Internal distribution code:

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

Datasheet for the decision of 12 March 2019

Case Number: T 1061/16 - 3.3.07

Application Number: 10181250.1

Publication Number: 2258344

IPC: A61K9/14, A61K9/20, A61K31/425

Language of the proceedings: EN

Title of invention:
Solid pharmaceutical dosage form comprising a ritonavir and lopinavir solid dispersion

Patent Proprietor:
AbbVie Inc.

Opponents:
Teva Pharmaceutical Industries LTD.

Headword:
Solid pharmaceutical dosage form comprising a ritonavir and lopinavir solid dispersion/AbbVie Inc.

Relevant legal provisions:
EPC Art. 123(2), 76(1), 100(b), 56

Keyword:
Amendments (Yes)
Sufficiency of disclosure (Yes)
Inventive step (Yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1061/16 - 3.3.07

D E C I S I O N
of Technical Board of Appeal 3.3.07
of 12 March 2019

Appellant: (Opponent 3)	Teva Pharmaceutical Industries LTD. 5 Basel Street 49131 Petach Tikva (IL)
Representative:	Best, Michael Lederer & Keller Patentanwälte Partnerschaft mbB Unsöldstrasse 2 80538 München (DE)
Former appellant: (Former opponent 04 and appellant 04)	Hetero Drugs Ltd. Hetero Corporate, 7-2-A2 Industrial Estates, Sanath Nagar Hyderabad-500 018, A.P. (IN)
Representative:	Molnia, David df-mp Dörries Frank-Molnia & Pohlman Patentanwälte Rechtsanwälte PartG mbB Fünf Höfe Theatinerstraße 16 80333 München (DE)
Respondent: (Patent Proprietor)	AbbVie Inc. 1 North Waukegan Road North Chicago, IL 60064 (US)
Representative:	Mathys & Squire LLP The Shard 32 London Bridge Street London SE1 9SG (GB)

Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 24 February 2016 rejecting the opposition filed against European patent No. 2258344 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	J. Riolo
Members:	D. Boulois Y. Podbielski

Summary of Facts and Submissions

I. European patent No. 2 258 344 was granted on the basis of a set of 15 claims.

Independent claim 1 as granted read as follows:

"1. A solid pharmaceutical dosage form which comprises ritonavir and lopinavir, formulated in solid dispersion, said solid dispersion comprising at least one pharmaceutically acceptable water-soluble polymer which has a Tg of at least 50°C and at least one pharmaceutically acceptable surfactant having an HLB value of from 4 to 10."

II. Four oppositions were filed against the granted patent under Article 100 (a), (b), (c) EPC 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. Opponents 01 and 02 withdrew their oppositions on 11 May 2015 and 14 January 2016 respectively.

III. The present appeal lies from the decision of the opposition division to reject the oppositions.

IV. The documents cited during the opposition proceedings included the following:
D1: WO 01/34119
D2: US 6 599 528
D4: WO 01/34118
D15: WO 2005/039551 (parent application)
D16: US 10/650 178 (priority document)
D20: Rosenberg at al., "Meltrex®-Formulations Containing Solid Solutions of Nearly Insoluble Drugs: Formation of Nanoparticles on Dissolution in Water"

D21: Rosenberg et al., "Amorphous Embedding of a Lipophilic Drug Substance by Meltrex®-Technology"
D35: "Classification of orally administered drugs on the World Health Organization list of Essential Medicines to the biopharmaceutics classification system", Eur. Journal of Biopharmaceutics, 58, 2004, pp 265-278
D40: Experimental details relating to the data filed with the Patentee's observations (4 August 2014)
D41: A Study of the bioavailability of ritonavir and lopinavir from solid dispersions containing: sorbitan monolaurate (Span 20); or polyoxyethylene (20) sorbitan monolaurate (Tween 20); or polyoxyl 40 hydrogenated castor oil (Cremophor RH40).

