

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. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JOHN ROBERT MANSFIELD DALES

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Appeal No. 2004-0245  
Application 09/265,926

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ON BRIEF

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Before WARREN, WALTZ and JEFFREY T. SMITH, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

*Decision on Appeal*

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 5 through 7, 10 through 14 and 21, the only claims in the application. The examiner has withdrawn the ground of rejection with respect to claims 14 and 21 (answer, pages 2 and 6). Thus, claims 5 through 7 and 10 through 13 remain for consideration on appeal.

Claim 10, a copy of which taken from appellant's brief is appended to this decision, is illustrative of the process claims on appeal. Claim 5, the sole product claim on appeal, reads:

5. 2-amino-6-chloro-9-(methyl-2-carbomethoxybutanoate-4-yl)purine.

The appealed process claims 6, 7 and 10 through 13, as represented by claim 10, are drawn to process schemes comprising sequences of the stated reactions for synthesizing purine derivatives falling within formula (A), which encompasses the known nucleoside analogue



The coupling and decarboxylation sequence of sequence “(i)” is shown in the first equation in “scheme 2” (specification, page 6) wherein the 6-chloro-purine derivative intermediate depicted is encompassed by appealed product claim 5, a synthesis of which is set forth in specification Example 1. The synthesis set forth in specification Example 1 includes the step of decarboxylation of the tri carboxylate moiety of the 6-chloro-purine derivative intermediate, obtained by coupling the starting material *triethyl 3-bromopropane-1,1,1-tricarboxylate*, with “a solution of sodium methoxide . . . in methanol,” which includes the *transesterification* of *ethyl-carboxylate* groups to the corresponding *methyl* carboxylate groups in that position, as depicted in “scheme 2.”<sup>2</sup>

In appealed claim 10, the sequence “(ii)” of converting a 6-chloro-purine derivative intermediate of formula (I) to the final product of structural formula (A) includes, *inter alia*, reducing the carboxylate ester groups to hydroxy groups that are then acetylated to result in a 6-chloro-purine derivative intermediate containing acetoxymethyl groups in the “9” position encompassed by formula (I).<sup>3</sup>

The reduction and acetylation sequence is shown in the second equation in “scheme 2,” and a process of preparing the intermediate is exemplified in specification Example 2 which starts with the intermediate product prepared in specification Example 1.

Sequence “(ii)” concludes with the dechlorination of the 6-chloro-purine intermediate of the previous sequence by, *inter alia*, a hydrogenolysis reaction which results in a 6-hydrogen-purine derivative product that falls within formula (A) in appealed claim 10.

The hydrogenolysis reaction is shown in the last equation in “scheme 2,” and a process of preparing the 6-hydrogen-purine derivative product so obtained is exemplified in specification Example 3, which starts with the intermediate product prepared in specification Example 2.

In comparison with appealed claim 10, we find that Grinter would have disclosed to one of ordinary skill in this art the preparation of purine derivatives of formula (A) thereof (e.g.,

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According to USPTO records, Novartis International Pharma, Ltd., is the common assignee of the present application and the ‘288 patent (*see* brief, page 1).

<sup>2</sup> Compare the ethyl carboxylate group “-CO<sub>2</sub>ET” of the triethyl 3-bromopropane-1,1,1-tricarboxylate starting material with the methyl carboxylate group “-CO<sub>2</sub>Me” of 6-chloro-purine intermediate in “scheme 2.”

<sup>3</sup> The “-OAc” group can be depicted as “-O-CO-CH<sub>3</sub>.”

page 5, lines 1-17), which encompasses the purine derivatives of formula (A) of appealed claim 10. In the reaction scheme disclosed in Grinter, the purine derivative intermediates with a *diethyl*-carboxylate containing group in the “9” position encompassed by formula (I) are prepared according to sequence “(i)” wherein a purine derivative of formula (II) is coupled with, *inter alia*, a *triethyl*-carboxylate derivative of formula (V) to obtain a purine derivative intermediate with a *triethyl*-carboxylate containing group in the “9” position encompassed by formula (VI) which is then decarboxylated to obtain the *diethyl*-carboxylate containing derivative (e.g., page 5, lines 18-47, and page 6, lines 21-45 and 48-49).<sup>4</sup>

