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Paper 13
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PAR PHARMACEUTICAL, INC.,
Petitioner,

v.

HORIZON THERAPEUTICS, INC.,[1]
Patent Owner.

Case IPR2015-01117
Patent 8,642,012 B2

Before TONI R. SCHEINER, DEBORAH KATZ, and
GRACE KARAFFA OBERMANN, *Administrative Patent Judges*.

SCHEINER, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

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[1] "[E]ffective May 7, 2015, the name of Hyperion Therapeutics, Inc., was changed to Horizon Therapeutics, Inc. . . . Accordingly, Horizon Therapeutics, Inc. . . . is the Patent Owner of U.S. Patent No. 8,642,012." Paper 5, 2.

I. INTRODUCTION

Par Pharmaceutical, Inc. ("Petitioner") filed a Petition (Paper 2, "Pet.") on April 29, 2015, requesting an *inter partes* review of claims 1–12 of U.S. Patent No. 8,642,012 B2 (Ex. 1001, "the '012 patent"). Horizon Therapeutics, Inc. ("Patent Owner") filed a Preliminary Response (Paper 8, "Prelim. Resp.") on August 5, 2015. We have jurisdiction under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted "unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition."

Upon consideration of the information presented in the Petition and the Preliminary Response, we conclude that Petitioner has established a reasonable likelihood that it would prevail in its challenges to claims 1–12 of the '012 patent. Accordingly, we institute an *inter partes* review.

A. Related Proceedings

Patent Owner filed suit against Petitioner, alleging infringement of the '012 patent and U.S. Patent No. 8,404,215 B1 ("the '215 patent) in *Hyperion Therapeutics, Inc. v. Par Pharmaceutical, Inc.*, Case No. 2:14-CV-384-JRG-RSP (E.D. Tex.). Pet. 7; Paper 5, 3. In addition, concurrently with the Petition under consideration here, Petitioner filed a petition challenging the claims of the '215 patent (IPR2015-01127), but represents that that patent is not related to the '012 patent. Pet. 7.

B. The Asserted Grounds of Unpatentability

Petitioner asserts the challenged claims are unpatentable on the following grounds. Pet. 12–60:[2]

References	**Basis**	**Claims Challenged**
Brusilow '91,[3] Sherwin,[4] Comte,[5] and Shiple[6]	§ 103	1, 3, 4, 7, 8, 10, 12

[2] Petitioner supports its challenge with a Declaration, executed April 29, 2015, by Neal Sondheimer, M.D., Ph.D. ("Sondheimer Declaration") (Ex. 1002).

[3] Saul W. Brusilow, *Phenylacetylglutamine May Replace Urea as a Vehicle for Waste Nitrogen Excretion*, 29 PEDIATRIC RESEARCH 147–150 (1991) ("Brusilow '91") (Ex. 1012).

[4] Carl P. Sherwin at al., *The Maximum Production of Glutamine by the Human Body as Measured by the Output of Phenylacetylglutamine*, 37 J. BIOL. CHEM. 113–119 (1919) ("Sherwin") (Ex. 1016).

[5] Blandine Comte et al., *Identification of phenylbutyrylglutamine, a new metabolite of phenylbutyrate metabolism in humans*, 37 J. MASS SPECTROM. 581–590 (2002) ("Comte") (Ex. 1025).

[6] George J. Shiple & Carl P. Sherwin, *Synthesis of Amino Acids in Animal Organisms. I. Synthesis of Glycocoll and Glutamine in the Human Organism*, 44 J. AMER. CHEM. SOC. 618–624 (1922) ("Shiple") (Ex. 1017).