V. According to the decision under appeal, the subject-matter of claims 1-15 of the patent as granted could be directly and unambiguously derived from the parent application D15 and therefore also from the patent application as filed, since the description of the application as filed corresponded to the description of the parent application D15 with the subject-matter of the original claims of the parent application D15 added thereto, and was thus in accordance with Articles 123(2) and 76(1) EPC. More particularly, claim 1 found a basis in claims 1, 3 and 12 of the parent application, claim 6 originated from claim 6 of the parent application and from the disclosure on page 3 lines 9-12 of the parent application D15. The features of claims 2-5 and 7-15 were features disclosed explicitly in the claims of parent application and the corresponding passages in the patent application.

The claimed invention was sufficiently disclosed in view of the parameter Tg used in claims 1 and 7, since its measurement belonged to common general knowledge

and the skilled person knew that there were various methods to measure it which might have led to different results.

As regards inventive step, D1 was considered as the closest prior art, since it disclosed a composition comprising ritonavir and lopinavir in a carrier of PVP, which had a Tg of at least 50°C. The difference between claim 1 and the closest prior art amounted to the presence of a surfactant with an HLB value of 4-10. Examples 2 and 4 of the patent showed that the bioavailability of both ritonavir and lopinavir were markedly improved as compared to compositions without surfactants. The further tests shown in D40 confirmed this result. The problem was seen as the provision of a stable solid pharmaceutical dosage form comprising ritonavir and lopinavir, formulated in solid dispersion, with improved bioavailability. The solution, namely the use of surfactants with an HLB value of 4-10 was not suggested in D1, D4, D2, D20, or D21. The subject-matter of the claims was thus considered as inventive.

VI. Opponent 03 (hereinafter the appellant) filed an appeal against said decision.

VII. With a letter dated 21 November 2016, the patent proprietor (hereinafter the respondent) filed auxiliary requests 1-4, 4A, 4B, 5-7, 7A, 7B, 8-11, 11A, 11B, 12-14, 14A, 14B, 15-17, 17A, 17B, 18-21.

VIII. With a letter dated 20 February 2017, the appellant submitted the following piece of evidence:
D56: Annex 1, Experimental Data

IX. With a letter dated 25 July 2018, opponent 04 withdrew its opposition.

X. With a letter dated 30 July 2018, the appellant announced that it would not be represented during the oral proceedings and withdrew its request for oral proceedings.

XI. A communication from the Board, dated 21 November 2018, was sent to the parties.

XII. Oral proceedings took place on 12 March 2019.

XIII. The written arguments of the appellant may be summarised as follows:

Main request - Sufficiency of disclosure

Several methods, but not a specific method for measuring the Tg were given in the specification of the contested patent. The skilled person in the present case did not get clear guidance from the patent as to when he operates in the claimed range, and when he does not.

Moreover, claim 1 referred to a dosage form comprising a water-soluble polymer while claim 8 and also the specification of the contested patent disclosed a number of polymers that are commonly considered water-insoluble, such as ethylcellulose, cellulose acetate phthalate, methacrylic acid/ethylacrylate copolymers or methacrylic acid/methyl acrylate copolymers.
The feature “water-soluble polymer” was obviously an essential feature of the claimed subject matter. In view of this definition in independent claim 1, it was not understandable why the contested patent disclosed

in a subclaim a number of polymers that are water-insoluble without giving guidance in the specification as to how these polymers can be rendered water-soluble.

Main request - Inventive step

D1 represented the closest prior art. The difference between the claimed subject matter and the closest prior art D1 consisted in the fact that surfactants are only generally disclosed in D1, but surfactants having an HLB value of from 4 to 10 were not specifically disclosed. Neither D40, nor D41 could show that it was indeed the HLB value and not other features of the different surfactants or the specific formulation which influenced the bioavailability.

The problem that had objectively been solved by the contested patent had thus be seen in the provision of a solid pharmaceutical dosage form comprising ritonavir and lopinavir, formulated in solid dispersion, with improved bioavailability.

