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**Datasheet for the decision
of 19 January 2023**

Case Number: T 0883/21 - 3.3.07

Application Number: 13700922.1

Publication Number: 2806851

IPC: A61K8/58, A61K8/86, A61Q5/04,
A61Q5/06

Language of the proceedings: EN

Title of invention:

COMPOSITION COMPRISING AT LEAST ONE SPECIFIC ALKOXYSILANE
POLYMER

Patent Proprietor:

L'OREAL

Opponent:

Henkel AG & Co. KGaA

Headword:

COMPOSITION COMPRISING AT LEAST ONE SPECIFIC ALKOXYSILANE
POLYMER/L'Oréal

Relevant legal provisions:

EPC Art. 56
RPBA 2020 Art. 12(4)

Keyword:

Main request - Inventive step (No)
Admission of the auxiliary requests (No)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 0883/21 - 3.3.07

D E C I S I O N
of Technical Board of Appeal 3.3.07
of 19 January 2023

Appellant: L'OREAL
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
9 April 2021 concerning maintenance of the
European Patent No. 2806851 in amended form.**

Composition of the Board:

Chairman A. Usuelli
Members: D. Boulois
L. Basterreix

- R₁ , R₅ , R₆ , R₇ and R₈ which may be identical or different, represent a C₁-C₆ , and preferably C₁-C₂ alkyl group; and R₄ represents a C₁ -C₆ and preferably C₁ -C₂ alkyl group, or a C₅ -C₆ and preferably C₆ cycloalkyl group such as cyclohexyl;
R₃ and R₄ may optionally form, with the nitrogen atom that bears them, a 5- to 8-membered heterocycle comprising from 1 to 3 heteroatoms;
- W represents a divalent polymer chain."

II. An opposition was filed under Article 100 (a), (b) and (c) EPC against the granted patent on the grounds that its subject-matter lacked novelty and inventive step, was not sufficiently disclosed, and extended beyond the content of the application as filed.

III. The appeal lies from the decision of the opposition division finding that the patent in amended form meets the requirements of the EPC. The decision was based on the claims as granted as main request, on auxiliary requests 1-22 filed with letter of 23 December 2020 and auxiliary request 23 filed during the oral proceedings of 24 February 2021.

IV. The documents cited during the opposition proceedings included the following:

D1: GENIOSIL® STP-E 10 Datasheet, 31 -07-2015
D2: GENIOSIL® STP-E 10 National Industrial Chemicals Notification and Assessment Scheme, 24-04-2008
D3: GENIOSIL® STP-E Product brochure, 03-2013
D4: DE 10 2009 028 206 A1
D5: Extract from the definition of CTFA Nomenclature, 1991
D6: Experimental report filed by the proprietor

D7: Entry for the term 'catalyst' in the Cambridge English Dictionary

- V. According to the decision under appeal, the amendment brought to the claims as granted amounted to an allowable correction under Rule 139 EPC. Thus, Article 100(c) EPC did not prejudice maintenance of the patent as granted; Article 100(b) EPC did not prejudice maintenance of the patent as granted, as the objections rather related to clarity under Article 84 EPC.

Neither D1, nor D3 formed a valid prior art under Article 54(2) and 54(3) EPC.

With regard to inventive step, D4 was the closest prior art. The only difference between the claimed subject-matter and the hair gel of Table 2 of D4 resided in the choice of particular linkers attaching the end-capping group to the polymer backbone. Since no technical effects were shown, the problem was the provision of a further hair care product. The solution was obvious over D4.

The same conclusion applied for auxiliary requests 1-22 with regard to inventive step.

Auxiliary request 23 was considered to be inventive, in view of the restriction to a specific catalyst by the feature "one or more catalysts chosen from aminopropyltriethoxysilane."

- VI. The patent proprietor filed an appeal against said decision.
- VII. An appeal was also filed by the opponent. This appeal was found inadmissible under Article 108 and Rule

101(1) EPC, since the statement of grounds of appeal had not been filed. The opponent was therefore the respondent in the present appeal.