The sequence “(i)” in the reaction scheme thus disclosed by Grinter involves coupling and decarboxylation reactions falling within appealed claim 10, and the purine derivative intermediates of formulae (I), (II) and (VI) of Grinter encompass the 6-chloro-purine derivative intermediates of formulae (I), (II) and (VI) of appealed claim 10, while formula (V) of Grinter encompasses the same tri-carboxylate derivatives as formula (V) in claim 10. The sequence “(ii)” of Grinter converts the purine derivative intermediate of formula (I) to purine derivative products of formula (A) by, *inter alia*, the same reduction and acylation reactions (e.g., page 6, lines 51-53) specified in claim 10, wherein the acylation step of Grinter encompasses the acetylation step of claim 10. We note in this respect, that formula member R<sub>3</sub> of formula (I) of Grinter can be methyl, and thus is the acetyloxy group (page 5, line 32; and page 7, line 7).

The principal issue raised by the parties in this appeal, with respect to appealed process claim 10, and indeed also applies to appealed product claim 5, involves the step in the claimed scheme and that of Grinter where the chloro-substituent in the “6” position is removed from the purine derivative intermediates (see, e.g., answer, page 6; brief, page 6). In appealed claim 10, the 6-chloro substituent is removed by hydrogenolysis from the 6-chloro-purine derivative intermediate subsequent to the acetylation step, as the last step in sequence “(ii).”

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<sup>4</sup> No transesterification is disclosed in Grinter for this synthesis route, characterized by appellant as the “bromotriester route” of Grinter (brief, e.g., paragraph bridging pages 6-7). The *only* transesterification reaction disclosed in Grinter is in an *alternative* synthesis route wherein a purine derivative of formula (II) is reacted with a dioxane derivative of formula (III) to obtain the purine derivative intermediate of formula (IV) which is converted to the purine derivative intermediate of formula (I) by *transesterification* (e.g., page 5, line 34, to page 6, line 20, page 6, lines 47-48, and page 7, lines 35-46).

We find that Grinter would have reasonably disclosed to one of ordinary skill in this art that the “R<sub>2</sub>” position of the purine derivative intermediate of formula (II) and of the purine derivative intermediate of formulae (VI), the latter intermediate being decarboxylated to obtain the purine derivative intermediate of formula (I) in sequence “(i),” can be defined as, *inter alia*, “chloro” in each instance (page 5, lines 32-33, and page 7, lines 8 and 15-17).<sup>5</sup> Indeed, Grinter would have disclosed that the “X” substituent in the *same* position in the final product of formula (A), can also be, *inter alia*, “chloro,” although “chloro” is not among the preferred substituents for “X” (e.g., page 5, line 16, and page 7, line 2).

This disclosure alone would have reasonably suggested to one of ordinary skill in this art that a chloro substituent can occupy the “6” position of any purine derivative intermediate up through the end of the reaction scheme and remain in the final product as desired. In these respects, Grinter would have further disclosed that during or at the end of sequence “(i),” “as necessary or desired, interconverting variables R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> to further values of R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub>” (page 6, lines 49-50), and that during or at the end of sequence “(ii),” “as necessary or desired converting variable R<sub>2</sub> in the compound of the formula (I) to variable X in the compound of formula (A)” (*id.*, lines 53-54). Indeed, Grinter discloses with respect to scheme “(i),” that “R<sub>2</sub>” and “R<sub>3</sub>” of formula (II) are chloro and amino, respectively, and that when “R<sub>2</sub>” is chloro in formula (VI), the intermediate “may be hydrogenolysed” to formula (VI) wherein “R<sub>2</sub>” is hydrogen (page 7, lines 16-17, and page 7, lines 55-56). The latter is exemplified in Grinter Description 12 and Grinter Example 3 (pages 15-16, and 17-18). We note here that appellant has included “scheme 1” at page 5 of the specification with respect to these teachings of Grinter (specification, page 1, lines 17-21).

With respect to scheme “(ii),” Grinter discloses that when “R<sub>2</sub>” is chloro in formula (I), that is, a 6-chloro-purine derivative intermediate of formula (I), it can be reduced to obtain compounds of formula (A) in which “X” in the same ring position is hydrogen (page 8, lines 29-31).

