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D E C I S I O N
of 12 March 2004

Case Number: T 0302/02 - 3.3.4
Application Number: 87301669.5
Publication Number: 0236069
IPC: G05D 23/19
Language of the proceedings: EN

Title of invention:

Apparatus and method for performing automated amplification of nucleic acid sequences and assays using heating and cooling steps

Patentee:

Applera Corporation

Opponents:

Techne (Cambridge) Ltd
Whatman International Ltd
Boehringer Mannheim GmbH Patentabteilung
Biometra biomedizinische Analytik GmbH
MWG-Biotech AG
Biozym Diagnostik GmbH
MJ Research, Inc.

Headword:

Automated amplification/APPLERA

Relevant legal provisions:

EPC Art. 56, 114(2)
EPC R. 57a

Keyword:

"Art. 114(2) - late submitted material - evidence admitted (no)"

"Art. 56 - Inventive step - neighbouring field (no)"

Decisions cited:

G 0004/95, T 0552/89, G 0002/98

Catchword:

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Case Number: T 0302/02 - 3.3.4

D E C I S I O N
of the Technical Board of Appeal 3.3.4
of 12 March 2004

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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
18 March 2002 concerning maintenance of
European patent No. 0236069 in amended form.

Composition of the Board:

Chairman: U. M. Kinkeldey
Members: R. S. Wibergh
S. C. Perryman
G. E. Weiss
R. E. Gramaglia

Summary of Facts and Submissions

- I. This is an appeal by Opponents 01 and 02 (Appellants I and II) and the Patent proprietor (Appellant III) against the decision of the Opposition Division finding European patent No. 0 236 069 in amended form to meet the requirements of the EPC.
- II. Opponent 03 has withdrawn its opposition. Appellants IV to VII are interveners who have intervened according to Article 105 EPC in the proceedings at the appeal stage.
- III. Claim 1 as granted reads:

"An apparatus for automated temperature cycling of a plurality of reaction wells comprising:
a heat-conducting metal block having a top surface and a plurality of recesses communicating with said top surface for holding said reaction wells;
means for heating and cooling said block to or at any of a plurality of user-defined temperatures and having a control input for receiving a control signal controlling whether said block is heated or cooled; and
a computer means, coupled to said control input of said means for heating and cooling, for receiving and storing data from a user defining a plurality of temperature profiles each comprising at least one heating segment and at least one cooling segment, and for, upon receipt of a command from a user, serially accessing said data and generating control signals therefrom at the control input of said means for heating and cooling, said computer means further comprising means for repeating at least one of said

temperature profiles a user-defined number of times before serially accessing the next profile".

Claim 7 is directed to a method for amplifying at least one specific nucleic acid sequence using such an apparatus.

Claim 11 is directed to the use of an apparatus as defined in claim 1 for nucleic acid amplification.

Claim 12 is directed to the use of a heat-conducting metal block and a computer means as defined in claim 1.

IV. The following documents will be referred to in the present decision:

D3: EP-A-0 110 408

D5: R. K. Saiki et al., "Enzymatic Amplification of β -Globin Genomic Sequences and Restriction Site Analysis for Diagnosis of Sickle Cell Anemia", Science, Vol. 230, 20 December 1985, p. 1350-1354

D33: DE 31 22 008 A1

D36: Article "Amplifying DNA By the Magic of Numbers", Science, Research News, 11 July 1986.

V. According to the decision under appeal, claim 1 as granted did not fulfil the requirements of Article 123(2) EPC because the word "serially" broadened the scope of the claim beyond what was originally disclosed. After amendment according to an auxiliary request the claim was found acceptable.

- VI. In a communication dated 29 December 2003 the Board addressed the issues of the priority claims, added subject-matter and inventive step.
- VII. On 11 February 2004 Appellant III (Patent proprietor) filed amended claims 1 to 12 according to four auxiliary requests. At the same time it was announced that a technical expert on PCR methods and instrumentation would accompany the representative at the oral proceedings "to provide technical assistance should the Board request any such assistance".
- VIII. With letters dated 8 March 2004 and 9 March 2004 Appellant VI submitted transcripts of a cross-examination of one of the co-inventors in US litigation proceedings. Based on this evidence Appellant VI argued that there existed important prior art which rendered the invention obvious. It had not been possible to refer to this prior art before since the cross-examination had taken place only a few days earlier.
- IX. Oral proceedings, at which Appellant II did not attend, were held on 11 and 12 March 2004. Appellant III (Patent proprietor) withdrew two of the four auxiliary requests filed on 11 February 2004 and renumbered the remaining two.
- X. Claim 1 of the new first auxiliary request reads (changes with respect to claim 1 as granted in italics):
- "An apparatus for automated temperature cycling of a plurality of reaction wells *for a nucleic acid amplification reaction comprising heating and cooling*

steps of strand separation, hybridisation and extension product synthesis comprising... [the rest of the claim as granted]".

