

Internal distribution code:

- (A) [] Publication in OJ
(B) [] To Chairmen and Members
(C) [X] To Chairmen
(D) [] No distribution

**Datasheet for the decision
of 1 October 2009**

Case Number: T 1041/07 - 3.3.10

Application Number: 99203630.1

Publication Number: 0985678

IPC: C07B 61/00

Language of the proceedings: EN

Title of invention:

Combinatorial synthesis and analysis of organometallic
compounds and catalysts

Applicant:

SYMYX TECHNOLOGIES

Opponents:

Degussa AG
Basell Polyolefine GmbH
Henkel AG & Co. KGaA
INEOS EUROPE LIMITED

Headword:

Array of organometallic metal ligand compounds/SYMYX

Relevant legal provisions:

EPC Art. 123(2)

Relevant legal provisions (EPC 1973):

-

Keyword:

"Amendment (not allowable) - undue combination of features"

Decisions cited:

T 0389/86, T 0296/96, T 0823/96, T 0427/99, T 0860/00,
T 1206/01, T 0003/06

Catchword:

-



Case Number: T 1041/07 - 3.3.10

DECISION
of the Technical Board of Appeal 3.3.10
of 1 October 2009

Appellant II:
(Opponent (1))
Degussa AG
Rodenbacher Chaussee 4
D-63457 Hanau-Wolfgang (DE)

Party as of right:
(Opponent (2))
Basell Polyolefine GmbH
Intellectual Property
Industriepark Hoechst, Building E 413
D-65926 Frankfurt am Main (DE)

Appellant I:
(Opponent (3))
Henkel AG & Co. KGaA
Patente (FJP)
D-40191 Düsseldorf (DE)

Party as of right:
(Opponent (4))
INEOS EUROPE LIMITED
Compass Point
79-87 Kingston Road
Staines
Middlesex TW18 1DT (GB)

Representative:
King, Alex
Compass Patents LLP
120 Bridge Road
Chertsey
Surrey KT16 8LA (GB)

Respondent:
(Patent Proprietor)
SYMYX TECHNOLOGIES
420 Oakmead Parkway
Sunnyvale
CA 94062 (US)

Representative:
Broughton, Jon Philip
HLBBshaw
Merlin House
Falconry Court
Baker's Lane
Epping
Essex CM16 5DQ (GB)

Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
7 May 2007 concerning maintenance of European
patent No. 0985678 in amended form.

Composition of the Board:

Chairman: R. Freimuth
Members: J.-C. Schmid
J.-P. Seitz

Summary of Facts and Submissions

I. Appellant I (Opponent 03) and Appellant II (Opponent 01) lodged appeals on 1 March 2007 and 23 May 2007, respectively, against the interlocutory decision of the Opposition Division, posted on 7 May 2007, which found that the European patent No. 985 678 in the form as amended during the oral proceedings of 14 November 2006 met the requirements of the EPC, claim 1 reading as follows:

"1. An array of more than 10 different activated organometallic metal ligand compounds at known locations on a substrate that have been activated by a chemical reagent, in which the chemical reagent is an alkylating agent and/or an ionizing agent."

II. Notices of opposition were filed against the granted patent requesting revocation of the patent in suit in its entirety. The patent was opposed under Article 100(a) EPC for lack of novelty and inventive step, under Article 100(b) EPC for insufficiency of disclosure and under Article 100(c) EPC on the ground of extending the subject-matter beyond the content of the application as filed.

The Opposition Division held *inter alia* that the requirement of Article 123(2) EPC was met for the expressions objected to by the opponents as extending beyond the content of the application as filed.

With respect to the amendments made to claim 1 the Opposition Division found that page 8, lines 3 to 28 of the application as filed defining the kind of ligands

and elucidating that organometallic ligand compounds were formed upon complexation gave a clear and unambiguous disclosure that metal-ligand compounds did not mean purely inorganic entities. The meaning of organometallic ligand compounds was furthermore explained on page 10, lines 13 to 23 of the application as filed. The application as filed provided support for the expression "more than 10" compounds at page 36, line 6. Claims 1 and 2 of the application as filed referred explicitly to activated metal-ligand compounds, the further limitation to alkylating and/or ionizing agents being found at page 8, line 29 to page 10, line 5. The introduction of both alternatives into claim 1 did not represent a novel selection from multiple lists.

