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Datasheet for the decision of 24 July 2014

Case Number:	T 1266/11 - 3.3.01
Application Number:	03018947.6
Publication Number:	1375506
IPC:	C07F15/00
Language of the proceedings:	EN

Title of invention:
High metathesis activity ruthenium carbene complexes

Patent Proprietor:
CALIFORNIA INSTITUTE OF TECHNOLOGY

Opponents:
Evonik Degussa GmbH
Umicore AG & Co. KG
TIBOTEC PHARMACEUTICALS LTD.
Albrecht, Jürgen

Headword:
Metathesis catalysts/CALIFORNIA INSTITUTE OF TECHNOLOGY

Relevant legal provisions:
EPC Art. 54(2), 56, 113(1)
EPC R. 103(1)(a)

Keyword:
Thesis: admitted, publicly available before priority date
Main request, auxiliary requests 1, 2: novelty (no)
Auxiliary requests 3, 4: inventive step (no)
Reimbursement of appeal fee - (no)

Decisions cited:
T 0444/88, T 1002/92, G 0007/93, T 0944/04, T 0595/90,
T 0012/03, T 0017/97

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Case Number: T 1266/11 - 3.3.01

DECISION
of Technical Board of Appeal 3.3.01
of 24 July 2014

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Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 6 May 2011 concerning maintenance of the European Patent No. 1375506 in amended form.**

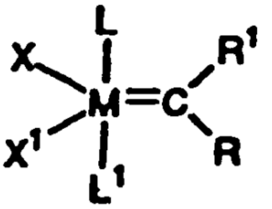
Composition of the Board:

Chairman	A. Lindner
Members:	L. Seymour
	L. Bühler

Summary of Facts and Submissions

I. European patent No. 1 375 506 was granted with the following claim 1:

"1. A compound of the formula



wherein:
M is selected from the group consisting of Os and Ru;
R^1 is hydrogen;
R is selected from the group consisting of hydrogen, substituted or unsubstituted alkyl, and substituted or unsubstituted aryl;
X and X^1 are independently selected from any anionic ligand; and
L and L^1 are independently selected from any neutral electron donor."

II. The following documents were cited *inter alia* during the opposition/appeal proceedings:

R1	S T Nguyen, R H Grubbs, J. Amer. Chem. Soc., 1993, 115(21), 9858-9859
R1a	Supplementary Material for R1
R3	S-H Kim et al., J. Amer. Chem. Soc., 1994, 116(23), 10801-10802
R11	US-A-5 312 940

R14 P Schwab et al., Angew. Chem., 1995, 107(18), 2179-2181

R43 M B France, "Olefin Metathesis with Group VIII Transition Metal Complexes: Mechanism, Reactivity, and Catalyst Development", PhD Thesis, California Institute of Technology, 1995

R44 Dissertation Abstracts International, May 1995, 55(11), order number DA9509975

R48 Declaration of Lindsey Miles dated 1 July 2014

III. The decision under appeal was based on the claims as granted as main request, auxiliary requests 1 to 3 filed with letter of 1 April 2011 and auxiliary request 4 filed during oral proceedings before the opposition division.

The respective claims 1 of auxiliary requests 1 and 2 were identical and differed from claim 1 as granted in a more restricted definition of variables, as follows:

"M is Ru;
R^1 is hydrogen;
R is a group selected from the group consisting of hydrogen, substituted and unsubstituted alkyl and substituted and unsubstituted aryl;
X and X^1 are chloride; and
L and L^1 both are selected from the group consisting of P(cyclohexyl)$_3$, and P(phenyl)$_3$."

Auxiliary request 3 consisted of a single claim in which a number of discrete compounds were listed, "wherein M is Ru; R^1 is hydrogen;
X and X^1 are chloride",

and wherein (emphasis added)

"- if L and L^1 are P(phenyl)$_3$
  R is Me, Et, p-C_6H_4-NMe_2, p-C_6H_4-OMe, p-C_6H_4-Me, p-C_6H_4-F, p-C_6H_4-Cl, p-C_6H_4-NO_2;
- **if L and L^1 are P(cyclohexyl)$_3$**
  R is H, Me, Et, n-Bu,-CH_2OAc, -CH_2Cl, -$(CH_2)_3$-OH, p-C_6H_4-NMe_2, p-C_6H_4-OMe, p-C_6H_4-Me, p-C_6H_4-F, p-C_6H_4-Cl, p-C_6H_4-NO_2
- if L and L^1 are P(cyclopentyl)$_3$
  R is -C_6H_5; and
- if L and L^1 are P(isopropy1)$_3$
  R is -C_6H_5."

