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Datasheet for the decision of 1 July 2025

Case Number: T 0695/23 - 3.3.08

Application Number: 11749128.2

Publication Number: 2601304

IPC: C12Q1/04, G01N33/68, C12M1/34, C12M3/00

Language of the proceedings: EN

Title of invention:
Mass spectrometric diagnosis of sepsis without blood culture

Patent Proprietor:
Bruker Daltonics GmbH & Co. KG

Opponent:
bioMérieux

Headword:
Diagnosis of sepsis/BRUKER DALTONICS

Relevant legal provisions:
EPC Art. 56, 83, 123(2)
RPBA 2020 Art. 12(6)

Keyword:
Inventive step - (yes)
Sufficiency of disclosure - (yes)
Amendments - extension beyond the content of the application as filed (no)
Late-filed evidence - should have been submitted in first-instance proceedings (yes) - circumstances of appeal case justify admittance (no)

Decisions cited:
G 0001/24

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Case Number: T 0695/23 - 3.3.08

D E C I S I O N
of Technical Board of Appeal 3.3.08
of 1 July 2025

Appellant: (Opponent)	bioMérieux 69280 Marcy-l'Étoile (FR)
Respondent: (Patent Proprietor)	Bruker Daltonics GmbH & Co. KG Fahrenheitstraße 4 28359 Bremen (DE)
Representative:	Kuttenkeuler, David SKM-IP PartGmbB Oberanger 45 80331 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 13 February 2023 concerning maintenance of the European Patent No. 2601304 in amended form**

Composition of the Board:

Chair	T. Sommerfeld
Members:	A. Schmitt
	A. Bacchin

Summary of Facts and Submissions

I. The appeal of the opponent (appellant) is against the opposition division's interlocutory decision concerning the maintenance of European patent No. 2 601 304 B1 (the patent) in amended form based on the main request filed on 30 September 2022.

II. The patent, entitled "*Mass spectrometric diagnosis of sepsis without blood culture*", was granted on the basis of European patent application No. 11 749 128.2, which was filed as an international application published as WO 2012/016929 A1 (the application).

III. The opposition proceedings were based on the grounds for opposition under Article 100(a) EPC in relation to inventive step (Article 56 EPC) and those under Article 100(b) and (c) EPC.

IV. With the statement of grounds of appeal, the appellant submitted two documents designated EE1 and EE2.

V. With the reply to the appeal, the patent proprietor (respondent) maintained the main request underlying the decision under appeal and filed sets of claims for 21 auxiliary requests.

VI. The board summoned the parties to oral proceedings in accordance with their requests and issued a communication under Article 15(1) RPBA setting out its preliminary opinion.

VII. The oral proceedings were held as scheduled.

VIII. Claims 1 to 5, 8 to 10 and 17 of the main request read as follows:

"1. Method for the identification of microbes in blood comprising the steps:
(a) Dissolving human blood particles in the blood with a surfactant,
(b) Separating the microbes from the blood,
(c) Cultivating the microbes in a nutrient broth which does not contain antimicrobial compounds of the blood,
(d) Separating the microbes from the nutrient broth,
(e) Identifying the microbes by similarity analysis of a mass spectrum of the microbe proteins and reference spectra.

2. Method according to Claim 1, wherein microbes nesting in macrophages or other human cells of the blood are released in step (a).

3. Method according to Claim 1, wherein the human particles are dissolved in an aqueous solution of saponin with added foam inhibitor.

4. Method according to Claim 3, wherein the human particles are erythrocytes and leukocytes.

5. Method according to Claim 4, wherein the human particles are dissolved immediately after the blood is sampled."

"8. Method according to one of the Claims 1 to 7, wherein the quantitative growth of the microbes is monitored during the cultivation of the microbes in Step c).

9. Method according to Claim 8, wherein the cultivation of the microbes in Step c) is carried out only until the monitoring indicates sufficient microbes for a mass spectrometric identification.

10. Method according to Claim 8 or 9, wherein the microbes are cultivated in an optically clear broth and the monitoring of the quantitative growth of the microbes is carried out by measuring light extinction, scattered light or fluorescence."