Hence, the Opposition Division came to the conclusion that the claims did not extend beyond the content of the application as filed, complying, thus, with the requirements of Article 123(2) EPC.

- III. On 18 August 2008, the Board issued a communication indicating that it was not directly apparent where the disclosure was in the application as filed of the array according to claim 1 of more than 10 different activated organometallic metal ligands compounds at known locations on a substrate, and requested the Respondent to indicate the support of all features of the claim in their particular combination.
- IV. According to the Respondent's (patent Proprietor's) interpretation of the case law (decisions T 860/00; T 296/96; T 823/96; T 1206/01; none published in OJ EPO), the content of the application as filed

encompassed what could be directly and unambiguously deduced from its disclosure. The question whether or not a feature was disclosed in the application as filed had to take into account the whole content thereof and could not solely be based on isolated parts of the description. The content of the application as filed also included the implicit disclosure thereof, i.e. what any person skilled in the art would necessarily understand as a clear and unambiguous consequence of what was explicitly mentioned. The content of a document should not be considered to be a reservoir from which features pertaining to separate embodiments could be combined in order to artificially create a particular embodiment. Features from different embodiments cannot be combined if such a combination would not be contemplated by the skilled person upon reading the application. The relevant question was whether a skilled person would seriously contemplate combining the different features cited in the application as filed, i.e. whether or not that combination artificially created a particular embodiment which the skilled person would not contemplate.

The application should be read as a skilled person would read it, with the requisite knowledge of the technology and the language, to be able to skillfully understand what was being taught and to contemplate which combinations of features and ideas were being considered, whether they were explicitly provided in identical wording somewhere in the application or not.

The paragraph headed "Field of the Invention" on page 1, lines 9 to 15, of the application as filed specified

that the invention related to methodologies for the synthesis, screening and characterization of organometallic compounds and catalysts. Line 12 on page 1 of the application as filed referred, *inter alia*, to libraries of supported organometallic compounds and catalysts. The summary of the invention on page 4 went on to say, in the very first lines thereof, that the invention related to the synthesis and characterization of arrays of catalysts and organometallic compounds, and in one aspect related to making and screening an array of metal-ligand compounds.

It was thus clear, from these first few lines, that the disclosed subject matter included an array of organometallic metal ligand compounds at known locations on a substrate. The Glossary comprised in the application as filed provided definitions of terms for the whole application unless stated otherwise in the Glossary itself, or unless "overruled" in some other part of the description. When considering the nature of a catalyst, the Glossary provided a definition that stated that certain organometallic compounds would require "activation" (and others would not), so that it was clear that within the invention there would be some compounds that required activation. There was ample disclosure throughout the application of the activation. For example, activators were referred to and defined in the section bridging pages 8 and 9 of the application as filed. The sentence starting at line 23 on page 12 specifically referred to activation. The application as a whole contained many references to activation in the context of the invention. A skilled person reading the application would certainly have contemplated that the compounds that required activation could be formed into

an array as required by the invention. The fact that some catalysts needed activation was also made clear in the "Background of the Invention" on page 2, and in the "General Overview of Combinatorial Libraries" on page 12, and was further emphasized by the "Summary of the Invention" on page 5, which stated that the array of metal-ligand compounds could be optionally activated. The application disclosed an array of between 10 and 10^6 and an array of more than 10^6 different metal-ligand compounds. It was clear that the precise number was not essential. There was no reason whatsoever to suppose that these numbers were not to be applied to arrays of activated materials.

Given that it was clear that certain organometallic compounds would require "activation" prior to being catalytically active, a skilled person would naturally turn to that portion of the Glossary dealing with "Activators" where it was clearly stated that activators fell into two main classes of agents: (1) alkylating agents; and (2) ionizing agents. Since these were chemical agents, the skilled person would immediately realise that one group of organometallic metal ligand compounds required activation and that such activation could be carried out using alkylating agents and/or ionizing agents. These types of activators were also referred to in the Background of the Invention on page 2, and in the General Overview of Combinatorial Libraries on page 13.

The application as filed thus clearly showed a skilled person that the claimed invention was contemplated and disclosed. There was no need for the skilled person reading the application to jump between disparate

sections of the description to find the features being claimed since they were all either within the general description of the invention or within the knowledge of the skilled person, as explained in the initial portion of the application. The combination of features of present claim 1 was thus clearly supported by the application as filed and did not add subject matter.