- XI. Claim 1 of the second auxiliary request is identical with the claim forming the basis for the Opposition Division's decision that the patent could be maintained in amended form. It reads (changes with respect to claim 1 as granted in italics):

"An apparatus for automated temperature cycling of a plurality of *reaction mixtures in reaction wells in a chain reaction for nucleic acid amplification performed according to an amplification protocol, the apparatus comprising:*

a heat-conducting metal block having a top surface and a plurality of recesses communicating with said top surface for holding said reaction wells;

means for heating and cooling said block to or at any of a plurality of user-defined temperatures and having a control input for receiving a control signal

controlling whether said block is heated or cooled; and

a computer means, coupled to said control input of said

means for heating and cooling, for receiving and

storing data from a user defining a plurality of temperature profiles *of the amplification protocol* each

comprising at least one heating segment and at least

one cooling segment, and for, upon receipt of a command

from a user, serially accessing said data and

generating control signals therefrom at the control

input of said means for heating and cooling *in order to*

operate said means for heating and cooling in order to

heat and cool the block in accordance with said

temperature profile(s), said computer means further

comprising means for repeating at least one of said temperature profiles a user-defined number of times before serially accessing the next profile *in accordance with said amplification protocol*".

XII. Appellant III (Patent proprietor) argued that the patent contained no subject-matter extending beyond the content of the application as filed and that the invention was new and involved an inventive step over the cited prior art. The prior art referred to by Appellant VI shortly before the oral proceedings did not even exist in written form and could therefore not be considered at this point of the opposition proceedings.

XIII. The opposing Appellants argued that the patent could not validly claim the first priority date, that it contained added subject-matter and that the invention according to all three requests was obvious in view of documents D36, D3 and D33.

Moreover, in the view of Appellant IV the invention of the main request was not new over document D3 and the first auxiliary request was not admissible under Rule 57a EPC. As to the technical expert accompanying the representative of Appellant III (Patent proprietor) Appellant IV requested that he not be allowed to make submissions at the oral proceedings. It had not been explained on what issues he was going to speak, contrary to the requirements set out in the decision of the Enlarged Board of Appeal G 4/95. If any issues had to be elucidated an independent expert should be called in. Furthermore, Appellant IV requested permission to submit further evidence at the oral proceedings

connected with the prior art mentioned by Appellant VI in the letters of 8 and 9 March 2004.

- XIV. Appellants I, II, IV, V, VI and VII requested that the decision under appeal be set aside and that the patent be revoked.
- XV. The Appellant III (Patent proprietor) requested as main and first auxiliary request respectively that the decision under appeal be set aside and that the patent be maintained as granted or on the basis of claim 1 to 12 filed as second auxiliary request on 11 February 2004 or as second auxiliary request that the appeals of Appellants I, II, IV, V, VI and VII be dismissed.

Reasons for the Decision

1. *Procedural issues*

- 1.1 According to the decision of the Enlarged Board of Appeal G 4/95 (OJ EPO 1996, 412) a person accompanying the professional representative may be allowed to make oral submissions on specific technical issues on behalf of that party if, in particular, the subject-matter of the proposed oral submissions is stated sufficiently in advance of the oral proceedings. In the present case it has been stated that the expert accompanying the representative of the Patent proprietor might "provide technical assistance should the Board request any such assistance". Appellant IV has requested that the expert not be allowed to make any submissions.

The Board agrees with Appellant IV that if an expert were allowed to make submissions on subject-matter not specified in some detail beforehand, the other parties would be placed at a disadvantage since they could not prepare themselves properly. This would be against the spirit and purpose of decision G 4/95 and should only be permitted if none of the parties to the proceedings objects. Therefore in this case the Board did not allow the expert to make submissions on the behalf of the Patent proprietor at the oral proceedings.