Auxiliary request 4 consisted of a claim to a single compound, corresponding to that highlighted in bold for auxiliary request 3.

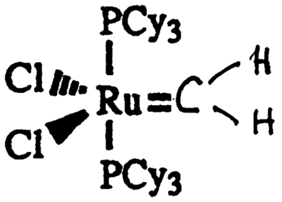
In its interlocutory decision, the opposition division found that the subject-matter of the respective claims 1 of the main request and auxiliary requests 1 to 2 lacked novelty *inter alia* with respect to complexes **24** and **29** disclosed in document R43. However, taking into consideration the amendments made, the opposition division was of the opinion that auxiliary request 3 and the invention to which it related met the requirements of the EPC.

IV. The patentee and opponents 1 and 2 each lodged an appeal against this decision.

V. With its statement of grounds of appeal, the appellant patentee submitted replacement auxiliary requests 1 and 2, containing minor amendments to dependent claims, but with identical claims 1 to those considered in the decision under appeal (cf. above points I and III).

VI. With letter of 2 April 2012, the appellant patentee submitted an auxiliary request 4 consisting of a single claim corresponding to that filed during oral proceedings before the opposition division (cf. above point III). This relates to the compound designated in the patent in suit as complex **19** (cf. paragraph [0046]), and reads as follows:

"A compound of the formula



wherein PCy_3 = $P(Cyclohexyl)_3$"

VII. With letter of 7 July 2014, appellant opponent 1 submitted document R48.

VIII. Oral proceedings were held before the board on 24 July 2014.

IX. The appellant opponents' arguments, insofar as they are relevant to the present decision, may be summarised as follows:

Appellant opponent 1 argued that it had filed document R43 as soon as it had become aware of its existence, over two months prior to oral proceedings before the opposition division. Since the author of this dissertation was designated as an inventor for the patent in suit, the content of this document could not have taken the appellant patentee by surprise. Moreover, evidence of its public availability before the earliest claimed priority date had been provided in the form of document R44, and later confirmed by means of document R48. The appellant patentee had not provided any evidence to the contrary. In accordance with, for example, decision T 444/88, it was irrelevant whether or not any member of the public had actually ordered document R43 before the priority date. In view of its *prima facie* relevance, the opposition division had correctly exercised its discretionary power to admit document R43 into the proceedings, in accordance with decision T 1002/92.

The appellant opponents submitted that the disclosure in document R43 of the synthesis and characterisation of complexes **24** and **29** destroyed the novelty of the subject-matter of claim 1 of the main request, and of auxiliary requests 1 and 2.

On the subject of novelty of complex **19** depicted above in point VI, the appellant opponents raised an objection based on document R3. This complex was clearly depicted in the reaction cycle of Scheme 1, and was identified as "the regenerated catalyst" in the corresponding text. In footnote (3)(b), it was disclosed that the proposed mechanism had been confirmed by later experiments. Moreover, it could be derived from footnote (3)(a) that this was not only a transient species, but that its presence as an intermediate had been observed by ^{1}H NMR spectroscopy. Document R3 disclosed suitable starting materials and reaction conditions that allowed said complex to be obtained. It had therefore clearly been made available and was prejudicial to novelty. It was immaterial for this purpose whether the compound was present in a reaction mixture or had actually been isolated.

In their assessment of inventive step of methylidene complex **19**, the appellant opponents argued that document R1 rather than R43 represented the closest prior art, since the ethylidene and propylidene complexes disclosed in the former were structurally closer to complex **19** than the benzylidene complex **29** disclosed in the latter. No comparative data had been provided to demonstrate that any advantage was associated with complex **19**. The problem to be solved could therefore only be seen as lying in the provision of alternative metathesis catalysts. The solution proposed must be considered to be obvious in view of the fact that the methylidene complex was disclosed as catalytic species in document R3 and generally encompassed by the disclosure of document R11. Moreover, document R1 itself suggested, in particular in footnote (18), a method by which complex **19** could be obtained, namely, by an analogy reaction with ethylene instead of *cis*-2-pentene. Paragraph [0046] of the patent in suit demonstrated that reactions of this type did in fact provide the desired product. The fact that the reaction worked better when starting from complex **29** according to document R43 was irrelevant in assessing inventive step for the product claim under consideration.