The solution was in particular obvious from a combination of document D1 with document D20, which related to the use of melt extrusion for the preparation of solid dispersions of insoluble drugs; water-insoluble emulsifiers having HLB values of below 10 were investigated in D20 with respect to their ability to improve drug dissolution from the solid dispersion, in particular from a Meltrex®-formulation.

Document D20 provided the skilled person with the teaching that the addition of surfactants having HLB values below 10 had an advantageous effect on the bioavailabilities of drug compounds with low aqueous solubility, similar to ritonavir and lopinavir. With

the results disclosed in D20, the skilled person who intended to improve the bioavailability of the drugs of documents D1, i.e. ritonavir and lopinavir, and considered document D20 would thus have immediately arrived at the subject matter of the contested patent. The claimed subject-matter was thus not inventive.

XIV. Before withdrawing its opposition,opponent 04 objected the claims as granted under Articles 76(1) and 123(2) EPC, and considered D20 as the closest prior art for assessing inventive step.

XV. The arguments of the respondent may be summarised as follows:

Main request - Inventive step

Document D1 was the closest prior art. The technical differences from the subject matter of the claimed invention were: (a) the incorporation of a surfactant into the pharmaceutical composition; (b) the presence of that surfactant in the solid dispersion; and (c) the decision to use a (non-ionic) surfactant having an HLB value of from 4 to 10.

The technical effect that is associated with these differences was an improved oral bioavailability. This effect was clearly demonstrated by the data in the patent and the supplemental data that were submitted during the first instance procedure (documents D40 and D41).

The objective technical problem was how to modify the solid oral dosage forms so as to improve the oral bioavailability of those two drugs.

The disintegration and dissolution experiments that were reported in document D20 were not carried out under physiological conditions, let alone under conditions that mimic the gastrointestinal environment: the disintegration testing was performed in pure water. For this reason alone, the results that are reported in document D20 failed to establish that the solid oral dosage forms that are described therein would have disintegrated in vivo, much less that the unidentified compounds A and B would have been solubilised from those dosage forms within the gastrointestinal environment.

The solubility of a compound under aqueous conditions was only one of the factors which affected its oral bioavailability and, accordingly, that improvements in the solvation of a compound as a result of a particular formulation approach would not automatically translate into improvements in oral bioavailability. Another important factor was the rate of permeation of the solvated drug through the intestinal membranes, with slow rates of membrane permeation (BCS Class III and IV) being detrimental to bioavailability, even if the solvation of the compound is high (BCS Class III). The extent and rate of membrane permeation was, moreover, dependent on the nature of the solubilisation of the drug, i.e. the interaction of the drug with the excipients. Other factors which affected oral bioavailability included, inter alia, a "first pass" effect within the liver.

Thus, even if a person of skill in the art, when contemplating the "adaptation" of the solid oral dosage forms disclosed in document D20 to the specific compounds ritonavir and lopinavir, were to have legitimately expected an in vitro disintegration of the

dosage forms, an improvement of oral bioavailability could not be expected, since both drugs had a bad permeability.

XVI. Requests

The appellant requested in writing that the decision under appeal be set aside and the patent be revoked.

The respondent requests that the appeal be dismissed so that the patent be maintained as granted (main request), or, as an auxiliary measure, that the decision under appeal be set aside and the patent be maintained according to the sets of claims filed as auxiliary requests 1-4, 4A, 4B, 5-7, 7A, 7B, 8-11, 11A, 11B, 12-14, 14A, 14B, 15-17, 17A, 17B, 18-21 with letter dated 21 November 2016.

Reasons for the Decision

1. Main request - Articles 76(1) and 123(2) EPC

The Board does not see any reason to deviate from the conclusions reached in the decision of the opposition division which gave the basis for all claims as granted in the parent application and the application as filed.

