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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

(Also referred to as FORM PTO-1465)

REQUEST FOR *INTER PARTES* REEXAMINATION TRANSMITTAL FORM

Address to:
Mail Stop *Inter Partes* Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attorney Docket No.: _____

Date: August 25, 2010

1. [X] This is a request for *inter partes* reexamination pursuant to 37 CFR 1.913 of patent number 6,703,403 issued March 9, 2004. The request is made by a third party requester, identified herein below.

2. [X] a. The name and address of the person requesting reexamination is:

Public Patent Foundation
55 Fifth Avenue, Suite 928
New York, NY 10003

b. The real party in interest (37 CFR 1.915(b)(8)) is: _____

3. [ ] a. A check in the amount of $_____ is enclosed to cover the reexamination fee, 37 CFR 1.20(c)(2);

[ ] b. The Director is hereby authorized to charge the fee as set forth in 37 CFR 1.20(c)(2) to Deposit Account No. _____; **or**

[X] c. Payment by credit card. Form PTO-2038 is attached.

4. [X] Any refund should be made by [ ] check or [ ] credit to Deposit Account No. _____ 37 CFR 1.26(c). If payment is made by credit card, refund must be to credit card account.

5. [X] A copy of the patent to be reexamined having a double column format on one side of a separate paper is enclosed. 37 CFR 1.915(b)(5)

6. [ ] CD-ROM or CD-R in duplicate, Computer Program (Appendix) or large table
[ ] Landscape Table on CD

7. [ ] Nucleotide and/or Amino Acid Sequence Submission
If applicable, items a. – c. are required.

a. [ ] Computer Readable Form (CRF)
b. Specification Sequence Listing on:
i. [ ] CD-ROM (2 copies) or CD-R (2 copies); **or**
ii. [ ] paper
c. [ ] Statements verifying identity of above copies

8. [X] A copy of any disclaimer, certificate of correction or reexamination certificate issued in the patent is included.

9. [X] Reexamination of claim(s) 1-92 is requested.

10. [X] A copy of every patent or printed publication relied upon is submitted herewith including a listing thereof on Form PTO/SB/08, PTO-1449, or equivalent.

11. [ ] An English language translation of all necessary and pertinent non-English language patents and/or printed publications is included.

12. [x] The attached detailed request includes at least the following items:

a. A statement identifying each substantial new question of patentability based on prior patents and printed publications. 37 CFR 1.915(b)(3)
b. An identification of every claim for which reexamination is requested, and a detailed explanation of the pertinency and manner of applying the cited art to every claim for which reexamination is requested. 37 CFR 1.915(b)(1) & (3).

13. [x] It is certified that the estoppel provisions of 37 CFR 1.907 do not prohibit this reexamination. 37 CFR 1.915(b)(7)

14. [x] a. It is certified that a copy of this request has been served in its entirety on the patent owner as provided in 37 CFR 1.33(c).
The name and address of the party served and the date of service are:

Dr. Steven R. Crowley

Abbott Laboratories, Dept. 377 AP6D-2

100 Abbott Park Road, Abbott Park IL 60064-6050

Date of Service: August 25, 2010; or

[ ] b. A duplicate copy is enclosed because service on patent owner was not possible. An explanation of the efforts made to serve patent owner is attached. See MPEP 2620.

15. Third Party Requester Correspondence Address: Direct all communications about the reexamination to:

[ ] The address associated with Customer Number:

OR

[x] Firm or Individual Name Public Patent Foundation

Address
55 Fifth Avenue, Suite 928

City	State	Zip
New York	NY	10003

Country USA

Telephone	Email
(212) 790-0442	info@pubpat.org

16. [ ] The patent is currently the subject of the following concurrent proceeding(s):

[ ] a. Copending reissue Application No. _____

[ ] b. Copending reexamination Control No. _____

[ ] c. Copending Interference No. _____

[ ] d. Copending litigation styled:

_____

_____

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

Daniel B. Ravicher
Authorized Signature

August 25, 2010
Date

Daniel B. Ravicher
Typed/Printed Name

47,015
Registration No., if applicable

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT NO.: 6,703,403

ISSUED: Mar. 9, 2004

TO: Norbeck et al.

FOR: METHOD FOR IMPROVING PHARMACOKINETICS

ATTACHMENT TO FORM PTO/SB/58,
REQUEST FOR *INTER PARTES* REEXAMINATION

SIR:

The Public Patent Foundation ("PUBPAT"), a not-for-profit public service organization that works to protect the public from the harms caused by undeserved patents and unsound patent policy, respectfully requests *inter partes* reexamination under 35 U.S.C. §§ 311-318 and 37 C.F.R. § 1.913 of every claim of United States Patent No. 6,703,403 issued March 9, 2004 to Norbeck et al. and assigned to Abbott Laboratories ("the '403 patent") because they are all invalid under 35 U.S.C. §§ 102 and 103 and their existence is causing significant public harm.[1]

THE '403 PATENT IS CAUSING SIGNIFICANT PUBLIC HARM

HIV/AIDS is one of the greatest threats to public health faced by the world today. As of the end of 2008, over 33 million people worldwide were living with HIV/AIDS,[2] including more than one million Americans.[3] Every person afflicted with HIV/AIDS has the right to obtain the

1 A copy of the '403 patent is attached hereto as Appendix A.
2 http://www.avert.org/worldstats.htm, last visited August 3, 2010.
3 http://www.avert.org/usa-statistics.htm, last visited August 3, 2010.

best medical treatment available without any improper obstacles placed in their way. More specifically, American men, women, and children suffering from HIV/AIDS are entitled to access the best pharmaceutical treatments available without undeserved patents making those treatments either too expensive or too limited in supply.

Ritonavir is a retroviral protease inhibitor that is a significant treatment for HIV/AIDS patients. Today it is widely used as a booster for other protease inhibitors. Abbott Laboratories is the sole distributor of ritonavir in the United States (under the brand name Norvir) and is using the '403 patent – and seven other patents for which requests for reexamination are being filed concurrently herewith – to prevent anyone else from offering ritonavir to HIV/AIDS patients in the United States.[4] Not only is the '403 patent being used to deny American HIV/AIDS patients fair access to the medical treatment that they need and deserve; it is also a barrier to further research on ritonavir here in the United States because there is no exception to patent infringement for such research. In these ways, the '403 patent is unquestionably causing significant public harm to the American people. Although these issues are not grounds to grant this request for reexamination, PUBPAT respectfully requests that they be considered when determining whether the validity of the '403 patent merits review by your office.