References	Basis	Claims Challenged
Brusilow '91 , Sherwin, Shiple, and Fernandes[7]	§ 103	5
Brusilow '91, Sherwin, Shiple, and the '647 patent[8]	§ 103	2, 9
Brusilow '91, Sherwin, Shiple, Kasumov,[9] and the '979 patent[10]	§ 103	6, 11
Brusilow '91and Simell[11]	§ 103	1, 3, 4, 7, 8, 10, 12
Brusilow '91, Simell, and Fernandes	§ 103	5
Brusilow '91, Simell, and the '647 patent	§ 103	2, 9
Brusilow '91, Simell, and Kasumov	§ 103	6, 11

[7] INBORN METABOLIC DISEASES: DIAGNOSIS AND TREATMENT 219–220 (John Fernandes et al. eds., Springer Verlag 3d ed. 2000) ("Fernandes") (Ex. 1011).

[8] U.S. Patent No. 4,284,647, issued August 18, 1981 to Brusilow et al. ("the '647 patent") (Ex. 1018).

[9] Takhar Kasumov et al., *New Secondary Metabolites of Phenylbutyrate in Humans and Rats,* 32 DRUG METABOLISM AND DISPOSITION 10–19 (2004) ("Kasumov") (Ex. 1015).

[10] U.S. Patent No. 5,968,979, issued October 19, 1999 to Brusilow ("the 979 patent") (Ex. 1026).

[11] Olly Simell et al., *Waste Nitrogen Excretion Via Amino Acid Acylation: Benzoate and Phenylacetate in Lysinuric Protein Intolerance*, 20 Pediatric Research 1117–1121 (1986) ("Simell") (Ex. 1005).

References	Basis	Claims Challenged
Brusilow ’91	§ 103	1–4, 7, 9, 10, 12
Brusilow ’91, Kasumov, and the ’979 patent	§ 103	6, 11

C. The ’012 Patent (Ex. 1001)

The ’012 patent, titled “Methods of Treatment Using Ammonia-Scavenging Drugs,” is directed to “treatment of patients with nitrogen retention states, in particular urea cycle disorders (UCDs) . . . [by] administer[ing] compounds that assist in elimination of waste nitrogen from the body.” Ex. 1001, 1:18–25. These compounds—or “nitrogen scavenging drugs”[12]—include glyceryl tri-[4-phenylbutyrate] (HPN-100) and phenylbutyric acid (PBA)—both of which are prodrugs that are converted *in vivo* to phenylacetic acid (PAA). *Id.* at 3:61–66.

“For patients with nitrogen retention states such as UCD . . . the body’s intrinsic capacity for waste nitrogen excretion is less than the body’s waste nitrogen production based on a normal diet that contains significant amounts of protein.” *Id.* at 2:22–25. “As a result, nitrogen builds up in the body . . . and usually results in excess ammonia in the blood . . . [which] has various toxic effects.” *Id.* at 2:25–28.

[12] The terms “ammonia scavenger” and “nitrogen scavenger” are used interchangeably in the ’012 patent. Ex. 1001, 4:6–7.

HPN-100 and PBA "reduce excess waste nitrogen and ammonia by converting it to readily-excreted forms, such as phenylacetyl glutamine (PAGN)." *Id.* at 2:45–47. "The capacity to eliminate excess ammonia in treated patients can be considered the sum of the patient's endogenous capacity for nitrogen elimination (if any) plus the amount of additional nitrogen-elimination capacity that is provided by a nitrogen scavenging drug." *Id.* at 2:39–44.

According to the '012 patent, "[i]t has generally been assumed . . . that a prodrug would be converted with 100% efficiency into PAGN for elimination" (*id.* at 9:21–23), but "[i]t has now been found that HPN-100 and phenylbutyrate are both converted into urinary PAGN at an overall efficiency of about 60% to about 75% on average (about 60% conversion efficiency was seen in UCD patients and about 75% conversion was seen in cirrhotic patients, for example)" (*id.* at 9:27–32). "[C]onsequently, this efficiency factor can be used to more accurately calculate or determine initial dosing levels for these drugs, or dietary protein levels acceptable for patients who use these drugs." *Id.* at 9:32–35. Moreover, "urinary PAGN provides a convenient method for monitoring ammonia elimination induced by the administered drug, which does not require drawing blood and directly relates to the actual nitrogen elimination provided by the . . . drug without being influenced by the many other factors that can affect plasma ammonia levels." *Id.* at 7:24–30.

