

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BORAGEN, INC.,
Petitioner,

v.

SYNGENTA PARTICIPATIONS AG,
Patent Owner.

IPR2020-00124
Patent 10,130,096 B2

Before SHERIDAN K. SNEDDEN, ROBERT A. POLLOCK, and
TIMOTHY G. MAJORS, *Administrative Patent Judges*.

MAJORS, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Boragen, Inc., (“Petitioner”),¹ on November 5, 2019, filed a Petition to institute *inter partes* review of claims 1–12 of U.S. Patent No. 10,130,096 B2 (Ex. 1001, “the ’096 patent”). Paper 1 (“Pet.” or “Petition”). Syngenta Participations AG (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 15 (“Prelim. Resp.”).

Under 35 U.S.C. § 314(a), an *inter partes* may not be instituted unless the Petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Upon considering the arguments and evidence, we deny review of the Petition on a discretionary basis under 35 U.S.C. § 325(d). Thus, for reasons further explained below, we do not institute *inter partes* review of claims 1–12 of the ’096 patent.

II. BACKGROUND

A. *Related Proceedings*

Petitioner states that it is unaware of any litigation concerning the ’096 patent. Pet. 1. Petitioner does not identify any other matters known to it related to the ’096 patent pending before the U.S. Patent Office. *Id.*

B. *The ’096 Patent*

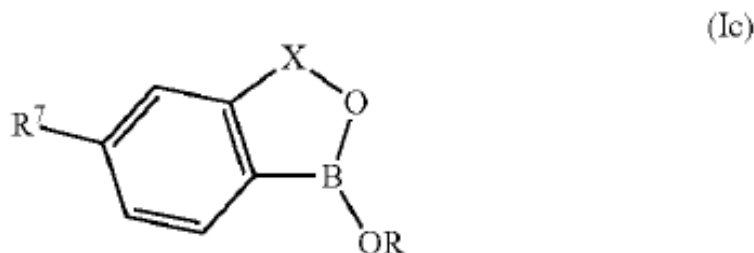
The ’096 patent is titled “METHOD FOR PROTECTING USEFUL PLANTS OR PLANT PROPAGATION MATERIAL.” Ex. 1001, (54). According to the patent:

¹ Petitioner identifies itself as the real party-in-interest. Pet. 1.

The present invention relates to the method for protecting useful plants or plant propagation material, more specifically to a method [of] use of oxaboroles and salts thereof as biocides in agriculture or horticulture for controlling or preventing infestation of plants or plant propagation material, harvested food crops by phytopathogenic microorganisms, preferably fungi.

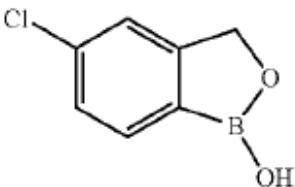
Id. at 1:5–12. As background, the '096 patent discloses that “use of oxaboroles and salts thereof as industrial biocides especially fungicides for the protection of plastics materials such as plasticised PVC is know[n] from WO95/33754 [(“Austin,” as described further below)].” *Id.* at 1:35–38.

The '096 patent explains that a “particularly preferred class of oxaborole” of the invention is “that of formula (Ic),” which is shown below.



Id. at 11:48–65 (describing varied substitutions at R⁷, X, and R). The above chemical formula shows a polycyclic structure having, *inter alia*, a five-membered heterocyclic ring that includes boron (B) and oxygen (O) at certain points on that ring. As the patent further explains, R⁷ may preferably be chlorine (Cl), X may be CH₂, and R may be hydrogen (H) in this formula. *Id.* at 11:6–12:14. Such substituted structure is shown below, and is named Compound 1 in the '096 patent.

TABLE 1

Structures 1-36		
Compound	Name	Structure
1	5-Chloro-3H-benzo[c][1,2]oxaborol-1-ol	

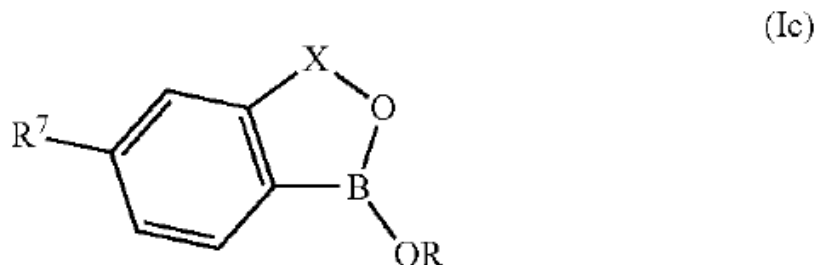
Id. at 26:55–67 (Table 1 (partial)). The compound shown immediately above is a 5-Chloro-3H-benzo[c][1,2]oxaborol-1-ol, including, as noted, chlorine at R⁷ and hydrogen at R, forming a hydroxyl at that position. *Id.*