- 1.2 The evidence relating to prior art which Appellants IV and VI assumed to exist on the basis of a recently available transcript of a cross-examination in the US of one of the co-inventors was not admitted into the proceedings by the Board (Article 114(2) EPC). This evidence related to apparatus allegedly present in the inventors' laboratory at the time of making the present invention. Not even the Appellants seeking to introduce this evidence were arguing that the evidence then available to them would by itself be complete enough for the Board to be able to decide that something additional was to be regarded as prior art made available to the public, rather these Appellants were suggesting that the matter required further investigation. The issues of lack of novelty and lack of inventive step under the EPC are to be decided on an objective basis in relation to what was available to the public, and not in relation to what stood in the inventors' laboratory and which might or might not correspond to what was publicly available. That the Appellants only recently learned of it from the cross-examination in the US of one of the co-inventors cannot be regarded as any reason for allowing the belated

introduction into the proceedings of inconclusive evidence concerning an incident of dubious relevance. Given that the case was otherwise ripe for decision, the Board exercised its discretion under Article 114(2) EPC to disregard this late filed evidence.

2. *The invention*

The invention is an apparatus for automated temperature cycling intended to be used for PCR (polymerase chain reaction). PCR is a method of enzymically amplifying DNA which involves repeated heating and cooling steps: a denaturing step (separating the DNA into single strands) at a high temperature, typically over 90°C, followed by a cooling step to a lower temperature at which an extension product is synthesized. The apparatus is programmable to achieve different temperature profiles. A profile can be repeated any number of times, and different profiles can be accessed serially (linked).

3. *The priority claim*

The patent claims the priority of two US applications, US 833368 filed on 25 February 1986 and US 899061 filed on 22 August 1986. The opposing Appellants have argued that not all features of claim 1 were present in the first priority document. In particular, the feature that the apparatus was capable of storing and serially accessing a plurality of temperatures profiles was not disclosed.

Appellant III (Patent proprietor) has pointed out that US 833368 mentions that some nucleic acid sequences

require more amplification cycles than others and that in some embodiments a first cycle of amplification is carried out followed by a second cycle. The text indicated (p. 57, l. 21 and p. 59, l. 3), however, does not directly concern the apparatus but the PCR protocol, as indicated by the heading on p. 42. Even if it could be concluded from these passages that different profiles may be used, there is no clear teaching that the apparatus for cycling should permit serial access from one profile to another. The flow diagram on p. 2, showing "the process carried out by the machine", includes no such step: a cycle may be repeated (boxes 90, 92) but then the program ends (box 94). This may be contrasted with the flow diagrams shown in fig. 6B and 7B of the patent-in-suit in which a linking step to a new profile is explicitly indicated (steps 108, 112; 109, 111). Thus, the feature that the apparatus is capable of storing and serially accessing a plurality of temperatures profiles, being a part of the subject-matter of the claim (cf Article 87(4) EPC), is not disclosed in the first priority document.

In the light of decision G 2/98 (OJ EPO 2001, 413) it follows that the patent cannot validly claim the first priority date but only the second date of 22 August 1986.

4. *Prior art*

4.1 Document D36 has been published in July 1986, ie between the two priority dates of the patent-in-suit. Because the first priority claim is not valid (cf point 3 above) this document is prior art according to Article 54(2) EPC. It mentions that the PCR technique

has been improved by "using an enzyme from a thermophilic organism, which survives undamaged through the heating part of the cycle". This technique "has of course been automated", but no particulars of an apparatus for this purpose are given.

- 4.2 Document D3 is in the technical field of general temperature control of an object. A microcomputer is programmed to generate cyclical temperature profiles (fig. 6A, 6B). A profile may be repeated a user-defined number of times (fig. 4, step 36). Stored profiles can be combined arbitrarily (see eg the sentence bridging p. 2 and 3) using link data (fig. 3). An apparatus is only schematically described (fig. 1). It includes a heater (p. 4, middle of the page).
- 4.3 Document D33 describes a thermostat for laboratory use, in particular in the field of medicine (cf the abstract), to maintain the temperature of samples at a set value. This equipment comprises an aluminium block 1 (fig. 1) with recesses for holding the samples, a Peltier element 2 for heating and cooling, and an electronic circuit (fig. 2). The circuit delivers a signal for controlling whether the block is heated or cooled to a control input of the Peltier element (p. 2, l. 8, 9).
- 4.4 Document D5 (cf the caption to fig. 2 on p. 1351) describes a PCR cycle comprising the steps of denaturation (5 or 2 minutes at 95°C), centrifugation to remove condensation, hybridization (2 minutes at 30°C), addition of polymerase, and extension (2 minutes at 30°C). Two separate heat blocks are used, one at 95°C and the other at 30°C. At p. 1353 it is mentioned

that "all of the reactions can be done in two small microcentrifuge tubes and could readily be automated".