> One embodiment of the invention is a method for determining and/or adjusting the dose of ammonia scavenging drugs in patients with UCDs, whereby the dose would be based on the amount of dietary protein the patient is consuming, the anticipated conversion of the drug to PAGN, and the patient's residual urea synthetic capacity, if any. Dose adjustments, if necessary, would be based on the observed urinary excretion of PAGN and/or total urinary nitrogen (TUN), the difference between the two reflecting the patient's endogenous capacity for waste nitrogen excretion . . . referred to sometimes as their residual urea synthesis capacity.

Id. at 8:16–30.

D. Illustrative Claims

Petitioner challenges claims 1–12 of the '012 patent. Claims 1 and 8 are independent claims. Claims 1 and 8, reproduced below (with indenting added), are illustrative.

> 1. A method of treating a patient having a urea cycle disorder comprising
>
> (a) determining a target urinary phenylacetyl glutamine (PAGN) output
>
> (b) calculating an effective initial dosage of phenylacetic acid (PAA) prodrug selected from glyceryl tri-[4-phenylbutyrate] (HPN-100) and phenylbutyric acid (PBA) or a pharmaceutically acceptable salt of PBA, wherein the effective dosage of PAA prodrug is calculated based on a mean conversion of PAA prodrug to urinary PAGN of about 60%; and
>
> (c) administering the effective initial dosage of PAA prodrug to the patient.

> 8. A method of administering a phenylacetic acid (PAA) prodrug selected from glyceryl tri-[4-phenylbutyrate] (HPN-100) and phenylbutyric acid (PBA) or a pharmaceutically acceptable salt of PBA to a patient having a urea cycle disorder comprising
>
> (a) administering a first dosage of the PAA prodrug;
>
> (b) determining urinary phenylacetyl glutamine (PAGN) excretion following administration of the first dosage of the PAA prodrug;
>
> (c) determining an effective dosage of the PAA prodrug based on the urinary PAGN excretion, wherein the effective dosage is based on a mean conversion of PAA prodrug to urinary PAGN of about 60%; and
>
> (d) administering the effective dosage to the patient.

Id. at 42:16–15, 41–52.

II. ANALYSIS

A. Real Party-In-Interest

Petitioner identifies Par Pharmaceutical, Inc. ("Par Inc.") as the real party-in-interest. Pet. 7. We note that Petitioner represents that Par Inc. is a wholly owned subsidiary of Par Pharmaceutical Companies, Inc., but does not identify Par Pharmaceutical Companies, Inc. as a real party-in-interest. Pet. 7 n.4.

Patent Owner argues that Par Pharmaceutical Companies, Inc. ("Par Co.") was not properly identified as a real party-in-interest. Prelim. Resp. 5. Patent Owner argues that because of this deficiency, the Petition violates the statutory and regulatory requirements for receiving a filing date, citing 35 U.S.C. § 312(a) and 37 C.F.R. § 42.8(b)(1). Patent Owner argues further

that because the Petition was filed exactly one year after Par Inc. was served with the complaint in litigation in the Eastern District of Texas, Petitioner cannot correct the failure to name all the real parties-in-interest by filing a new petition. Prelim. Resp. 5.

According to Patent Owner, Par Co. is a real party-in-interest to the proceeding because it is involved in developing, manufacturing, and distributing generic pharmaceutical products. Prelim. Resp. 8 (citing Ex. 2003 ¶ 4; Ex. 2004, 42; Ex. 2005). Patent Owner also provides evidence that Par Co., in a different proceeding, pleaded guilty pursuant to an agreement with the United States Attorney for the District of New Jersey, and agreed to perform certain actions on behalf of Petitioner. Prelim. Resp. 10 (citing Ex. 2007, 1).