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<sup>5</sup> It is well settled that a reference stands for all of the specific teachings thereof as well as the inferences one of ordinary skill in this art would have reasonably been expected to draw therefrom, see *In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir.

We determine that these teachings of the reference provide substantial evidence well supporting the examiner's position that, *prima facie*, Grinter would have taught the claimed process encompassed by appealed claim 10 to one of ordinary skill in this art (answer, pages 6-7). Indeed, while Grinter does teach and exemplify dechlorination of a 6-chloro-purine derivative intermediate of formula (VI) to a 6-hydrogen-purine derivative intermediate of formula (VI) during scheme "(i)," the reference nonetheless clearly would have taught that dechlorination can also be accomplished in scheme "(ii)" in order to convert a 6-chloro-purine derivative intermediate of formula (I) to a 6-hydrogen-purine derivative final product "X."

Accordingly, one of ordinary skill in this art routinely following the teachings of Grinter would have arrived at the claimed process encompass by appealed claim 10 without resort to appellant's specification and claims.

Therefore, since a *prima facie* case of obviousness has been established by the examiner over Grinter, we have again evaluated all of the evidence of obviousness and nonobviousness based on the record as a whole, giving due consideration to the weight of appellant's arguments and the evidence in the Green and Jones declarations, submitted during prosecution,<sup>6</sup> as relied on by appellant in the brief. *See generally, In re Johnson*, 747 F.2d 1456, 1460, 223 USPQ 1260, 1263 (Fed. Cir. 1984); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

Appellant contends that the "bromotriester" process scheme of Grinter that we discuss above, has been found to be "inconvenient for use on a large, commercial scale" because it requires chromatography separations as set forth in Grinter Description 11 (brief, pages 6-7). Appellant further submits that the only guidance in Grinter with respect to the dechlorination step is found in the reference examples wherein the step is conducted before decarboxylation,

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1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968), presuming skill on the part of this person. *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

<sup>6</sup> In the preliminary amendment filed March 11, 1999 (Paper No. 2), appellant submitted an unsigned copy of the declaration by Green stated to be originally filed in parent application 08/732,479, filed October 18, 1996. A further copy of this declaration submitted with the brief is signed and has an execution date of "15<sup>th</sup> Dec 1999." The Jones declaration, executed on December 20, 1999, is directed to the present application and was filed July 27, 2000 (Paper No. 10).

while in the claimed process, the step is conducted after acetylation, and thus one of ordinary skill in this art would not have been led to the sequence of steps in the claimed process (*id.*).

The examiner submits that while Grinter teaches a preferred embodiment wherein dechlorination is carried out in scheme “(i),” all of the teachings of the reference must be considered, citing, *inter alia*, *In re Lamberti*, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976) (answer, page 7), and stating that the “decarboxylation in the examples would not act to preclude any other understanding of the process” (answer, page 7). The examiner further submits that the term “comprising” renders the claims “embracive of additional isolation and purification steps,” and in this respect, points out that “the actual examples of this specification do indeed involve isolation and purification; see e.g. last sentence of example 1, and last three sentences of example 2” (*id.*, page 8).

We agree with the position of the examiner with respect to the issues raised by appellant’s arguments, and turn now to consideration of the objective evidence in the Green and Jones declarations in light of the arguments raised by appellant and the examiner with respect thereto.

According to appellant, the examiner was not persuaded by the evidence in the Green declaration, citing “[e]ssentially three reasons” given by the examiner in holding the evidence unpersuasive in the Office action of June 14, 1999 (Paper No. 4), and that the evidence in the Jones declaration “directly addresses the objections raised by the Examiner” (brief, pages 8-9). Appellant does not otherwise address the examiner’s objections to the evidence in the Jones declaration (*id.*), and the examiner does not address the matter. Thus, we do not further consider the evidence in the Green declaration<sup>7</sup> except to the extent indicated below.