The claims according to the main request

5. The main request of Appellant III (Patent proprietor) is that the patent be maintained as granted.
6. *Added subject-matter (Article 100(c) EPC)*

The opposing Appellants have raised a number of objections under Article 100(c) against all four independent claims of the main request. There is however no need to decide whether the patent contains subject-matter extending beyond the application as filed since, as explained further below, it must be revoked for other reasons.

7. *Novelty (Article 100(a) with 54 EPC)*

Appellant IV has argued that the invention lacks novelty over document D3. In the Appellant's view the skilled person, drawing on general knowledge, would realise that the "output 7 including a heater" in document D3 (p. 4; fig. 1) may be a metal block.

Appellant III (Patent proprietor) has objected that there is no explicit or implicit disclosure in document D3 of a metal block, and even less of one having recesses, ie which serves not only to transport heat but also to hold the reaction containers. The Board agrees. Thus, the invention is new (Article 54 EPC).

8. *Inventive step (Article 100(a) with 56 EPC)*

8.1 Claim 1 is directed to an apparatus for automated temperature cycling of reaction wells. Although it is clear from the description that the apparatus is intended for performing PCR, claim 1 contains no reference to this particular application. At least theoretically, therefore, the closest prior art need not concern PCR at all but might belong to the field of temperature control in general. Nevertheless, as the problem as stated in the patent is concerned with use for PCR, and this is the only significant use in practice, the Board considers that the appropriate starting point to be selected as closest prior art, should relate to a document describing PCR, and to the Board the most relevant document seems to be document D36. This is similar to the approach of the Opposition Division, who based their argument on document D5, also relating to PCR.

8.2 Document D36 briefly describes the PCR process. The amplification principle is explained by means of a schematic drawing of DNA strands. It is mentioned that the process is cyclical and that each cycle involves "heating and cooling". By using an enzyme which survives undamaged through the heating part of the cycle, repeated addition of the polymerase can be avoided.

The technical problem to be solved with respect to this prior art is to provide an apparatus suitable for automating the PCR process. Posing the problem in this way involves no hindsight, considering that document

D36 explicitly mentions that the technique "has of course been automated".

- 8.3 The skilled person for solving the problem in this case should be knowledgeable and skilled in the field of laboratory equipment. He is assisted by a person knowledgeable and skilled in the application of PCR. Together they make up a team, one person designing the apparatus and the other advising on particulars of the process, such as the temperature and duration of individual process steps.

All parties agreed to this position which was outlined by the Board already in its communication.

- 8.4 The Board is satisfied that the problem so stated can be regarded as solved by the subject matter of claim 1. The subject matter of claim 1 is a generic solution, covering specific embodiments having the claimed features whether these embodiments are cheap or expensive to produce, and irrespective of the number of PCR determinations per unit time (i.e. throughput) they enable a user to carry out.

- 8.5 Where as here the problem is to provide apparatus to automate a known process, with cost and throughput not being prime considerations, the skilled person (here skilled team) can be expected to be able to derive a number of different solutions in an obvious manner from the prior art. The requirements of different users as regards cost and throughput, might lead to users preferring different solutions. The fact that the claimed solution is not the only way to automate the known PCR process cannot thus be taken as an indication

that it is not obvious. Rather the investigation must be whether the claimed solution is or is not one of the solutions which the skilled person would think of and be able to implement in an obvious manner in view of the existing prior art.

8.6 The claim basically requires three features: the heat-conducting metal block, the means for heating and cooling said block, and the computer means coupled to a control input of said means for heating and cooling.

8.7 From what document D36 mentions about the PCR process, the skilled team would know that the apparatus should achieve heating and cooling of the DNA to or at any of a plurality of user-defined temperatures in cycles the number and precise shape of which the user should be free to designate. Only this would give the flexibility to the user to adjust the apparatus to achieve the optimum for any PCR process. In 1986 this would most readily be implemented by computer-control. Furthermore, temperature cycling necessarily involves the definition of a temperature profile comprising a heating segment and a cooling segment. The profiles would be stored in the form of data accessible to the computer.

