Precedential Opinion
Pursuant to the Board's Standard Operating Procedure No. 94-02, this opinion has been designated as binding precedent. This decision was entered January 31,1996.

Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte RAJEEV BHIDE, DINESH V. PATEL and ERIC M. GORDON

Appeal No. 95-0796
Application 07/994,230[1]

ON BRIEF

Before: SCHAFER, Vice Chief Administrative Patent Judge, and WILLIAM F. SMITH, Administrative Patent Judge, and McKELVEY, Senior Administrative Patent Judge.

McKELVEY, Senior Administrative Patent Judge.

NON-FINAL DECISION ON APPEAL

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[1] Application for patent filed December 21, 1992.

A. Introduction

This appeal is from a decision of a Primary Examiner rejecting claims 1-19 and 21.

B. Findings of fact

The invention

1. The mammalian ras gene family comprises three genes, H-ras, K-ras and N-ras. The Ras proteins are a family of GTP-binding and hydrolyzing proteins that regulate cell growth and differentiation. Overproduction of normal Ras proteins or mutations that inhibit their GTPase activity can lead to uncontrolled cell division. Specification, page 1.

2. The transforming activity of ras is dependent on localization of the protein to plasma membranes, The membrane binding occurs via a series of post-translational modifications of the cytosolic Ras proteins. The first and mandatory step is the farnesylation of the proteins, which is catalyzed by the enzyme farnesyl protein transferase, where farnesyl pyrophosphate serves as a farnesyl group donor. The Ras carboxy terminus contains a sequence motif termed a "Cys-Aaa_1-Aaa_2-Xaa" box (CAAX box), where Cys is cysteine, Aaa is an aliphatic amino acid, and Xaa is a serine or methionine. Farnesylation occurs on the cysteinyl residue of the CAAX box (Cys-186), thereby attaching a prenyl group on the protein via a thio-ether linkage. See generally, specification, page 1.

3. Applicants have discovered certain compounds that are said to be (page 7):

> **inhibitors of S-farnesyl transferase. They . . . are useful in the treatment of a variety of cancers, including . . . the following:**
>
> - **carcinoma, including that of the bladder, breast, colon, kidney, liver, lung, ovary, pancreas, stomach, cervix, thyroid and skin;**
>
> - **hematopoietic tumors of lymphoid lineage, including acute lymphocytic leukemia, B-cell lymphoma, and Burketts lymphoma;**

- **hematopoietic tumors or myeloid lineage, including acute and chronic myelogenous leukemias, and promyelocytic leukemia;**

- **tumors of mesenchymal origin, including fibrosarcoma and rhabdomyosarcoma; and**

- **other tumors, including melanoma, seminoma, tetratocarcinoma, neuroblastoma, and glioma.**

The compounds . . . are especially useful in treatment of tumors having a high incidence of ras involvement, such as colon and pancreatic tumors. By administration of a composition having one (or a combination) of the compounds of this invention, development of tumors in a mammalian host is reduced.

4. Applicants' specification states that the compounds "may also be useful" in:

a. the treatment of diseases other than cancer that may be associated with signal transduction pathways operating through Ras--e.g., neurofibromatosis (specification, page 7);

b. the treatment of diseases associated with CAAX-containing proteins other than Ras (e.g., nuclear lamins and transducin) that are also post-translationally modified by the enzyme farnesyl protein transferase; and

c. combination with known anti-cancer and cytotoxic agents.

5. Applicants' specification further states (specification, page 8) that the compounds "may also act as inhibitors" of other prenyl transferases (e.g., geranylgeranyl transferase), and thus be effective in the treatment of diseases associated with other prenyl modifications of proteins (e.g., the rap, rab, rac, and rho gene products

and the like). For example, they "may find use" as drugs against Hepatitis delta virus (HDV) infections, as suggested by the recent finding that geranylgeranylation of the large isoform of the delta antigen of HDV is a requirement for productive viral infection, citing J.S. Glenn et al., Science, Vol. 236, page 1331 (1992).