In addition, Patent Owner cites to a Securities and Exchange Commission (SEC) filing that defines the term "we" as including Petitioner and Par Co. Prelim. Resp. 11–13 (citing Ex. 2004, 8). Patent Owner also cites to the statement in the SEC filing that "[o]n April 29, 2015, we filed Inter Partes Review petitions seeking institution of a trial on invalidity at the U.S. Patent and Trademark Office for both of the patents asserted in the Texas litigation [the '012 patent and the '215 patent]." *Id.* at 11 (citing Ex. 2004, 36). Patent Owner argues that the use of "we" in this statement was a deliberate indication that the current Petition was filed at the behest of Par Co. Prelim. Resp. 12.

Finally, Patent Owner asserts that Thomas J. Haughey is the General Counsel and CAO of both Par Co. and Par Inc. and is also the President of Par Inc., indicating the unified nature of the relationship between Par Co. and the Petitioner. Prelim. Resp. 15 (citing Ex. 2008, 70; Ex. 2009).

Nevertheless, on this record, we are not persuaded that the Petition failed to name all real parties-in-interest. Specifically, the use of the term "we" in an SEC filing, even if used deliberately when referring to what could be the current Petition, does not establish adequately that Par Co. has control over this proceeding. Nor does the evidence show that Par Co. exerts control over this proceeding merely because Par Co. and Petitioner are in a similar business and the same person has roles in both Par Co. and Par Inc. Similarly, evidence of control in a different, unrelated litigation is not evidence of Par Co.'s role in this proceeding. Patent Owner has failed to provide us with evidence of actual control by an unnamed entity sufficient to indicate that Petitioner failed to name all real parties-in-interest. *See Taylor v. Sturgell*, 553 U.S. 880, 893–95 (2008).

B. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015). Under that standard, claim terms are given their ordinary and

customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

1. "mean conversion . . . of about 60%"

Petitioner argues that the term "mean conversion of PAA prodrug to urinary PAGN of about 60%" should be construed "as encompassing a range of mean conversion between 53–67%." Pet. 10–12.

However, we determine it is not necessary to construe the term for purposes of this decision, and will interpret the term, should it become necessary, based on the full record developed at trial.

C. Claims 1, 3, 4, 7, 8, 10, 12—Asserted Obviousness over Brusilow '91, Sherwin, Comte, and Shiple

1. Brusilow '91 (Ex. 1012)

Brusilow '91 reports the results of an evaluation of PAG nitrogen (PAGN) as an alternate vehicle for waste nitrogen excretion in patients with inborn errors of urea synthesis (i.e., urea cycle disorders, or UCDs).

Briefly, the daily protein intake of a 7½-year-old boy with a UCD was used to calculate his required waste nitrogen excretion, and the required nitrogen excretion was used to calculate a target amount of urinary PAGN to be excreted. The target amount of PAGN to be excreted was used, in turn, to calculate initial doses of PAA and PBA, based on complete (i.e., 100%) conversion of the drugs to PAGN. Urinary excretion of PAGN was measured over three, three-day periods in which the patient was treated once

with sodium phenylacetate (NaPAA) and twice with sodium phenylbutyrate (NaPBA). Ex. 1012, 147.

The resultant measurements showed that the conversion of NaPBA was not complete—rather, "90% of the predicted amount of PAG[N] synthesized [was] excreted" following the first dose of NaPBA. *Id.* at 148. The second dose of NaPBA was increased to account for the lower than expected conversion of NaPBA to PAGN, and only 80% of the predicted amount of PAGN was excreted. *Id.*, Table 1.

2. Sherwin (Ex. 1016)

Sherwin discusses the results of a study of the conversion of PAA into urinary PAGN in humans. Varying doses of PAA were administered to a normal man (i.e., a healthy subject). Ex. 1016, 114. The subject ingested doses of PAA ranging from 2.5–15.0 grams, and each dose was taken all at once over three to five minutes. *Id.* The subject's urine was collected during twenty-four hour periods beginning at the time of ingestion of the dose. *Id.* Urinary PAGN was measured and a percent conversion from PAA to PAGN was calculated. *Id*. at 114, 116 , Table I. The conversion rate ranged from about 50–67% for all doses, and from about 51–52% for doses of 10 grams or more. *Id.* Moreover, Sherwin suggests that "[t]t is probable that more of the [PAGN] would have appeared in the urine after each dose of the acid, had the acid been ingested at regular intervals covering a period of 10 or 12 hours." *Id*. at 118.