According to the '096 patent, compounds of the invention “are distinguished by excellent activity at low rates of application, by being well tolerated by plants and by being environmentally safe.” *Id.* at 12:64–67. Moreover, the patent discloses, the compounds have “useful curative, preventative and systemic properties and are used for protecting numerous useful plants.” *Id.* at 13:1–2. The '096 patent further describes, in examples, the fungicidal activity of the compounds on plants or plant propagation material (e.g., seeds). *See, e.g., id.* at 41:11–25 (Example B-4, describing at least 80% control of the fungi *Pyrenophora graminea* on barley following seed treatment with Compound 1), 41:26–42 (Example B-5, describing at least 50% control of the fungi *Pythium ultimum* on cotton following seed treatment with Compound 1).

C. Challenged Claims

The '096 patent includes twelve claims. Claim 1–3 are illustrative and read as follows:

1. A method for controlling infestation of plants or plant propagation material and/or harvested food crops susceptible to microbial attack by treating plants or plant propagation material and/or harvested food crops with an effective amount of an oxaborole of formula (Ic):



wherein R⁷ is chlorine, X is CH₂, and R is H, C₁₋₄ alkyl optionally substituted by —NR³R⁴ wherein R³ and R⁴ are each independently, hydrogen, optionally substituted C₁₋₄-alkyl.

2. A method of controlling phytopathogenic diseases on plants or plant propagation material thereof according to claim 1, which comprises applying to said plant propagation material a fungicidally effective amount of a compound of formula (Ic).
3. A method according to claim 1, wherein plant propagation material of useful plants are seeds of useful plants.

Ex. 1001, 41:44–42:19.

D. Asserted Grounds of Unpatentability

Petitioner asserts four grounds of unpatentability (Pet. 3, 30–67), which are provided in the table below:

Claims Challenged	35 U.S.C. §	Reference(s)
1–12	103(a) ²	Austin, ³ Sibley ⁴
1–12	103(a)	Austin, Kohn ⁵
1–12	103(a)	Austin, Kohn, Sibley
1–12	103(a)	Austin, Kohn, Baker ⁶

Petitioner also relies on declarations of Dennis Hall, Ph.D. (Ex. 1003), and Phillip M. Brannen, Ph.D. (Ex. 1018).

E. Prosecution History

The parties each provide extensive reviews of the prosecution history. Pet. 10–19; Prelim. Resp. 9–18; Ex. 1002 (prosecution history). We provide an overview below.

² The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103. Because the challenged claims of the ’096 Patent have an effective filing date before the effective date of the applicable AIA amendments, we refer to the pre-AIA version of 35 U.S.C. § 103 in this Decision.

³ Austin et al., WO 95/33754, published Dec. 12, 1995 (Ex. 1004).

⁴ Sibley et al., WO 2009/130481 A1, published Oct. 29, 2009 (Ex. 1006).

⁵ Kohn et al., US 3,686,398, issued Aug. 22, 1976 (Ex. 1005).

⁶ Baker et al., US 7,582,621 B2, issued Sept. 1, 2009 (Ex. 1008).

The application (US Appl. No. 14/347,285 (“the ’285 Application”)) that led to the ’096 patent was filed on March 26, 2014, and claimed priority from an earlier international application and foreign counterparts filed in 2011 and 2012. Ex. 1001, (21), (22), (86), (30). The original independent claims were broader than the claims that later issued, including a broader chemical formula, but still for use of the formula/compounds in controlling infestation in plants. Ex. 1002, 632 (claim 1 as filed).

With the filing of the ’285 Application, the Applicants submitted an Information Disclosure Statement (“IDS”) as well as a related International Search Report. *Id.* at 1–4, 179–184. The IDS identified Kohn, Austin, two publications to Baker,⁷ and three other references. *Id.* at 1–4; *see also id.* at 181–182. Those were the only references cited during prosecution.

On May 21, 2015, the Office entered a restriction requirement and the Applicants later elected Compound 1 (as shown above). *Id.* at 465, 470 (noting that this “species is encompassed in claims 1–4 and 6–18”).