6. With respect to administration of the compounds to a mammal, the specification indicates (page 8):

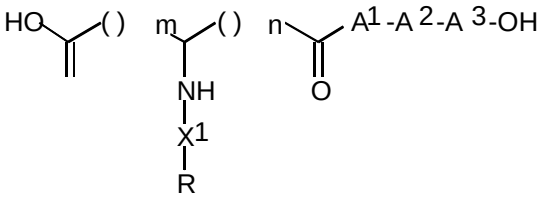
> **The compounds of this invention may be formulated with a pharmaceutical vehicle or diluent for oral, intravenous, or subcutaneous administration. The pharmaceutical composition can be formulated in a classical manner using solid or liquid vehicles, diluents and additives appropriate to the desired mode of administration. Orally, the compounds can be administered in the form of tablets, capsules, granules, powders and the like. These compounds may be administered in a dosage range of about 0.05 to 50 mg/kg/day, preferable less than 50 mg/kg/day, in a single dose or 2 to 4 divided doses.**

7. The specification contains a description of how to make the compounds (specification, pages 9-13), as well as sixteen (16) examples showing the preparation of applicants' compounds.

8. Claims 1-19 (compounds) and 21 (method of administering) appear in the application.

9. Claim 1 reads:

A compound of the formula



its enantiomers and diastereomers, and pharmaceutically acceptable salts and prodrugs thereof, wherein:

R is alkyl, alkenyl, alkynyl, mixed alkenyl-alkynyl -X^2-aryl, -X^2-cycloalkyl, -X^2-cycloalkenyl, -X^2-bicycloakyl, or -X^2-bicycloalkenyl, wherein each of these groups optionally includes one to four substituents selected from alkyl, alkenyl, alkynyl, mixed alkenyl-alkynyl, aryl, cycloalkyl, cycloalkenyl bicycloalkyl, bicycloalkenyl, aralkyl, cycloalkylalkyl, cycloalkenylakkyl, halo, hydroxy, alkoxy, aryloxy, aralkoxy, cycloalkyloxy, cycloalkylalkoxy, oxo, alkanoyl, aroyl, alkanoyloxy, aroyloxy, amino, alkylamino, dialkylamino, arylamino, alkanoylamino, aroylamino, thiol, alkylthio, and arylthio;

X^1 is -$(CH_2)_p$- or -C(O)-;

X^2 is a single bond, alkyl, alkenyl, alkynyl, or mixed alkenyl-alkynyl, but when R is -X^2-phenyl,

X^2 is alkyl, alkenyl, alkynyl, or mixed alkenyl-alkynyl of at least three carbon atoms;

m, n, and p are each independently intergers from 0 to 4; and

A^1, A^2, and A^3 are each independently:

glycyl or D-, L-, or DL- ananyl, argininyl, asparagyl, aspartyl, cysteinyl, glutamyl, glutaminyl, histidyl, isoleucyl, leucyl, lysyl, methionyl, phenylalanyl, seryl, threonyl, tryptophyl, tyrosyl, or valyl, or N-lower alkyl analogues thereof, or prolyl.

10. Method claim 21 reads:

A method of inhibiting farnesyl protein transferase, which comprises administering to a mammalian subject an amount of the compound of Claim 1 effective to inhibit farnesyl protein transferase.

The examiner's rejection

11. There are two rejections. Claims 1-19 and 21 stand rejected under 35 U.S.C. § 101. According to the examiner (Examiner's Answer, page 3, material within [ ] added):

> **The disclosure presents evidence that a small group of structurally related species selected from the claimed genus have been prepared. There are no in vitro assays or in vivo data. Moreover, the evidence is insufficient to meet the utility test set forth in Brenner v. Manson, {383 U.S. 519, 533,} 148 USPQ 689, 695 (1966): "Specific benefit [must exist] in currently available form." Applicants have not disclosed utility other than in the treatment of cancer, for which there is insufficient supporting evidence as indicated above. Finally, the group of tested species is not representative of the structural panorama of compounds encompassed by claim 1 genus, and therefore, the scope of utility claimed is not commensurate with the disclosure. In view of this and the fact that there are no known treatments applicable to all types of cancer, the asserted utility would not be believable to one skilled in the art in view of the contemporary knowledge in the art.**

12. The examiner also rejected claims 1-19 and 21 as being unpatentable under 35 U.S.C. § 112, first paragraph. The examiner found that technology here involved is unpredictable (Examiner's Answer, page 4). The examiner further found that "literally millions of compounds" are included within the scope of applicants' claims (Answer, page 4). The examiner made specific references to the definition of R and goes on to say that "[a] methyl group, a naphthyl group and a bicycloalkenyl group are very different, chemically and physically. Each of the compounds formed with these substituents would probably have very different reactivities as farnesyl protein transferase inhibitors" (Answer, page 4). The examiner still further noted that there "are also thousands of combinations of amino acids which can form the peptide portion of the compound" (Answer, page 5). Again, the examiner notes the absence of any description of the results of in vitro and in vivo tests. Lastly, the examiner held that "there is no

description in the specification showing one of ordinary skill in the art how to use the claimed compounds" (Answer, page 6).