According to appellant, the evidence in the Jones declaration compares a process falling within appealed claim 10, wherein “the chlorine is removed at the end” of the process, with a process representing Grinter, wherein “the chlorine is removed earlier,” with the claimed process resulting in 41% yield of famciclovir while that representing Grinter resulted in “an overall yield of 14% of a *crude brown oil representing a 0% yield of usable famciclovir*,” thus establishing

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<sup>7</sup> Cf. *In re Baxter Travenol Labs.*, 952 F.2d 388, 392, 21 USPQ2d 1281, 1285 (Fed. Cir. 1991) (“It is not the function of this court to examine the claims in greater detail than argued by appellant, looking for nonobvious distinctions over the prior art.”).

that the retention of the chloro substituent in the “6” position of the purine derivative intermediates until the final step of the process is responsible for the “advantages of the instant process” (brief, page 9; emphasis supplied).

The examiner submits that the Jones declaration fails to provide a “side-by-side comparison” or “anything even close to a proper replication of the prior art process,” noting that the declaration does not replicate the Grinter process because “[a] large numbers [sic, number] of differences were introduced, differences which have nothing to do with claim requirements” and “[t]he result of these differences was a *failure to even obtain the prior art product*” (answer, page 8; emphasis supplied). The examiner finds that while the Grinter process and that shown in the declaration begin at the same point and end with the same product, the product produced by the process said to represent Grinter is “a crude oil (called ‘useless’ in the Appeal brief, page 12) which . . . [declarant Jones was] unable to crystallize from n-butanol ([Jones declaration] page 6 [sic, 7], step 2, item vii),” in contrast to Grinter which discloses that “*colorless crystals from n-butanol, melting at 102°C*” was obtained (*id.*; emphasis supplied). Thus, the examiner argues that appellant’s “conclusion that the [Grinter] process yields only a useless brown oil is directly contradicted by the fact that [Grinter] did in fact produce the compound as colorless crystals of the correct melting point” (*id.*).

The examiner contends that declarant Jones failed to “properly replicate” three steps of the process attributed to Grinter, and in this respect, finds nine (9) substantial differences between the process representing Grinter in the Jones declaration and the disclosure of Grinter (answer, pages 9-13). We agree with the examiner’s findings. We note, for example, the finding with respect to “Stage 1, step 3, the decarboxylation of the triester” in the scheme on page 5 of the declaration representing the process of Grinter, that the reason for the *transesterification* step used has not been explained by declarant Jones, and is not required by appealed claim 10 or by either Description 12 or Example 3 of Grinter (answer, pages 9-10). Indeed, we find no transesterification step specified in appealed claim 10 and the only transesterification that we find in Grinter involves a process which is not relied on in this appeal (*see above* note 3). We also particularly note the differences in the purification and workup steps pointed out by the examiner.

Appellant contends that “[t]he experiments in the Jones Declaration were designed to determine the significance of the continued presence of the 6-chloro substituent during carboxylation and through the final step” and “[t]he proposition sought to be proved does not require an exact duplication of the examples of [Grinter] in the most minute detail,” relying on *In re Yan*, 175 USPQ 96, 98. Thus, appellant submits that

[t]he fact that a different solvent, temperature, etc. may have been used relative to [Grinter] does nothing to compromise the scientific validity of the conclusion reached, i.e., that continued presence of the 6-chloro substituent during carboxylation and through the final step results in an unexpected yield increase. The point at which the chloro substituent was removed was the only difference, i.e., the comparison was scientifically valid. [Brief, page 12; emphasis in original deleted.]

Appellant further contends that the conclusion of declarant Jones, that the experimental data confirm that the continued presence of the 6-chloro substituent during decarboxylation and through the first step of the process is responsible for the advantages of the [claimed] process . . . over that described in [Grinter] rather than the particular reaction conditions employed such as removal of the column chromatography steps or the nature of the ester obtained following decarboxylation of the compound of formula (IV) [declaration, ¶ 9, page 7; quoted in part, brief, page 12], is “a statement [which] is an opinion of an expert interpreting data and thus should be accorded appropriate weight” (brief, page 12). Appellant then concludes that “[t]he results presented show unambiguously that the advantages are due to the Cl substituent and not due to any other conditions as all other conditions were the same” (*id.*).

Appellant finally alleges that the process of the Jones Declaration does fall within claim 10 even in view of the transesterification because of the claim language “which process comprises” (*id.*).

