra*), the method of claim 1 is anticipated by any method comprising the same physical steps and resulting in the same product.

15. It is common ground between the parties that the methods described in document (4) for the production of extracts from *M. alpina* cells comprise physical steps

corresponding to steps (a) and (b) of the method of claim 1. It is also not contested that the presence/effect of glycerol and sucrose in these methods results in a homogeneous (non-layered) aqueous supernatant or cell extract which is different from the layered solution obtained in Examples 1 and 2 of the patent ("an arachidonic acid-enriched oily top layer and a lower aqueous layer containing the cell debris"; cf. column 8, paragraph [0046], last sentence, and column 9, lines 15 to 18 of the patent). However, claim 1 does not require the obtention of "an oil comprising arachidonic acid" in a particular form/state, certainly not as an oil-and-water layer as disclosed in Examples 1 and 2 of the patent.

16. In the communication pursuant to Article 15(1) RPBA, the board drew the parties' attention to the established case law on the interpretation of broad claims which states that, when novelty and inventive step are assessed, there is no reason to use the description to interpret an excessively broad claim more narrowly (cf. "Case Law", *supra*, I.C.4.8, 110). The board agrees with appellant I that this case law does not allow for illogical interpretations or interpretations that are not technically sensible. However, as stated also in the board's communication, it is well established that features which are not present in the claims need not be considered essential and be taken into account when ascertaining the differences of the alleged invention to a disclosure of the prior art (cf. "Case Law", *supra*, II.A.3.2, 272, and I.C.5.2, 116).
17. Therefore, the board does not consider appellant I's narrow interpretation of the term "oil" appropriate. In the board's view, there is no reason for interpreting

this term as requiring the oil obtained by the process of claim 1 to be in any particular form, state or quality. Claim 1 neither requires the oil to be in a pure, isolated, food grade form, nor in a solution with high oil concentration, or in a solution with an oil-and-aqueous layer as described in Examples 1 and 2 of the patent. Claim 1 does not exclude the oil to be present in an emulsion or homogenous aqueous solution, such as that obtained by the methods described in document (4), nor does it require any particular concentration of arachidonic acid. The latter may be as low as - or even lower than - the 9% shown in Example 1 of the patent.

18. The appellant submitted that the skilled person would not consider an aqueous solution comprising 0.4% arachidonic acid as an oil. Appellant I's estimation of the low concentrations of oil in the homogeneous aqueous solution obtained by the methods described in document (4) is based on the information given in Figure 1. The board notes that the information provided by Figure 1 of document (4) relates to the culture broth or growth medium of *M. alpina* cells in a 4 l fermenter (cf. page 1912, left-hand column), but not to the suspension of mycelia in the extraction buffer used in the methods described in document (4) for the production of cell extracts (cf. page 1912, left-hand column, first full paragraph). Therefore, the concentration of the oil in the homogeneous aqueous solution (supernatant/cell extract) resulting from carrying out the extraction methods described in document (4) may be low, it is however unknown and in any case irrelevant in view of the wording of claim 1 and the reasons given above.

19. It follows from the above considerations that the methods described in document (4) anticipate the method of claim 1 and therefore, the main request does not fulfil the requirements of Article 54 EPC.

Auxiliary request 1 (claims upheld by the opposition division)

Article 54 EPC

20. Claim 1 of this auxiliary request contains the subject matter of granted claim 5, namely a step (c) that requires "extracting, purifying or isolating the microbial oil, wherein no solvent for the oil is employed" (cf. point VIII *supra*). The opposition division considered that the methods described in document (4) refer to "the supernatant [being] retained", not to the microbial oil itself, and therefore, these methods not to anticipate the method of claim 1.
21. As stated above, the methods described in document (4) comprise the disruption of *M. alpina* cells and centrifugation of the disrupted cell suspensions. This centrifugation separates a supernatant (with the microbial oil) and a pellet (with the cell debris) in or within a centrifugation tube or container (step (b) of claim 1). The reference in document (4) to "the supernatant [being] retained" necessarily implies an additional step in which the supernatant is isolated or extracted from the pellet within the centrifugation tube or container. The extraction (retention) of the supernatant, in its broadest sense, is an additional (active) method step that corresponds to step (c) of the method of claim 1.

22. Thus, the methods described in document (4) anticipate the process of claim 1 of auxiliary request 1 and therefore, auxiliary request 1 does not fulfil the requirements of Article 54 EPC.

Admission of auxiliary request 2

23. Auxiliary request 2 has been filed at the earliest possible stage of the proceedings, namely in reply to the statement of grounds of appeal of appellant II (Articles 12(1)(b) and 12(2) RPBA). The amendment made in this auxiliary request consists in the introduction of the subject-matter of dependent claim 6 as granted into claim 1, namely that the separation carried out in step (b) of claim 1 "results in the formation of an oily layer and an aqueous layer" (cf. point VIII *supra*). This amendment addresses the objections raised by appellant II and does not add complexity to the case or raise new issues that were not considered during the procedure before the first instance.
24. Thus, auxiliary request 2 is admitted into the appeal proceedings.

Auxiliary request 2

25. The subject-matter of claim 1 of this auxiliary request 2 results from a straightforward combination of the subject-matter of independent claim 1 as granted with that of dependent claim 6 as granted. There are no submissions on file from appellant II on auxiliary request 2. Although appellant II has argued against the subject-matter of the granted dependent claims, including granted claim 6, this has been done in a general manner, in particular under Article 56 EPC, and

solely in the context of requests other than auxiliary request 2.

