

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(2) is not binding precedent of the Board.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. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEPHEN P. GIBSON, ALEXANDER GOUDIE,
KELVIN S. HOLDOM and JOHN D. BU'LOCK

Appeal No. 95-0576
Application 08/035,546¹

ON BRIEF

Before WINTERS, WILLIAM F. SMITH, and GRON, Administrative Patent Judges.

¹ Application for patent filed March 23, 1993. According to applicants, this application is a continuation of Application 07/786,691, filed November 1, 1991, now abandoned; which is a continuation of Application 07/142,888, filed January 11, 1988, now U.S. Patent 5,089,480, patented February 18, 1992; which is a continuation-in-part of Application 06/886,867, filed July 16, 1986, now abandoned. Applicants claim the benefit under 35 U.S.C. § 119 of the July 27, 1985, August 9, 1985, April 24, 1986, and May 2, 1986, filing dates of United Kingdom Applications 8,518,999, 8,520,069, 8,610,063, and 8,610,862, respectively.

Appeal No. 95-0576
Application 08/035,546

GRON, Administrative Patent Judge.

DECISION ON APPEAL UNDER 35 U.S.C. § 134

1. Introduction

This is an appeal from an examiner's rejection of Claims 1-3, 17, 28, 33-35, and 40, all claims pending in this application. Claims 1-3, 17, 28, 33-35, and 40, stand finally rejected under 35 U.S.C. § 103 as being unpatentable in view of the teaching of Mrozik, U.S. 4,423,209, patented December 27, 1983. Claims 1-3, 17, 28, 33-35, and 40, stand finally rejected under 35 U.S.C. § 103 as being unpatentable in view of the combined teachings of United Kingdom Patent Application GB 2,166,436, published May 8, 1986, and Mrozik.

All claims on appeal stand or fall together with representative Claim 1 which is reproduced in the attached Appendix. We have considered the claimed subject matter and the supporting specification, the prior art teachings of Mrozik and GB 2,166,436², the Declaration Under 37 CFR § 1.132 of David A. Perry, dated October 2, 1992, the Brief For Appellants and Examiner's Answer. We also note the subject matter claimed in

² We presume for purposes of this appeal that the subject matter presently claimed is entitled to the benefit only of the January 11, 1988, filing date of grandparent Application 07/142,888. However, the effective filing date of the subject matter claimed has not been established.

Appeal No. 95-0576
Application 08/035,546

commonly assigned U.S. 5,089,480 and the terminal disclaimer entered in this application on December 20, 1993.

2. Findings

A. The claimed invention

The claims on appeal are directed to novel antiparasitic "compounds related to the avermectins and milbemycins but having a novel substituent group at the 25-position. . ." (Specification, page 1, lines 8-12). The specification acknowledges that avermectins are antiparasitic agents which are produced by "fermenting a strain of the microorganism Streptomyces avermitilis ATCC 31267, 31271 or 31272 under aerobic conditions in an aqueous nutrient medium containing inorganic salts and assimilable sources of carbon and nitrogen" (Specification, page 1, lines 13-19). Applicants "discovered that by adding certain specified carboxylic acids, or derivatives thereof, to the fermentation of an avermectin producing organism it is possible to obtain novel compounds, related to the avermectins but having an unnatural substituent group at the 25-position in place of the isopropyl or sec-butyl group which is normally present" (Specification, page 1, line 32, to page 2, line 3). The examiner does not dispute the Description of the Prior Art on page 1 or the Summary of the Invention on pages 1-4 of the specification.

Appeal No. 95-0576
Application 08/035,546

B. Mrozik

Mrozik describes a series of avermectin compounds which are naturally produced by, and isolated from the fermentation broth of, Streptomyces avermitilis (Mrozik, column 1, lines 6-8). The examiner finds that the compounds Mrozik describes are identical to compounds appellants claim but for the substituent groups at the 25-position (Examiner's Answer, pages 2-3, bridging sentence). Mrozik's compounds have a methyl, ethyl, isopropyl or sec-butyl group at the 25-position (Mrozik, column 1, line 63, and column 2, lines 10-19). Mrozik's compounds with an isopropyl or sec-butyl group at the 25-position are homologues of the compounds appellants claim with an "alpha-branched C₅-C₈ alkyl . . . group" at the corresponding 25-position.