3. Comte (Ex. 1025)

Comte discloses that metabolism of PBA in humans produces PAGN, as well as another metabolite, phenylbutyrlglutamine. Ex. 1025, 581. Comte observed about 54% conversion of PBA to urinary PAGN in seven normal subjects. *Id.* at 585–586.

4. Shiple (Ex. 1017)

Shiple discloses that PAA suppresses urea production in normal subjects, and glutamine is synthesized at the expense of urea nitrogen in the presence of PAA. Ex. 1025, 619, 623.

5. Analysis

Claim 1

Petitioner contends that Brusilow ’91 discloses all the steps of the claimed method of treating a patient suffering from a UCD by administering a PAA prodrug, except that Brusilow ’91’s effective dose of the PAA prodrug was calculated based on a mean conversion of PAA prodrug to urinary PAGN of about 90%, rather than about 60%, as recited in claim 1. Pet. 20.

Nevertheless, Petitioner, supported by the testimony of its witness, Dr. Sondheimer, contends that a person of ordinary skill in the art, recognizing that “*Brusilow ’91* involved only a single subject and observed a range of conversion rates (80–90%)” in that single subject, would have looked to other references, such as Sherwin and Shiple, to find more information on conversion rates, “because each discusses the conversion of

PAA to PAGN" (Pet. 17 (citing Ex. 1002 ¶¶ 42–45)). Petitioner contends that these additional references, in turn, would have led one of ordinary skill in the art to expect a lower conversion rate of PAA prodrugs to urinary PAGN—i.e., about 60%. *Id.* at 19.

In this regard, Dr. Sondheimer testifies, "[a]s seen in Table I of *Sherwin*, the conversion of PAA into normal PAGN in normal subjects ranged from about 50–67 for all doses" and "at clinically relevant doses (10 grams or higher), *Sherwin* teaches a 51–52% conversion of PAA into urinary PAGN in normal subjects." Ex. 1002 ¶ 52 (citing Ex. 1016, 114, 116, Table I). According to Dr. Sondheimer, "[a] person of ordinary skill reviewing *Sherwin* would understand that the 51–52% figures are low" because "*Sherwin* further states that '[i]t is probable that more of the [PAGN] would have appeared in the urine after each dose of the acid, had the acid been ingested at regular intervals covering a period of 10 or 12 hours.'" *Id.* (citing Ex. 1016, 118).

Dr. Sondheimer further testifies that one of ordinary skill in the art would also understand that "*Sherwin*'s figures are lower than one would expect to see in a UCD patient" because "UCD patients are not dosed with a single large dose . . . and by dosing smaller doses over the course of a day, the percent conversion of PAA to PAGN would be higher." Ex. 1002 ¶ 53. In addition, Dr. Sondheimer testifies that Shiple "demonstrates that urea synthesis in normal people is suppressed when treated with PAA" (*id.* ¶ 54 (citing Ex. 1017, 620, Table II, 623)), and "a person of ordinary skill in the

art would have understood from reading *Shiple* and *Brusilow '91* that a normal subject treated with PAA excretes urea at about the same rate as a UCD patient" (*id.* ¶ 55). According to Dr. Sondheimer,

> A person of ordinary skill in the art would have understood that the conversion rates observed in *Sherwin* for the normal subject would also be applicable to the UCD patient. Therefore, a person of ordinary skill in the art reading *Sherwin* in view of *Shiple* would have understood that the percentage conversion of administered PAA to PAGN observed in the healthy volunteer of *Sherwin* would also have been observed in a UCD patient.

Ex. 1002 ¶ 55.

Consequently, Petitioner, supported by the testimony of Dr. Sondheimer, contends that one of ordinary skill in the art "would have used *Sherwin*'s conversion rate to obtain the effective dosage of NaPBA to be administered [to a UCD patient] according to the method described in *Brusilow '91*." Pet. 22–23 (citing Ex. 1002 ¶ 56).