Finally, appellant opponent 2 argued that it had been taken by complete surprise by the reasoning in the decision under appeal relating to inventive step, in particular with respect to the issue of whether document R43 suggested a straightforward route to catalysts other than **24** and **29**, but also on the question of whether an improvement had been achieved with respect to the closest prior art. Since appellant opponent 2 had not been given the opportunity to comment on these lines of reasoning, a substantial procedural violation had occurred, justifying the reimbursement of its appeal fee.

X. The appellant patentee's arguments, insofar as they are relevant to the present decision, may be summarised as follows:

Document R43 had been introduced at a very late stage in the opposition proceedings, although it could have been detected and cited much earlier. Moreover, there was uncertainty as to whether it had been publicly available before the priority dates claimed for the patent in suit. Documents R44 and R48 appeared to confirm that document R43 could be ordered from May 1995. However, this did not establish whether the latter could in fact be delivered before the relevant dates. The appellant opponents had not discharged their burden of proof in this respect. In view of this uncertainty, the opposition division should not have admitted document R43 into the proceedings.

On the disclosure of document R43, the appellant patentee stated in writing that "Whereas R43 possibly may be considered as detrimental as to novelty for complex **24**, and claims comprising it, it does not constitute a disclosure which can be considered novelty-destroying, or as making obvious, other complexes, even if they are of similar structure" (see statement of grounds of appeal, section 3b, in particular, page 5, first complete sentence).

With respect to the novelty objection based on document R3, the appellant patentee argued that this did not make available the claimed complex **19** as a matter of physical reality. All this document did was to propose a reaction pathway in order to rationalise the formation of diene **6** starting from dienyne **2** in the presence of ruthenium vinylcarbene complex **1**. The complexes shown as putative intermediates in Scheme 1 might never have actually been formed, or may only have been generated transiently. No data had been provided to support the actual existence of such intermediates in the reaction mixtures. In this respect, the appellant opponents had misinterpreted footnotes (3)(a) and (3)(b). From the former, it could only be derived that the conversion of the dienyne starting materials to the bicyclic products had been followed by ^{1}H NMR spectroscopy, and the latter only related to the sequence of ring closures in the reaction.

Moreover, complex **19** must be regarded as involving an inventive step, regardless of whether document R1 or R43 was to be seen as representing the closest prior art. As outlined in the patent in suit, this represented the first isolable metathesis-active methylidene catalyst, which had the advantage of not introducing foreign residues into reaction mixtures.

There was no suggestion in the prior art as to how this desirable complex could be obtained. Attempts to use diazomethane, according to the method disclosed in document R43, had "led to a complex mixture of unidentified products" (see patent in suit, paragraph [0040], last line). The phosphorane method proposed in document R11 also did not lead to success.

The appellant patentee further disputed the appellant opponents’ analysis of document R1. Said document was concerned with the synthesis of ruthenium vinylcarbene complexes with higher metathesis activity by substitution of triphenylphosphine for trialkylphosphine ligands. It did not disclose a method for preparing new ruthenium carbene complexes. It could be seen from footnote (19) that only very little of the catalyst **2a** reacted in the metathesis of *cis*-2-pentene. A complete spectrum for the complex reaction mixture had not been disclosed. The signals detected by ^{1}H NMR spectroscopy and attributed to the two putative ethylidene and propylidene propagating species in document R1a were probably only small. Document R1 did not therefore report or suggest a method by which the putative propagating species could be obtained as a defined, isolated species. Moreover, there was no suggestion that the teaching of document R1 could be extended to other acyclic olefins, especially those having terminal double bonds. It could be seen from paragraph [0046] of the patent in suit that complex B, corresponding to complex **2a** of document R1, reacted with ethylene after several hours under 100 psi pressure at 50°C to reach an equilibrium with complex **19** in a ratio of 80:20, whereas the synthesis disclosed in the patent in suit starting from the corresponding benzylidene complex afforded quantitative conversion to complex **19** within a few minutes. Since the latter method was the first to achieve this result and did so in an inventive manner, the claimed complex **19** was also to be seen as being inventive.