Then, over the next two-plus years, followed a series of five rejections of all the pending claims for obviousness over the combination of Austin and Kohn.⁸ For example, in a Final Office Action dated February 22, 2016,

⁷ The Baker references are US 2010/0267981 A1 (published Oct. 21, 2010), which is the publication of a continuation-in-part application to Baker (Ex. 1008), and WO 2006/089067 A2 (published Aug. 24, 2006). Ex. 1002, 56–178.

⁸ Early in prosecution, the Examiner also rejected the claims for lack of enablement because the claims, at that time, included “preventing” infestation, which the Examiner stated embraces “total prevention.” Ex. 1002, 476–477. The Examiner reasoned that the claims were enabled

the Examiner found that “Austin et al. teach the elected compound, 5-Chloro-3H-benzo[c][1,2] oxaborol-1-ol, in Table 5, compound 66 (page 23, Table 5)” and that such “compound provides antifungal activity against, *Aspergillus niger* and *Candida albicans* (page 37, Table 9, compound 66).” *Id.* at 514–515. Because Austin did not disclose use of the oxaboroles to control infestation of plants, the Examiner turned to Kohn, which the Examiner reasoned taught controlling fungal infestation in plants with “compounds with similar structures.” *Id.* at 516–17.

Following the second rejection for obviousness over Austin and Kohn, the Applicants filed a Request for Continued Examination (“RCE”) along with arguments from the Applicants and a declaration from Dr. Ronald Zeun. *Id.* at 527–544; *id.* at 530–536 (“Zeun Declaration”). As reported in the Zeun Declaration, numerous compounds from Austin were tested, including some that fell within the scope of the claims and some that did not. *Id.* at 530–533. For example, Dr. Zeun tested compound 2.2 (as within the claim scope) and 2.1 (as outside claim scope) and cites data showing, for instance, that compound 2.2 exhibited between 60–70% control against various fungi on different plants (grape, wheat, barley) whereas compound 2.1 provided only 25% control on grape and no control against the fungi on wheat and barley. *Id.* at 534–536 (describing results and assays). Applicants argued that the results with the claimed compounds showed “unexpected superior fungicidal activity in agriculture” and, based on

for “controlling” infestation but not total prevention. *Id.* Applicants overcame this rejection by deleting “preventing” in the claims. *Id.* at 506.

Austin, “one would not have any reasonable expectation of success when pursuing the present claims.” *Id.* at 543–44 (“[A]s seen in the presently submitted disclosure, the efficacy varies based on the subject material in which the compounds are applied.”).

The Examiner was initially unpersuaded. Among other things, the Examiner found in a July 29, 2016, Office Action that Petitioner’s data was “not commensurate in scope with the oxaborole compounds” recited in the claims at that time. *Id.* at 554 (noting that the claims permitted the R⁷ substituent to be, e.g., a carbonamido optionally substituted with C₁₋₆ alkyl). The Examiner also responded that Austin taught many compounds that fell within the scope of the claims, including compound 66, and that Austin showed efficacy against certain fungi (e.g., *A. niger*) known to attack plants. *Id.* at 555–556.

Applicants responded by narrowing their claims. *Id.* at 566. Moreover, Applicants continued to press their arguments that, based on the prior art and the declaration evidence, they had shown unexpected superior antifungal efficacy when the compounds were used in agriculture, and the absence of a reasonable expectation of success. *Id.* at 566. Yet the Examiner remained unpersuaded and, in a February 9, 2017, Office Action, entered a final rejection of the claims. *Id.* at 575–85 (finding “it would have been obvious to the skilled artisan that the compounds taught by Austin et al. would be able to control harmful fungi on plant surfaces,” while acknowledging that “all of the compounds disclosed [in Austin] may not provide protection against fungal attack”).

This final rejection prompted Applicants to file a second RCE. *Id.* at 592–605. Applicants argued that Austin failed to suggest its compounds could be used in agriculture and that the structures of the antifungals in Kohn were “widely different.” *Id.* at 601 (noting, for example, a five- versus a six-membered ring in the claimed formula, and an additional aromatic ring in Kohn’s compounds). And, once again, Applicants argued that Dr. Zeun’s testing showed unexpected results and that there was no reasonable expectation of success from Austin as to which compounds would be suitable and highly active for use in agriculture. *Id.* at 603.