8.8 After having studied document D36, the skilled person needed to consider in more detail the features of the desired apparatus. The device must be able to heat and cool the samples but document D36 is silent about the means to achieve this. The skilled person would see that it would be necessary to hold the sample at an upper temperature to allow strand separation and a lower temperature to allow hybridisation and extension product synthesis, and that heating means would be

needed to take the sample from the lower to the higher temperature. Active cooling means might be unnecessary to take the sample back to the lower temperature, but the skilled person would also see that for a controlled process lasting as little time as possible, both active heating and cooling means should be provided. The skilled person would see that the laboratory process described in document D5 involved two heating plates, one set at a lower temperature and one at a higher temperature, with the sample in a glass tube being transferred manually between them, the plates acting as heating and cooling means.

8.9 This was in fact the laboratory equipment used by the inventors of the PCR. Appellant III (Patent proprietor) has argued that this would also be the road the skilled person would follow when automating the process. He would have no reason to abandon the two heating plates, with the necessary tube handling being performed by a suitable known device such as a robot.

8.10 The Board can however not agree with Appellant III (Patent proprietor) that the skilled person, when faced with the task of developing an apparatus intended for automating use of PCR, would have felt in any way tied to copying the laboratory set-up used by the researchers. While using such a transfer robot is one possibility, this involves some tens of transfers between the two heating plates. To the Board it seems certain that the skilled person would also contemplate avoiding such transfers and all the things which could go wrong with them, by choosing the mechanically much simpler alternative of leaving the sample tube in the same heating plate and providing heating and cooling

means for cycling the plate between the two temperatures. Looking into the relevant prior art in the technical area of temperature control the skilled person would find documents D33 and D3. Document D33 shows in fig. 1 an aluminium block provided with recesses in its top face for heating or cooling medical samples using a Peltier element. The Peltier element is provided with a control input for receiving a control signal controlling whether the block is heated or cooled. This input could clearly be connected to a computer.

- 8.11 Document D3 discloses a microcomputer programmed to generate cyclical temperature profiles where each profile may be repeated any number of times. This corresponds closely to the PCR requirements as described in document D36.
- 8.12 Appellant III (Patent proprietor) has pointed out that document D3 mentions no cooling means, only a "heater", and that cooling might simply be by convection and radiation. The Board does not however regard this as a fundamental difference between the invention and document D3. It is unambiguous from document D3 that heating and cooling profiles are obtainable. No values for the temperature rates are given but if fast cooling is needed obviously sufficiently powerful "means for cooling" would be used. Thus the kind of cooling - employing "means" or not, and what means - appears to be a matter of degree rather than principle.
- 8.13 Appellant III (Patent proprietor) has denied that the skilled person would use document D33 together with document D3 since document D33 concerns a thermostat. A

thermostat is intended to maintain a predetermined temperature whereas the PCR process requires the temperature to vary controllably. The aluminium block in document D33 would therefore be thermally slow and not permit the comparatively fast temperature cycles needed (document D36 mentions a value of 5 minutes per cycle).

8.14 Also this argument fails to convince the Board. Aluminium being a good thermal conductor, the metal block in document D33 was a natural choice for ensuring the heat transport to and from the DNA sample. Whether or not in document D33 the apparatus is used to keep the temperature constant is of little relevance considering that the starting document, document D36, already specifies the kind of temperature control required. The opposing Appellants have argued that an aluminium block can easily be designed in such a way that its temperature follows a desired profile. In particular, it should not be too large. This view appears to be confirmed by the fact that the patent-in-suit does not contain any information at all about the block, except that it is of metal. Therefore the design of an appropriate block must be regarded as a routine measure.

8.15 The skilled person would therefore have combined document D36 with documents D3 and D33 to arrive at an apparatus having the features of claim 1. The two characteristics in the claim *plurality* of profiles and the means for *serially accessing the next profile* will automatically be met by having a computer allowing any number of identical or different cyclic profiles to be set in sequence, which is the solution the skilled

person would adopt to allow the user to use the apparatus for any desired PCR process.

8.16 The above argumentation with respect to inventive step involves three documents (D36, D3 and D33) and also takes further prior knowledge of PCR into account. Appellant III (Patent proprietor) has submitted that if so many different pieces of prior art need be considered in order to demonstrate that an invention is obvious, this is if anything proof to the contrary. The Board will in the following address this issue.