Claim 8

With respect to independent claim 8, Petitioner's contentions and cited evidence, discussed on pages 23 through 27 of the Petition, are essentially the same as for claim 1.

Dependent Claims 3, 4, 7, 10, and 12

Claims 3 and 12 depend from claims 1 and 12, respectively, and require that administration of the effective initial dosage of PAA prodrug produces a normal plasma ammonia level in the patient. Petitioner cites Brusilow '91's teaching that treatment with NaPBA produces a mean plasma

ammonium level within the normal range as meeting this limitation (Pet. 27 (citing Ex. 1012, 148–149)).

Claim 4 depends from claim 1 and recites that calculation of the target PAGN output takes into account the patient's dietary protein intake. Petitioner asserts that Brusilow '91 takes dietary protein intake into account in calculating the dosage for the PAA prodrug (Pet. 28 (citing Ex. 1012, 147)).

Claims 7 and 10 depend from claims 1 and 8, respectively, and require that the pharmaceutically acceptable salt of PBA is sodium PBA. Petitioner cites Brusilow '91's disclosure of treating the patient with NaPBA as meeting this limitation (Pet. 28 (citing Ex. 1012, 147–148, Table 1)).

6. Conclusion

Patent Owner has not addressed Petitioner's contentions, and is under no obligation to do so. In the absence of any countervailing argument, however, at this stage of the proceedings, Petitioner's contentions appear to be supported adequately, and we are persuaded that, on this record, Petitioner has demonstrated a reasonable likelihood of showing that claims 1, 3, 4, 7, 8, 10, and 12 would have been obvious over Brusilow '91, Sherwin, Comte, and Shiple.

D. Claim 5—Asserted Obviousness over Brusilow '91, Sherwin, Shiple, and Fernandes

Claim 5 depends from claim 1 and requires that the target PAGN output take into account the patient's dietary protein intake.

Fernandes discusses diagnosis and treatment of inborn metabolic diseases, including UCDs. Ex. 1011, 219–20. Fernandes discloses a guideline for the management of patients with UCDs, which includes the administration of nitrogen scavenging drugs such as phenylbutyrate. *Id.* at 219, Fig. 17.2. Fernandes teaches that nitrogen scavenging drugs reduce the load on the urea cycle in patients with UCDs. *Id.* at 219. Fernandes further discusses general aspects of therapy and, specifically, that the balance of diet and medicine is important (*id.* at 219), and that protein intake of patients varies considerably and that residual enzyme activity of the UCD patient must be taken into account during treatment (*id.* at 219–20).

Petitioner contends that the subject matter of claim 5 would have been obvious because a person of ordinary skill in the art "reading *Brusilow '91* and *Fernandes* would have considered the residual enzyme activity of the patient, and therefore his or her residual urea synthesis capacity." Pet. 30 (citing Ex. 1002 ¶ 76).

Petitioner's contentions appear to be supported adequately on this record, and we are persuaded that Petitioner has demonstrated a reasonable likelihood of showing that claim 5 would have been obvious over Brusilow '91, Sherwin, Shiple, and Fernandes.

E. Claims 2 and 9—Asserted Obviousness over Brusilow '91, Sherwin, Shiple, and the '647 Patent

Claims 2 and 9 depend from claims 1 and 8, respectively, and recite that target urinary PAGN output is determined as a ratio of the concentration of urinary PAGN to urinary creatinine.

Petitioner notes that "*Brusilow '91* teaches measuring creatinine levels in the UCD patients treated with phenylacetate or NaPBA (Ex. 1012 at 148) but does not expressly mention determining target urinary PAGN output as a ratio of urinary PAGN to urinary creatinine." Pet. 33.

However, Petitioner cites the '647 patent as disclosing measuring urinary creatinine, urinary PAGN, and total urinary nitrogen in a UCD patient after PAA administration, and as disclosing using the ratio of urinary PAGN to creatinine as a convenient measure for an increase in urinary excretion of nitrogen that does not require collection of total daily urine. Pet. 33 (citing Ex. 1018, 3:53–4.6, 4:35–50).