13. Applicants present an argument that "cancer treatment and cancer therapy are not, per se, incredible" (Brief on appeal, page 5). In support of their argument, applicants call attention to Brown et al., U.S. Patent Nº 5,141,851, issued August 25, 1992 (which is prior to applicants' filing date of December 21, 1992).

The Brown patent

14. The Brown invention (col. 1, lines 14-21):

> **relates to the identification and characterization of an enzyme involved in expression of the cancer phenotype, as well as to the identification and selection of compounds for its inhibition. In particular aspects, the invention relates to farnesyl protein transferase enzymes which are involved in, among other things, the transfer of farnesyl groups to oncogenic ras protein.**

15. According to the Brown patent (col. 1, lines 37-45) (numbers to references at the end of the patent omitted):

> **The ras gene family comprises three genes, H-ras, K-ras and N-ras, which encode similar proteins with molecular weights of about 21,000. These proteins, often termed $p21^{ras}$, comprise a family of GTP-binding and hydrolyzing proteins that regulate cell growth when bound to the inner surface of the plasma membrane. Overproduction of $P21^{ras}$, proteins or mutations that abolish their GTP-ase activity lead to uncontrolled cell division.**

16. One object of the Brown invention is (col. 2, lines 47-51):

> **to identify classes of compounds which demonstrate farnesyl transferase inhibiting activity, along with a potential application of these compounds in the treatment of cancer, particularly ras-related cancers.**

17. Brown continues (col. 11, lines 40-58):

> **the present invention is concerned with a method of inhibiting a farnesyl transferase enzyme which includes subjecting the enzyme to an effective concentration of a farnesyl transferase inhibitor . . . or with a candidate substance identified in**

accordance with the candidate screening assay embodiments. This is, of course, an important aspect of the invention in that it is believed that by inhibiting the farnesyl transferase enzyme, one will be enabled to treat various aspects of cancers, such as ras-related cancers. It is believed that the use of such inhibitors to block the attachment of farnesyl groups to ras proteins in malignant cells of patients suffering with cancer or pre-cancerous states will serve to treat or palliate the cancer, and may be useful by themselves or in conjunction with other cancer therapies, including chemotherapy, resection, radiation therapy, and the like.

18. In describing preferred embodiments, the Brown patent states (col. 7, line 64 to col. 8, line 12):

the farnesyl transferase inhibitor of the present invention will include a farnesyl acceptor or inhibitory amino acid sequence having the amino acids -C-A-A-X, wherein:

C = cysteine;

A = any aliphatic, aromatic or hydroxy amino acid; and

X = any amino acid.

Typically, the farnesyl acceptor or inhibitory amino acid sequence will be positioned at the carboxy terminus of the protein or peptide such that the cysteine residue is in the fourth position from the carboxy terminus.

In preferred embodiments, the inhibitor will be a relatively short peptide such as a peptide from about 4 to about 10 amino acids in length. To date, the most preferred inhibitor tested is a tetrapeptide which incorporates the -C1'A-A-X [sic; -C-A-A-X] recognition structure.

19. Brown sets out certain conclusions with respect to testing said to have been undertaken (col. 8, lines 32-56):

Exemplary peptides which have been prepared, tested and shown to inhibit farnesyl transferase at an IC_{50} of between 0.01 and 10 mM include CVIM; KKSKTKCVIM; TKCVIM; RASNRSCAIM; TQSPQNCSIM; CIIM; CVVM; CVLS; CVLM; CAIM; CSIM; CCVQ; CIIC; CIIS; CVIS; CVLS; CVIA; CVIL;

CLIL; CLLL; CTVA; CVAM; CKIM; CLIM; CVLM; CFIM; CVFM; CVIF; CEIM; CGIM; CPIM; CVYM; CVTM; CVPM; CVSM; CVIF; CVIV; CVIP; CVII.

A variety of peptides have been synthesized and tested such that now the inventors can point out peptide sequencing having particularly high inhibitory activity, i.e., wherein relatively lower concentrations of the peptides will exhibit an equivalent inhibitory activity (IC_{50}). Interestingly, it has been found that slight changes in the sequence of the acceptor site can result in loss of inhibitory activity. Thus, when TKCVIM is changed to TKVCIM, the inhibitory activity of the peptide is reversed. Similarly, when a glycine is substituted for one of the aliphatic amino acids in CAAX, a decrease in inhibitory activity is observed. However, it is proposed that as long as the general formula as discussed above is observed, one will achieve a structure that is inhibitory to farnesyl transferase.

