

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 19

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

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Ex parte PHILLIP D. COOK and  
HAOYUN AN

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Appeal No. 2002-0798  
Application No. 09/107,688

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ON BRIEF

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Before WINTERS, WILLIAM F. SMITH, and GRIMES, Administrative Patent Judges.  
WINTERS, Administrative Patent Judge.

DECISION ON APPEAL

This appeal was taken from the examiner's decision rejecting claims 13, 23 through 26, 29, and 30, which are all of the claims pending in the application.

The Invention

The present invention relates to a method for preparing complex chemical libraries. The method comprises reacting a mixture of at least four chemical reactive compounds with at least one scaffold moiety to provide a mixture of reaction products. The scaffold moiety of the reaction products is then transformed to alter at least one of

its chemical or electrochemical properties. The transformed scaffold moiety is then reacted with a further mixture of chemical reactive compounds to provide a library.

Claim 13, which is illustrative of the subject matter on appeal, reads as follows:

13. A method for preparing a chemical library comprising:

reacting a mixture of at least four chemical reactive compounds with at least one scaffold moiety to provide a mixture of reaction products;

transforming said scaffold moiety in said reaction products to alter at least one of its chemical or electrochemical properties and;

reacting said transformed scaffold moiety in said products with a further mixture of at least four chemical reactive compounds to provide said library.

(Emphasis added).

#### The Prior Art References

The prior art references relied on by the examiner are:

Rutter et al. (Rutter)	5,010,175	Apr. 23, 1991
Joran	5,364,851	Nov. 15, 1994
Baindur et al. (Baindur)	5,646,285	Jul. 8, 1997

Ostresh et al. (Ostresh), "'Libraries from libraries': Chemical Transformation of Combinatorial Libraries to Extend the Range and Repertoire of Chemical Diversity," Proc. Nat'l Acad. Sci. USA, Vol. 91, pp. 11138-42 (Nov. 1994)

#### The Rejections

The appealed claims stand rejected as follows: (1) claims 13, 23, and 26 under 35 U.S.C. § 102(b) as described by Rutter; (2) claims 13 and 23 through 26 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Rutter, Baindur, and Ostresh; (3) claims 13, 23, 26, and 30 under 35 U.S.C. § 103(a) as unpatentable over

the combined disclosures of Rutter and Joran; and (4) claims 13, 23 through 26, 29, and 30 under 35 U.S.C. § 112, first paragraph, as based on a non-enabling disclosure.

### Deliberations

Our deliberations in this matter have included evaluation and review of the following materials: (1) the instant specification, including Figures 1, 2, and 3, and all of the claims on appeal; (2) applicants' Appeal Brief (Paper No. 15) and the Reply Brief (Paper No. 17); (3) the Examiner's Answer (Paper No. 16); (4) the above-cited prior art references; and (5) U.S. Patent No. 5,780,241 issued July 14, 1998, to Phillip Dan Cook based on parent Application 08/744,020 filed November 5, 1996.

On consideration of the record, including the above-listed materials, we reverse the examiner's rejections.

### Sections 102 and 103

In the method of claims 13, 23, and 26, after the first step has been completed, each reaction product in the mixture may be characterized as having a scaffold moiety and a chemical reactive compound moiety. The second step of independent claim 13 specifically requires "transforming said scaffold moiety in said reaction products" (emphasis added).

We next invite attention to the Rutter patent. According to the examiner, the scaffold moiety in applicants' claims "reads on" the Gly-derivatized resin disclosed by Rutter in column 9, lines 61 and 62; and the mixture of chemical reactive compounds in

applicants' claims "reads on" the mixture of N-blocked, C-activated amino acid residues disclosed by Rutter in column 9, line 52. Therefore, according to the examiner, the claimed mixture of reaction products "reads on" a mixture where each reaction product in the mixture consists of a Gly-derivatized resin (scaffold moiety) attached to an N-blocked amino acid residue (chemical reactive compound moiety).

The examiner's position unravels, however, on comparison of the second step in claim 13 with the deblocking step disclosed by Rutter in column 9, line 67, and column 10, line 20. This follows because applicants' claimed method requires "transforming said scaffold moiety in said reaction products" (emphasis added). On the contrary, Rutter discloses deblocking protected amino groups, i.e., "transforming" a chemical reactive compound moiety but not the scaffold moiety.