C. GB 2,166,436

GB 2,166,436 (GB) describes a series of antibiotic compounds which "may be prepared by culturing certain Streptomyces strains, in particular Streptomyces thermoarchaensis NC1B 12015" (GB, Abstract). The examiner finds that GB describes compounds which are "closely analogous" to compounds described by Mrozik and certain compounds provisionally excluded from appellants' claims (Examiner's Answer, page 4, lines 1-5). The significant difference between the compounds which are not expressly excluded from appellants' claims and the "closely analogous" compounds GB

Appeal No. 95-0576
Application 08/035,546

broadly describes, for purposes of resolving the merits of this case, appears to be the difference between homologous substituents at the 25-position. GB's compounds have an "isopropylene group substituted by methyl, ethyl, or isopropyl" at the 25-position (GB, Abstract, last sentence). We understand the examiner to find that GB's compounds with an isopropylene group substituted by methyl, ethyl, or isopropyl at the 25-position are "closely analogous" to the compounds provisionally excluded from appellants' claims and both "closely analogous" and homologous to the compounds appellants otherwise claim which have an "alpha-branched . . . C₃-C₈ alkenyl group" at the corresponding 25-position.

3. Discussion

The examiner portrays the prima facie case of obviousness of the compounds appellants claim in view of Mrozik's teaching as follows (Examiner's Answer, page 3):

Since an alpha-branched group having 5 carbon atoms is a next higher homologue of a sec-butyl group, it would have been obvious to a person having ordinary skill in the art at the time the instant invention was made to substitute alpha-branched alkyl group having 5 carbon atoms for the sec-butyl group on the compounds disclosed by Mrozik because the results obtained therefrom would have been expected i.e. a person having ordinary skill in the art at the time the instant invention was made would have been motivated to substitute a 5-carbon alkyl for a 4-carbon alkyl on a compound disclosed by Mrozik with the expectation of getting a compound possessing antiparasitic activity.

Appeal No. 95-0576
Application 08/035,546

With regard to the prima facie case of obviousness of the compounds appellants claim in view of the combined teachings of GB and Mrozik, the examiner states (Examiner's Answer, page 4, first full sentence):

[S]ince Mrozik discloses interchangeability of a hydrogen atom and a sugar moiety at the 13-position of a closely analogous milbemycin derivative having antiparasitic activity and since propylene is a next lower homologue of 2-buten-2-yl, a person having ordinary skill in the art at the time the instant invention was made would have been motivated to modify the compounds disclosed by the British patent in accordance with the teaching of Mrozik and to substitute an alkenyl group having 4-carbon atoms with a lower homologue having 3 carbon atoms because such a person would have expected the resulting compounds to possess antiparasitic activity.

Even if the examiner's findings are supported by the evidence of record, the examiner still has not sustained the initial burden of the Patent Office to establish the prima facie obviousness of the invention appellants claim under 35 U.S.C. § 103 in view of the cited prior art. Close structural similarity between claimed and prior art compounds may provide all the necessary motivation a person skilled in the art may require to make the claimed compounds with reasonable expectation that compounds similar in structure will have similar properties. In re Payne, 606 F.2d 303, 313-14, 203 USPQ 245, 254-55 (CCPA 1979). However, to sustain a rejection of compounds over prior

Appeal No. 95-0576
Application 08/035,546

art describing compounds having close structural similarity, In re Payne, 606 F.2d at 314-15, 203 USPQ at 255, states:

References relied upon to support a rejection under 35 USC § 103 must provide an enabling disclosure, i.e., they must place the claimed invention in the possession of the public. In re Brown, 329 F.2d 1006, 1011, 51 CCPA 1254, 1259, 141 USPQ 245, 249 (1964). An invention is not "possessed" absent some known or obvious way to make it. In re Hoeksema, 399 F.2d 269, 274, 55 CCPA 1493, 1500, 158 USPQ 596, 601 (1968). Hence, the presumption of obviousness based on close structural similarity is overcome where the prior art does not disclose or render obvious a method for making the claimed compound.