VIII. With the statement setting out the grounds of appeal dated 19 August 2021 the appellant filed auxiliary requests 1, 1b, 2, 2b and 3 and submitted the following item of evidence:

D8: Experimental report

The subject-matter of claim 1 of the auxiliary requests has been further restricted respectively by the introduction of the following features:

Auxiliary request 1

"- one or more catalysts chosen from hydrochloric acid, oleic acid and lactic acid, and mixtures thereof, or an alkoxy silane monomer, especially aminopropyltriethoxysilane."

Auxiliary request 1b

"- one or more catalysts chosen from hydrochloric acid, oleic acid and lactic acid, ~~and mixtures thereof,~~ or an alkoxy silane monomer, especially aminopropyltriethoxysilane."

Auxiliary request 2

"- one or more catalysts chosen from hydrochloric acid, oleic acid and lactic acid, and mixtures thereof, or aminopropyltriethoxysilane."

Auxiliary request 2b

"- one or more catalysts chosen from hydrochloric acid, oleic acid and lactic acid, ~~and mixtures thereof~~, or aminopropyltriethoxysilane."

Auxiliary request 3

"- one or more catalysts chosen from an alkoxy silane monomer, especially aminopropyltriethoxysilane."

- IX. A communication from the Board, dated 10 October 2022, was sent to the parties. In it, the Board expressed its preliminary opinion that *inter alia* the main request did not appear to be inventive, and that the auxiliary requests and document D8 did not appear to be admissible in the appeal proceedings.
- X. Oral proceedings took place on 19 January 2023 by videoconference.
- XI. The arguments of the appellant (patent proprietor) may be summarised as follows:

Main request - Inventive step

D4 was the closest prior art and disclosed a cosmetic composition comprising at least one polyether of formula (I) and at least one film-forming and/or setting polymer. Tables 2 and 6 of D4 disclosed a composition comprising a polymer labelled LPP2 obtained according to the preparation detailed in example 2 of D4.

The subject-matter of claim 1 differed from the composition illustrated in Tables 2 and 6 by the

structure of the polymer of formula (I). In particular, the polymer according to the present invention differed from LPP2 by the structure of the linker. Indeed, the structure of LPP2 corresponded to formula (I-1d) disclosed in paragraph [0037] of D4 and the linker group K7 of formula (I-1d) was not encompassed by the claimed definition of Z1.

The objective technical problem was to provide a cosmetic composition capable of giving a sustainable shape to the hair and good cosmetic properties.

A person skilled in the art starting from the compositions illustrated in Tables 2 and 6 would not have been motivated to replace the structure of the linking group of the polyether implemented in those compositions by a divalent group having the same definition as Z₁ in claim 1 of the main request and keep at the same time both ends of said polyether capped with an alkoxy silane group.

The claimed solution was inventive.

Admission of the auxiliary requests and D8 into the appeal proceedings

During the opposition proceedings, the objections to auxiliary requests 1-22 with regard to inventive step were raised for the first time during oral proceedings, since the summons never dealt with compositions comprising a catalyst. The objections with regard to Tables 2 and 6 of D4 were never mentioned before the oral proceedings. This was the reason why auxiliary requests 1, 1b, 2, 2b and 3 were filed in the appeal proceedings. D8 was filed in support of the assessment of inventive step of these requests.

Auxiliary request 3 defined a specific type class of catalyst, broader than in auxiliary request 23 as maintained by the opposition division, which related to a specific siloxane. It was not necessary to rely on D8 to substantiate the inventive step of this request, and there was no new discussion in view of auxiliary request 23.

XII. The arguments of the respondent (opponent) may be summarised as follows:

Main request - Inventive step

Starting from the composition of Table 2 or Table 6 of the closest prior art D4, the only difference resided in the linker. With the distinction, no effect had been shown, so that the problem was the provision of an alternative. D4 suggested in claims 6 and 7 linkers which matched with the linker Z1, as e.g. K1 to K10, such that all features were derivable from D4.

Admission of the auxiliary requests and D8 into the appeal proceedings

None of the auxiliary requests represented requests on which the decision under appeal was based in the meaning of Art. 12 (2) RPBA 2020 and were considered to be late-filed in the proceedings. During the opposition proceedings, the preliminary opinion on claim 1 as granted was negative in view of the inventive step, which was assessed starting from D4 as the closest prior art. The proprietor submitted on the last day for making written submissions in the opposition proceedings auxiliary requests 1 to 22, whereupon auxiliary requests 1 to 20 could have been cumulatively

treated as they did not contain additional distinguishing features over the closest prior art. The proprietor had the opportunity to file further requests during oral proceedings, and did so, by filing auxiliary request 23. None of the requests filed in opposition referred to the specific, i.e acidic, catalysts, and this constituted a new case in the appeal proceedings.