"17. Method for the identification of microbes in blood comprising the steps:
(a) Destroying human blood particles in the blood with distilled water,
(b) Separating the microbes from the blood,
(c) Cultivating the microbes in a nutrient broth which does not contain antimicrobial compounds of the blood,
(d) Separating the microbes from the nutrient broth,
(e) Identifying the microbes by similarity analysis of a mass spectrum of the microbe proteins and reference spectra."

IX. The following documents are referred to in this decision:

E1 US 2010/0124763 A1
E2 US 2010/0129857 A1
E4 A. Ferroni et al., J. Clin. Microbiol. 48(5), 2010, 1542-1548
E5 B. La Scola and D. Raoult, PLoS ONE 4(11), 2009, e8041
E7 M. Kelly et al., JAMA 250(16), 1983, 2185-2188
EE1 EP 0 484 579 A1
EE2 US 4,164,449

X. The parties' arguments relevant to the board's decision are referred to, where necessary, in the Reasons for the Decision.

XI. The parties' requests were as follows.

The appellant requested that the decision under appeal be set aside and the patent be revoked, that documents EE1 and EE2 be considered in the appeal proceedings and that auxiliary requests 1 to 21 not be considered.

The respondent requested that the appeal be dismissed, i.e. that the patent be maintained in amended form based on the main request considered by the opposition division (main request), or, in the alternative, that the patent be maintained in amended form on the basis of the set of claims of one of auxiliary requests 1 to 21, all submitted with the reply to the appeal, and that documents EE1 and EE2 not be considered in the appeal proceedings.

Reasons for the Decision

Admittance of documents EE1 and EE2 (Article 12(6) RPBA)

1. Documents EE1 and EE2 were newly filed by the appellant with the statement of grounds of appeal and hence constitute amendments of the appellant's case under Article 12(4) RPBA, the admittance of which is subject to the board's discretion. Under Article 12(6) RPBA, second paragraph, a board must not admit, *inter alia*, requests which should have been submitted in the proceedings leading to the decision under appeal,

unless the circumstances of the appeal case justify their admittance.

2. The appellant asserted that documents EE1 and EE2 could not have been submitted prior to knowing the opposition division's final and surprising position on claim construction with respect to step (c) of claim 1. However, in the communication accompanying the summons to oral proceedings and providing its provisional opinion, the opposition division had already indicated that claim construction in particular with respect to the second part of step (c) of claim 1 would be a topic during the oral proceedings before the opposition division.

3. In this context, the appellant asserted that the passage in the opposition division's communication recited by the respondent to support this argument was not clear, and that the opposition division's claim construction was not the same as that proposed by the respondent.

4. The board cannot, however, accept this line of argument. Firstly, it is irrelevant whether or not this claim construction was put forward by the respondent or by the opposition division (Article 114(1) EPC).

5. Secondly, in the recited passage (the paragraph bridging pages 11 and 12 in item 19.3 of the opposition division's communication), the opposition division wrote that "[d]*uring the oral proceedings, the disclosure of the second part of step (c2) will need to be discussed. This step defines that the microbes are cultivated in a nutrient broth which does not contain antimicrobial compounds of the blood. The opposition division does not interpret this step as requiring a*

nutrient broth being free of antimicrobial compounds but as a broth being free of any antimicrobial compounds which were present in "the blood" i.e. in the blood originally sampled. ... The opposition division tends to believe that this step (c2) is not unambiguously derivable from document E7 since the step explicitly requires that no antimicrobial compounds of the blood at all are present in the broth."

6. The relevant points of the opposition division's claim construction - that the broth was free of antimicrobial components of the sampled blood and that this was different from the disclosure in document E7 - were therefore already presented in the communication accompanying the summons to oral proceedings. In addition, the indication that the issue was going to be discussed at the oral proceedings, combined with the appellant's perception that the opposition division's interpretation of the claim appeared confusing, should have been an indication to the appellant that further evidence might be needed.

