

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DANIEL MERUELO, GAD LAVIE and YEHUDA MAZUR

Appeal No. 95-4441
Application No. 07/970,229¹

HEARD: August 5, 1999

Before GARRIS, WALTZ and ROBINSON, Administrative Patent Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

¹ Application for patent filed November 2, 1992. According to appellants, this application is a continuation of Application No. 07/883,799 filed May 15, 1992, now abandoned; which is a continuation of Application No. 07/488,518 filed February 27, 1990, now abandoned; which is a continuation-in-part of Application No. 07/417,163 filed October 4, 1989, now abandoned; which is a continuation-in-part of Application No. 07/324,177 filed March 16, 1989, now abandoned.

Appeal No. 95-4441
Application No. 07/970,229

This is a decision on an appeal from the final rejection of claims 13 through 27 which are all of the claims remaining in the application. On page 2 of the Brief, the appellants have indicated that claims 16 and 24 are withdrawn from this appeal, thereby leaving for our consideration only claims 13 through 15, 17 through 23 and 25 through 27².

The subject matter on appeal relates to a method for treating a mammal suffering from a viral infection comprising administering to the mammal a virus inhibiting amount of certain compounds. This appealed subject matter also relates to a pharmaceutical composition for treating mammals suffering from viral infections comprising a pharmaceutically acceptable carrier or diluent in combination with an antiviral effective

² Contrary to the appellants' impression, claims 17, 21 and 25 do not read in the manner reflected by the claim reproductions which appear in the appendix of the Brief. Specifically, claims 17 and 25 recite that R⁷ and R⁸ are H rather than OH as reproduced in view of the amendment filed April 8, 1993. Additionally, line 4 of claim 21 recites "effect amount" rather than --effective amount-- as reproduced. In our disposition of this appeal, we will treat the aforementioned claims as though they contain the language desired by the appellants as shown in the Brief appendix. However, in any further prosecution that may occur, the appellants should amend these claims to that they contain the desired language.

Appeal No. 95-4441
Application No. 07/970,229

amount of the aforementioned compounds. This subject matter is adequately illustrated by claims 13 and 14, a copy of which taken from the appellants' Brief appendix is appended to this decision.

Appeal No. 95-4441
Application No. 07/970,229

The references relied upon by the examiner as evidence of obviousness are:

Brockmann et al. (Brockmann) 3, 1955	2,707,704	May
Fleming et al. (Fleming) 10, 1976	3,974,186	Aug.
Sydiskis et al. (Sydiskis) 1987	4,670,265	Jun. 2,
Japanese patent applic. (Suzuki) 1977	52-44231	Apr. 7,

Lavie et al. (Lavie), "Antiviral pharmaceutical compositions containing hypericin or pseudohypericin," Chemical Abstracts, Vol. 109 (1988) p. 70.

Merck Index, 10th edition, Abstract No. 4786 (1983).

All of the claims now on appeal are rejected under 35 U.S.C. § 103 as being unpatentable over Sydiskis and Fleming in view of Brockmann, Lavie and Suzuki and claims 21 through 23 and 25 through 27 are rejected under 35 U.S.C. § 103 as being unpatentable over Brockmann in view of Lavie and the Merck Index³.

³ On page 16 of the Brief, the appellants have indicated that method claims 13 and 18 through 20 will stand or fall together and that composition claims 21, 26 and 27 will stand or fall together but that each of claims 14, 15, 17, 22, 23 and 25 should be considered separately.

Appeal No. 95-4441
Application No. 07/970,229

We refer to the Brief and Reply Brief and to the Answer for a complete exposition of the opposing viewpoints expressed by the appellants and the examiner concerning the above noted rejections.

OPINION

For the reasons set forth below, we will sustain the examiner's prior art rejection of claims 13 through 15, 18 through 23, 26 and 27 but not the prior art rejection of claims 17 and 25.

As acknowledged by the appellants and as evinced by, for example, the Brockmann and Lavie references, hypericin was known in the prior art to possess antiviral activity. In our view, the compounds defined by claims 14 and 22 and by claims 15 and 23 are so similar in structure to hypericin that one having an ordinary level of skill in the art would have modified the latter to obtain the former based upon a reasonable expectation of obtaining compounds which, like hypericin, possess antiviral activity. This conclusion of obviousness is based upon the theory that compounds similar in structure will have similar properties as explained, for

Appeal No. 95-4441
Application No. 07/970,229

example, in the case of In re Payne, 606 F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1979).