Consequently, the subject-matter of claims 1-15 as granted is disclosed directly and unambiguously from the parent and original application, and thus meets the requirements of Articles 76(1) and 123(2) EPC.

2. Main request - Sufficiency of disclosure

2.1 The parameter Tg as well as the "water-soluble" character relating to the claimed polymer were objected to by the appellant.

2.2 A bibliographic source for methods of measuring the parameter Tg was mentioned in paragraph [0023] of the specification. The same passage of the description gives a specific method of calculation of said parameter for copolymers, on the basis of the Tg values of the homo-polymers given in a further cited bibliographic source. The skilled person has therefore specific guidance in the description of the specification for the measurement of the parameter Tg, and the invention is thus sufficiently disclosed .

The objection as regards the glass transition temperature Tg in claims 1 and 7, as to possible variations dependent on the method of measurement used, relates thus rather to a problem of clarity and not of sufficiency of disclosure.

2.3 As regards an inconsistency between claim 1 which refers to a "water-soluble polymer" and claim 8 which lists polymers which are, according to the appellant, not water-soluble, this point relates also to a possible problem of clarity of the claims and not of sufficiency of disclosure as set below.

The description in paragraph [0025] of the specification gives indeed a definition as regards the term "water-soluble polymer" based on the viscosity of the polymer when dissolved at 20°C in an aqueous solution at 2% (w/v). The same passage lists all water-soluble polymers fulfilling this requirement. The

passage therefore gives a clear and explicit guidance to the skilled person as regards the solubility requirement and even lists the specific polymers which can be used for the invention.

2.4 The claimed invention is therefore sufficiently disclosed.

3. Main request - Inventive step

3.1 The present invention relates to an oral solid dosage form for HIV protease inhibitors which has suitable oral bioavailability and stability and which does not necessitate high vehicle volumes.

3.2 D1 was considered as the closest prior art by the opposition division in its decision, as well as by the appellant and the respondent.

D1 discloses a solid dispersion of ritonavir and lopinavir having an improved bioavailability, dispersed in a water-soluble carrier and a crystallization inhibitor (see claim 7 and claim 1). The crystallization inhibitor is a polymer selected from HPMC or PVP, both having a Tg higher than 50°C. The water-soluble carrier is preferably PEG, but can also be a surfactant such as a polyoxyethylene stearate, or a Pluronic. Moreover, the compositions disclosed in D1 may also comprise an additive which can be an unspecified surfactant (see claim 10). Said document does therefore not disclose the presence of a specific surfactant having an HLB between 4 and 10.

As the opposition division, the Board could not see in D20 a possible closest prior art, as argued by opponent 04 in the written appeal proceedings before it withdrew

its opposition. D20 relates to a solid dispersion method involving PVP and a surfactant with an HLB less than 10; said surfactant is shown to improve the colloidal solubilization of nearly insoluble unspecified drugs A and B. This document does not disclose the essential element of the contested patent, namely an association of ritonavir and lopinavir, and for this reason cannot qualify as closest prior art.

3.3 The problem to be solved according to the contested patent is to provide a formulation comprising ritonavir and lopinavir which has an improved oral bioavailability.

3.4 As a solution to this alleged problem, claim 1 of the main request proposes the incorporation of "at least one pharmaceutically acceptable surfactant having an HLB value of from 4 to 10" in the claimed composition.

3.5 Several examples of the patent have been cited by the respondent to show an effect and several documents have been filed, namely, D40 and D41 as further support thereof. D56 has been filed by the appellant.

Examples of the contested patent

The contested patent shows in the "Comparative example" that a solid dispersion of ritonavir and lopinavir with copovidone provides a poor bioavailability of respectively 0.52 µg.h/ml/100mg for ritonavir and 4.54 µg.h/ml/100mg for lopinavir.

Example 1 (comparative example) of the patent discloses a solid dispersion of copovidone, Cremophor RH40 at 10% w/w (HLB=14-16), ritonavir and lopinavir. The inclusion of such surfactant improves the bioavailability to

respectively 0.60 µg.h/ml/100mg for ritonavir and 7.43 µg.h/ml/100mg for lopinavir.