7. In view of this, the appellant had the opportunity and indeed reasons to file any evidence relevant to this claim construction in response to the opposition division's communication, had it intended to do so. Filing this evidence only on appeal prevented the opposition division from taking it into consideration in its decision.

8. In another line of argument, the appellant asserted that documents EE1 and EE2 were *prima facie* relevant and should therefore be admitted by the board. However, *prima facie* relevance is not in itself a criterion taken into account by the boards of appeal when deciding on admitting new evidence in *inter partes*

appeal proceedings. Admitting and considering relevant evidence presented only on appeal on the basis of this criterion would be contrary to the primary object of the appeal proceedings, which is to review the decision under appeal in a judicial manner, and would be contrary to the principle of a fair trial for each of the parties.

9. In view of these considerations, the appellant should have filed documents EE1 and EE2 in the opposition proceedings, and no circumstances of the appeal proceedings are apparent that would justify admitting these documents in the appeal proceedings.

10. Documents EE1 and EE2 were not admitted into the appeal proceedings under Article 12(6) RPBA.

Main request

Amendments (Article 123(2) EPC)

Claim 5

11. Claim 5 concerns a method for the identification of microbes in blood comprising, *inter alia*, a step of dissolving human blood particles in the blood in an aqueous solution of saponin with added foam inhibitor, "*wherein the human particles are dissolved immediately after the blood is sampled*" (see section VIII. above for the full wording of the claim).

12. The appellant contested that this feature had a basis in paragraph [0022] of the application as filed because this paragraph referred to a method which "*destroys and dissolves the human particles*" after sampling. As the terms "to destroy" and "to dissolve" were used in the

application for two different embodiments, namely destruction by an osmotic reaction (e.g. paragraph [0036]) and dissolution by a surfactant (e.g. paragraph [0037]), paragraph [0022] concerned an embodiment comprising both destruction by an osmotic reaction and dissolution by a surfactant. This was not expressed in claim 5, however, as it related only to dissolution by a surfactant.

13. However, the dissolution of human blood particles at the same time also destroys these particles. This fact is supported by, for example, paragraph [0014] of the application which discloses that "*non-microbial cells are destroyed by the known method of dissolution by surfactants*". The destruction of the human blood particles therefore inherently takes place when these particles are dissolved. The use of the term "destroys" in paragraph [0022] of the application hence does not necessarily refer to destruction by osmosis, as disclosed elsewhere in the application. Instead, the expression "*destroys and dissolves the human particles*" has the same technical meaning as "*dissolves the human particles*" as used in claim 5.

14. Claim 5 does not contain subject-matter that extends beyond the content of the application as filed and hence meets the requirements of Article 123(2) EPC.

Claim 17

15. Claim 17 concerns a method for the identification of microbes in blood comprising, *inter alia*, step (a) of "[d]*estroying human blood particles in the blood with distilled water*" (see section VIII. above for the full wording of the claim). The opposition division found that this feature had a basis in paragraphs [0036],

[0040] and [0065] of the application (point 17 of the decision under appeal, referring to point 10 of the communication accompanying the summons to oral proceedings).

16. As pointed out by the appellant, destroying human blood particles in the blood with distilled water is disclosed in paragraphs [0036] and [0065] of the application only in combination with a preceding centrifugation step not expressed in the claim.

17. However, as noted by the opposition division and the respondent, paragraph [0040] of the application refers to the destruction of human blood particles with distilled water in a more general manner by teaching that "[i]*n both cases - destruction with distilled water or dissolution with an exact amount of surfactants - different amounts of residues, such as incompletely dissolved cell walls and other nonsoluble components of the blood corpuscles, may remain in the liquid, but do not significantly interfere with the remainder of the method*".

18. The appellant did not comment on this disclosure in paragraph [0040], either in writing or during the oral proceedings before the board when specifically asked. Hence, in view of this disclosure and in the absence of any arguments to the contrary provided by the appellant, the board concludes that claim 17 does not contain any subject-matter that extends beyond the content of the application as filed and hence meets the requirements of Article 123(2) EPC.