We agree with applicants, therefore, that the second step in their claimed method serves to distinguish over the method disclosed by Rutter in columns 9 and 10. Accordingly, we reverse the rejection of claims 13, 23, and 26 under 35 U.S.C. § 102(b) as described by Rutter.

We shall not belabor the record with an extended discussion of the rejections under 35 U.S.C. § 103(a). The "jumping off point" for each such rejection is the examiner's determination that Rutter describes the method recited in claims 13, 23, and 26. However, for reasons already discussed, we disagree with that determination. Nor does the "secondary" prior art compensate for the deficiencies of Rutter. On this record, the examiner has not established that the combined disclosures of Rutter, Baidur, and Ostresh, or Rutter and Joran, would have led a person having ordinary

skill to applicants' claimed method including the step of "transforming said scaffold moiety in said reaction products" (claims 13 and 29, emphasis added) or "transforming the scaffold moiety portion of said reaction products" (claim 30, emphasis added).

The rejection of claims 13 and 23 through 26 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Rutter, Baindur, and Ostresh is reversed; and the rejection of claims 13, 23, 26, and 30 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Rutter and Joran is reversed.

#### Section 112

In Paper No. 16, pages 5 through 9, the examiner sets forth a rejection couched in terms of the enablement requirement of 35 U.S.C. § 112, first paragraph. According to the examiner, applicants' specification, "while being enabled for a method for producing piperazine libraries . . . does not reasonably provide an adequate description to enable (make and use) the presently claimed method for the scope of library compounds encompassed by claims 13, 23-26 and 29-30" (id., page 5, lines 3-7). However, in an effort to support this rejection, the examiner weaves in concepts which would normally or properly be applicable in entering rejections under 35 U.S.C. § 112, second paragraph, or 35 U.S.C. § 101.

For example, the examiner argues that:

The claimed invention methods contain no chemical structure (reactants or final product) and recite vague conclusory steps (e.g. transforming) without any indication regarding the means (e.g. reagents) necessary to achieve these steps. For example, the claim recites "reacting" and "transforming" steps that are merely conclusory in nature;

and fail to describe reagents or other means to achieve these asserted conclusory steps.

Additionally, the claims omit essential structures (including the structure of the reactants and final product) and the necessary structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

Id., page 5, lines 8-16. Again, the examiner characterizes applicants' claims as drawn to methods for making combinatorial libraries "without metes and bounds as to the final chemical structure" (Id., page 7, line 18). This suggestion that the appealed claims lack sufficient clarity and definiteness to comply with the requirements of 35 U.S.C. § 112, second paragraph, is anomalous in the context of a rejection under 35 U.S.C. § 112, first paragraph, particularly because the examiner has expressly withdrawn a rejection of claims 13, 29, and 30 under 35 U.S.C. § 112, second paragraph, as indefinite (Id., page 3, lines 8 and 9).

Likewise, the examiner argues that

the claimed combinatorial libraries [prepared by the claimed methods] comprise compounds that are merely drug candidates. Any benefit to the public (to one of ordinary skill in the art) is speculative. There is no basis in the specification upon which to conclude that any of the compounds (besides those specifically tested) encompassed by the library are, or will turn out to be, biologically active after testing.

Thus, the biomedical research contemplated by applicants is to take place at some future time, only when the properties of the claimed compounds have been elucidated by the experimental methods (screening assays) to which the specification alludes.

Absent a disclosure of those properties, the asserted utility of biomedical research lacks specificity. Note, because the claimed invention is not supported by a specific asserted utility for the reasons just set forth, credibility cannot be assessed.

Id., page 8, lines 8 through 18. Again, this challenge to the utility of the claimed invention is anomalous where the examiner has expressly stated that "[i]t is noted that Appellants' Issue D (e.g., relating to utility) is not at issue" (Id., page 3, line 10)<sup>1</sup>.

In a nutshell, we believe that the examiner is off track in challenging the definiteness of applicants' claims and the utility of the claimed invention. We find that the examiner does not set forth adequate reasons to doubt the objective truth of statements in applicants' specification here relied on for enabling support, and we reverse the rejection of claims 13, 23 through 26, 29, and 30 under 35 U.S.C. § 112, first paragraph.