20. In each of the peptides in the list set out in the first quoted paragraph of Finding 19, the fourth amino acid from the carboxy terminus (right side) is cysteine (i.e., "C" or "Cys").

Brown and Reiss publications

21. In applicants' INFORMATION DISCLOSURE STATEMENT (Paper No. 2, filed March 8, 1993), two publications are mentioned:

a. Reiss et al., Proc. Natl. Acad. Sci. USA, "Sequence requirement for peptide recognition by rat brain $p21^{ras}$ protein farnesyltransferase," Vol. 88, pages 732-736 (February 1991).

b. Brown et al., Proc. Natl. Acad. Sci. USA, "Tetrapeptide inhibitors of protein farnesyltransferase: Amino-terminal substitution in phenylalanine-containing tetrapeptides restores farnesylation," Vol. 89, pages 8313-8316 (September 1992).

22. The Reiss article reports "a study of the ability of various tetrapeptides to compete with $p21^{Ha\text{-}ras}$ for acceptance of a farnesyl residue" (page 732, col. 2, last paragraph). According to Reiss, "[a]s a framework for these peptides, we have used

the COOH terminus of $p21^{Ki\text{-}rasB}$, Cys-Val-Ile-Met (CVIM), which was the highest affinity peptide among those studied . . ." Id. The results are said to:

> **indicate that the A1 position of Cys-A1-A2-X motif will accept a variety of amino acids, but the A2 position is much more strict in its requirement for an uncharged residue. At the X position, methionine, phenylalanine, and serine are strongly preferred.**

Id.

23. In describing the results of certain experiments, Reiss states (page 733, col. 2, first paragraph) that:

> **[i]nsertion of . . . [alanine and lysine] were tolerated only at the A1 position. Insertion of these amino acids at the A2 or X position decreased the affinity for the enzyme by more than 30 times, as estimated by the concentration required for 50% inhibition.**

24. According to Reiss (page 734, col. 1, third full paragraph):

> **The free sulfhydryl group of the cysteine is likely required for tetrapeptide inhibition, as indicated by the finding that derivitization with iodoacetamide abolished inhibitory activity . . . .**

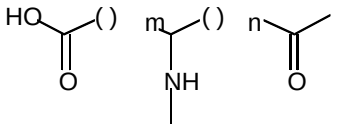
25. The conclusion stated in Reiss is repeated in the Brown et al. publication (page 8313, col. 2, first full paragraph):

> **The peptide competition studies have shown that the cysteine residue must be at the fourth position from the carboxy terminus, and not the third or fifth . . . .**

Utility

26. According to patents and publications of record, a peptide must have a cysteine amino acid at the fourth amino acid position from the carboxy terminus.

27. Applicants' claimed compounds consist of a substituted tetrapeptide. Three of the peptides are manifest from the presence of A^1, A^2, and A^3, all of which are amino acid moieties. The fourth amino acid is that portion of applicants' formula having the structure:



The fourth amino acid is a glutamic acid moiety ("E" or "Glu") when n = 2 and m = 0 (see the formulae of Examples 1-12 and 14-15). The fourth amino acid is an aspartic acid moiety ("D" or "Asp") when n = 1 and m = 0 (see the formulae of Examples 12 and 16). The fourth amino acid cannot be a cysteine moiety.

28. One skilled in the art would reasonably question whether applicants' claimed compounds would serve to inhibit farnesyl protein transferase, because the Brown patent and publication and the Reiss publication indicate that the fourth amino acid must be a cysteine moiety and applicants' corresponding fourth amino acid is not cysteine.

29. There is no example in applicants' specification describing results of administration of any particular compound to a particular mammal for any purpose.

30. There is no description in applicants' specification of in vitro testing.

31. There is no description in applicants' specification of in vivo testing.

32. No affidavit/declaration evidence (37 CFR § 1.132) was offered in evidence in an attempt to show that any of applicants' claimed compounds in fact would inhibit farnesyl protein transferase.

33. Applicants state that their compounds "may also be useful" (specification, pages 7-8) or "may also act as inhibitors" (specification page 8) for other purposes.

34. When applicants' "may be useful" and "may also act as inhibitors" statements are considered vis-à-vis applicants' statement that the compounds "are" inhibitors of S-farnesyl transferase, (specification, page 7), it is our view that one skilled in the would understand the "may be useful" and "may also act as inhibitors" statements to be possibilities--not actual statements of use.