Claim construction - claim 1

19. The claim concerns a method for the identification of microbes in blood comprising, *inter alia*, step (b) that requires "*separating the microbes from the blood*", and step (c) that requires cultivating the microbes "*in a nutrient broth which does not contain antimicrobial compounds of the blood*" (see section IX. above for the full wording of the claim).

20. As correctly pointed out by the appellant, the relative clause "*which does not contain antimicrobial compounds of the blood*" linguistically refers to the nutrient broth in which the microbes are cultivated. Hence, it is not unambiguously clear from step (c) alone that the *mixture* of the nutrient broth and the microbes does not contain any antimicrobial compounds of the blood.

21. However, as submitted by the respondent and as also pointed out in the board's preliminary opinion contained in the communication under Article 15(1) RPBA (point 18), step (b) of the claim requires the microbes to be separated from the blood. Separating the microbes from the blood implies that the microbes are physically separated from all the blood's components, including any antimicrobial components possibly present in the blood. It would not be possible to realise feature b), nor to proceed to the following step c), without a physical separation, if necessary with the addition of washing steps, as known to the skilled person (see also point 32. below).

22. This is not only in line with the usual technical meaning of the term "separating", but also supported by the disclosure in the patent. For example, paragraph [0025] teaches that step (b) "*separates the*

microbial pathogens from the fluid [the blood]". Paragraph [0039] specifies that "[w]*hen the microbes are separated from the fluid in Step (b), all soluble human proteins are removed, including the soluble proteins from blood corpuscles, together with all endogenous antibodies which are harmful for the reproduction of the microbes, such as defensins and antimicrobial enzymes. ... If necessary, washing steps (b1) may be inserted*". Paragraph [0040] continues that "[i]]*t is also particularly important to remove all broad-spectrum antibiotics already administered as part of the treatment of sepsis patients, which is done here automatically in Steps (b) and (b1)*". Paragraph [0061] points out that when the human particles of the blood are dissolved by saponin, the microbes must be "separated" from the saponin-blood solution as quickly as possible to ensure survival of the microbes.

23. It is therefore clear from the wording of the claim in its usual meaning and when interpreted in light of the description of the patent that the expression "*Separating the microbes from the blood*" in step (b) of the claim means the physical separation of the microbes from all components of the blood.

24. In this regard, contrary to the appellant's objection, the board does not see the respondent's reliance on step b) as a new argument, which involved an interpretation going beyond the content of the claim. Simply referring to step b) merely refines and further supports with additional considerations a claim interpretation which had been argued since the outset of the proceedings. It hence cannot be regarded as a new line of argument. Moreover, as clarified by the Enlarged Board of Appeal in decision G 1/24, the claims

must always be interpreted in the context of the description and the drawings when assessing the patentability of an invention, and not only if the person skilled in the art finds a claim to be unclear or ambiguous when read in isolation. The above assessment and consultation of the description and the drawings support the usual technical meaning of "separating" in step b), as interpreted by the respondent.

25. Hence, in the cultivation mixture of step (c) of the claimed method, no components of the blood are present, either from the added nutrient broth or carried over with the microbes.

26. In this context, the appellant also pointed out that the claim did not require step (a) to take place before step (b), in which case the opposition division's interpretation of step (c) would not make any sense. However, apart from the fact that first separating the microbes from the blood and afterwards dissolving the human particles in the (separated) blood makes no technical sense, the claim would nevertheless still require the microbes to be separated from the blood and cultivated in a nutrient broth which did not contain any antimicrobial components of the blood. Changing the order of steps (a) and (b) hence would only possibly affect how the microbes were separated from the blood, but not the fact itself that they are separated.

27. The appellant also asserted that "[c]*ultivating the microbes in a nutrient broth*" did not necessarily mean that the microbes were grown in a liquid culture, but that this expression also encompassed gelatinised nutrient broth. However, the term "broth" in its common technical meaning refers to a liquid. Likewise,

cultivating microbes "in" or "into" a nutrient broth denotes cultivation in a liquid, as opposed to cultivating them "on" or "onto" an agar plate, which denotes cultivation of colonies on a gelatinised medium. The appellant did not point to any teaching in the patent that would be contrary to this interpretation as commonly understood by the skilled person. Step (c) of the claim hence refers to cultivation of the microbes in a liquid nutrient broth.