The examiner responds that even in view of the transitional term “comprising,” Grinter “does not have transesterification, and the claims do not even mention it, so the comparison should have been done on the basis of an overall process which did not involve transesterification” (answer, page 10). The examiner submits that it is well settled that the claimed subject matter must be compared with the closest prior art, citing *inter alia*, *In re Burckel*, 592 F.2d 1175, 1179, 201 USPQ 67, 71 (CCPA 1979), and holds that the deviations between the claimed process and that representing Grinter in the Jones declaration “are so

numerous and so substantial” (answer, page 12). With respect to *Yan*,<sup>8</sup> the examiner distinguishes that case on the basis that only “a specific fact” need to be established and the court held that the fact could be established without running the full process (answer, page 13).

Upon carefully considering the objective evidence in the Green and Jones declarations in light of the arguments raised by appellant and the examiner with respect thereto, we agree with the examiner that the evidence does not support appellant’s position. Indeed, it is well settled that the burden of establishing the significance of data in the record with respect to unexpected results rests with appellant, which burden is not carried by mere arguments of counsel. *See generally, In re Geisler*, 116 F.3d 1465, 1470, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997); *In re Merck*, 800 F.2d 1091, 1099, 231 USPQ 375, 381 (Fed. Cir. 1986); *In re Longi*, 759 F.2d 887, 897, 225 USPQ 645, 651-52 (Fed. Cir. 1985); *In re Klosak*, 455 F.2d 1077, 1080, 173 USPQ 14, 16 (CCPA 1972); *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972); *In re D’Ancicco*, 439 F.2d 1244, 1248, 169 USPQ 303, 306 (1971). Appellant has not carried this burden on this record.

We are struck by the stark difference in result between the useful product produced by the process disclosed by Grinter as pointed out by the examiner, and the “useless” product produced by the process alleged by declarant Jones and by appellant to be truly representative of the teachings of Grinter. On this record, we agree with the examiner findings of substantial differences between the process which falls within appealed claim 10<sup>9</sup> and the process which allegedly represents Grinter, and thus there is no evidence which provides a direct or indirect comparison between the claimed process and the processes actually disclosed by Grinter which are the closest prior art, in a manner that can reasonably be considered to be a “side-by-side” comparison which addresses the thrust of the ground of rejection under § 103(a). *See generally, Baxter Travenol, supra* (“[W]hen unexpected results are used as evidence of nonobviousness, the results must be shown to be unexpected compared to the closest prior art. [Citation omitted.]”); *Burckel, supra* (the claimed subject matter must be compared with the closest prior art in a manner which addresses the thrust of the rejection); *In re Blondel*, 499 F.2d 1311, 1317,

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<sup>8</sup> 463 F.2d 1348, 1352, 175 USPQ 96, 98-99 (CCPA 1972).

<sup>9</sup> We agree with appellant that the open-ended transitional term “comprising” opens appealed claim 10 to include processes which include a transesterification step.

182 USPQ 294, 298 (CCPA 1974) (the indirect evidence provided a reliable indication of the performance of the closest claimed and prior art compounds); *In re Dunn*, 349 F.2d 433, 439, 146 USPQ 479, 483 (CCPA 1965) (“[W]e do not feel it an unreasonable burden on appellants to require comparative examples relied on for non-obviousness to be truly comparative. The cause and effect sought to be proven is lost here in the welter of unfixed variables.”). Accordingly, we are of the opinion that the evidence in the Jones declaration taken in light of appellant’s arguments in the brief and the examiner’s arguments in the answer, is entitled to little, if any, weight.