On the final date for making written submission before the oral proceedings, experimental data were submitted by the patentee in response to the preliminary opinion of the opposition division. These experimental data had been considered in the grounds for the decision; and there was no reason as to why D8 could not have been filed earlier in the opposition proceedings.

XIII. Requests

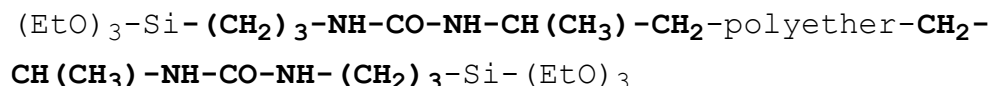
The appellant requested that the decision under appeal be set aside and the patent be maintained as granted or, alternatively, according to the set of claims filed as auxiliary requests 1, 1b, 2, 2b or 3 with letter of 19 August 2021 or to maintain the patent on the basis of the request held allowable by the opposition division (auxiliary request 23 in opposition proceedings).

The respondent requested that the appeal be dismissed. It also requested that D8 and auxiliary requests 1, 1b, 2, 2b and 3 not be admitted into the proceedings.

Reasons for the Decision

1. Main request - Inventive step
- 1.1 The claimed invention relates to a composition and a process for shaping the hair.
- 1.2 D4 represents the closest prior art and relates to hair compositions comprising a polyether in combination with a film-forming or fixing polymer (see claim 1).

Example 2 discloses the preparation of a polyether LPP2 by reaction of the product Jeffamine® ED 2003 with (3-isocyanatopropyl)triethoxysilan to obtain a linear poly(ethyleneoxide-copropyleneoxide) with two end-caps of triethoxysilyl groups, which has the following simplified general formula, with the linking group between the silyl ending group and the polyether shown in bold:



As acknowledged by the opposition division in its decision, the polymer labeled LPP2 corresponds to formula (I) of claim 1 in so far as W is a poly(ethylene oxide-co-propylene oxide), p2 is 0, R₁ is Ethyl, Z₂ and Z₃ are O-Ethyl;; said polymer LPP2 is however different from the polymer of formula (I) of claim 1 of the main request in the structure of the linker, since the linker group Z₁ of formula (I) of claim 1 cannot be **-(CH₂)₃-NH-CO-NH-CH(CH₃)-CH₂-** as obtained in example 2 of D4.

The polymer prepared in example 2 is in turn included in the hair gel of Table 2. This hair gel furthermore

comprises Luviset® Clear, a cationic hair setting polymer, i.e. a keratin fibre conditioning agent. The same polymer of example 2 is also incorporated in the shampoo composition of Table 6, with inter alia Polymer JR 400, a known cationic conditioning polymer, citric acid and salicylic acid.

- 1.3 The appellant defines the problem as the provision of a cosmetic composition capable of giving a sustainable or desired shape to the hair and good cosmetic properties.

The opposition division considered the problem to be the provision of a further hair styling composition, while the respondent defined it as the provision of an alternative hair styling composition.

- 1.4 The claimed solution to any of these problems is a cosmetic composition comprising one or more polymer(s) of formula (I) in which a linker group Z_1 represents a divalent group $-CH_2 -T-$ or $-T-CH_2 -$; T denoting an oxygen or sulfur atom, or a group chosen from the groups $N(R_2)$, $N(R_2)-C(O)$, $C(O)-N(R_2)$, $S-(CO)$, $(CO)-S$, $O-(CO)$ and $(CO)-O$.

- 1.5 The examples of the patent show that the compositions according to the claimed invention have a hair shaping effect. The contested patent provides indeed one example of polymer of formula (I), i.e Geniosil® STP-E10 incorporated in different compositions applied with different modes of application on hair (see examples 1-9).

This is confirmed by the teaching of D6, which is an experimental report comparing the effect on hair of compositions A and B comprising a compound of formula

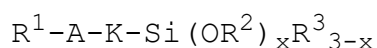
(I), namely Geniosil® STP-E10 with a comparative composition C without compound of formula (I).