XI. The appellant patentee requested that the decision under appeal be set aside and the patent be maintained as granted (main request), or, alternatively, that the patent be maintained on the basis of one of auxiliary requests 1 or 2 filed with the statement of grounds of appeal, or, alternatively, that the opponents' appeals be dismissed, or, alternatively, that the patent be maintained on the basis of auxiliary request 4 filed with letter dated 2 April 2012. Furthermore, the appellant-patent proprietor requested that document R43 not be admitted into the appeal proceedings.

Appellant opponents 1 and 2 requested that the decision under appeal be set aside and that the patent be revoked, or that the proprietor's appeal be dismissed. Appellant opponent 1 further requested to admit document R48. Appellant opponent 2 further requested reimbursement of the appeal fee. Opponent 3 did not file any requests. Opponent 4 requested in writing that the patentee's appeal be dismissed.

XII. At the end of the oral proceedings, the decision of the board was announced.

Reasons for the Decision

1. The appeals are admissible.

2. *Admissibility of documents R43 and R48*

During the oral proceedings before the opposition division, document R43, which had been filed two months previously, was admitted into the proceedings.

According to the established case law of the Boards of Appeal, a decisive criterion for admitting documents not filed in due time during opposition proceedings is their *prima facie* relevance (cf. T 1002/92, OJ 1995, 605, point 3.3 of the reasons).

In the present case the opposition division considered document R43 to be pertinent to the question of novelty of at least claim 1 of the main request and of auxiliary requests 1 and 2. Moreover, the evidence provided that it was available to the public before the first priority date of the patent in suit was found to be convincing, and the timing of filing not to be unreasonable.

In view of this reasoning, the board considers that the opposition division exercised its discretion under Article 114(2) EPC according to the right principles and in a reasonable way. Consequently, there is no reason for the board to overrule its decision (see e.g. G 7/93, OJ EPO 1994, 775, point 2.6 of the reasons).

Therefore, the request of the appellant patentee not to admit document R43 into the proceedings was rejected.

The appellant patentee did not object to document R48 being admitted into the proceedings. Indeed, this document merely provides further confirmation for previous submissions of the appellant opponents. Under these circumstances, the board decided to admit document R48 into the proceedings.

3. *Availability to the public of document R43*

The front page of document R43 carries the date 1995. In order to decide whether it is to be considered as state of the art within the meaning of Article 54(2) EPC, it must be established whether it became available to the public before the earliest priority date claimed for the patent in suit, that is, before 3 August 1995.

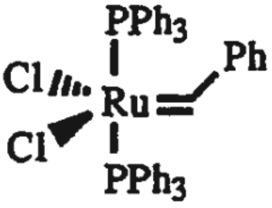
Document R44, submitted by appellant opponent 1, is an excerpt from the issue of "Dissertations Abstracts International" dated May 1995. The second page of this document provides order information. The record with the order number DA9509975 refers to document R43, and reproduces the title, author, type of document, institution, date, number of pages and abstract, all of which are consistent with the latter. Therefore, document R44 does not give rise to any reasonable ground to doubt the accuracy of the information provided therein. It is a matter of common experience that a doctoral dissertation which is referenced in a bibliographical periodical together with an order number is available for sale at the date of publication of the latter. Moreover, in declaration R48, Lindsey Miles, an employee of the publisher of R44, confirmed, based on the company records, that dissertation No. 9509975 was actually made available for sale on 7 February 1995, that is, even earlier than the date of May 1995 appearing on the print edition.

It is therefore concluded that appellant opponent 1 have presented convincing evidence that document R43 was made available to the public at the latest in May 1995, that is, several months before the earliest priority date of the patent in suit. Contrary to the appellant patentee’s contention, the fact that it may not have been actually ordered and received by a member of the public is irrelevant in this context (see, e.g. T 444/88, point 3.1 of the reasons). If the appellant patentee had wished to argue that unusual circumstances prevailed in this respect, it would have had the burden of proving its allegations.