35. In any event, at least on this record, the other possible uses also require a cysteine to be present as the fourth amino acid from the carboxy terminus. For example, applicants refer (specification, page 8) to an article in support of their statement that the compounds "may also act as inhibitors" of other prenyl transferases. Glenn et al., Science, "Identification of a prenylation site in delta virus large antigen," Vol. 256, pages 1331-1333 (May 1992).

36. According to applicants:

> **For example, . . . [the compounds] may find use as drugs against Hepatitis delta virus (HDV) infections, as suggested by the recent finding that geranylgeranylation of the large isoform of the delta antigen of HDV is a requirement for productive rial infection.**

37. Glenn reveals, however, that the last four amino acids of large delta antigen are Cys-Arg-Pro-Gln at the carboxy terminus (page 1331, col. 1, last paragraph). Glenn also reveals that when serine ("Ser" or "S") is substituted for cysteine, "prenylation" did not occur (page 1331, col. 3, line 4 through the end of the first full paragraph). According to Glenn, a mixture of large delta and small delta antigens exist in infected livers and serum (page 1331, col. 1). His study sought to determine what would happen if the large delta antigen could be modified, thereby avoiding a mixture of large and small deltas. To achieve prenylation and thereby avoid a mixture, however, seems to require the presence of cysteine as the fourth amino acid.

38. On this record, we find that the claimed compounds have not been shown to be useful for the purpose of inhibiting farnesyl protein transferase or for any other purpose described in the specification.

C. Discussion

A specification which contains a description of utility which corresponds in scope of the subject matter sought to be patented must be taken a sufficient to satisfy the utility requirement of 35 U.S.C. § 101 for the entire claimed subject matter unless there is reason for one skilled in the art to question the objective truth of the statement of utility or its scope. If there is a sufficient reason to question a statement of utility and its scope, a rejection for lack of utility under § 101 is proper. In re Langer, 503 F.2d 1380, 1391, 183 USPQ 288, 297 (CCPA 1974).

A specification which contains a statement of the manner and process of using the invention in terms which corresponds in scope to those used in defining the subject sought to be patented must be taken as in compliance with the "how to use" requirement of the first paragraph of 35 U.S.C. § 112 unless there is a reason to doubt the objective truth of the statement. In re Brana, 51 F.3d 1560, 1566, 34 USPQ2d 1436, 1441 (Fed. Cir. 1995); In re Marzocchi, 439 F.2d 220, 223, 160 USPQ 367, 369 (CCPA 1971).

Applying these well-established principles to the examiner's rationale before us, the following becomes apparent.

The examiner notes that only a small group of species of the claimed genus have been prepared. However, the examiner offers no reason why one skilled in the art could not "make" the claimed compounds.

The examiner found that applicants have not disclosed utility other than in the treatment of cancer. The examiner's findings are not correct. What applicants say they discovered is that their compounds inhibit farnesyl protein transferase. The Brown patent and publication make it clear that there is a recognized relationship between inhibition of farnesyl protein transferase and uncontrolled cell growth--which is what cancer is all about. Applicants' statement of utility that cancer may be treated with compounds which inhibit farnesyl protein transferase is not inherently incredible. Whatever might have been the case earlier in the 20th Century, in 1992 when applicants filed their application, the notion that a chemical compound may be useful in treating cancer is not inherently incredible. Compare In re Jolles, 628 F.2d 1322, 1327, 206 USPQ 885, 890 (CCPA 1980), cited with approval in In re Brana, at 1566, 34 USPQ2d at 1441.

The examiner found that the "group of tested species is not representative" of the claimed compounds. On this record, however, we find no evidence that any compound within the scope of claims 1-19 has been tested.

The examiner found that the claims encompass "literally millions of compounds" (Answer, page 4). The examiner also found that the "R" substituent is broadly defined and would include a methyl group, a naphthyl group, and a bicycloalkenyl group. According to the examiner, each group is different both chemically and physically and "would probably have very different reactivities as farnesyl protein transferase inhibitors" (Answer, page 4). The scope of a claim and the number of compounds included within the scope are not irrelevant to a § 101 and/or a § 112, first paragraph, analysis. Ex parte Forman, 230 USPQ 456, 457 (Bd. Pat. App. & Int. 1986), cited with approval in In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). However, no evidence was cited by the examiner to show that any different reactivities would make some compounds useful and others not useful. A claim is not unpatentable under 35 U.S.C. § 101 or 35 U.S.C. § 112, first paragraph, merely because compounds within its scope have different reactivities.