However, neither the examples of the contested patent, nor the experiment D6 provide a comparison with compositions as disclosed in D4, since there is no comparison made with a polyether of the type as disclosed in D4.

It is thus not possible to establish the existence of an improvement over the prior art. Consequently, in the absence of any experimental evidence or arguments establishing a minimum plausibility of the presence of an improvement in the provision of a cosmetic composition capable of giving a sustainable or desired shape to the hair and good cosmetic properties, the problem to be solved appears to be as defined by the respondent, namely the provision of an alternative hair styling composition. In view of the information found in the examples of the contested patent or in D6, the board is convinced that the problem has been plausibly solved.

1.6 It remains to consider whether the skilled person would have arrived at the subject-matter of claim 1 in an obvious manner.

1.6.1 D4 discloses in claim 7 and in paragraph [0036] the general formula (I-1) of the preferred polyether, which is as follows:



The same polyether formula is mentioned in paragraph [0037] as formula (I-1a) among a total of 5 preferred alternative formulas (I-1a)-(I-1e).

In said formula, A is a polyether, R^2 and R^3 can be respectively a C_1-C_4 or C_1-C_6 alkyl group and x can be 1, 2 or 3, while R^1 can be a group $R^3_{3-x}(R^2O)_xSi-K-$.

In claim 7 and in corresponding paragraphs [0036] and [0037] of D4, the linking group K may be chosen among several possible alternatives K1-K10, wherein for instance, K1 is O-CO-R- wherein R can be a methylene (e.g. OCOCH₂), K2 is N(R')COR (e.g. -NHCOCH₂-) and K4 is -CON(R')R (e.g. -CONHCH₂).

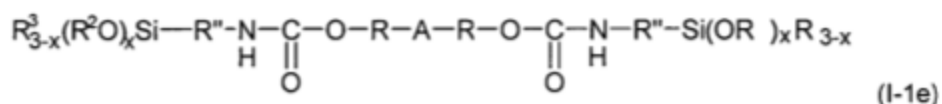
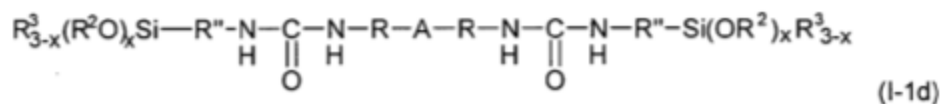
Such a combination of radical and chemical groups forms a compound which falls under the general formula (I) of claim 1 of the main request, which appears therefore to be suggested by D4.

Consequently, the use of a polyether of formula (I) of claim 1 in combination with a fixing or shaping polymer is clearly suggested in D4.

- 1.6.2 In the appellant's view, a person skilled in the art starting from the composition illustrated in Tables 2 and 6 of D4, would however not have been motivated to replace the structure of the linking group of the polyether LPP2 implemented in those compositions by a divalent group having the same definition as Z1 in claim 1 of the main request and keeping at the same time both ends of said polyether capped with an alkoxy silane group.

According to the appellant, instead of the formula of paragraph [0036] or formula (I-1a) of paragraph [0037], the starting point for the assessment of obviousness should have been a compound as disclosed in D4 and presenting a analog or close formula to the compound

disclosed in example 2 of D4, such as the compounds of formula (I-1d) or (I-1e) as disclosed in paragraph [0037] of D4:



In this situation, the linking group has been selected among other possibilities, namely K7, K8 or K9 as disclosed in paragraph [0037] of D4, and does not match the linking group Z1. It results that the polyether resulting from these combinations would not fall under the scope of formula (I) of the main request, teaching away from the claimed solution.

The Board cannot follow this argumentation. D4 relates to the use of a polyether having the general formula (I-1) given in paragraph [0036] and corresponding to formula (I-1a) of paragraph [0037]. This formula is the broadest formula disclosed in D4 and encompasses all other formula presented as alternatives in paragraph [0037], i.e formula (I-1b)-(I-1e), which are built on combining the compound of formula (I-1) or (I-1a) with any of the linking groups K1-K10 presented in paragraphs [0036] or [0037]; it also encompasses the specific polyether LPP2 disclosed in example 2 and Tables 2 and 6 of D4.