In this respect, we do not find that credibility is conferred on the evidence in the Jones declaration by appellant’s assertion that Jones is an “expert,” because, on this record, the examiner has clearly established that the evidence with respect to the result obtained with the process alleged to be found in Grinter is incongruous with the teachings of Grinter. *See generally, In re Reuter*, 651 F.2d 751, 759, 210 USPQ 249, 256 (CCPA 1981) (a factual statement by an expert in the art is entitled to full consideration in the absence of evidence to the contrary); *cf. In re Grunwell*, 609 F.2d 486, 491, 203 USPQ 1055, 1059 (CCPA 1979); *Lindner, supra* (“[M]ere conclusory statements in the specification and affidavits are entitled to little weight when the Patent Office questions the efficacy of those statements. [Citations omitted].”). Indeed, we will not hear appellant to contend otherwise with respect to the teachings of Grinter because such contentions raise the issue of the inoperability of the commonly assigned ‘288 patent counterpart of Grinter (*see above* note 1), and the quantum of evidence provided by the Jones declaration is insufficient to establish inoperability of the ‘288 patent. *See, e.g., In re Lamberti*, 545 F.2d 747, 751, 751 n.2, 192 USPQ 278, 281, 281 n.2 (CCPA 1976); *In re Weber*, 405 F.2d 1403, 1406-07, 160 USPQ 549, 552-53 (CCPA 1969).

Finally, even if it can be said that the evidence in the Jones declaration established an unobvious result, such a result is not commensurate in scope with the range of processes encompassed in appealed claim 10 which, as we noted above, does not specify at least the transesterification step used in the process representing the claim, or with respect to the teachings of Grinter which does not require said step. *See generally, In re Kulling*, 897 F.2d 1147, 1149-50, 14 USPQ2d 1056, 1058 (Fed. Cir. 1990) (objective evidence directed to optional embodiments).

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in Grinter with appellants' countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 6, 7 and 10 through 13 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

Turning now to the grounds of rejection of appealed product claim 5 under §§ 102(b) and 103(a), we have carefully considered the positions advanced by the examiner and appellant. We refer to our analysis of the teachings of Grinter vis-à-vis the limitations of appealed claim 10 above, which includes the findings with respect to the various definitions of formula members of different formulas relied on by the examiner to establish the manner in which Grinter would have disclosed the claimed compound encompassed by claim 5 (answer, pages 3-6). Unlike the facts of *In re Sivaramakrishnan*, 673 F.2d 1383, 213 USPQ 441 (CCPA 1982); *In re Schaumann*, 572 F.2d 312, 316-17, 197 USPQ 5, 9-10 (CCPA 1978); and *In re Petering*, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962), in this appeal the issue of whether Grinter provides a pattern of preferences which results in a description of the claimed compound as if the same was described by name therein, requires consideration of the teaching of the reference with respect to the use of the compounds defined by the formulae in the processes taught therein. In this respect, we found above that Grinter discloses with respect to scheme "(i)," that "R<sub>2</sub>" and "R<sub>3</sub>" of formula (II) are chloro and amino, respectively, but then subjects the intermediate prepared therefrom to hydrogenolysis to form formula (VI), and upon decarboxylation formula (I), wherein "R<sub>2</sub>" is hydrogen in each instance (*see above* p. 5; *see also* brief, page 6).

Thus, we are of the opinion that taken as a whole, the teachings of Grinter do not as a matter of fact described the claimed compound encompassed by appealed claim 5 within the meaning of § 102(b), and accordingly, reverse this ground of rejection.

However, as pointed out by the examiner (answer, pages 5-6), *prima facie*, the same facts would have reasonably described the claimed compound encompassed by appealed claim 5 to one of ordinary skill in this art because, as we found above (*see pp.* 5-6), Grinter makes clear that substituents in the "R<sub>2</sub>" or "6" position can be, *inter alia*, chloro and generally teaches modifications to the processes disclosed therein which retain the chloro substituent in that

position, including hydrogenolysis of the 6-chloropurine intermediate as the last step to obtain the final product.

Accordingly, one of ordinary skill in this art routinely following the teachings of Grinter would have arrived at the claimed compound encompassed by appealed claim 5 without resort to appellant's specification and claims. *See generally, Merck & Co., Inc. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807, 10 USPQ2d 1843, 1845-46 (Fed. Cir. 1989); *In re Lemin*, 332 F.2d 839, 841, 141 USPQ 814, 815-16 (CCPA 1964).