The board accordingly concludes that, on the evidence at its disposal, document R43 is to be considered as state of the art within the meaning of Article 54(2) EPC.

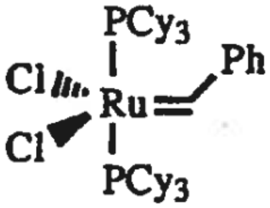
4. *Main request and auxiliary requests 1 and 2 - Novelty (Articles 52(1), 54(2) EPC)*

Document R43 discloses, in the paragraph bridging pages 142 and 143, the synthesis, isolation and characterisation (^1H, ^{13}C, ^{31}P NMR; elemental analysis; FAB MS) of complex **24**, which is depicted on page 115 as follows:



24

On page 119, last paragraph, it is furthermore disclosed that, upon treatment of complex **24** with two equivalents of tricyclohexylphosphine in CD_2Cl_2, an exchange of ligands occurs to yield complex **29**, having the following structure (see page 120, Scheme 7):



29

It can be seen from the paragraph bridging pages 143 and 144 that this complex was not isolated, but was characterised *in situ* by ^1H and ^{13}C NMR spectroscopy.

Both complexes **24** and **29** fall within the definition of the formulae appearing in the respective claims 1 of the main request and auxiliary requests 1 and 2.

In its statement of grounds of appeal (section 3b), the appellant patentee did not deny that complex **24** was disclosed in document R43, but implied that the same was not true of complex **29**, owing to the fact that it had only been observed *in situ* in an NMR tube. However, for a compound of the prior art to be novelty destroying, it is not necessary for it to have been actually isolated, as long as the document in question provides the skilled person, taking into account common general knowledge, with all the information needed to obtain said compound (see e.g. T 944/04, points 4.4.2 and 4.4.3 of the reasons). In the present case, in the absence of evidence to the contrary, there is no reason to believe that complex **29** could not be isolated from solution using standard work-up procedures in the art, of the type described on page 143 for complex **24** (solvent removal, precipitation, filtration, washing). It is therefore concluded that document R43 also provides an enabling disclosure with respect to complex **29**.

In view of the above, it is concluded that the subject-matter of the respective claims 1 of the main request and auxiliary requests 1 and 2 lack novelty with respect to document R43.

5. *Auxiliary requests 3 and 4 - Complex* ***19***

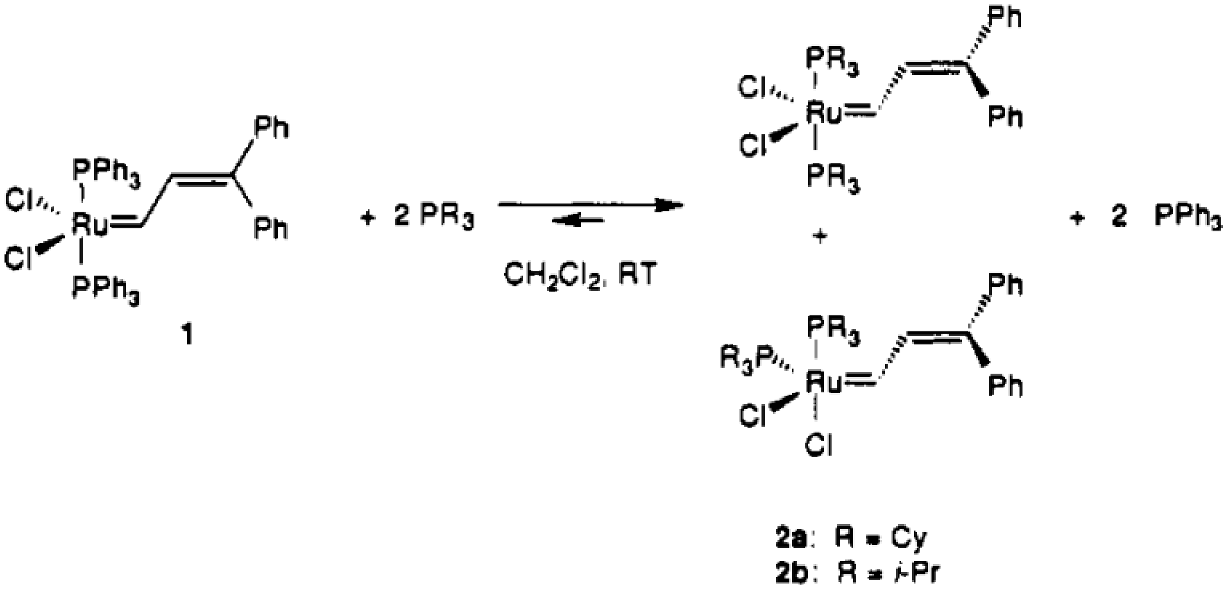
5.1 Complex **19**, as depicted above in point VI, is claimed in both auxiliary requests 3 and 4. Therefore, the board has restricted the analysis of novelty and inventive step to this subject-matter, which enjoys the earliest priority date claimed for the patent in suit of 3 August 1995.