Example 2 of the patent discloses a solid dispersion of copovidone, Span 20 at 4.2% w/w (HLB =8.6), ritonavir and lopinavir. The bioavailability reaches respectively 10.88 µg.h/ml/100mg for ritonavir and 51.2 µg.h/ml/ 100mg for lopinavir.

Example 4 of the patent discloses a solid dispersion of copovidone, Span 20 at 5% w/w (HLB =8.6), Cremophor RH40 at 3% w/w (HLB=14-16) ritonavir and lopinavir. The bioavailability is 10.96 µg.h/ml/100mg for ritonavir and 46.5 µg.h/ml/100mg for lopinavir.

Examples 2 and 4 of the patent show thus clearly that the addition of Span 20 improves the bioavailability of both ritonavir and lopinavir, over a composition without surfactant or comprising Cremophor RH40.

Document D40

D40 was included in the respondent's letter filed during the opposition proceedings and dated 4 August 2014. It shows following table:

Table 2		
	Vitamin E-TPGS (HLB = 13)	**Lauroglycol FCC (HLB = 4)**
Formulation		
Copovidone	61 %	61 %
Lauroglycol FCC	-	8 %
Vitamin E-TPGS	8 %	-
Ritonavir	6 %	6 %
Lopinavir	24 %	24 %
Colloidal silica	1 %	1 %
***In vivo* bioavailability**		
Ritonavir AUC (µg.h/ml/100 mg)	*0.03*	*4.80*
Lopinavir AUC (µg.h/ml/100 mg)	*0.16*	*24.65*

D40 shows a clear improvement in *in vivo* bioavailability linked with the presence of a specific surfactant with a HLB of 4 versus a specific surfactant with a HLB of 13.

Document D41

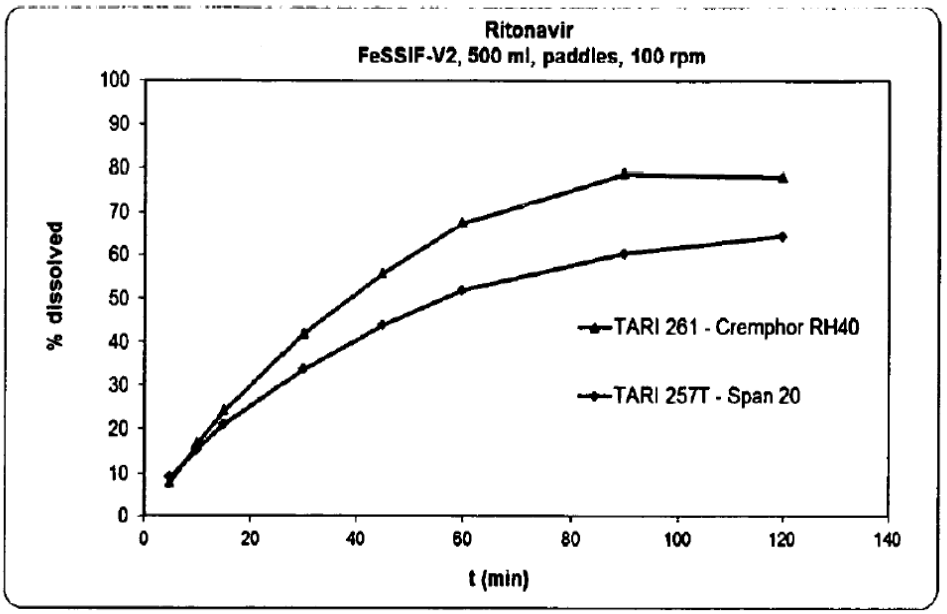
This document has been filed by the respondent during the opposition proceedings with the letter dated 12 September 2014; three compositions comprising 7% w/w of surfactant were compared in this document. It shows the following results in a table:

Formulation with surfactant (HLB value)	**Ritonavir AUC (µg.h/ml/100 mg)**	**Lopinavir AUC (µg.h/ml/100 mg)**
With Span 20 (HLB 8.6)	5.44	30.25
With Tween 20 (HLB 16.7)	0.62	5.10
With Cremophor RH40 (HLB 14-16)	3.16	19.55

D41 shows that a formulation comprising a surfactant with an HLB comprised between 4-10 provides a better in vivo bioavailability than a formulation comprising Tween 20 or Cremophor RH40. Cremophor RH40 provided however also a good *in vivo* bioavailability.

Document D56

This document has been filed by the appellant and compares compositions comprising only ritonavir with either Cremophor RH40 at 10.7% w/w or Span 20 at 10.7% w/w. A figure shows that, after two hours, the in vitro dissolution of the composition comprising Cremophor RH40 (HLB over 14) is higher than the composition comprising Span 20 (HLB 8.6).



Conclusions

In view of all experiments provided by the appellant and the respondent, the following can be concluded:

- Compositions comprising a surfactant with an HLB comprised between 4-10 provide undeniably a proven and improved *in vivo* bioavailability of ritonavir and lopinavir, over compositions without surfactant, or comprising an unique surfactant having an HLB over 10, such as for instance Cremophor RH40; this is shown by examples 1, 2 and 4 of the patent, as well as D40 and D41.

- There is an apparent inconsistency between the results of the *in vivo* bioavailability shown in D41, examples 1 and 2 of the patent, and the results of the *in vitro* dissolution in D56, as regards the use of Cremophor RH40 (HLB 14-16). Said Cremophor RH provides a better *in vitro* dissolution of ritonavir when compared to Span 20 as shown in D56, while it provides an inferior *in vivo* bioavailability when compared to Tween 20, as shown by examples 1 and 2 of the patent and D41. This apparent inconsistency between the results of the tests D56, and the tests of examples 1, 2 or D51 can be explained by the *in vivo* permeation properties of the claimed drugs, in particular ritonavir.

According to the Biopharmaceutics Classification System ("BCS"), drug substances can be classified into four distinct classes according to: (a) their aqueous solubility; and (b) their intestinal membrane permeability. The four classes of the BCS system are:
- Class I high solubility, high permeability: the compound is well absorbed;
- Class II low solubility, high permeability: the bioavailability of the compound is limited by its solvation; a correlation between in vivo

bioavailability and in vitro solvation is typically observed;
- Class III high solubility, low permeability: the absorption of the compound is limited by its membrane permeability but the compound is readily solvated;
- Class IV low solubility, low permeability: the compound has a poor bioavailability; the compound is not well absorbed through the intestinal mucosa and a high variability in the performances of different compounds is expected.

Hence the solubility of a compound under aqueous conditions is only one of the factors which affect its oral bioavailability and, accordingly, a good in vivo or in vitro dissolution behavior will not automatically translate into improvements in oral bioavailability. Another important factor is indeed the rate of permeation of the solvated drug through the intestinal membranes, with slow rates of membrane permeation (BCS Class III and IV) being detrimental to bioavailability, even if the solvation of the compound is high (BCS Class III). The extent and rate of membrane permeation is dependent on the nature of the solubilisation of the drug, and other factors such as, inter alia, a "first pass" effect within the liver (see D35, point 4.3).

In the present case, lopinavir is a BCS class II/IV drug and ritonavir is a BCS class IV drug, both drugs suffering from a first pass effect (see Tables 1 and 3 of D35). Both drugs have therefore a low membrane permeability, and if the surfactant Cremophor RH40 is able to improve the solubilisation of at least ritonavir at a level higher than a surfactant with HLB 4-10 such as Span 20 as shown by D56, Cremophor RH40 does not provide any improvement as to the membrane permeability and the linked in vivo bioavailability of

at least ritonavir as shown explicitly in D41 and examples 1 and 2 of the patent. The improvement as to the in vivo bioavailability is indeed lesser with Cremophor RH 40 than with a surfactant HLB 4-10 such as Span 20. This explains the results shown in D56.