Therefore, since a *prima facie* case of obviousness has been established by the examiner over Grinter, we have again evaluated all of the evidence of obviousness and nonobviousness based on the record as a whole, giving due consideration to the weight of appellant's arguments in the brief. *See generally, Johnson, supra; Piasecki, supra; Rinehart, supra.*

We are not persuaded by appellant's sole argument with respect to this ground of rejection (brief, page 6) that the "examples" of Grinter require removal of the chloro group in scheme "(i)." Indeed, as the examiner argues with respect to the examples of the reference (*see above p. 7*), all of the teachings of the reference must be considered. *See generally, Merck v. Biocraft*, 874 F.2d at 807, 10 USPQ2d at 1846 (quoting *Lamberti, supra*) ("But in a section 103 inquiry, 'the fact that a specific [embodiment] is taught to be preferred is not controlling, since all disclosures of the prior art, including unpreferred embodiments, must be considered.'").

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in Grinter with appellants' countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claim 5 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

The examiner's decision is affirmed.

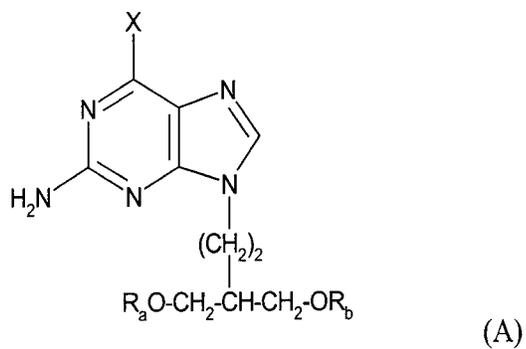
No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

**AFFIRMED**

CHARLES F. WARREN	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
THOMAS A. WALTZ	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
JEFFREY T. SMITH	)	
Administrative Patent Judge	)	

*Appendix*

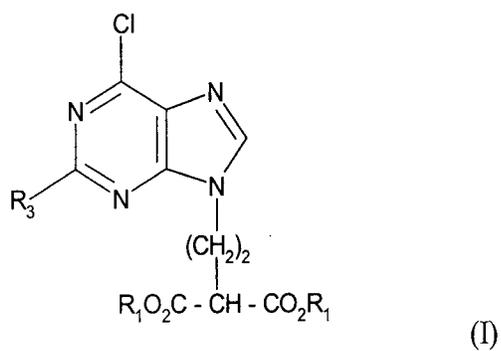
10. A process for the preparation of a compound of formula (A):



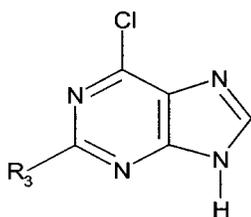
wherein:

X is hydrogen or hydroxy; and  $R_a$  and  $R_b$  are hydrogen or acetyl, which process comprises:

- (i) the preparation of a compound of formula (I):

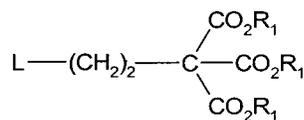


wherein  $R_1$  is  $C_{1-6}$  alkyl, or phenyl  $C_{1-6}$  alkyl in which the phenyl group is optionally substituted; and  $R_3$  is an amino group or a protected amino group, which preparation comprises the reaction of a compound of formula (II):



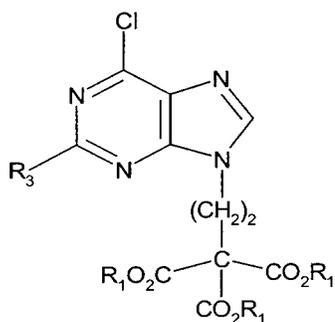
(II)

wherein  $R_3$  is as defined above for formula (I), with a compound of formula (V):



(V)

wherein L is a leaving group and  $R_1$  is as defined for formula (I), to give a compound of formula (VI):



(VI)

and thereafter converting the intermediate compound of formula (VI) to a compound of formula (I) via decarboxylation; and

- (ii) conversion of the resulting compound of formula (I) to a compound of formula (A) by:
- removal, if necessary, of the amino protecting group;
  - reducing the ester groups  $CO_2R_1$  to  $CH_2OH$  groups, and, if necessary, acetylating to form the corresponding  $CH_2Oac$  groups; and

c) dechlorinating via a hydrogenolysis reaction to yield a compound of Formula (A) in which X is hydrogen; or dechlorinating via a hydrolysis reaction to yield a compound of Formula (A) in which X is hydroxy.

Appeal No. 2004-0245  
Application 09/265,926

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