THE SUBSTANTIAL NEW QUESTIONS OF PATENTABILITY

1. Whether claims 1-92 of the '403 patent were anticipated by U.S. Patent No. 5,142,056 to Kempf et al. issued on August 25, 1992 ("the '056 patent");

4 Approved Drug Products with Therapeutic Equivalence Evaluations, Food and Drug Administration ("Orange Book"), Application Number. N022417 (Approval Date February 10, 2010).

2. Whether claims 1-92 of the '403 patent were anticipated by U.S. Patent No. 5,886,036 to Kempf et al. issued March 23, 1999 ("the '036 patent"); and,
3. Whether claims 1-92 of the '403 patent were rendered obvious by the '056 patent alone or in view of J. Lin, et al., Time- and Dose-Dependent Pharmacokinetics of L-754,394, an HIV Protease Inhibitor, in Rats, Dogs and Monkeys, J. Pharmacology and Experimental Therapeutics, 274:264-269 (1995) ("Lin").

These are new questions because Lin was not of record during prosecution, and neither the '056 patent nor the '036 patent were applied during prosecution. A detailed explanation of the pertinency and manner of applying the cited patents and publications to the claims of the '403 patent is set forth below.[5]

THE '056 PATENT ANTICIPATED THE '403 PATENT

The '403 patent application was filed September 20, 2001. The applicants claimed priority to several applications, including two provisional applications, numbers 60/00,654 (filed June 29, 1995) and 60/003,849 (filed September 15, 1995). Therefore, the earliest possible priority date for the '403 patent is June 29, 1995. The '056 patent issued on August 25, 1992. Accordingly, the '056 patent is 102(b) prior art to the '403 patent. As explained below, the '056 patent anticipates each claim of the '403 patent.

The Federal Circuit set forth the appropriate standard for anticipation, and in particular inherent anticipation in the pharmaceutical arts, in Schering Corp. v. Geneva Pharms., 339 F.3d 1373 (Fed. Cir. 2003). There, the Federal Circuit said that anticipation requires, "a single prior

5 Appendix B contains a copy of the cited patents and publications.

art reference [that] discloses each and every limitation of the claimed invention." Id. at 1377. However, "a prior art reference may anticipate without disclosing a feature of the claimed invention if that missing characteristic is necessarily present, or inherent, in the single anticipating reference. " Id. Further, the court rejected "the contention that inherent anticipation requires recognition in the prior art," and reconfirmed, "[t]he patent law principle 'that which would literally infringe if later in time anticipates if earlier.'" Id. at 1377, 1379 (citing Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc., 246 F.3d 1368, 1378 (Fed. Cir. 2001)).

With respect to inherency, the court confirmed that it has broad and unlimited scope, saying:

> Because inherency places subject matter in the public domain as well as an express disclosure, the inherent disclosure of the entire claimed subject matter anticipates as well as inherent disclosure of a single feature of the claimed subject matter. The extent of the inherent disclosure does not limit its anticipatory effect. In general, a limitation or the entire invention is inherent and in the public domain if it is the 'natural result flowing from' the explicit disclosure of the prior art.

Id. at 1379.

Applying these principles in Schering, the court held that a later patent claiming a metabolite formed in a patient's body upon ingestion of a pharmaceutical was anticipated by a prior art reference disclosing the pharmaceutical itself despite the fact that it was conceded that the formation of the metabolite in a patient's body was not known or recognized by those of skill in the art prior to the filing of the application leading to the patent on the metabolite. The court held that such recognition was not required to qualify for inherent anticipation. Id. at 1377 ("Other precedents of this court have held that inherent anticipation does not require that a person of ordinary skill in the art at the time would have recognized the inherent disclosure. E.g.,

In re Cruciferous Sprout Litig., 301 F.3d 1343, 1351 (Fed. Cir. 2002); Mehl/Biophile Int'l Corp. v. Milgraum, 192 F.3d 1362, 1366 (Fed. Cir. 1999) ("Where ... the result is a necessary consequence of what was deliberately intended, it is of no import that the article's authors did not appreciate the results."); Atlas Powder, 190 F.3d at 1348-49 ("Because 'sufficient aeration' was inherent in the prior art, it is irrelevant that the prior art did not recognize the key aspect of [the] invention. ... An inherent structure, composition, or function is not necessarily known.")")

Here, the claims of the '403 patent are directed to administering to a human ritonavir in order to inhibit cytochrome P450 monooxygenase or either improve the pharmacokinetics or increase the blood level of a drug which is metabolized by cytochrome P450 monooxygenase. The '403 patent also has claims directed to co-administering to a human a drug metabolized by cytochrome P450 monooxygenase and ritonavir in order to improve the pharmacokinetics or increase the blood level of the drug which is metabolized by cytochrome P450 monooxygenase.

There are no limitations or requirements in the body of the claims that the person performing the administration or the human receiving the administration know that the drug they are being given in combination with ritonavir is metabolized by cytochrome P450 monooxygenase. Referring to the "patent law principle" cited above, the administering of ritonavir with another drug that is metabolized by cytochrome P450 monooxygenase would infringe the claims of the '403 patent, regardless of whether anyone involved with that administering was aware of the fact that the other drug was metabolized by cytochrome P450 monooxygenase. Thus, a prior art teaching of the administration of a drug that is metabolized by cytochrome P450 monooxygenase in combination with ritonavir anticipates the claims of the

'403 patent even if that prior art reference does not disclose, and even if those of skill in the art did not know at the time, that the other drug is metabolized by cytochrome P450 monooxygenase. The fact that the recognition that such drugs are metabolized by cytochrome P450 monooxygenase may not have existed at the time of the prior art reference does not defeat its anticipatory effect.

The '056 patent is precisely such a reference. Beginning at column 220, line 22 and continuing through line 59, the '056 goes into great detail regarding the administering of ritonavir in combination with other drugs, including specifically "one or more immunomodulators, antiviral agents, other antiinfective agents or vaccines." The '056 patent continues to teach that,

> Any of a variety of HIV or AIDS vaccines can be used in combination with a compound of the present invention.
>
> It will be understood that agents which can be combined with the compounds of the present invention for the treatment or prophylaxis of AIDS or an HIV infection are not limited to those listed above, but include in principle any agents useful for the treatment or prophylaxis of AIDS or an HIV infection.

220:45-54.