8.17 The Board takes the view that if it is obvious to the skilled person that a technical problem can only be solved by combining techniques from certain different technical fields, he will do so as a matter of course. In the present case document D36 suggests the link between the field of PCR and the field of temperature control. An examination as to inventive step of the subject-matter of the present claim 1 will involve at least two documents, one describing the PCR process (document D36) and providing as spring board certain requirements (here heating and cooling) and the other some kind of basic apparatus which would be potentially suitable for this purpose (document D3). Thus, if an invention consists of a new combination of features taken from different technical areas, a discussion whether or not it is obvious will normally involve at least as many documents as technical areas combined in it.

8.18 The Board, thus, considers the legal reasoning in decision T 552/89 (dated 27 August 1991), point 2.2, to be fully applicable:

"When assessing inventive step, it is of course not permissible to combine the teachings of different documents within the state of the art in order to establish obviousness of a claimed invention, unless it would have been obvious at the filing date for the skilled person to do that. In accordance with the jurisprudence of the Boards of Appeal, when the objective problem established having regard to the closest prior art as disclosed in a primary document is formed of individual problems then the skilled person can be expected to take account of solutions to the individual problems proposed in different secondary documents in the same or neighbouring technical fields. Thus the teaching of secondary documents may be combined with the disclosure of the closest prior art, if such secondary documents provide solutions to specific individual problems forming parts of the objective problem in progressing from the closest prior art, in particular when such individual solutions are merely aggregated together in the claimed invention."

- 8.19 It may furthermore be noted that the Board has adopted the approach taken in T 552/89 (supra) according to which a technical problem may be formed of "individual problems". The number of individual problems obviously depends on the degree of detail of the claim under consideration, and the cited decision does not suggest that beyond a certain number the presence of an inventive step may be taken for granted. On the contrary, it is said to be obvious to try to solve the individual problems as long as the corresponding solutions are "merely aggregated together" in the claim.

In the present case, the technical problem is to provide an apparatus suitable for automating the PCR process. This implies that certain individual problems must be solved, such as designing a suitable temperature control, choosing heating and cooling means, and determining the kind of temperature profiles needed. Documents D3 and D33 have been cited as "secondary documents" presenting solutions to these individual problems. Since the solutions are regarded as independent of each other, they form an aggregation. Thus, the documents can be combined.

8.20 For these reasons - ie that the invention involves neighbouring technical fields as well as different individual problems - the Board does not accept the suggestion of Appellant III (Patent proprietor) that the invention is non-obvious merely because several pieces of prior art are needed to arrive at it.

8.21 It follows that the subject-matter of claim 1 does not involve an inventive step (Article 56 EPC). Thus, the main request, comprising a claim whose subject matter does not fulfil all the requirements of the EPC has to be rejected.

The claims of the first auxiliary request

9. According to the first auxiliary request of Appellant III (Patent proprietor) claim 1 is amended to specify that the apparatus is for performing "a nucleic acid amplification reaction comprising heating and cooling steps of strand separation, hybridisation and extension product synthesis".

10. Appellant IV has submitted that this request is not admissible under Rule 57a EPC since a "for"-clause imposes no further limitation on the claimed subject-matter. This is denied by Appellant III (Patent proprietor) who has explained that the amendment represents a considerable limitation as compared with the main request for example in that the temperatures involved must correspond to those used in PCR.

The Board finds that the request complies with Rule 57a EPC since claim 1 as granted contains no reference to PCR and thus not all conceivable apparatus falling under this claim would be suitable for PCR. However, the invention remains obvious for the reasons given with respect to the main request, which take the PCR application (document D36) into account.

11. Thus, this request is rejected for the same reasons as the main request, i.e. that claim 1 lacks an inventive step (Article 56 EPC).

The claims of the second auxiliary request

12. The second auxiliary request of Appellant III (Patent proprietor) is for dismissal of the appeals of the other parties, ie for maintenance of the patent in the form accepted by the Opposition Division. Claim 1 according to this request differs from the granted claim in further references to PCR and an amplification protocol. Again, the invention is obvious for the reasons already given. Therefore, also the second auxiliary request is rejected for lack of inventive step (Article 56 EPC) of the subject matter of its claim 1.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairwoman:

A. Wallrodt

U. Kinkeldey