5.2 *Novelty (Articles 52(1), 54(2) EPC)*

A novelty objection was raised by the appellant opponents with respect to the disclosure of document R3, which relates to ring-closing metathesis reactions of dienynes to yield bicyclic products, catalysed by the ruthenium vinylcarbene complex **1** (cf. typical experimental procedure detailed in footnote (8)). Contrary to the contention of the appellant opponents, this document does not disclose suitable starting materials and reactions conditions that would enable complex **19** to be obtained, but merely depicts this as one of several putative ruthenium species proposed to be involved in the reaction cycle of Scheme 1. Accordingly, the board is satisfied that complex **19** is novel over the cited prior art. Since the question of novelty turned out not to be decisive for the outcome of the present appeal (see point 5.3 below), there is no need to discuss this issue in greater detail.

5.3 *Inventive step (Articles 52(1), 56 EPC)*

5.3.1 Before it can be decided whether document R1 represents the closest prior art, as argued by the appellant opponents, the disclosure of this document will have to be assessed. It is described therein that catalysts with high metathesis activity can be obtained by substituting triphenylphosphine ligands in a vinylcarbene complex **1** with better σ-donating alkylphosphines, according to the following equation (see page 9858, left-hand column):



In contrast to **1**, **2a** was found to catalyse the ROMP (ring opening metathesis polymerization) of low-strain cyclic olefins such as *cis*-cyclooctene, and the metathesis of unstrained acyclic olefins such as *cis*-2-pentene (see page 9858, first and last paragraphs). Concerning the latter reaction, it is stated, with reference to the supplementary material, that "both propagating species (ruthenium ethylidene and ruthenium propylidene) can be observed by ^{1}H NMR spectroscopy" (page 9858, penultimate sentence).

The relevant passage of the corresponding supplementary material reads as follows (see page 5):

"Observations of The Propagating Species in ROMP and Olefin Metathesis Catalyzed by 2a.

(a) *cis*-2-pentene: 5 mg of **2a** in 500 µl CD_2Cl_2 + 20 µl of *cis*-2-pentene: (a) *tr*-$(PCy_3)_2Cl_2Ru{=}C(H)Et$: ^{1}H NMR (CD_2Cl_2): δ 19.13 (t, J_{HH} = 5.1 Hz);
(b) *tr*-$(PCy_3)_2Cl_2Ru{=}C(H)Me$: ^{1}H NMR (CD_2Cl_2): δ 19.25 (q, J_{HH} = 5.1 Hz)."

Further investigations of the metathesis of *cis*-2-pentene, performed in an NMR tube, are presented in Table 1 of document R1. In the corresponding discussion of these results, it is stated that "the modest turnover number for complexes **2a**,**b** can be attributed to the slow initiation of the parent vinylcarbene complex[18-20]", whereby the cited footnotes (18) and (19) read as follows:

"(18) Preliminary experiments indicate that at higher concentrations of olefin it is possible to eventually convert all of **2a** into the "propagating" species.

(19) After 1 day, >90% of the total starting vinylcarbene is still present in various forms, including the starting vinylcarbene."

5.3.2 It can be seen from the above summary that documents R1 and R1a clearly identify the propagating species in the metathesis of *cis*-2-pentene catalysed by **2a** as being *tr*-$(PCy_3)_2Cl_2Ru{=}C(H)R$, wherein R is Et/Me, as characterised by their ^1H NMR chemical shifts and splitting patterns. Moreover, in footnote (18) of document R1, means are disclosed, namely, through use of higher concentrations of olefin, by which all of **2a** may be converted into the "propagating" species. The use of quotation marks for the latter term is consistent with the fact that the complex obtained is, in this context, actually the product of the reaction.