Sufficiency of disclosure (Article 83 EPC)

28. It is established case law of the Boards of Appeal that a successful objection of insufficient disclosure presupposes there being serious doubts, substantiated by verifiable facts. In *inter partes* proceedings, each of the parties bears the legal burden of proof for the asserted allegations of facts on which their respective substantive case rests. The weight of the submissions required for a successful objection of insufficient disclosure is commensurate with the teaching provided in the patent in suit. Consequently, the success of the appellant's arguments in relation to sufficiency of disclosure in the present case depends on the teaching provided in the patent in suit and the relevant common general knowledge.

29. In the present case, the board is satisfied that the patent provides sufficient teaching for the skilled person to carry out the method according to claim 1. The patent teaches that the microbes can be separated from the blood "*by centrifugation or filtration, for example*" (paragraph [0025]), that, "[i]*f necessary, washing steps (b1) may be inserted*" (last sentence in paragraph [0039]), and that the removal of "*all broad-spectrum antibiotics already administered as part of*

the treatment" is done "*automatically in Steps (b) and (b1)*" (first sentence of paragraph [0040]).

30. The patent hence provides sufficient instructions as to how the microbes can be separated from the blood. The appellant argued that the skilled person did not know how to eliminate all antimicrobial compounds of the blood as required in step (c) of the claim and that centrifugation alone was not sufficient, even if the liquid was carefully removed after centrifugation as described in paragraph [0044] of the patent. However, the appellant did not provide any evidence that a skilled person trying to carry out the method of the opposed patent would have any difficulty. In the absence of any evidence that these instructions were not sufficient to separate the microbes from the antimicrobial components possibly present in the blood, the appellant's allegations are unsubstantiated and not persuasive.

31. In this context, it is irrelevant that, as pointed out by the appellant, the patent does not contain any information on how the skilled person could verify that all antimicrobial compounds of the blood had been removed. According to the teaching in the patent, additional and repeated washing steps are sufficient to achieve the desired separation (e.g. paragraph [0063] and [0064]), and no evidence to the contrary was provided. Under these circumstances, it is not necessary for methods for detecting antimicrobial blood components to be disclosed in the patent. The contentious comment in the decision under appeal that mass spectrometry could be used for detecting these compounds (second full paragraph on page 6) is hence irrelevant to the present assessment of sufficiency of

disclosure of the claimed method and is not further evaluated by the board.

32. It is likewise irrelevant that the washing steps (b1) are not recited in the claim, because sufficiency of disclosure of a claimed invention is assessed based on the disclosure in the entire patent in combination with the skilled person's common general knowledge. Apart from being expressly mentioned in the patent, as assessed above, repeated washing of a precipitate for separating it from the liquid in which it was previously suspended is a commonly known procedure.

33. The appellant also asserted that step (a) of claim 1 - dissolving human blood particles in blood with a surfactant - lacked the essential feature that the microbes must be kept able to reproduce. The skilled person could not put this feature into practice as the description was silent on how to find the appropriate surfactant in the appropriate quantity and establish the appropriate incubation time. The same was true for the release of microbes nesting in macrophages or other human cells, as recited in claim 2 (see section VIII. for the full wording of this claim).

34. This line of argument is not persuasive, however. Firstly, it is implied by step (c), which requires the microbes to be cultivated, that these are still able to reproduce after step (a). Secondly, the description, in particular paragraphs [0060] and [0061], provides sufficient information to put step (a) of claim 1 and the additional feature of claim 2 into practice. These paragraphs, in combination with paragraph [0059], explain that the cell membranes of eukaryotic cells, including internal structures of the blood cells, dissolve more easily than the sturdier bacterial cell

walls, and teach that "*a weak surfactant, preferably a non-toxic saponin*" (paragraph [0060]) should be used for a short time to dissolve the human particles, but not the microbes.

35. Based on this teaching in the patent and their common general knowledge, the skilled person is able to carry out step (a) of claim 1 and the additional feature of claim 2 while keeping the microbes able to reproduce. No evidence to the contrary was provided by the appellant.