It is now well known that many such drugs, including specifically those for the treatment of HIV/AIDS, are metabolized by cytochrome P450 monooxygenase. The '403 patent concedes this fact. '403 patent, 1:55-57 ("Some drugs and, in particular, HIV protease inhibitors are metabolized by cytochrome P450 monooxygenase"); 2:21-34. Therefore, since the '056 patent taught the administering of ritonavir in combination with other HIV drugs, which are now recognized to be metabolized by cytochrome P450 monooxygenase, the '056 patent inherently anticipated the claims of the '403 patent. The fact that it may not have been recognized at the

time that such drugs taught by the '056 patent to be administered in combination with ritonavir were metabolized by cytochrome P450 monooxygenase is of no consequence.

The chart below compares all of the claims of the '403 patent to the teaching of the '056 patent. In essence, each claim of the '403 patent was inherently anticipated by the teaching of the '056 patent. Therefore each claim of the '403 patent is invalid and should be canceled.

'403 patent	**'056 patent**
1. A method for inhibiting cytochrome P450 monooxygenase 3A4 comprising administering to a human in need thereof an amount of ritonavir or a pharmaceutically acceptable salt thereof effective to inhibit cytochrome P450 monooxygenase 3A4.	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would inhibit cytochrome P450 monooxygenase 3A4, even if that was not recognized at the time.
2. A method for inhibiting cytochrome P450 monooxygenase 3A4 comprising contacting the cytochrome P450 monooxygenase 3A4 with an amount of ritonavir or a pharmaceutically acceptable salt thereof effective to inhibit cytochrome P450 monooxygenase 3A4.	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would cause the ritonavir to contact the cytochrome P450 monooxygenase 3A4 so as to inhibit the cytochrome P450 monooxygenase 3A4, even if that was not recognized at the time.
3. A method for improving the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase comprising coadministering to a human being treated with said drug or a pharmaceutically acceptable salt thereof an amount effective to inhibit cytochrome P450 monooxygenase of ritonavir or a pharmaceutically acceptable salt thereof.	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase and thus improve the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase, even if that was not recognized at the time.
4. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is an HIV protease inhibitor.	The '056 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." '056 patent, 220:22-27. The '056 patent further specifically taught administering to a human in need of

'403 patent	'056 patent
	such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." '056 patent, 220:47-54.
5. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
6. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437 CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
7. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
8. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.

'403 patent	'056 patent
9. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
10. The method of claim 3, wherein the drug which is metabolized by cytochrome P450 monooxygenase is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
11. The method of claim 3, wherein the drug which is metabolized by cytochrome P450 monooxygenase is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
12. The method of claim 3, wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
13. The method of claim 4, wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
14. The method of claim 5, wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
15. The method of claim 6 the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.

'403 patent	'056 patent
16. The method of claim 7 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
17. The method of claim 8 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
18. The method of claim 9 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
19. The method of claim 10 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
20. The method of claim 11 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
21. A method for improving the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase comprising administering to a human in need of such treatment an amount effective to inhibit cytochrome P450 monooxygenase of ritonavir or a pharmaceutically acceptable salt thereof.	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase and thus improve the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase, even if that was not recognized at the time.
22. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is an HIV protease inhibitor.	The '056 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." '056 patent,

'403 patent	'056 patent
	220:22-27. The '056 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." '056 patent, 220:47-54.
23. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
24. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
25. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, AI-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
26. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent

'403 patent	'056 patent
	useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
27. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
28. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
29. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
30. The method of claim 21 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
31. The method of claim 22 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
32. The method of claim 23 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
33. The method of claim 24 wherein the cytochrome P450 monooxygenase is	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase

'403 patent	'056 patent
cytochrome P450 3A4.	inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
34. The method of claim 25 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
35. The method of claim 26 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
36. The method of claim 27 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
37. The method of claim 28 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
38. The method of claim 29 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
39. A method for improving the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase 3A4 comprising administering to a human in need of such treatment a therapeutically effective amount of a combination of said drug or a pharmaceutically acceptable salt thereof and ritonavir or a pharmaceutically acceptable salt thereof.	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase 3A4 and thus improve the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase 3A4, even if that was not recognized at the time.

'403 patent	'056 patent
40. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is an HIV protease inhibitor.	The '056 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." '056 patent, 220:22-27. The '056 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." '056 patent, 220:47-54.
41. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
42. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
43. The method of claim 39 the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.

'403 patent	'056 patent
44. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
45. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
46. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
47. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
48. A method for increasing the blood level of a drug which is metabolized by cytochrome P450 monooxygenase comprising coadministering to a human being treated with said drug or a pharmaceutically acceptable salt thereof an amount effective to inhibit cytochrome P450 monooxygenase of ritonavir or a pharmaceutically acceptable salt thereof.	The '056 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." '056 patent, 220:22-27. It was inherent in the '056 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase and thus increase the blood level of a co-administered drug which is metabolized by cytochrome P450 monooxygenase, even if that was not recognized at the time.
49. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is an HIV protease inhibitor.	The '056 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any

'403 patent	'056 patent
	agents useful for the treatment or prophylaxis of AIDS or an HIV infection." '056 patent, 220:47-54.
50. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
51. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
52. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
53. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.

'403 patent	'056 patent
54. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
55. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
56. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
57. The method of claim 48 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
58. The method of claim 49 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
59. The method of claim 50 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
60. The method of claim 51 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.

'403 patent	'056 patent
61. The method of claim 52 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
62. The method of claim 53 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
63. The method of claim 54 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
64. The method of claim 55 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
65. The method of claim 56 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
66. A method for increasing the blood level of a drug which is metabolized by cytochrome P450 monooxygenase comprising administering to a human in need of such treatment an amount effective to inhibit cytochrome P450 monooxygenase of ritonavir or a pharmaceutically acceptable salt thereof.	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase and thus increase the blood level of a drug which is metabolized by cytochrome P450 monooxygenase, even if that was not recognized at the time.
67. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is an HIV protease inhibitor.	The '056 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." '056 patent, 220:22-27. The '056 patent further specifically

'403 patent	'056 patent
	taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." '056 patent, 220:47-54.
68. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
69. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
70. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
71. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056

'403 patent	'056 patent
	patent, 220:45-54.
72. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
73. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
74. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
75. The method of claim 66 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
76. The method of claim 67 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
77. The method of claim 68 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
78. The method of claim 69 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450