- V. At the oral proceedings held on 1 October 2009 Appellant I withdrew its request for reimbursement of the appeal fee and essentially submitted the following.

There were only two sections of the application as filed disclosing the embodiment of an array comprising metal ligand compounds at known locations on a substrate, i.e. page 5, lines 12 to 18 and page 17, lines 5 to 11, these sections only addressing metal ligands compounds, not activated organometallic metal ligand compounds. An organometallic metal ligand compound was even not encompassed by the term metal ligand. The amendment of the feature metal ligand into a metal ligand being organometallic added subject-matter, as well as the introduction into claim 1 of the feature "activated".

The section on page 5, line 4 and 5 related to a method for making an array of metal ligands compounds comprising optionally activating the array of metal-ligand compound with a suitable co-catalyst, thus relating to a particular form of activation, i.e. with a co-catalyst. Furthermore, the fact that the array as such was activated did not necessarily mean that each conceivable metal-ligand component of the array would thereby be activated. This section only related to the

optional activation of metal-ligand compounds, and not of organometallic compounds. Furthermore, this section did not address the embodiment claimed in claim 1, i.e. wherein the compounds of the array are on known locations on a substrate. The glossary comprised in the description and addressing *inter alia* activators could not be used to specify the organometallic metal ligand compounds to be activated due to the lack of any pointer thereto so that new technical information was added. Moreover, on page 7, last paragraph, it was indicated that some of the organometallic compounds required activation, however, without any pointer to an array. On page 13 of the application as filed and in claim 1 as filed, the activation applied to the metal ligand compounds and not to the organometallic compounds. Furthermore, these sections were directed to another embodiment than the array of claim 1. Page 2 addressed the background art while page 12 addressed libraries and, hence, could not support features of the claimed array.

- VI. Appellant II filed no submission with respect to the issue of added subject-matter.
- VII. Opponents (02) and (04) are Parties as of right pursuant to Article 107 EPC in the appeal proceedings. They did not file any submission or request in the appeal proceedings.
- VIII. The Appellants requested that the decision under appeal be set aside and that the patent be revoked.

The Respondent requested in writing that the appeals be dismissed.

IX. The oral proceedings were held in the absence of the Respondent, Appellant II and the Parties as of right, which, after having been duly summoned, informed the Board that they would not attend. At the end of the oral proceedings the decision of the Board was announced.

Reasons for the Decision

1. *Admissibility of the appeals*

Appellant I filed its notice of appeal on 1 March 2007 against the decision of the Opposition Division pronounced at the end of the oral proceedings on 14 November 2006, the reasoned decision being notified to the parties on 7 May 2007. The appeal was thus filed before the commencement of the two-month time limit stipulated in Article 108, first sentence, EPC.

However, the time limit stipulated in Article 108, first sentence, EPC by no means precludes the filing of an appeal before the decision has been notified but merely requires that it must be filed no later than two months from the date of its notification (see decision T 389/86, OJ EPO 1988, 87; T 427/99, not published in OJ).

The appeal of Appellant I was thus filed in due time. All the other requirements being met as well, the appeal is admissible, which finding has never been contested by the Respondent.

The appeal of Appellant II also complies with Articles 106 to 108 and Rule 64 EPC and is therefore admissible.

2. *Non-appearance at oral proceedings*

According to Article 11(3) of the Rules of Procedure of the Boards of Appeal (RPBA) the Board is not obliged to delay any step in the proceedings, including its decision, by reasons only of the absence at oral proceedings of any party duly summoned who may then be treated as relying only on its written case. In deciding not to attend the oral proceedings, the Respondent chose not to avail itself of the opportunity to present its observations and counter-arguments orally but instead to rely solely on its written case. Insofar the Respondent is deemed to have expected that during the oral proceedings the Board would consider any objections and arguments raised either by the Appellants or by the Board in its communication.

In the present case the Board had therefore the power and the duty to take a final decision at the oral proceedings on the case before it, notwithstanding the announced absence of the duly summoned Respondent.

3. *Amendments (Article 123(2) EPC)*

- 3.4 Claim 1 has been amended vis-à-vis claim 1 as granted *inter alia* in that the metal ligand compounds of the array are defined as being "different activated organometallic metal ligands at known locations on a substrate"

3.5 In order to determine whether or not the subject-matter of a claim in a patent extends beyond the content of the application as filed it has to be examined whether that claim comprises technical information which a skilled person would not have objectively and unambiguously derived from the application as filed (see decisions T 296/96, point 3.1 of the reasons, penultimate paragraph; T 823/96, point 4.5 of the reasons, second paragraph ; T 860/00, point 1.1 of the reasons; T 1206/01, point 2.1 of the reasons; T 3/06, see point 4.1.4 of the reasons; none published in OJ EPO).