36. The appellant also raised an objection under Article 83 EPC against the invention as claimed in claim 10 because of the expression "optically clear broth" used in this claim (see section IX. above for the full wording of the claim). This implied the necessity of using a "special" nutrient broth that was not further defined (paragraphs [0026], [0052] and [0056] of the patent) and/or the selection of specific spectrometers. This required carrying out a research programme and constituted an undue burden.

37. The board cannot accept this line of argument. Monitoring quantitative growth by measuring light extinction, scattered light or fluorescence in a nutrient broth that is "*clear*" to the extent that it allows "*certain types of spectrometry*" to be "*applied without perturbation*" (paragraph [0051] of the patent, see also figures 2 and 3 and paragraph [0030] describing these figures) only requires the application of commonly known techniques. Therefore, the fact that the boundaries of the feature "optically clear broth" in claim 10 might be unclear does not hinder the skilled person from putting the claimed method into

practice based on the teaching in the patent and their common general knowledge.

38. None of the appellant's objections raised under Article 83 EPC against the invention defined in the claims of the main request are persuasive.

Inventive step (Article 56 EPC)

39. The opposition division considered that the claims of the main request were inventive when starting from documents E7 (for claim 1) or E2 as closest prior art (for claim 17). In appeal, the appellant maintained these inventive step attacks but also developed attacks against claim 1 and dependent claims starting from documents E1 and E2.

Claim 1

Document E7 as closest prior art

40. Document E7 discloses what is known as a "lysis-centrifugation" technique for the identification of microbes in blood which differs from the claimed method in that it does not include steps (b) and (c) as defined in the claim nor the identification of the microbes by mass spectroscopy as recited in steps (d) and (e) of the claim.

41. The appellant disagreed that document E7 did not disclose steps b) and c) of claim 1, arguing that the centrifugation step after the lysis with saponin, the subsequent inoculation onto tryptic soy broth with 0.15% agar and the identification of positive cultures by standard methods as taught in document E7 (last full sentence of the left-hand column and second full

sentence in the middle column on page 2186 of E7) fell under steps (b) and (c) of the claim.

42. However, as correctly assessed in the decision under appeal (last paragraph on page 9), document E7 explicitly teaches not to remove the entire supernatant fluid after the blood, which had been lysed with saponin, was centrifuged. Instead, the sediment (of microbial cells) in the "*residual supernatant fluid*" was "*removed for plating*", and 0.3 ml of this "*concentrate*" were each used for cultivating the microbes onto different agar plates (last paragraph of left-hand column on page 2186 of E7).

43. Hence, in line with the claim construction developed in points 19. to 27. above, document E7 neither discloses the (complete) separation of the microbes from the blood as required in step (b) of the claim, nor the cultivation of the microbes in a nutrient broth which does not contain antimicrobial compounds of the blood as required in step (c) of the claim.

44. The board agrees with the opposition division that the technical effects associated with the identified distinguishing features are the use of a nutrient broth which is favourable for microbe growth, thus enabling faster growth of the microbes (for steps b) and c)) and rapid identification of the microbes (for steps d) and e)). Irrespective of the contentious question as to whether or not these differences act synergistically, it was uncontested that they all contribute to allowing the faster detection of microbes. The technical problem can hence be formulated as the provision of a faster method.

45. The opposition division held that neither document E7 nor any other document cited in the proceedings recognised the need to cultivate the microbes in a nutrient broth which did not contain any antimicrobial components of the blood, i.e. the need to separate the microbes from the blood before cultivation. Steps (b) and (c) of the claimed method were hence not obvious to the skilled person (point 25.2.5 on page 8 and last full paragraph on page 10 of the decision under appeal).

46. On appeal, the appellant contested the opposition division's view that document E7 did not disclose steps (b) and (c) of the claim and argued that the only difference - the spectroscopic detection method - was obvious in view of the disclosure in documents E4 or E5. No arguments were provided to contradict the opposition division's view that steps (b) and (c) of the claim were not obvious to the skilled person from the disclosure in document E7 or any other document cited (see point 45. above).