26. As stated in the case law referred to above (cf. point 6 *supra*), the function of an appeal is to give a judicial decision upon the correctness of a separate earlier decision taken by a first instance department. It is also established case law that the parties are entitled to direct the course of the proceedings through their requests. The principle of party disposition requires a party to identify those issues and objects it wants the board to take a decision upon. There is a large body of case law defining the requirements of a sufficient substantiation for the statement of grounds of appeal and a party's submissions (cf. "Case Law", *supra*, IV.E.2.6.4.a), 1102, and IV.E.2.6.8.a), 1107), as well as the substantiation of a particular ground of appeal and the subject-matter under examination by the board in appeal (cf. "Case Law", *supra*, IV.E.3.2.1.h), 1122).
27. In the light of this case law and of the parties' submissions made in the course of the present appeal proceedings, appellant II's silence on auxiliary request 2 cannot be to its advantage. If at all, the competence of the board is restricted to considering those arguments of appellant II which, in a very straightforward, simple and unambiguous manner, may also apply to the subject-matter of auxiliary request 2.

Article 54 EPC

28. As stated above, claim 1 of auxiliary request 2 requires that the separation by centrifugation carried out in step (b) of this claim "results in the formation

of an oily layer and an aqueous layer", i.e. claim 1 requires the oil comprising arachidonic acid to be in the particular form/state as described in Examples 1 and 2 of the patent (cf. point VIII *supra*). The introduction of this technical feature into the process of claim 1 addresses the considerations above in the context of the objection raised for lack of novelty against the main request.

29. Paragraphs [0027] and [0028] of the patent disclose the separation of the oil from the *M. alpina* cell debris by centrifugation stating that "centrifugation may result in either a 2-phase system (a fatty or oily top layer and a lower aqueous layer) or a 3-phase system" (cf. column 5, last sentence of paragraph [0028] of the patent). This is in line with the disclosure in column 7, lines 25 to 27 of the patent stating that, by centrifugation, "one can obtain an (e.g. upper) oil phase and an (e.g. lower) aqueous phase". However, document (4) describes the presence of either glycerol (for determination of enzyme activities other than DAGAT) or sucrose (for determination of DAGAT activity) in the extraction buffer used for the production of cell extracts from *M. alpina* (cf. point 10 *supra*). These additives prevent the formation of a (water-and-oil) layered supernatant or cell extract and result in a homogeneous aqueous solution as supernatant or cell extract.
30. Thus, the process of claim 1 of auxiliary request 2 is not anticipated by the methods of document (4) and therefore, auxiliary request 2 fulfils the requirements of Article 54 EPC.

Article 56 EPC

31. The closest prior art document (5) addresses the same problem as the patent, namely the extraction of oils from microorganisms, in particular of arachidonic acid from *M. alpina* cells (cf. pages 5 and 6, Examples 1 and 2). Contrary to the method of claim 1, the method disclosed in document (5) relies on the use of a (water immiscible, organic) solvent, preferably hexane. The contents of document (5) are not disputed by the parties (cf. pages 11 and 12, point 2.3.4.1 of the decision under appeal; page 4, points 2.a) and 2.b) of appellant II's statement of grounds of appeal; page 4, paragraphs 5 to 7 of appellant I's reply thereto).

32. Starting from document (5), the objective technical problem is formulated as the provision of an improved method for the production of arachidonic acid from *M. alpina* cells. As a solution to this problem, the patent proposes the process/method of claim 1. The absence of residual solvents in the oil represents certainly an improvement. In view of the features characterizing the claimed method ("and wherein no solvent for the oil is employed in stages (a) and (b)"; cf. point VIII *supra*) and the absence of any quantitative requirement regarding the yield of arachidonic acid in claim 1, the board considers the claimed subject-matter to solve the technical problem over the whole scope of the claim.

33. The board shares appellant I's view that, in the light of the prior art on file, the method of claim 1 is not obvious. Document (5) explicitly refers to the advantageous use of high concentrations of solvent in the extraction method (cf. page 4, lines 15 to 23), and thus teaches away from the method of claim 1. For the

same reason, the combination of document (5) with any of the prior art documents disclosing methods in which no solvents are used requires hindsight knowledge of the claimed invention. This applies to the combination of the disclosures of documents (5) and (9). Document (9) is concerned with the extraction of oils from microorganisms, namely waste water-grown (green and blue-green) microalgae, completely different from the filamentous fungus *M. alpina*. Solvent extraction is described as the most efficient method of choice (cf. page 21, point 2.3). Concerning methods for aqueous lipid extraction, the author of document (9) states that "there is hardly any published information regarding the aqueous lipid extraction of microalgae" and reports results from such extraction methods as producing an "almost negligible top oily layer" or "no distinct oily phase was observed upon centrifugation" (cf. page 70, point 3.9). The author concludes that, since most of the lipids in microalgae are bound to the cells, means other than mechanical disintegration such as solvent action was needed and represented the best method for the recovery of lipids. In the light thereof, there would be no motivation for the skilled person to combine the teachings of document (5) with those of document (9), let alone to select the aqueous (non-solvent) extraction methods referred to on page 70 for the production of arachidonic acid from *M. alpina* cells, in order to solve the underlying technical problem.

34. Thus, auxiliary request 2 fulfils the requirements of Article 56 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent on the basis of claims 1 to 8 of auxiliary request 2 as filed on 19 August 2013, and a description to be adapted.

The Registrar:

The Chairman:



L. Malécot-Grob

B. Stolz

Decision electronically authenticated