What is plain on the record before us is that a cysteine seemingly is required as the fourth amino acid from the carboxy terminus for a compound to serve as an inhibitor of farnesyl protein transferase. See the Brown patent and publication and the Reiss publication. The Glenn publication also makes it clear that applicants' speculative utility with respect to hepatitis is also questionable because again it appears that cysteine is the required fourth amino acid. We believe the Brown patent and publication, the Reiss publication and the Glenn publication provide an adequate basis, as a matter of law, to question the objective truth of applicants' statement.

The examiner notes that there are no in vitro or in vivo tests results described in the specification. Whether in vitro or in vivo tests are needed depends on the facts of each case. The examiner did not explain why, in this case, in vitro or in vivo tests should be required.

We do not find or conclude that applicants' claimed compounds are incapable of a practical utility. Nor do we prejudge the possibility that peptides having an amino acid

other than cysteine as the fourth amino acid from the carboxy terminus might work (i.e., be useful to inhibit farnesyl protein transferase). All we find and conclude is that, on this record, there is a reasonable basis for questioning applicants' utility statement and that applicants have not presented any evidence to overcome the evidence which seems to require a cysteine as the fourth amino acid. As In re Langer makes clear, a § 101 rejection may be overcome by suitable proofs indicating that the statement of utility and its scope as described in the specification are true. 503 F.2d at 1391, 183 USPQ at 297. The same is true for a rejection based on a failure of "how to use" under 35 U.S.C. § 112, first paragraph. Thus, on a different record, the Patent and Trademark Office might be able to find that applicants' claimed compounds are useful. While in vitro or in vivo tests would not be the only possible way to overcome our basis for questioning applicants' utility, in vitro or in vivo certainly would provide relevant evidence.

We agree with the examiner that claims 1-19 and 21 are unpatentable under 35 U.S.C. § 101 and 35 U.S.C. § 112, first paragraph. However, our basis for concluding that the claims are unpatentable is based on a rationale and evidence which differs considerably from that of the examiner. Hence, we designate our decision affirming the examiner's "decision," as being a new ground of rejection under 37 CFR § 1.196(b), in order to provide the applicants with an opportunity to present such additional evidence for consideration by the examiner as applicants deem appropriate.

D. Conclusions of law

1. U.S. Patent Nº 5,141,851 and the Reiss et al., the Brown et al., and Glenn et al. publications can be used to show the sufficiency or insufficiency of applicants' specification because each was published prior to the date applicants filed their application. In re Glass, 492 F.2d 1228, 181 USPQ 31 (CCPA 1974).

2. Utility under 35 U.S.C. § 101 is a question of fact. Newman v. Quigg, 877 F.2d 1575, 1581, 11 USPQ2d 1340, 1345 (Fed. Cir. 1989). Since we find on this record that applicants' compounds are not useful, we conclude that claims 1-19 and 21 are unpatentable as a matter of law under 35 U.S.C. § 101.

3. Compliance with the "how to use" requirement of 35 U.S.C. § 112, first paragraph, is a question of law. Newman v. Quigg, supra. Based on our findings, we conclude on this record that applicants' specification, coupled with the prior art, would not enable one skilled in the art how to use applicants' compounds. Hence, claims 1-19 and 21 are unpatentable under 35 U.S.C. § 112, first paragraph.

E. Decision

The decision (as opposed to the reasons in support thereof) of the examiner is affirmed.

F. Time for taking action

Applicants may:

1. Ask reconsideration of this decision within one (1) month of the date the decision was entered (37 CFR § 1.196(b)(2) and 37 CFR § 1.197(b)) or

2. Request further prosecution before the Primary Examiner within two (2) months of the date the decision was entered by presenting an amendment and/or presenting additional evidence (37 CFR § 1.196(b)(1)).

A request for an extension of time based on payment of a fee is not available to respond to this decision. 37 CFR § 1.136(a)(1)(vi).

AFFIRMED
NEW GROUND OF REJECTION UNDER 37 CFR § 1.196(b).

RICHARD E. SCHAFER, Vice Chief Administrative Patent Judge	)	
	)	
WILLIAM F. SMITH, Administrative Patent Judge	)	**BOARD OF PATENT APPEALS AND INTERFERENCES**
	)	
FRED E. McKELVEY, Senior Administrative Patent Judge	)	