UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMNEAL PHARMACEUTICALS LLC and AMNEAL PHARMACEUTICALS OF NEW YORK, LLC, Petitioners,

v.

ALMIRALL, LLC Patent Owner

Case: IPR2018-00608

U.S. Patent No. 9,161,926

SECOND DECLARATION OF BOZENA B. MICHNIAK-KOHN, Ph.D., FAAPS, M.R.Pharm.S.



AMN1050 Amneal v Almirall II C

I, Bozena B. Michniak-Kohn, do hereby declare as follows:

I. Introduction

- 1. I am over the age of 18 and otherwise competent to make this declaration. I have been retained as an expert on behalf of Amneal Pharmaceuticals LLC and Amneal Pharmaceuticals of New York, LLC ("Amneal"). I understand this declaration is being submitted in an *Inter Partes* Review ("IPR") proceeding concerning claims 1-6 of U.S. Patent No. 9,161,926 ("the '926 patent") (AMN1001). I am being compensated for my time in connection with this IPR at my standard legal consultant rate of \$650/hr. I have no personal or financial interest in Amneal or in the outcome of this proceeding.
 - 2. I have previously submitted a declaration in this IPR.

II. Basis for my opinion

- 3. In arriving at my opinion below, I considered Dr. Klibanov's Declaration (Ex. 2003) as well as certain documents cited in Dr. Klibanov's declaration, and the documents cited herein.
- III. A construction of "dapsone" is not necessary as Garrett discloses the claimed "dapsone" and a POSA would understand the amounts of dapsone shown in Garrett would apply to 4-4'diaminodiphenyl sulfone.
- 4. Dr. Klibanov argues that the challenged claims are limited to a specific "dapsone" chemical name: 4,4'-diaminodiphenyl sulfone. Ex. 2003, ¶¶142-43.



- 5. A POSA would have understood from the prior art that dapsone has the chemical formula $C_{12}H_{12}N_2O_2$ and can be referred to as 4,4'-diaminodiphenyl sulfone or 4,4'-sulfonyldianiline or bis (4-aminophenyl)sulfone. AMN1007, [0022]; AMN1004, 8:17-22; AMN1010, 1. The fact that the '926 patent says "[d]apsone (4,4'-diaminophenyl sulfone)" (AMN1001, 2:6) would simply be understood by a POSA to refer to dapsone generally, and would not have been understood to exclude synonymous chemical names for dapsone.
- 6. Next, Dr. Klibanov argues that (1) Garrett does not disclose the claimed "dapsone" structure and (2) a POSA would not understand Garrett's teaching of using about 5% to 10% w/w dapsone in a topical composition would apply to the claimed "dapsone." Ex. 2003, ¶¶79, 82-85, 142, 148. I disagree. Regardless of whether the claimed "dapsone" was limited to the compound 4-4'diaminodiphenyl sulfone, Garrett discloses this compound and teaches that the amount taught in Garrett would apply to this compound.
- 7. First, Garrett says that "'dapsone' refers to the chemical compound dapsone having the chemical formula $C_{12}H_{12}N_2O_2S$ as well as bis(4-aminophenyl)sulfone, 4'4'-diaminodiphenyl sulfone, and its hydrates ... dapsone analogs, and dapsone related compounds." AMN1004, 8:18-22 (emphasis added). From this disclosure a POSA would understand that 4'4'-diaminodiphenyl sulfone is the claimed compound that Dr. Klibanov seeks to limit the claimed "dapsone"



to.¹ Moreover, Garrett discloses the chemical structure of dapsone "C₁₂H₁₂N₂O₂S" and then identifies several different ways of identifying that structure using different naming conventions ("bis(4-aminophenyl)sulfone" versus "4'4'-diaminodiphenyl sulfone") but a POSA would understand these chemical names to be synonyms because they are referring to the same chemical structure. It appears that Dr. Klibanov agrees. AMN1004, 8:18-27, 10:28-31; Ex. 2003, ¶47. And the "dapsone analogs" and "dapsone related compounds" in Garrett are derived from that same basic chemical structure, so if a POSA were considering "dapsone analogs" or "dapsone related compounds" she would additionally envisage the 4,4-diaminodiphenyl sulfone structure. AMN1004, 8:22-27.

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The only difference between the "4'4'-diaminodiphenyl sulfone" structure in Garrett and Almirall's proposed construction is the first apostrophe which is bolded for emphasis: 4'4'-diaminodiphenyl sulfone. Dr. Klibanov does not appear to argue that this difference is meaningful, and a POSA would not consider it so, because the apostrophe in the chemical name merely conveys that each phenyl ring contains an amino group at the 4-position. Because both amino groups in the structure could not be located at the same 4-position, a POSA would be able to understand the chemical structure regardless of the added apostrophe.

- Second, a POSA would understand that the amount of dapsone 8. disclosed by Garrett would apply to the 4,4'-diaminodiphenyl sulfone compound. Throughout Garrett, it distinguishes between "dapsone" and "dapsone analogs and related compounds." Garrett says that ACZONE Gel, 5% is "a topical formulation of dapsone" and that it is approved by Food and Drug Administration ("FDA") to treat acne vulgaris. AMN1004, 10:6-9 (emphasis added). Garrett also says that "dapsone" was first synthesized in 1908. AMN1004, 10:27-28. Conversely, Garrett later describes "dapsone analogs and related compounds" and discusses activity and toxicity comparison testing against dapsone. AMN1004, 11:1-12. From these disclosures, and notwithstanding Garrett's definition of "dapsone," a POSA would have understood that when Garrett simply refers to "dapsone," it means the 4,4'-diaminodiphenyl sulfone compound. Accordingly, a POSA would consider Garrett's disclosure of compositions containing about 5% to 10% w/w dapsone to apply to the 4,4'-diaminodiphenyl sulfone structure.
- 9. Third, of the compounds encompassed by Garrett's definition of "dapsone," the 4,4'-diaminodiphenyl sulfone compound was the only one approved by FDA for the treatment of acne, thus Garrett's disclosure of using topical compositions containing "about 5% to 10% dapsone," which encompasses the FDA-approved amount of 4,4'-diaminodiphenyl sulfone, would have been understood by a POSA to apply to the 4,4'-diaminodiphenyl sulfone compound.

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