Whether or not the references cited in this case describe compounds with sufficiently close structural similarity to motivate persons skilled in the art to make the compounds presently claimed with reasonable expectation of antiparasitic activity, they would not have enabled persons skilled in the art to make the claimed compounds. Both Mrozik and GB prepared the compounds each describes by culturing certain Streptomyces strains. The compounds isolated by Mrozik have isopropyl and sec-butyl groups at the 25-position and those isolated by GB have an isopropylene group substituted by methyl, ethyl, or isopropyl at the 25-position. There is no indication in either of the references that the same or similar strains might be cultured to prepare structurally similar compounds with homologous substituent groups at the 25-position. Moreover, there is not a shred of evidence of record that the compounds prepared by the

Appeal No. 95-0576
Application 08/035,546

natural methods described in Mrozik and GB may be used as starting compounds for synthesizing compounds structurally similar at the 25-position by conventional chemical methods with reasonable expectation of retaining, or producing new compounds which also exhibit, antiparasitic utility. Put simply, the record is devoid of any evidence in support of the proposition that persons skilled in the art would have been enabled by the prior art cited of record to make the compounds appellants claim without undue experimentation. Absent evidence which would indicate that the claimed compounds might be synthesized from their prior art homologues without undue experimentation with reasonable expectation of antiparasitic utility, the prior art of record would not have placed the compounds appellants claim in the possession of the public. Based on the evidence in this case, we cannot assume that the natural prior art methods for making the compounds indicated also can be used to naturally produce structurally similar compounds. The references themselves refute the proposition.

Having determined that the examiner has not established a prima facie case of obviousness of Claims 1-3, 17, 28, 33-35, and 40 under 35 U.S.C. § 103 in view of the teaching of Mrozik alone, or in view of the combined teachings of GB and Mrozik, we need not consider the evidentiary weight to be accorded the

Appeal No. 95-0576
Application 08/035,546

Declaration Under 35 CFR § 1.132 by David A. Perry. However, even if Perry's opinions are entitled to little weight, they are at least consistent with our present conclusion.

4. Conclusion

We reverse the examiner's rejections of Claims 1-3, 17, 28, 33-35, and 40 under 35 U.S.C. § 103 as being unpatentable in view of Mrozik alone and/or the combined teachings of GB 2,166,436 and Mrozik.

REVERSED

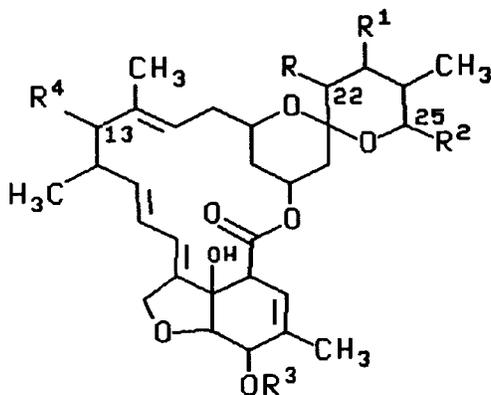
| | | |
|-----------------------------|---|-----------------|
| Sherman D. Winters |) | |
| Administrative Patent Judge |) | |
| |) | |
| |) | |
| William F. Smith |) | BOARD OF PATENT |
| Administrative Patent Judge |) | APPEALS AND |
| |) | INTERFERENCES |
| |) | |
| Teddy S. Gron |) | |
| Administrative Patent Judge |) | |

Appeal No. 95-0576
Application 08/035,546

Gregg C. Benson
Pfizer Inc.
Eastern Point Road
Groton, CT 06340

APPENDIX

1. A compound having the formula

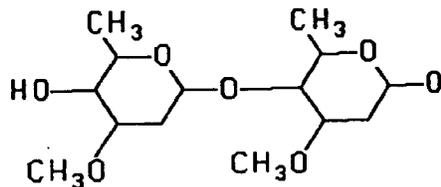


wherein R when taken individually is H; R¹ when taken individually is H or OH; R and R¹ when taken together represent a double bond;

R² is an alpha-branched C₅-C₈ alkyl or C₃-C₈ alkenyl group;

R³ is hydrogen or methyl;

R⁴ is H or a 4'-(alpha-L-oleandrosyl)-alpha-L-oleandrosyloxy group of the formula:



with the proviso that when R² is alkenyl, it is not 2-buten-2-yl, 2-penten-2-yl or 4-methyl-2-penten-2-yl.