'403 patent	'056 patent
	3A4, even if that was not recognized at the time.
79. The method of claim 70 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
80. The method of claim 71 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
81. The method of claim 72 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
82. The method of claim 73 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
83. The method of claim 74 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
84. A method for increasing the blood level of a drug which is metabolized by cytochrome P450 monooxygenase 3A4 comprising administering to a human in need of such treatment a therapeutically effective amount of a combination of said drug or a pharmaceutically acceptable salt thereof and ritonavir or a pharmaceutically acceptable salt thereof.	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase 3A4 and thus increase the blood level of a drug which is metabolized by cytochrome P450 monooxygenase 3A4, even if that was not recognized at the time.
85. The method of claim 84 wherein the drug	The '056 patent taught administering ritonavir

'403 patent	'056 patent
which is metabolized by cytochrome P450 monooxygenase 3A4 is an HIV protease inhibitor.	to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." '056 patent, 220:22-27. The '056 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." '056 patent, 220:47-54.
86. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
87. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
88. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
89. The method of claim 84 wherein the drug	The specific drug claimed in this claim,

'403 patent	'056 patent
which is metabolized by cytochrome P450 monooxygenase 3A4 is saquinavir.	saquinavir, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
90. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
91. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
92. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.

THE '036 PATENT ANTICIPATED THE '403 PATENT

As discussed above, the earliest possible priority date for the '403 patent is June 29, 1995. The '036 patent was claims priority to an application filed as early as December 1992. Accordingly, the '036 patent is 102(e) prior art to the '403 patent. As explained below, the '036 patent anticipates each claim of the '403 patent.

Referring to the discussion above regarding the appropriate standard for anticipation set forth by the Federal Circuit in Schering Corp. v. Geneva Pharms., and similar to the analysis

performed above with respect to the '056 patent, the '036 patent is another prior art teaching of the administration of a drug that is metabolized by cytochrome P450 monooxygenase in combination with ritonavir. This teaching by the '036 patent anticipates the claims of the '403 patent even if it does not disclose, and even if one or ordinary skill in the art did not recognize at the time, that the other drug being administered with ritonavir is metabolized by cytochrome P450 monooxygenase. The fact that the recognition that such drugs are metabolized by cytochrome P450 monooxygenase may not have existed at the time of the prior art reference does not defeat the anticipatory effect of the '036 patent.

Beginning at column 105, line 33 and continuing through column 107, line 16, the '036 patent goes into great detail regarding the administering of ritonavir in combination with other drugs, including specifically "one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." The '036 patent continues to teach that, "It will be understood that agents which can be combined with the compounds of the present invention for the treatment of prophylaxis of AIDS or an HIV infection are not limited to those listed above, but include in principle any agents useful for the treatment of for the treatment of prophylaxis of AIDS or an HIV infection." 107:1-6. Even more specifically, the '036 patent teaches administering ritonavir in combination with, "retroviral protease inhibitors (for example, HIV protease inhibitors such as [saquinavir] Ro 31-8959, SC-52151, KNI-227, KNI-272 and the like)." 105:46-48.

The '036 patent even claims the administration of a combination of ritonavir with "another HIV protease inhibiting compound." Claim 1. The '036 claims such combination administration of ritonavir with another HIV protease inhibiting compound where they "are

formulated as separate compositions" (claim 4), "are to be administered at the same time" (claim 5), and "are to be administered at different times" (claim 6). It also claims the specific combination of ritonavir with the specific HIV protease inhibitors saquinavir (referred to as Ro 31-8959), SC-52151, and KNI-272. Claims 2, 3, 7, 9, 10, 14, 16, 18 and 19. This is substantial teaching by the '036 patent of precisely what is claimed by the '403.

It is now well known that many such drugs, including specifically those for the treatment of HIV/AIDS, are metabolized by cytochrome P450 monooxygenase. The '403 patent concedes this fact. '403 patent, 1:55-57 ("Some drugs and, in particular, HIV protease inhibitors are metabolized by cytochrome P450 monooxygenase"); 2:21-34. Specifically, several of the drugs taught by the '036 patent to be co-administered with ritonavir, namely saquinavir (Ro 31-8959), SC-52151 and KNI-272, are acknowledged by the '403 patent to be metabolized by cytochrome P450 monooxygenase. '403 patent, 2:25-32. Therefore, since the '036 patent taught the administering of ritonavir in combination with other HIV drugs, which are now recognized to be metabolized by cytochrome P450 monooxygenase, the '036 patent inherently anticipated the claims of the '403 patent. The fact that it may not have been recognized at the time that such drugs taught by the '036 patent to be administered in combination with ritonavir were metabolized by cytochrome P450 monooxygenase is of no consequence.

The chart below compares all of the claims of the '403 patent to the teaching of the '036 patent. In essence, each claim of the '403 patent was inherently anticipated by the teaching of the '036 patent. Therefore each claim of the '403 patent is invalid and should be canceled.

'403 patent	'036 patent
1. A method for inhibiting cytochrome P450 monooxygenase 3A4 comprising administering to a human in need thereof an amount of ritonavir or a pharmaceutically acceptable salt thereof effective to inhibit cytochrome P450 monooxygenase 3A4.	The '036 patent taught administering ritonavir to humans. It was inherent in the '036 patent's teachings that such administration would inhibit cytochrome P450 monooxygenase 3A4, even if that was not recognized at the time.
2. A method for inhibiting cytochrome P450 monooxygenase 3A4 comprising contacting the cytochrome P450 monooxygenase 3A4 with an amount of ritonavir or a pharmaceutically acceptable salt thereof effective to inhibit cytochrome P450 monooxygenase 3A4.	The '036 patent taught administering ritonavir to humans. It was inherent in the '036 patent's teachings that such administration would cause the ritonavir to contact the cytochrome P450 monooxygenase 3A4 so as to inhibit the cytochrome P450 monooxygenase 3A4, even if that was not recognized at the time.
3. A method for improving the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase comprising coadministering to a human being treated with said drug or a pharmaceutically acceptable salt thereof an amount effective to inhibit cytochrome P450 monooxygenase of ritonavir or a pharmaceutically acceptable salt thereof.	The '036 patent taught administering ritonavir to humans. It was inherent in the '036 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase and thus improve the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase, even if that was not recognized at the time.
4. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is an HIV protease inhibitor.	The '036 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." 105:35-37. The '036 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." 107:4-6. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three specific HIV protease inhibitors now known to be metabolized by cytochrome P450 monooxygenase. '036 patent, 105:46-48.