The appellant patentee argued that the experiments of footnote (18) were designated as being "preliminary", since said alkylidene complexes had not actually been isolated from solution. However, as outlined above in point 4, penultimate paragraph, as long as standard methods are available for isolating these complexes from solution, the disclosure is nevertheless to be regarded as being enabling. Again, in the absence of evidence to the contrary, there is no reason to believe that the standard work-up procedures in the art would not be suitable for this purpose.

The further arguments of the appellant patentee based on the fact that the reactions disclosed may be slow or incomplete under certain conditions (cf. footnote (19), reproduced above under point 5.3.1) is also not considered to be relevant, since means are disclosed in footnote (18) by which the desired product may be obtained.

Finally, it cannot be accepted that the propagating species disclosed in document R1 is to be regarded as being "putative", in view of the fact that specific identification of structure and consistent characterising data have been provided in document R1a.

It is therefore considered that document R1 discloses said "propagating" species, that is, *tr*-$(PCy_3)_2Cl_2Ru{=}C(H)R$ (R = Et/Me), in an enabling manner, since it is clearly identified and a method for its preparation is provided.

5.3.3 In view of the fact that the alkylidene complexes disclosed in document R1 are structurally closer to present complex **19** than the benzylidene complex **29** according to document R43 (cf. above point 4), the board considers that the former represents the closest state of the art.

In the absence of any evidence for an improvement with respect to the closest prior art, the problem to be solved can only be seen as lying in the provision of alternative metathesis catalysts.

The solution defined in the claimed subject-matter under consideration relates to complex **19**, which bears a methylidene ligand instead of a longer-chain alkylidene ligand.

Having regard to the statement in the last sentence of paragraph [0046] of the patent in suit, the board is satisfied that the problem posed has been solved.

5.3.4 It remains to be investigated whether the proposed solution would have been obvious to the skilled person in the light of the prior art.

In seeking a solution to the problem defined above, the skilled person would have consulted the known literature on the subject of ruthenium metathesis catalysts, such as documents R3 and R11.

As outlined above in point 5.2, complex **19** is already suggested as being the putative catalytic species in document R3. Moreover, methylene complexes are also encompassed by formula I as disclosed in document R11 as suitable catalysts in olefin metathesis polymerisation reactions (see column 1, lines 28 to 66). Therefore, the skilled person would clearly consider the methylene homologue of the alkylidene complexes of document R1 to be a suitable solution to the problem posed.

5.3.5 The appellant patentee argued that an inventive step should nevertheless be acknowledged for complex **19** since the prior art failed to disclose an operative method by which it could be made.

According to the case law of the Boards of Appeal, "an otherwise obvious entity, may become nevertheless non-obvious and claimable as such, if there is no known way or applicable (analogy) method in the art to make it and the claimed methods for its preparation are therefore the first to achieve this in an inventive manner" (see T 595/90, OJ EPO 1994, 695, point 5 of the reasons).

In the present case, the appellant opponents did not dispute the appellant patentee's submissions that the phosphorane and diazo methods proposed in documents R11 and R43, respectively, would fail to yield complex **19**. However, there was disagreement between the parties as to whether document R1 suggested an appropriate method to arrive at the claimed product.

As outlined above in point 5.3.2, the board considers that document R1 discloses a method for obtaining the complexes *tr*-$(PCy_3)_2Cl_2Ru=C(H)R$ wherein R is Et/Me. It is further disclosed therein that complex **2a** catalyses the metathesis of unstrained acyclic olefins (page 9858, right-hand column, penultimate sentence). Therefore, contrary to the appellant patentee's contention, there is a suggestion in document R1 that the methods exemplified with *cis*-2-pentene are generally applicable to other unstrained acyclic olefins, which includes the appropriate substrate for yielding complex **19**, namely, ethylene.