Accordingly, in view of the information found in the examples of the contested patent and in D40, D41 and D56, the Board is convinced that the claimed composition presents an improvement in bioavailability over the closest prior-art compositions, so that the problem is credibly solved.

3.6 Obviousness

The question remaining is whether the skilled person, starting from the teaching of D1, would arrive at the subject-matter of claim 1 of the main request in an obvious manner in order to solve the problem posed.

As regards obviousness, documents D20 and D21 were mentioned by the appellant. D1, D2, and D4 were further mentioned by the opposition division in its decision.

Documents D20 and D21

D20 teaches that embedding a drug in molecular disperse form in a water-soluble polymer as solid solution by using the Meltrex®-technology, i.e by melt extrusion with a PVP copolymer, enhanced the oral bioavailability in many cases significantly. D20 reported the further effect of the addition of a surfactant with a HLB lower than 10, such as Span 20, Span 40 or Span 60, on drug in vitro dissolution from Meltrex® formulations. Said tests show that the addition of Span 20 or Span 40 improved the in vitro dissolution profile of two

unspecified poorly water-soluble drugs A and B. On the other hand, the use of Span 60 did not improve the in vitro dissolution profile.

The teaching of D20 is confirmed by D21 which shows that the in vitro dissolution of a drug improves, when the drug is embedded in the Meltrex® system formulated with an unspecified surfactant with a HLB of 4 in the Meltrex® system.

The improvement as to in vitro dissolution shown in D20 and D21 can however not be extrapolated to an improvement of the in vivo availability. There is indeed a lack of correlation between an improvement in the rate of dissolution observed in vitro and the bioavailability performance of the pharmaceutical formulation observed in vivo for drugs belonging to the BCS class IV. It was known in the state of the art at the priority date of the patent that ritonavir and lopinavir exhibit the characteristics of BCS Class IV compounds (see references of D35). Thus, even if a person skilled in the art, when contemplating the "adaptation" of the solid oral dosage forms disclosed in document D20 to the specific compounds ritonavir and lopinavir, were to have legitimately expected an in vitro dissolution of those drugs from the dosage forms, the skilled person would still not have had any reasonable expectation of achieving an oral bioavailability.

A person skilled in the art, reading document D20 or D21, could not have reasonably expected that any such disintegration and/or dissolution in vivo would equally occur for a corresponding solid oral dosage form comprising ritonavir and lopinavir in place of the compounds A and B, and that even if such disintegration

and/or dissolution in vivo could be expected for a corresponding solid oral dosage form comprising ritonavir and lopinavir, this would not necessarily translate into a good oral bioavailability of those two drugs in vivo.

Document D1

D1 mentions the incorporation of unspecified surfactants as additives with unspecified activity in the solid dispersions disclosed therein. The skilled person would not see in said disclosure an incentive to add a surfactant with a specific HLB range value for improving bioavailability.

Document D2

D2 discloses the use of surfactants in solid dispersions of inter alia PVP to increase the bioavailability of drugs comprised therein (see col. 3, l. 3-34). Said surfactants need to have an HLB comprised between 7 and 18, preferably between 10 and 15 and all disclosed surfactants have an HLB higher than 10 (see claim 1 and col. 2, l. 60-65). This document teaches thus away from the solution claimed in the main request.

Document D4

The teaching of D4 is very close to D1 and does not add any new technical teaching.

Conclusion

Hence, the skilled person, seeking to improve the compositions disclosed in D1, would not have arrived at

the technical solutions claimed in the main request and the claimed invention is inventive over D1.

3.7 Consequently, the main request meets the requirements of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

B. Atienza Vivancos J. Riolo

Decision electronically authenticated