'403 patent	'036 patent
5. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three of the specific drugs claimed in this claim. '036 patent, 105:46-48.
6. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437 CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three of the specific drugs claimed in this claim. '036 patent, 105:46-48.
7. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959),

'403 patent	'036 patent
	one of the specific drugs claimed in this claim. '036 patent, 105:46-48.
8. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), the specific drug claimed in this claim. '036 patent, 105:46-48.
9. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
10. The method of claim 3, wherein the drug which is metabolized by cytochrome P450 monooxygenase is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
11. The method of claim 3, wherein the drug which is metabolized by cytochrome P450 monooxygenase is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
12. The method of claim 3, wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
13. The method of claim 4, wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450

'403 patent	'036 patent
	3A4, even if that was not recognized at the time.
14. The method of claim 5, wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
15. The method of claim 6 the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
16. The method of claim 7 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
17. The method of claim 8 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
18. The method of claim 9 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
19. The method of claim 10 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
20. The method of claim 11 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.

'403 patent	'036 patent
21. A method for improving the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase comprising administering to a human in need of such treatment an amount effective to inhibit cytochrome P450 monooxygenase of ritonavir or a pharmaceutically acceptable salt thereof.	The '036 patent taught administering ritonavir to humans. It was inherent in the '036 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase and thus improve the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase, even if that was not recognized at the time.
22. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is an HIV protease inhibitor.	The '036 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." 105:35-37. The '036 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." 107:4-6. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three specific HIV protease inhibitors now known to be metabolized by cytochrome P450 monooxygenase. '036 patent, 105:46-48.
23. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three of the specific drugs claimed in this claim. '036 patent, 105:46-48.
24. The method of claim 21 wherein the drug which is metabolized by cytochrome P450	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036

'403 patent	'036 patent
monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three of the specific drugs claimed in this claim. '036 patent, 105:46-48.
25. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, AI-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), one of the specific drugs claimed in this claim. '036 patent, 105:46-48.
26. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), the specific drug claimed in this claim. '036 patent, 105:46-48.
27. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent

'403 patent	'036 patent
	useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
28. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
29. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
30. The method of claim 21 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
31. The method of claim 22 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
32. The method of claim 23 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
33. The method of claim 24 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
34. The method of claim 25 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450

'403 patent	'036 patent
	3A4, even if that was not recognized at the time.
35. The method of claim 26 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
36. The method of claim 27 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
37. The method of claim 28 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
38. The method of claim 29 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
39. A method for improving the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase 3A4 comprising administering to a human in need of such treatment a therapeutically effective amount of a combination of said drug or a pharmaceutically acceptable salt thereof and ritonavir or a pharmaceutically acceptable salt thereof.	The '036 patent taught administering ritonavir to humans. It was inherent in the '036 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase 3A4 and thus improve the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase 3A4, even if that was not recognized at the time.
40. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is an HIV protease inhibitor.	The '036 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." 105:35-37. The '036 patent further specifically taught administering to a human in need of such

'403 patent	'036 patent
	treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." 107:4-6. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three specific HIV protease inhibitors now known to be metabolized by cytochrome P450 monooxygenase. '036 patent, 105:46-48.
41. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three of the specific drugs claimed in this claim. '036 patent, 105:46-48.
42. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three of the specific drugs claimed in this claim. '036 patent, 105:46-48.
43. The method of claim 39 the drug which is metabolized by cytochrome P450	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036

'403 patent	'036 patent
monooxygenase 3A4 is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), one of the specific drugs claimed in this claim. '036 patent, 105:46-48.
44. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), the specific drug claimed in this claim. '036 patent, 105:46-48.
45. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
46. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
47. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.

'403 patent	'036 patent
48. A method for increasing the blood level of a drug which is metabolized by cytochrome P450 monooxygenase comprising coadministering to a human being treated with said drug or a pharmaceutically acceptable salt thereof an amount effective to inhibit cytochrome P450 monooxygenase of ritonavir or a pharmaceutically acceptable salt thereof.	The '036 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." 105:35-37. It was inherent in the '036 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase and thus increase the blood level of a co-administered drug which is metabolized by cytochrome P450 monooxygenase, even if that was not recognized at the time.
49. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is an HIV protease inhibitor.	The '036 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." 107:4-6. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three specific HIV protease inhibitors now known to be metabolized by cytochrome P450 monooxygenase. '036 patent, 105:46-48.
50. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three of the specific drugs claimed in this claim. '036 patent, 105:46-48.
51. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-

'403 patent	'036 patent
consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three of the specific drugs claimed in this claim. '036 patent, 105:46-48.
52. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), one of the specific drugs claimed in this claim. '036 patent, 105:46-48.
53. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), the specific drug claimed in this claim. '036 patent, 105:46-48.
54. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036

'403 patent	'036 patent
	patent, 105:35-37, 46-48.
55. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
56. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
57. The method of claim 48 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
58. The method of claim 49 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
59. The method of claim 50 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
60. The method of claim 51 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
61. The method of claim 52 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the

'403 patent	'036 patent
	time.
62. The method of claim 53 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
63. The method of claim 54 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
64. The method of claim 55 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
65. The method of claim 56 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
66. A method for increasing the blood level of a drug which is metabolized by cytochrome P450 monooxygenase comprising administering to a human in need of such treatment an amount effective to inhibit cytochrome P450 monooxygenase of ritonavir or a pharmaceutically acceptable salt thereof.	The '036 patent taught administering ritonavir to humans. It was inherent in the '036 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase and thus increase the blood level of a drug which is metabolized by cytochrome P450 monooxygenase, even if that was not recognized at the time.
67. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is an HIV protease inhibitor.	The '036 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." 105:35-37. The '036 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." 107:4-6.