On September 21, 2017, the Examiner maintained the rejection of the claims over Austin and Kohn. *Id.* at 606–619. The Examiner did, however, remark that “Compound 2.2 would be found allowable based on data provided in the Declaration.” *Id.* at 618. For certain other results (e.g., comparison of the compounds in group 3 in the Zeun Declaration), it appears that the Examiner remained unconvinced because some of the data was based on in vitro testing rather than on living plants. *Id.*

Applicants amended and narrowed their claims once more, and provided their final substantive response. *Id.* at 632. They argued the ordinarily skilled person, absent hindsight, would not have looked at Austin for compounds to control fungal infestation of plants. *Id.* at 635. They argued that Kohn’s compounds had “an entirely different structure” without the “same core structure” relative to the compounds of the claims. *Id.* at 636. And, Applicants again argued that data in the Zeun Declaration showed unexpected results when the claimed compounds were used on plants. *Id.* at 636–637 (“[I]n comparison with compound 2.1, claimed

compounds 2.2 and 2.3 provide better than expected control against PLAVIT in grapes and PYTULT in cotton.”); *see also id.* at 637 (also highlighting the in vivo and in vitro results for the Group 3 compounds).

On July 12, 2018, the Examiner entered a Notice of Allowability, without further comment or express reasons explaining the decision to allow the claims. *Id.* at 656–660. The ’096 patent issued on November 20, 2018.

III. DISCRETION UNDER 35 U.S.C. § 325(d)

Patent Owner urges us to deny institution under 35 U.S.C. § 325(d) “because each of [Petitioner’s] four obviousness arguments simply rehashes references and assertions previously considered by the Examiner during prosecution of the ’096 patent.” Prelim. Resp. 54–60. According to Patent Owner, “[a]ll four of the combinations [asserted by Petitioner] rely on the same primary reference—Austin, that was previously considered by the Examiner.” *Id.* at 54–55. And, Patent Owner highlights, the combination of Austin and Kohn, which Petitioner relies on for purposes of grounds 2, 3, and 4, “was asserted by the Examiner in five separate office actions before being overcome by the Applicant.” *Id.* Insofar as Petitioner “adds a (different) additional reference” for some grounds, Patent Owner contends that such references are cumulative to those before the Examiner during prosecution or otherwise fail to “cure the defects in Austin and Kohn or provide[] a motivation to combine them.” *Id.* at 55; *see also id.* at 58–59 (asserting that the WO 2006/089067 publication cited during prosecution contains the same disclosures as Baker, which Petitioner cites in Ground 4);

see, e.g., Ex. 1002, 56,⁹ 102–103 (identifying “compound 2” as a molecule with “optimal physiochemical properties”), 167 (Table 1, listing minimum inhibitory concentrations (“MIC”) of compound 2).

Petitioner contends that, “[o]f the four grounds presented herein, three rely on new combinations of prior art that were not previously presented to the Examiner.” Pet. 3. According to Petitioner, “[w]hile Austin and Kohn were previously cited during prosecution, the prosecution history makes plain that the declaration submitted by the applicants . . . to overcome the Examiner’s rejection over the combination of Austin and Kohn was improper.” Pet. 3–4 (asserting the declaration “failed to compare the activity of the claimed compounds with the closest prior art compounds”); *see also id.* at 15–16, 23, 43–44. Hence, Petitioner contends, the challenge to the claims does not present the same or substantially the same prior art or arguments that “were previously presented to the PTO.” *Id.* at 4.¹⁰

⁹ Baker et al., WO 2006/089067 A2 (“Baker ’067”) is included in the file history submitted here (Ex. 1002), and was cited in an Information Disclosure Statement and in the International Search Report submitted during prosecution. Ex. 1002, 1–2, 180–182. In general, we use the pagination added to the exhibit copies rather than the original pagination. The exception, however, are exhibits that are US patents where we use the original numbered-column format or other indicia from the original document when citing to such exhibits.

¹⁰ In the exercise of our discretion here, we conclude it is not necessary to resolve the argument that Petitioner has advanced an improper definition for the qualifications of the ordinarily skilled person, and an overly broad claim construction. Prelim. Resp. 23–26. For purposes of this Decision only, we will apply Petitioner’s proposed definition for the person of ordinary skill in the art as well as Petitioner’s proposed claim construction. Pet. 19–21.

A. Legal Principles

Institution of *inter partes* review is discretionary. *Harmonic Inc. v. Avid Tech, Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (explaining that “the PTO is permitted, but never compelled, to institute an IPR proceeding”). The Patent Office may, for example, deny institution under 35 U.S.C. § 325(d), which provides, in pertinent part, that “[i]n determining whether to institute or order a proceeding under this chapter . . . the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.”