The skilled person, when looking to an alternative to the polymer LPP2 is not limited to the teaching of example 2 or of the use of the specific compounds of formula (I-1d) or (I-1e), but looks to all alternatives disclosed in D4, starting from the broadest chemical

formula, namely the formula (I-1) of paragraph [0036] or formula (I-1a) of paragraph [0037], in combination with any of the linking groups K1-K10 disclosed in the same paragraphs. Hence, the skilled person would arrive to an alternative combining the compound of formula (I-1a) with e.g. one of the the linking groups K1, K2 or K4 as one of the possibilities.

This result is even more obvious in view of the combination of the subject-matter of claim 7 disclosing the compound of formula (I-1) in combination with the linking groups K1-K10.

- 1.6.3 Considering that the problem to be solved has been defined as the provision of an alternative, the simple act of arbitrarily selecting one among equally obvious alternative variations is devoid of any inventive character. This is the case in view of the disclosure of D4 rendering the claimed solution obvious.
- 1.7 Consequently, claim 1 lacks inventive step and the main request does not meet the requirements of Article 56 EPC.
2. Admission of the auxiliary requests and D8 in the appeal proceedings
 - 2.1 Auxiliary requests 1, 1b, 2, 2b, 3 and the experimental report D8 were filed by the appellant with the statement of grounds of appeal.

Claim 1 of auxiliary request 1 comprises the feature "one or more catalysts chosen from hydrochloric acid, oleic acid and lactic acid, and mixtures thereof, or an alkoxy silane monomer, especially

aminopropyltriethoxysilane", while claim 1 of auxiliary request 1b excludes the term "and mixtures thereof".

Claim 1 of auxiliary request 2 comprises the features "one or more catalysts chosen from hydrochloric acid, oleic acid and lactic acid, and mixtures thereof, or aminopropyltriethoxysilane", while claim 1 of auxiliary request 2b excludes the mixtures.

Claim 1 of auxiliary request 3 has been amended by the feature "one or more catalysts chosen from an alkoxy silane monomer, especially aminopropyltriethoxysilane".

D8 is an experimental report of a comparison on hair fixation and remanence obtained by compositions A, B or C comprising either lactic acid, hydrochloric acid or oleic acid versus a composition according to the formulation of Table 6 of D4 comprising citric acid and salicylic acid. D8 is filed in support of the assessment of inventive step of the auxiliary requests 1, 1b, 2 and 2b.

2.2 The subject-matter of auxiliary requests 1, 1b, 2, 2b has been restricted *inter alia* to specific acidic catalysts which were neither claimed in claim 1 as granted, nor claimed as such in its dependent claim 10, which referred generally to catalysts "chosen from organic or mineral basic compounds, especially ammonia, sodium hydroxide, organic or mineral acids, especially hydrochloric acid, oleic acid and lactic acid, and mixtures thereof, or an alkoxy silane monomer, especially aminopropyltriethoxysilane". Neither were said specific acidic catalysts claimed in claim 1 of any auxiliary requests 1-22 filed during the opposition proceedings. Indeed these requests related either to

"one or more catalysts" (e.g. auxiliary request 1) or to the subject-matter of former dependent claim 10 incorporated in independent claim 1 (e.g. auxiliary request 3) and/or to subject-matter including the amount of catalysts present in the composition (e.g. auxiliary request 2).

The subject-matter of claim 1 of auxiliary request 3 also differs from the subject-matter of auxiliary request 23 which was filed during the oral proceedings before the opposition division, which was restricted to one specific catalyst, namely "one or more catalysts chosen from aminopropyltriethoxysilane", while claim 1 of auxiliary request 3 now relates to any alkoxysilane monomer in general.

- 2.3 According to Article 12(2) RPBA 2020 the primary object of the appeal is to review the decision under appeal, and the party's case shall be directed to the requests, facts, objections, arguments and evidence on which the decision under appeal was based.