Moreover, the board cannot accept the appellant patentee's submission that the results in paragraph [0046] of the patent in suit demonstrate that such a process is unsuitable for producing the claimed subject-matter, since a certain amount of the desired product was indeed obtained under the conditions used. The fact that better results were observed starting from $RuCl_2(=CHPh)PCy_3)_2$ (i.e. complex **29** according to document R43; cf. above point 4) rather than from $RuCl_2(=CH-CH=CPh_2)(PCy_3)_2$ (i.e. complex **2a** of document R1; cf. above point 5.3.1) is not considered to be relevant to the question of whether the product *per se* can be obtained in an obvious manner.

Consequently, it is concluded that methods were suggested in the prior art allowing complex **19** to be obtained. Therefore, an inventive step for the corresponding product claim cannot be derived from its method of manufacture.

5.3.6 In view of the above analysis, the subject-matter of auxiliary request 3 directed to complex **19** is found to represent an obvious solution to the problem posed and does not involve an inventive step. Since a decision can only be taken on a request as a whole, none of the further complexes claimed need be examined.

Since the subject-matter of auxiliary request 4 is restricted to complex **19**, the same considerations concerning inventive step apply.

Consequently, the appellant patentee's auxiliary requests 3 and 4 are rejected for lack of inventive step of claim 1.

6. *Request for reimbursement of the appeal fee*

6.1 According to Rule 103(1)(a) EPC, it is a precondition for reimbursement of the appeal fee that a substantial procedural violation has occurred. A substantial procedural violation is an objective deficiency in the procedure in the sense that the rules of procedure have not been applied in the manner prescribed by the EPC. The deficiency in the procedure must be substantial in the sense that ignoring, or deviating from, the provisions as laid down in the EPC have led to a different outcome of the case than if these provisions would have been applied correctly.

6.2 Appellant opponent 2 argued that a violation of its right to be heard had occurred (above point IX). This related to alleged new lines of argumentation concerning inventive step introduced by the opposition division in its decision. The opponents had not been given the opportunity to comment on these lines of reasoning.

6.3 A decision by an organ of the EPO can only be based on grounds or evidence on which the parties concerned have had an opportunity to present their comments (Article 113(1) EPC). The "grounds and evidence" are to be understood as meaning the essential legal and factual reasoning.

6.4 In the present case, it was not disputed that the issue of whether the subject-matter of the third auxiliary request before the opposition division involved an inventive step had been discussed starting from document R43 as closest prior art, taking into account documents R11 and R14. The parties thus had an opportunity to present their comments on this ground for opposition under Article 100(a) EPC, and to present a complete argumentation following the problem-solution approach. The contested decision is based on the same ground for opposition and on the evidence adduced by the parties. It is also clear from the reasons for the decision on inventive step that the opposition division discussed the arguments advanced by the parties.

6.4.1 The core of the opposition division's reasoning is based on the argumentation of the lack of accessibility of the claimed complexes based on the teaching of the prior art (see points 7.5.1 and 7.6.2). This reasoning is part of the evaluation of evidence presented by the parties in the assessment of inventive step according to the problem-solution approach. The evaluation of technical facts and of the evidence produced by the parties in support of such facts is not part of the "grounds and evidence" within the meaning of Article 113 EPC on which the parties must be given the opportunity to comment. The opposition division may have erred in the technical assessment of the evidence on file with respect to the issue of whether the documents suggested a straightforward route to catalysts other than **24** and **29**. However, a mistaken evaluation of a piece of evidence or a wrong conclusion drawn on the basis of the documents on file is not to be regarded as a substantial procedural violation (cf. e.g. T 12/03, point 4.5 of the reasons, and T 17/97, point 8.2 of the reasons).

6.4.2 The finding of an improvement achieved with respect to the closest prior art is merely put forward by the opposition division as a subsidiary reasoning which is not essential to the decision (see point 7.5.2). Since this reasoning was not decisive for the opposition division's finding, the procedural violation, if any, could not have been substantial.

6.5 Hence, the board concludes that no substantial procedural violation occurred. The request for reimbursement of the appeal fee is therefore rejected (Rule 103(1)(a) EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

3. The request for reimbursement of the appeal fee is rejected.

The Registrar: The Chairman:

Beschwerdekammern des Europäischen Patentamts ✦ Boards of Appeal of the European Patent Office ✦ Chambres de recours de l'Office européen des brevets

M. Schalow A. Lindner

Decision electronically authenticated