More specifically, it would have been obvious for the artisan to replace the methyl substituents of hypericin with hydrogen, thereby yielding the compound of claims 14 and 22, with a reasonable expectation of obtaining a compound possessing antiviral activity. See, for example, In re Zickendraht, 319 F.2d 225, 228, 138 USPQ 22, 25 (CCPA 1963) and compare In re Wood, 582 F.2d 638, 641, 199 USPQ 137, 139 (CCPA 1978). The appellants' contrary view is based on their position that the antiviral activity under consideration "is exceedingly evanescent" (Reply Brief, page 4) which would not have been expected to remain in eliminating the methyl groups of hypericin. However, we find no evidence of record in support of this position, and the appellants point to none. On the other hand, Lavie's disclosure of antiviral activity for hypericin and for pseudohypericin supports the proposition that compounds similar in structure will have similar properties even when the involved properties relate to antiviral activity.

Appeal No. 95-4441
Application No. 07/970,229

Furthermore, an artisan with ordinary skill also would have replaced the hydroxyl groups of hypericin (e.g., at the 10 and 11 positions shown by Brockmann) with simple ester groups, thereby resulting in compounds which include the compound of claims 17 and 23, with a reasonable expectation of obtaining compounds which, like hypericin, possess antiviral activity. In re Ward, 329 F.2d 1021, 1023, 141 USPQ 227, 228 (CCPA 1964). In addition to the unpersuasive argument discussed above, the appellants urge that an obviousness conclusion is improper because, while "OCH₃ might be a simple ester of the alcohol, OCOR is not a simple ester" (Reply Brief, page 7). The appellants are confused. Contrary to their belief, OCH₃ is an ether not an ester whereas the here claimed substituent OCOR is unquestionably a simple ester as explained in Ward, id. at footnote 2.

Our obviousness conclusion with respect to the compounds defined by dependent claims 14, 22 and 15, 23 mandates a corresponding conclusion for the generic parent claims 13 and 21. Further, as mentioned earlier, the appellants have stated that dependent claims 18 through 20, 26 and 27 will stand or fall with their parent claims 13 and 21. It follows that we

Appeal No. 95-4441
Application No. 07/970,229

will sustain the examiner's § 103 rejection of claims 13 through 15, 18 through 23, 26 and 27 as being unpatentable over Sydiskis and Fleming in view of Brockmann, Lavie and Suzuki as well as his

§ 103 rejection of claims 21 through 23, 26 and 27 as being unpatentable over Brockmann in view of Lavie and the Merck Index.

We cannot sustain, however, the examiner's prior art rejections of claims 17 and 25 for the reasons argued by the appellants in their Brief and Reply Brief. Stated succinctly, the examiner's obviousness conclusion is inappropriately based upon his proposition that "claims 17 and 25 simply recite positional isomers of the compounds set forth in claims 14 and 22" (Answer, page 8). In other words, the examiner's conclusion is based upon the clearly inappropriate treatment of claims 14 and 22 as though they were prior art.

The decision of the examiner is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

Appeal No. 95-4441
Application No. 07/970,229

AFFIRMED-IN-PART

BRADLEY R. GARRIS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
THOMAS A. WALTZ)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
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DOUGLAS W. ROBINSON)	
Administrative Patent Judge)	

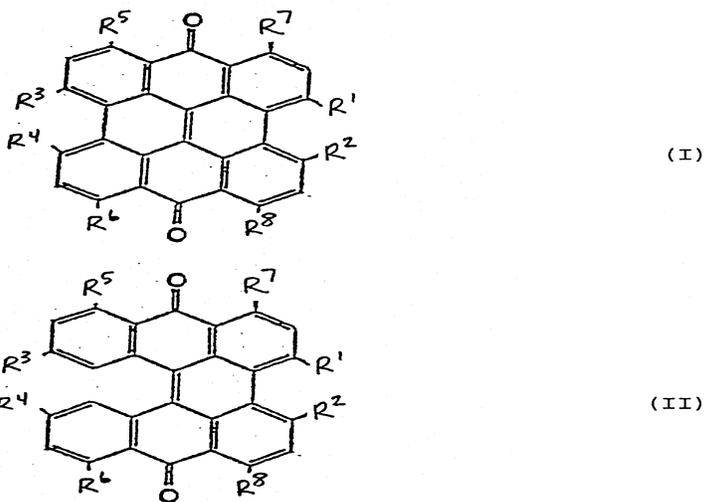
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Appeal No. 95-4441
Application No. 07/970,229

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APPENDIX

13. A method for treating a mammal suffering from a viral infection comprising administering to a mammal in need of such treatment an amount effective to provide a significant inhibition of the virus causing said viral infection of a compound having antiviral activity of the following formula (I) or the formula (II):



wherein R¹ and R² are H, R, COOH, OH or OR or are joined together to form a benzene ring which is optionally substituted with OH or R; R³ - R⁸ are H, OH, OCOR or OCOC₆H₅; and R is C₁ - C₄ alkyl, with the proviso that R¹ and R² are not R when R³ - R⁸ are all OH.

Appeal No. 95-4441
Application No. 07/970,229

14. A method in accordance with claim 13, wherein said compound is of formula (I) wherein R^1 and R^2 are H and $R^3 - R^8$ are all OH.