#### Other Issue

One further matter warrants attention. In the Office Action mailed June 14, 2000 (Paper No. 8), the examiner rejected claims 13, 23 through 26, and 29 for obviousness-type double patenting over claims 1 through 4 of U.S. Patent No. 5,780,241 (id. at page 16). That rejection was repeated at page 25 of the Final Office Action mailed January 2, 2001 (Paper No. 11). Subsequently, in an Advisory Action mailed April 25, 2001 (Paper No. 14), the examiner denied entry of applicants' amendment proffered after final rejection but did not withdraw the double patenting rejection.

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<sup>1</sup> In their Appeal Brief, applicants set forth Issue D as follows: "[w]hether or not Applicants' indication that the claimed methods produce compounds that can be used as antibiotics, coupled with a demonstration that representative compounds produced by the claimed methods possess antibiotic activity, satisfies the utility requirement of the patent laws" (Paper No. 15, page 4, lines 1 through 4).

In the Appeal Brief received June 4, 2001 (Paper No. 15), applicants do not identify the extant double patenting rejection as presenting an issue for review (id., section VI). Applicants simply do not argue this rejection in their Appeal Brief; nor does the examiner repeat or refer to the double patenting rejection in the Examiner's Answer (Paper No. 16). It is as though applicants and the examiner lost sight of this rejection, which "evaporated" from the face of the file wrapper.

On return of this application to the Examining Corps, we recommend that the examiner revisit the issue of obviousness-type double patenting. In Paper No. 9, received October 11, 2000, applicants argued that the provisions of 35 U.S.C. § 121 preclude obviousness-type double patenting here in view of a restriction requirement entered during prosecution of the '241 patent (id. at page 12). That argument fell short, however, of showing the line or lines of demarcation in the restriction requirement. Nor did applicants establish that the instantly claimed methods correspond to an invention non-elected during prosecution of the '241 patent. Nor does it appear that the examiner found applicants' argument persuasive, because the obviousness-type double patenting rejection was repeated in Paper No. 11 at page 25.

On the contrary, it would appear that the subject matter of the instant claims bears close relationship to the subject matter of the '241 patent claims. This can be seen by comparing claim 13 on appeal with claims 1 and 2 of U.S. Patent 5,780,241:

Claim 13 on appeal

13. A method for preparing a chemical library comprising:  
reacting a mixture of at least four chemical reactive compounds with at least one scaffold moiety to provide a mixture of reaction products;

Claims 1 and 2 of the '241 Patent

1. A method for preparing a chemical library comprising:  
reacting a mixture of at least four chemical reactive compounds with a scaffold moiety to provide a mixture of reaction products; and

transforming said scaffold moiety in said reaction products to alter at least one of its chemical or electrochemical properties and;

comprises  
reacting said transformed scaffold moiety in said products with a further mixture of at least four chemical reactive compounds to provide said library.

transforming the scaffold moiety portion of said reaction products to alter at least one of its chemical or electrochemical properties, wherein said transformation

ring opening of a macrocycle that comprises at least one nitrogen-oxygen bond.

2. The method of claim 1 further comprising reacting said transformed scaffold with a further set of at least four reactive chemical moieties.

It would appear that claim 2 of the '241 patent recites a specific embodiment of the broader invention set forth in claim 13 on appeal. These claims are essentially identical except for the requirement in the former claim that "said transformation comprises ring opening of a macrocycle that comprises at least one nitrogen-oxygen bond." Under these circumstances, it would appear that a Terminal Disclaimer is required to prevent undue timewise extension of monopoly. See In re Vogel, 422 F.2d 438, 442, 164 USPQ 619, 623 (CCPA 1970)(Appealed claim 10, by reciting "meat," includes pork; its allowance for a full term would extend the time of monopoly of the patented pork process).

### Conclusion

In conclusion, for the reasons set forth in the body of this opinion, we reverse the examiner's rejections under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a). We also reverse the rejection of claims 13, 23 through 26, 29, and 30 under 35 U.S.C. § 112, first paragraph. On return of this application to the Examining Corps, we recommend that the examiner revisit the issue of obviousness-type double patenting in light of the claims of U.S. Patent No. 5,780,241.

The examiner's decision is reversed.

REVERSED

Sherman D. Winters )  
Administrative Patent Judge )  
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)  
) BOARD OF PATENT  
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