47. In the absence of any arguments to the contrary, the board concurs with the opposition division to the effect that it was not obvious to the skilled person from the teaching in document E7, either alone or combined with any of documents E4 or E5, to separate the microbes from the blood and cultivate them in a nutrient broth which does not contain antimicrobial compounds of the blood.

48. In fact, as pointed out by the respondent, in addition to the "lysis-centrifugation" technique, document E7 also discloses what are described as "Conventional Broth Cultures", in which each blood specimen is directly inoculated into 100 ml bottles of a nutrient

broth to increase their concentration. Hence, if anything, document E7 proposes cultivating microbes in a blood culture. Separating the microbes from the blood *before* the cultivation in a nutrient broth was hence not obvious from this disclosure (first full paragraph in middle column on page 2186 of E7).

Document E1 as closest prior art combined with document E7

49. The opposition division considered that document E1 was not a suitable starting point for the assessment of inventive step, *inter alia* because it did not disclose a method for the identification of microbes in blood comprising steps (a), (b) and (c) of claim 1. Instead, document E1 proposed directly combining a blood sample with a culture medium for cultivating the microorganism as a first step in the detection of microorganisms in blood samples (point 25.5 of the decision under appeal).

50. The appellant did not contest that the method disclosed in document E1 lacked at least steps (a) and (b) of the claim but asserted that these steps were known from document E7. However, as assessed in points 42. and 43. above, document E7 does not disclose the cultivation of microbes separated from the blood in a nutrient broth that does not contain antimicrobial compounds of the blood (step (b) of the claim). For this reason alone, the appellant's problem-solution approach starting from document E1 as closest prior art and combining it with the disclosure in document E7 must fail.

Document E2 as closest prior art

51. The appellant asserted that the method disclosed in document E2 (claims 1 to 3 and 6 and paragraphs [0043],

[0055], [0061], [0062] and [0066]) only lacked the step of culturing the microbes in a nutrient broth which did not contain antimicrobial compounds of the blood. The effect of this step was an increase in microbe concentration to obtain sufficient microbes for the spectrometric detection. Increasing microbe concentration by cultivation in a nutrient broth was generally known to the skilled person and did not require inventive activity.

52. However, as pointed out by the opposition division (point 25.5 of the decision under appeal) and the respondent, document E2 aims at directly interrogating microorganisms isolated from a sample which may be a clinical sample or a culture (e.g. paragraphs [0054] and [0055] of E2). The clinical sample, such as e.g. a blood sample, is hence either used directly or after a microbiological culture of the sample, such as e.g. a blood culture (paragraph [0054] of E2). The optional lysis step is then performed after, and not before, this culturing step and serves, together with a microorganism separation step conducted immediately before the interrogation step, to prevent interference during interrogation (paragraphs [0061] and [0066] of document E2).

53. This means that a culturing step, if deemed necessary, would be carried out in a blood culture before the lysis and the separation steps, but not after them. Indeed, the interrogation step is explicitly taught as directly following the separation or pelleting of the microorganisms (paragraph [0075] of E2). In view of this teaching in document E2, the skilled person would not have included an additional culturing step after the separation step and before the interrogation step in the method of document E2.

54. The subject-matter of claim 1 involves an inventive step (Article 56 EPC).

Claim 17

Document E2 as closest prior art

55. The appellant asserted that the subject-matter of claim 17 (see section IX. for the full wording of the claim) lacked an inventive step in view of the teaching in document E2 combined with common general knowledge as document E2 described the lysis of cells with an osmotic shock (paragraph [0043] of E2).

56. However, as assessed above in the context of the inventive step of claim 1 over the teaching in document E2 (points 51. to 53.), the skilled person would not have included an additional culturing step after the separation step and before the interrogation step in the method of document E2. The same considerations set out above with respect to the inventive step of the method of claim 1 hence apply, *mutatis mutandis*, to the inventive step of the method recited in claim 17.

57. The subject-matter of claim 17 involves an inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

L. Stridde T. Sommerfeld

Decision electronically authenticated