The content of an application as filed encompasses what is directly and unambiguously disclosed therein either explicitly or implicitly. In this context "implicit disclosure" means disclosure which any person skilled in the art would objectively consider as necessarily implied in the explicit content, e.g. in view of general scientific laws (T 860/00, *loc. cit.*).

Hence, the term "implicit disclosure" should not be construed to mean matter that does not belong to the content of the technical information provided by a document but may be rendered obvious on the basis of that content. Whilst common general knowledge must be taken into account in deciding what is clearly and unambiguously implied by the explicit disclosure of a document, the question of what may be rendered obvious by that disclosure in the light of common general knowledge is not relevant to the assessment of what is implied by the disclosure of that document. The implicit disclosure means no more than the clear and

unambiguous consequence of what is explicitly mentioned (T 823/96; *loc. cit.*).

The content of an application must not be considered to be a reservoir from which features pertaining to separate embodiments of the application could be combined in order to artificially create a particular embodiment (see T 1206/01, point 3.1.3 of the reasons; T 3/06, point 4.1.4 of the reasons).

The Respondent in view of the decision T 196/96 (*loc. cit.*) alleged that an amendment would not satisfy the requirements of Article 123(2) EPC "if such combination of features would not be contemplated by the skilled person upon reading the application" (emphasis added). The Respondent's argument reverses the criterion addressed in that decision for concluding that the requirement of original disclosure by a specific combination of features is satisfied. That criterion requires positively that the skilled person seriously contemplated this specific combination of features, i.e. the presence of some pointer from one feature to the other. The Respondent inverts this necessarily positive finding into the mere negative consideration that an amendment referring to a specific combination of features was only then precluded pursuant to Article 123(2) EPC if it would not have been contemplated, which view is opposite to what has been indicated in that decision cited in support of its allegation.

Thus, when assessing whether a particular combination of features is disclosed in a document, the relevant question is whether the skilled person seriously

contemplates combining those features cited in isolation in that document, i.e. if those features are directly and unambiguously disclosed in combination, e.g. by way of a direct pointer linking the two features together.

- 3.4.1 The Respondent argued that the paragraph headed "Field of the Invention" on page 1, line 9 to 15 provided a support for an array of organometallic metal ligand compounds at known locations on a substrate. However in this paragraph, there is no disclosure of any array whatsoever, this section only referring to libraries in general and hence cannot provide an adequate support for the array of claim 1.
- 3.4.2 The Respondent further relied on the section "Summary of the invention" on page 4 of the application as filed where an array of organometallic compounds is disclosed (page 4, lines 25, 27 and 28) and argued that thereby an array of organometallic metal ligand compounds at known locations on a substrate was implicitly disclosed.

However, as a general rule, a generic term does not reveal each and every specific structural group to the skilled person which is covered thereby. Thus, in the present case the generic term "array of organometallic compounds" does not disclose, either explicitly or implicitly, the specific array of organometallic compounds according to claim 1 where the organometallic compounds are supplemented to be metal ligand compounds and are situated at a particular *locus*, i.e. at known locations on a substrate; therefore, the section on page 4 of lines 25, 27 and 28 of the application as

filed disclosing an array of organometallic compounds cannot support the specific array according to claim 1.

3.6 Actually, as argued by the Appellant, there are only two sections of the application as filed disclosing the embodiment of an array comprising metal ligand compounds at known locations on a substrate, i.e. page 5, lines 12 to 18 and page 17, lines 5 to 11. However these sections generally address metal-ligand compounds and not specific ones, namely those being organometallic as well as activated, as now required in claim 1.

3.4.1 The Respondent pointed to page 5, line 4 and 5 to provide a support for the array claimed comprising activated organometallic metal ligand compounds. However, this section addresses a specific embodiment, namely a method for making and screening an array of metal ligands compounds, and, therefore, does not refer to the claimed embodiment wherein organometallic metal ligand compounds of the array are at known locations on a substrate. However, there is no pointer to combine the features of this particular method with the other embodiment directed to a particular array comprising metal ligand compounds at known locations on a substrate disclosed on page 5, lines 12 to 18 and page 17, lines 5 to 11. Hence those sections cannot provide a proper support for an array of activated organometallic compounds at known locations on a substrate, as now claimed.