Petitioner contends that one of ordinary skill in the art would have recognized that target urinary PAGN could conveniently be determined as a ratio of urinary PAGN to urinary creatinine. Pet. 33.

Petitioner's contentions appear to be supported adequately on this record, and we are persuaded that Petitioner has demonstrated a reasonable likelihood of showing that claims 2 and 9 would have been obvious over Brusilow '91, Sherwin, Shiple, and the '647 patent.

F. Claims 6 and 11—Asserted Obviousness over Brusilow '91, Sherwin, Shiple, and Kasumov

Claims 6 and 11 depend from claims 1 and 8, respectively, and recite that the PAA prodrug is HPN-100.

Petitioner acknowledges that none of Brusilow '91, Sherwin, or Shiple discloses HPN-100 as the nitrogen scavenging drug.

However, Petitioner argues that it would have been obvious to substitute HPN-100 for NaPBA in Brusilow '91's method because Kasumov discloses that NaPBA may be toxic at high doses (Pet. 34 (citing Ex. 1015, 10, 13)), and because the '979 patent also discloses HPN-100, and teaches that such drugs are useful to treat patients with diseases of nitrogen accumulation.

Petitioner's contentions appear to be supported adequately on this record, and we are persuaded that Petitioner has demonstrated a reasonable likelihood of showing that claims 6 and 11 would have been obvious over Brusilow '91, Sherwin, Shiple, Kasumov, and the '979 patent.

G. Remaining Challenges

Petitioner also challenges claims 1–12 as obvious over Brusilow '91 alone, or in combination with one or more of Simell, Fernandes, the '647 patent, and Kasumov. Pet. 36–60. In light of our determination, discussed above, that there is a reasonable likelihood that Petitioner would prevail in showing that claims 1–12 are unpatentable as obvious over Brusilow '91, Sherwin, Comte, and Shiple, together with Fernandes, the '647 patent, or

Kasumov, we exercise our discretion under 37 C.F.R. § 42.108(a) and decline to institute trial as to claims 1–12 based on the remaining asserted grounds. Specifically, in that regard, Petitioner does not direct us to information sufficient to persuade us that going forward to trial on multiple grounds, directed to the same patent claims, is an efficient allocation of Board or party resources. *See* 35 U.S.C. § 316(b) (regulations for AIA post-grant proceedings take into account "the efficient administration of the Office" and "the ability of the Office to timely complete [instituted] proceedings"); 37 C.F.R. § 42.1(b) (patent rules promulgated for AIA post-grant proceedings, including those pertaining to institution, are "construed to secure the just, speedy, and inexpensive resolution of every proceeding"); 37 C.F.R. § 42.108 (a) (the Board has discretion to authorize an *inter partes* review "on all *or some*" grounds stated in Petition) (emphasis added)).

III. CONCLUSION

Having considered the information presented in the Petition and the Preliminary Response, we institute an *inter partes* review, as we determine that Petitioner has established a reasonable likelihood that it would prevail in its challenges to claims 1–12 of the '012 patent.

At this stage in the proceeding, the Board has not made a final determination as to the construction of any claim term or the patentability of any challenged claim. Our final determination will be based on the record as fully developed at trial.

IV. ORDER

It is

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted as to claims 1–12 of U.S. Patent No. 8,642,012 B2 on the following grounds of unpatentability:

Claims 1, 3, 4, 7, 8, 10, and 12 under 35 U.S.C. § 103 as unpatentable over Brusilow '91, Sherwin, Comte, and Shiple;

claim 5 under 35 U.S.C. § 103 as unpatentable over Brusilow '91, Sherwin, Shiple, and Fernandes;

claims 2 and 9 under 35 U.S.C. § 103 as unpatentable over Brusilow '91, Sherwin, Shiple, and the '647 patent; and

claims 6 and 11 under 35 U.S.C. § 103 as unpatentable over Brusilow '91, Sherwin, Shiple, and Kasumov.

It is

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this decision; and

FURTHER ORDERED that no other grounds of unpatentability are authorized for this *inter partes review* other than those identified above.

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