'403 patent	'036 patent
	Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three specific HIV protease inhibitors now known to be metabolized by cytochrome P450 monooxygenase. '036 patent, 105:46-48.
68. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three of the specific drugs claimed in this claim. '036 patent, 105:46-48.
69. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three of the specific drugs claimed in this claim. '036 patent, 105:46-48.
70. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for

'403 patent	'036 patent
	the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), one of the specific drugs claimed in this claim. '036 patent, 105:46-48.
71. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), the specific drug claimed in this claim. '036 patent, 105:46-48.
72. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
73. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
74. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
75. The method of claim 66 wherein the cytochrome P450 monooxygenase is	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase

'403 patent	'036 patent
cytochrome P450 3A4.	inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
76. The method of claim 67 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
77. The method of claim 68 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
78. The method of claim 69 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
79. The method of claim 70 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
80. The method of claim 71 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
81. The method of claim 72 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
82. The method of claim 73 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the

'403 patent	'036 patent
	time.
83. The method of claim 74 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '036 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
84. A method for increasing the blood level of a drug which is metabolized by cytochrome P450 monooxygenase 3A4 comprising administering to a human in need of such treatment a therapeutically effective amount of a combination of said drug or a pharmaceutically acceptable salt thereof and ritonavir or a pharmaceutically acceptable salt thereof.	The '036 patent taught administering ritonavir to humans. It was inherent in the '036 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase 3A4 and thus increase the blood level of a drug which is metabolized by cytochrome P450 monooxygenase 3A4, even if that was not recognized at the time.
85. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is an HIV protease inhibitor.	The '036 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." 105:35-37. The '036 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." 107:4-6. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three specific HIV protease inhibitors now known to be metabolized by cytochrome P450 monooxygenase. '036 patent, 105:46-48.
86. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036

'403 patent	'036 patent
186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three of the specific drugs claimed in this claim. '036 patent, 105:46-48.
87. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), SC-52151 and KNI-272, three of the specific drugs claimed in this claim. '036 patent, 105:46-48.
88. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '036 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '036 patent as being co-administered with ritonavir. '036 patent, 105:35-37. Further, the '036 patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), one of the specific drugs claimed in this claim. '036 patent, 105:46-48.
89. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48. Further, the '036

'403 patent	'036 patent
	patent expressly taught administering ritonavir in combination with saquinavir (Ro 31-8959), the specific drug claimed in this claim. '036 patent, 105:46-48.
90. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
91. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.
92. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '036 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '036 patent, 105:35-37, 46-48.

THE '056 PATENT IN VIEW OF LIN RENDERED THE '403 PATENT OBVIOUS

As discussed above, the earliest possible priority date for the '403 patent is June 29, 1995. Lin is a publication that was accepted for publication on March 24, 1995. Accordingly, Lin is 102(a) prior art to the '403 patent. As explained below, the combined teachings of the '056 patent and Lin rendered obvious each claim of the '403 patent.

The Supreme Court set forth the appropriate standard for obviousness in KSR v. Teleflex, 127 S.Ct. 1727 (2007). In KSR, the Supreme Court reaffirmed its holding in Graham v. John Deere that obviousness is principally a three-prong analysis whereby "the scope and content of

the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved." Id. at 1734 (citing Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 17-18 (1966)). Since the KSR decision, the Federal Circuit has restated that the obviousness inquiry also requires a showing that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention and that the skilled artisan would have had a reasonable expectation of success in doing so. Pfizer v. Apotex, 480 F. 3d 1348, 1361 (Fed. Cir. 2007).

However, although the Federal Circuit may have in the past implemented a rigid rule that a patent claim cannot be rendered obvious merely because it was "obvious to try," the Supreme Court in KSR expressly reversed that rule, saying:

> The same constricted analysis led the Court of Appeals to conclude, in error, that a patent claim cannot be proved obvious merely by showing that the combination of elements was "obvious to try." ... When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103.

127 S. Ct. at 1742. Further, as the Federal Circuit has stated post-KSR, "obviousness cannot be avoided simply by a showing of some degree of unpredictability in the art so long as there was a reasonable probability of success." Pfizer v. Apotex, 480 F. 3d at 1364. Thus, under binding recent Federal Circuit case law, there is a reasonable expectation of success and the claims are thus obvious if, (i) one of ordinary still in the art would have been motivated to combine the

teachings in the prior art, (ii) it was in fact obvious-to-try to do that, and (iii) there was only a limited number of parameters that one of ordinary skill in the art would have to try in order to successfully achieve the claimed invention. Pfizer v. Apotex, 480 F. 3d at 1366.

Here, the '056 patent fully teaches ritonavir and its use as an HIV protease inhibitor. Further, beginning at column 220, line 22 and continuing through line 59, the '056 goes into great detail regarding the administering of ritonavir in combination with other drugs, including specifically "one or more immunomodulators, antiviral agents, other antiinfective agents or vaccines." The '056 patent continues to teach that:

> Any of a variety of HIV or AIDS vaccines can be used in combination with a compound of the present invention.
>
> It will be understood that agents which can be combined with the compounds of the present invention for the treatment or prophylaxis of AIDS or an HIV infection are not limited to those listed above, but include in principle any agents useful for the treatment or prophylaxis of AIDS or an HIV infection.

220:45-54.

Lin taught a HIV protease inhibitor that substantially inhibited cytochrome P450 and, therefore, had improved pharmacokinetics. Thus, one of ordinary skill in the art would have been motivated to try to use ritonavir (a known HIV protease inhibitor) to inhibit cytochrome P450 to achieve improved pharmacokinetics. The motivation is provided by at least the desirability of improved pharmacokinetics well known in the field and also the specific suggestion of Lin to try to use HIV protease inhibitors in such a capacity. This is not the case where there would be an unlimted number of parameters to try, as the only combination to attempt is the use of ritonavir as a cytochrome P450 inhibitor. Therefore, the claims of the '403

patent were obvious in light of the combined teachings of the '056 patent and Lin.

The chart below compares all of the claims of the '403 patent to the teaching of the '056 patent in view of Lin. In essence, each claim of the '403 patent was obvious in light of the teaching of the '056 patent to co-administer ritonavir with other drugs and Lin's teaching that HIV protease inhibitors like ritonavir could inactivate cytochrome P450. Therefore each claim of the '403 patent is invalid and should be canceled.