The new auxiliary requests filed in the appeal proceedings are new requests and represent an amendment to the party's case (Article 12(4) RPBA) Similarly to the amendments introduced in the auxiliary requests filed during the first instance proceedings, also the amendments introduced in auxiliary requests 1 to 3 filed in appeal relate to the definition of the catalysts. However, none of the requests filed in appeal correspond to the requests filed during the opposition proceedings because they relate to a different subgroup of catalysts or do not contain any limitation as to their amounts. By filing these requests for the first time during the appeal proceedings, the appellant prevented the opposition

division to assess inventive step on the subject-matter of these requests and to decide thereon in the opposition proceedings.

The filing of these requests does furthermore not appear to be a response to the decision of the opposition division and opens, on the contrary, a new discussion. Said requests involve indeed a shift of the discussion on inventive step on the nature of the specific catalyst(s) or class of catalysts; this shift of the discussion is particularly illustrated by the further submission of document D8, which intends to show a different effect according to the specific acidic catalyst(s) present in the composition, a point which has not been discussed during the opposition proceedings, and which was also not mentioned in the application as filed.

- 2.4 The Board could also not follow the appellant's arguments, that these requests were filed to overcome objections discussed for the first time during oral proceedings, that the opposition division did not consider Tables 2 and 6 of D4 as the most promising starting point to assess inventive step and that the inventive step issues linked with the additional presence of a catalyst and in view of Table 6 of D4 were discussed for the first time only during oral proceedings.

In the present case, auxiliary requests 1-22 were indeed filed by the appellant on the last day for making written submissions under Rule 116 EPC, and neither the opposition division, nor the opponent had an opportunity to discuss them before the oral proceedings, especially with regard to the presence of a catalyst; the oral proceedings before the opposition

division was the first opportunity where it was possible to discuss the amendments brought to the auxiliary requests. This situation is entirely due to the appellant, which could have filed these requests much earlier in the opposition proceedings, all the more since the preliminary opinion of the opposition division was negative with regard to inventive step over D4.

Moreover, D4 and its example 2 and Table 2 were initially mentioned in the notice of opposition. Accordingly, a discussion on these parts of the document could not constitute a surprise, as well as the discussion on the presence of a catalyst which was also commented in the notice of opposition in context of dependent claims 9 and 10 of the granted patent (see point 6 of the notice of opposition, in particular page 15); document D4 was also mentioned by the opposition division as closest prior art in its annex to the summons.

In view of the presence of a catalyst in claim 1 of all auxiliary requests filed during the opposition procedure, the disclosure of Table 6 of D4 was also discussed during oral proceedings, since containing known catalysts, namely citric acid and salicylic acid; the introduction of this Table in the discussion can not constitute a surprise in view of the amendment brought to the auxiliary requests, and in view of the technical relationship between Table 6, Table 2 and Example 2 of D4. The citation of the formulation of Table 6 of D4, which comprises a catalyst, must furthermore be seen as a normal development of the proceedings in the discussion on inventive step, in view of the submission of the auxiliary requests which recited the presence of a catalyst.

2.5 The Board could also not see in the submission of auxiliary request 3 a case different from auxiliary requests 1, 1b, 2 and 2b, as argued by the appellant having regard to the fact that the assessment on inventive step of this request would not rely on the experiments D8.

In the Board's view, this request is still a new request and a fresh case brought forward for the first time during the appeal proceedings and on which the opposition division could not take a decision. The appellant remarked that its subject-matter is similar to the subject-matter of auxiliary request 23. However, in auxiliary request 23 the catalyst was limited to the aminopropyltriethoxysilane, whereas in claim 1 of auxiliary request 3 the catalyst is broadly defined as an alkoxy silane monomer. By limiting the subject-matter of auxiliary request 23 to a very specific alkoxy silane catalyst the appellant prevented a decision of the opposition division on the alkoxy silanes, although this general class of catalysts was included in other auxiliary requests (e.g. auxiliary request 3).

2.6 In summary, the Boards considers that the admission of auxiliary requests 1, 1b, 2, 2b and 3 would result in a shift of the discussion on inventive step which is contrary to the requirement of procedural economy. Furthermore, these requests should have been submitted already during the opposition procedure. Consequently, auxiliary requests 1, 1b, 2, 2b and 3 are not admitted into the appeal proceedings (Article 12(4) RPBA 2020). This decision applies also to the experimental report D8 which was filed in relation to auxiliary requests 1, 1b, 2 and 2b.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



B. Atienza Vivancos

A. Uselli

Decision electronically authenticated