3.4.2 Claim 1 of the application as filed, which has no longer been addressed by the Respondent to support its amendments is directed to an array of activated metal

ligand compounds; this claim does not refer to an array where the locus of the compounds is specified, i.e. that the compounds are on a substrate at known locations. Therefore original claim 1 may not form a proper basis for those amendments.

- 3.4.3 The Respondent furthermore relied on page 12, lines 23 to 26 of the application as filed. However this paragraph discloses no array whatsoever, this section merely referring to an assembly of libraries; hence it cannot provide an adequate support for the particular characteristics of the array of claim 1.
- 3.4.4 The Respondent indicated the section bridging pages 8 and 9 of the application as filed to be the support for arrays directed to metal-ligand compounds being activated. This section in the chapter of the application headed "GLOSSARY: ABBREVIATIONS AND DEFINITIONS" addresses *inter alia* the definition of an activator without any link to an array. However, since the arrays disclosed on page 5, lines 12 to 18 and page 17, lines 5 to 11 are silent about any activation or the presence of any activators, there is no reason for the skilled reader to turn to that part of the glossary referring to activators in order to combine the general teaching relating to activators with the specific embodiment of an array comprising metal ligand compounds at known locations on a substrate according to claim 1.
- 3.4.5 The last paragraph on page 7 also found in the chapter "GLOSSARY: ABBREVIATIONS AND DEFINITIONS" addresses the definition of "catalyst". It discloses that "the catalysts of the present invention are formally

organometallic compounds" and that "certain of the organometallic compounds of the invention will require "activation" prior to being catalytically active", while other "will not". A corresponding finding, that activation is merely an option is indicated in the sentence starting at line 23 on page 12 of the application as filed disclosing that "the catalysts of the present invention are either of a type which requires activation by an activating agent, or, alternatively, they are activator-free catalysts"

However, there is no direct pointer in either section suggesting that the specific embodiment of those particular organometallic compounds requiring activation are to be read in combination with the different embodiment of an array comprising metal ligand compounds at known locations on a substrate to arrive at the subject-matter claimed.

- 3.4.6 The last paragraph on page 13 of lines 24 and 25 addresses the activation of metal ligand compounds. However, this embodiment refers to an aspect of the invention disclosing a method for immobilizing intact ligands on a substrate by binding the ligands to reactive groups on the surface of the substrate; therefore, it does not address the different embodiment now claimed wherein organometallic metal ligand compounds of the array are at known locations on a substrate.
- 3.4.7 The Respondent furthermore asserted that the background of the invention on page 2 of the application as filed made clear that some catalysts needed activation. However this section addresses the state of the art and

not the invention; therefore it cannot provided a suitable support for the invention and the claimed features.

- 3.4.8 The Respondent further argued that the specification should be read as a skilled person would do with the ability to understand what was being taught and which combination of features was to be contemplated, whether the features were explicitly provided in identical wording somewhere in the application or not. All features of the array of claim 1 were intended to be read in combination in the application as filed, though disclosed in different sections thereof.

However the finding of whether or not the subject-matter of a claim in a patent extends beyond the content of the application as filed is not a matter of what was originally intended, but rather a matter of which technical information a skilled person would directly and unambiguously derive from the content of the application as filed. In the present case, the features in claim 1 are not disclosed in combination in the application as filed, as set out above, so that the specific combination of features now claimed provides the skilled person with technical information which is not directly and unambiguously derivable from the application as filed.

- 3.5 The Board therefore concludes that the subject-matter of claim 1 is an artificial combination of at least two separate embodiments, i.e. the array of metal ligand compounds at known locations on a substrate with compounds being additionally both activated and organometallic, which provides the skilled person with

technical information not derivable from the content of the application as filed.

3.6 Thus, the application as filed does not provide a proper basis for defining the composition as now defined in claim 1, claim 1 being an undue combination of features generating fresh subject-matter.

3.7 Consequently, claim 1 extends beyond the content of the application as filed, contrary to the requirement of Article 123(2) EPC, so that the patent must be revoked.

Order

For these reasons it is decided that:

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

The Registrar

The Chairman

C. Rodríguez Rodríguez

R. Freimuth