'403 patent	**'056 patent in view of Lin**
1. A method for inhibiting cytochrome P450 monooxygenase 3A4 comprising administering to a human in need thereof an amount of ritonavir or a pharmaceutically acceptable salt thereof effective to inhibit cytochrome P450 monooxygenase 3A4.	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would inhibit cytochrome P450 monooxygenase 3A4, even if that was not recognized at the time. Further, Lin taught a HIV protease inhibitor could inhibit cytochrome P450, and therefore suggested and motivated one of ordinary skill in the art to attempt to use ritonavir to achieve the same pharmacological benefit. Thus, it would have been obvious to try to use ritonavir to inhibit cytochrome P450.
2. A method for inhibiting cytochrome P450 monooxygenase 3A4 comprising contacting the cytochrome P450 monooxygenase 3A4 with an amount of ritonavir or a pharmaceutically acceptable salt thereof effective to inhibit cytochrome P450 monooxygenase 3A4.	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would cause the ritonavir to contact the cytochrome P450 monooxygenase 3A4 so as to inhibit the cytochrome P450 monooxygenase 3A4, even if that was not recognized at the time. Further, Lin taught a HIV protease inhibitor could inhibit cytochrome P450, and therefore suggested and motivated one of ordinary skill in the art to attempt to use ritonavir to achieve the same pharmacological benefit. Thus, it would have been obvious to try to use ritonavir to inhibit cytochrome P450.
3. A method for improving the	The '056 patent taught administering ritonavir

'403 patent	'056 patent in view of Lin
pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase comprising coadministering to a human being treated with said drug or a pharmaceutically acceptable salt thereof an amount effective to inhibit cytochrome P450 monooxygenase of ritonavir or a pharmaceutically acceptable salt thereof.	to humans. It was inherent in the '056 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase and thus improve the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase, even if that was not recognized at the time. Further, Lin taught a HIV protease inhibitor could inhibit cytochrome P450, and therefore suggested and motivated one of ordinary skill in the art to attempt to use ritonavir to achieve the same pharmacological benefit. Thus, it would have been obvious to try to use ritonavir to inhibit cytochrome P450.
4. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is an HIV protease inhibitor.	The '056 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." '056 patent, 220:22-27. The '056 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." '056 patent, 220:47-54.
5. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
6. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for

'403 patent	'056 patent in view of Lin
450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437 CGP 57813 and U-103017.	the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
7. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
8. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
9. The method of claim 3 wherein the drug which is metabolized by cytochrome P450 monooxygenase is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
10. The method of claim 3, wherein the drug which is metabolized by cytochrome P450 monooxygenase is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
11. The method of claim 3, wherein the drug which is metabolized by cytochrome P450 monooxygenase is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.

'403 patent	'056 patent in view of Lin
12. The method of claim 3, wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
13. The method of claim 4, wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
14. The method of claim 5, wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
15. The method of claim 6 the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
16. The method of claim 7 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
17. The method of claim 8 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
18. The method of claim 9 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
19. The method of claim 10 wherein the cytochrome P450 monooxygenase is	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase

'403 patent	'056 patent in view of Lin
cytochrome P450 3A4.	inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
20. The method of claim 11 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
21. A method for improving the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase comprising administering to a human in need of such treatment an amount effective to inhibit cytochrome P450 monooxygenase of ritonavir or a pharmaceutically acceptable salt thereof.	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase and thus improve the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase, even if that was not recognized at the time. Further, Lin taught a HIV protease inhibitor could inhibit cytochrome P450, and therefore suggested and motivated one of ordinary skill in the art to attempt to use ritonavir to achieve the same pharmacological benefit. Thus, it would have been obvious to try to use ritonavir to inhibit cytochrome P450.
22. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is an HIV protease inhibitor.	The '056 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." '056 patent, 220:22-27. The '056 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." '056 patent, 220:47-54.
23. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes

'403 patent	'056 patent in view of Lin
478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
24. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
25. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, AI-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
26. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
27. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
28. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '056 patent as being co-

'403 patent	'056 patent in view of Lin
	administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
29. The method of claim 21 wherein the drug which is metabolized by cytochrome P450 monooxygenase is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
30. The method of claim 21 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
31. The method of claim 22 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
32. The method of claim 23 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
33. The method of claim 24 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
34. The method of claim 25 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
35. The method of claim 26 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450

'403 patent	'056 patent in view of Lin
	3A4, even if that was not recognized at the time.
36. The method of claim 27 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
37. The method of claim 28 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
38. The method of claim 29 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
39. A method for improving the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase 3A4 comprising administering to a human in need of such treatment a therapeutically effective amount of a combination of said drug or a pharmaceutically acceptable salt thereof and ritonavir or a pharmaceutically acceptable salt thereof.	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase 3A4 and thus improve the pharmacokinetics of a drug which is metabolized by cytochrome P450 monooxygenase 3A4, even if that was not recognized at the time. Further, Lin taught a HIV protease inhibitor could inhibit cytochrome P450, and therefore suggested and motivated one of ordinary skill in the art to attempt to use ritonavir to achieve the same pharmacological benefit. Thus, it would have been obvious to try to use ritonavir to inhibit cytochrome P450.
40. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is an HIV protease inhibitor.	The '056 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." '056 patent, 220:22-27. The '056 patent further specifically taught administering to a human in need of

'403 patent	'056 patent in view of Lin
	such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." '056 patent, 220:47-54.
41. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
42. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
43. The method of claim 39 the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
44. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.

'403 patent	'056 patent in view of Lin
45. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
46. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
47. The method of claim 39 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
48. A method for increasing the blood level of a drug which is metabolized by cytochrome P450 monooxygenase comprising coadministering to a human being treated with said drug or a pharmaceutically acceptable salt thereof an amount effective to inhibit cytochrome P450 monooxygenase of ritonavir or a pharmaceutically acceptable salt thereof.	The '056 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." '056 patent, 220:22-27. It was inherent in the '056 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase and thus increase the blood level of a co-administered drug which is metabolized by cytochrome P450 monooxygenase, even if that was not recognized at the time. Further, Lin taught a HIV protease inhibitor could inhibit cytochrome P450, and therefore suggested and motivated one of ordinary skill in the art to attempt to use ritonavir to achieve the same pharmacological benefit. Thus, it would have been obvious to try to use ritonavir to inhibit cytochrome P450.
49. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is an HIV protease inhibitor.	The '056 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any

'403 patent	'056 patent in view of Lin
	agents useful for the treatment or prophylaxis of AIDS or an HIV infection." '056 patent, 220:47-54.
50. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
51. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
52. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
53. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.

'403 patent	'056 patent in view of Lin
54. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
55. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
56. The method of claim 48 wherein the drug which is metabolized by cytochrome P450 monooxygenase is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
57. The method of claim 48 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
58. The method of claim 49 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
59. The method of claim 50 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
60. The method of claim 51 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.

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61. The method of claim 52 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
62. The method of claim 53 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
63. The method of claim 54 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
64. The method of claim 55 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
65. The method of claim 56 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
66. A method for increasing the blood level of a drug which is metabolized by cytochrome P450 monooxygenase comprising administering to a human in need of such treatment an amount effective to inhibit cytochrome P450 monooxygenase of ritonavir or a pharmaceutically acceptable salt thereof.	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would inhibit the cytochrome P450 monooxygenase and thus increase the blood level of a drug which is metabolized by cytochrome P450 monooxygenase, even if that was not recognized at the time. Further, Lin taught a HIV protease inhibitor could inhibit cytochrome P450, and therefore suggested and motivated one of ordinary skill in the art to attempt to use ritonavir to achieve the same pharmacological benefit. Thus, it would have

'403 patent	'056 patent in view of Lin
	been obvious to try to use ritonavir to inhibit cytochrome P450.
67. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is an HIV protease inhibitor.	The '056 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." '056 patent, 220:22-27. The '056 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." '056 patent, 220:47-54.
68. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
69. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
70. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as

'403 patent	'056 patent in view of Lin
	being co-administered with ritonavir. '056 patent, 220:45-54.
71. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
72. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
73. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
74. The method of claim 66 wherein the drug which is metabolized by cytochrome P450 monooxygenase is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
75. The method of claim 66 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
76. The method of claim 67 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
77. The method of claim 68 wherein the	It was inherent in the '056 patent's teachings

'403 patent	'056 patent in view of Lin
cytochrome P450 monooxygenase is cytochrome P450 3A4.	that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
78. The method of claim 69 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
79. The method of claim 70 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
80. The method of claim 71 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
81. The method of claim 72 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
82. The method of claim 73 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
83. The method of claim 74 wherein the cytochrome P450 monooxygenase is cytochrome P450 3A4.	It was inherent in the '056 patent's teachings that the cytochrome P450 monooxygenase inhibited could be or was cytochrome P450 3A4, even if that was not recognized at the time.
84. A method for increasing the blood level of a drug which is metabolized by cytochrome P450 monooxygenase 3A4 comprising	The '056 patent taught administering ritonavir to humans. It was inherent in the '056 patent's teachings that such administration would

'403 patent	'056 patent in view of Lin
administering to a human in need of such treatment a therapeutically effective amount of a combination of said drug or a pharmaceutically acceptable salt thereof and ritonavir or a pharmaceutically acceptable salt thereof.	inhibit the cytochrome P450 monooxygenase 3A4 and thus increase the blood level of a drug which is metabolized by cytochrome P450 monooxygenase 3A4, even if that was not recognized at the time. Further, Lin taught a HIV protease inhibitor could inhibit cytochrome P450, and therefore suggested and motivated one of ordinary skill in the art to attempt to use ritonavir to achieve the same pharmacological benefit. Thus, it would have been obvious to try to use ritonavir to inhibit cytochrome P450.
85. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is an HIV protease inhibitor.	The '056 patent taught administering ritonavir to humans "in combination with one or more immunomodulators, antiviral agents, other antiifective agents or vaccines." '056 patent, 220:22-27. The '056 patent further specifically taught administering to a human in need of such treatment ritonavir in combination with "any agents useful for the treatment or prophylaxis of AIDS or an HIV infection." '056 patent, 220:47-54.
86. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of cyclosporine, FK-506, rapamycin, taxol, taxotere, clarithromycin, A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
87. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478, AG1343, DMP-323, XM-450, BILA 2011 BS, BILA 1096 BS, BILA 2185 BS, BMS 186,318, LB71262, SC-	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as

'403 patent	'056 patent in view of Lin
52151, SC-629, KNI-272, CGP 53437, CGP 57813 and U-103017.	being co-administered with ritonavir. '056 patent, 220:45-54.
88. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is selected from the group consisting of A-77003, A-80987, MK-639, saquinavir, VX-478 and AG1343.	The specific drugs claimed in this claim fall within the classes of drugs taught by the '056 patent. For example, MK-639, saquinavir, VX-478, and AG1343 are each HIV protease inhibitors, which are each an "agent useful for the treatment of HIV/AIDS," one of the classes of drugs expressly taught by the '056 patent as being co-administered with ritonavir. '056 patent, 220:45-54.
89. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is saquinavir.	The specific drug claimed in this claim, saquinavir, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
90. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is MK-639.	The specific drug claimed in this claim, MK-639, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
91. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is VX-478.	The specific drug claimed in this claim, VX-478, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.
92. The method of claim 84 wherein the drug which is metabolized by cytochrome P450 monooxygenase 3A4 is AG1343.	The specific drug claimed in this claim, AG1343, falls within one of the classes of drugs taught by the '056 patent as being co-administered with ritonavir, as it is an "agent useful for the treatment of HIV/AIDS." '056 patent, 220:45-54.

CONCLUSION

For the reasons set forth above, each of the claims of the '403 patent is invalid. Accordingly, PUBPAT respectfully requests that they be examined *inter partes* and subsequently canceled.

August 25, 2010
Date

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CERTIFICATE OF SERVICE

The undersigned certifies that a copy of this Request for Inter Partes Reexamination in its entirety, including all accompanying documents, is being deposited with the U.S. Postal Service as First Class Mail on the date of the signature below in an envelope addressed to the attorney of record for the assignee of U.S. Patent No. 6,703,403 as provided for in 37 C.F.R. § 1.33(c):

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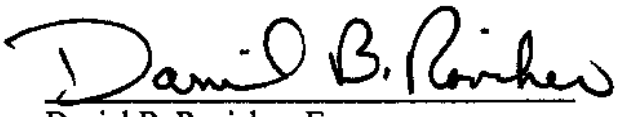
August 25, 2010
Date



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APPENDIX A

APPENDIX B

PTO/SB/08a (07-09)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	95/ ,
Filing Date	
First Named Inventor	Kempf, Dale J.
Art Unit	
Examiner Name	
Attorney Docket Number	

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 5,142,056	08-25-1992	Kempf et al.	
		US- 5,886,036	03-23-1999	Kempf et al.	
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FOREIGN PATENT DOCUMENTS

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 2 of 2

Complete if Known	
Application Number	95/___,___
Filing Date	
First Named Inventor	Kempf, Dale J.
Art Unit	
Examiner Name	
Attorney Docket Number	

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		J. Lin, et al., Time- and Dose-Dependent Pharmacokinetics of L-754,394, an HIV Protease Inhibitor, in Rats, Dogs and Monkeys, J. Pharmacology and Experimental Therapeutics, 274:264-269 (1995)	

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