In evaluating whether the same or substantially the same prior art or arguments were previously presented to the Office, the Board has identified several non-exclusive factors for consideration. *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, Case IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential as to § III.C.5, first paragraph) (“the *Becton, Dickinson* factors”). Those factors are as follows:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;

(e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and

(f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of prior art or arguments.

Id.; see also Office Patent Trial Practice Guide Update (“Trial Practice Guide Update”), referenced at 83 Fed. Reg. 39,989 (Aug. 13, 2018), at 12 (discussing the *Becton, Dickinson* factors).

As further explained in *Advanced Bionics, LLC v. Med-El Electromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 10 (Feb. 13, 2020) (“*Advanced Bionics*”) (precedential), factors (a), (b), and (d) from *Becton, Dickinson* relate to whether the art and arguments presented in the petition are the same or substantially the same as those previously presented to the Office. Factors (c), (e), and (f) “relate to whether the petitioner has demonstrated a material error by the Office” in its prior consideration of the art or arguments. *Id.*

Only if the same or substantially the same art or arguments were previously presented to the Office do we then consider whether petitioner has demonstrated error. *Advanced Bionics* at 8–10. “If the petitioner fails to show that the Office erred, the Director may exercise his discretion not to institute *inter partes* review.” *Id.* at 8–9 (“If a condition in the first part of the framework [i.e., substantially same art or arguments] is satisfied and the petitioner fails to make a showing of material error, the Director generally will exercise discretion not to institute *inter partes* review”). “At bottom, this [§ 325(d)] framework reflects a commitment to defer to previous Office evaluations of the evidence of record unless material error is shown.” *Id.* at

9. On the question of material error, “[i]f reasonable minds can disagree regarding the purported treatment of the art or arguments, it cannot be said that the Office erred in a manner material to patentability.” *Id.*

B. Becton, Dickinson Factors (a), (b), and (d)

We first determine whether the same or substantially the same art or arguments were presented previously to the Office. Petitioner raises four obviousness grounds, all of which rely on Austin as the primary reference. Pet. 3. Grounds 2, 3, and 4 rely on Austin and Kohn. Grounds 3 and 4 cite an additional reference with the Austin and Kohn combination—Sibley and Baker, respectively. *Id.* And, Ground 1 is based on Austin in view of Sibley. *Id.*; *see also id.* at 30–41.

There is no dispute that Austin and Kohn were presented previously to the Office during examination of the '096 patent. Indeed, the Examiner rejected the then-pending claims *five separate times* for obviousness over Austin and Kohn before finally allowing the claims. Prelim. Resp. 2, 54–55; Pet. 42 (acknowledging that “the Examiner repeatedly rejected the claims of the application leading to the '096 patent over the combination of Austin and Kohn”); *see, e.g.*, Ex. 1002, 575–585 (Final Office Action dated Feb., 21, 2017, in which the claims were “rejected under 35 U.S.C. 103(a) as being unpatentable over Austin et al. (WO 95/3754) in view of Kohn et al. (US 3,686,398)”).¹¹ As for Baker and Sibley, as explained below, we find

¹¹ *See also* Ex. 1002, 473–484 (Aug. 27, 2015 Office Action), 511–521 (Feb. 22, 2016 Office Action), 546–557 (July 29, 2016 Office Action), 606–619 (Sept. 21, 2017 Office Action). The prosecution record further indicates that

the cited teachings in those references, properly interpreted, are cumulative to art that was presented to the Office during prosecution. Accordingly, on this record, we conclude that the “same or substantially the same prior art or arguments” as asserted by Petitioner here “were previously presented to the Office.” 35 U.S.C. § 325(d).

1. Austin (Exhibit 1004)

Petitioner relies heavily on Austin to support its challenge to the unpatentability of claims 1–12. Pet., *passim*.

Petitioner’s reliance on Austin mirrors the Examiner’s reliance on Austin during prosecution.¹² For example, during prosecution, the Examiner found that Austin’s oxaborole compounds “are especially effective in providing anti-fungal activity,” that “Austin teach[es] the elected compound . . . , compound 66,” and that Austin’s compound 66 “provides antifungal

Austin was raised with the Applicants in at least one Examiner-Initiated Interview Summary, in which the Examiner remarked that “the claims were still obvious over the prior art of record, Austin et al.” and that, “while some of the [Applicants’] remarks were convincing[,] after a closer review of the data, it was determined that the compounds referenced in the remarks were tested in vitro, instead of on living plants, as argued.” *Id.* at 620.

¹² Austin relates to use of oxaboroles in industrial applications, “such as for the protection of plastic materials such as plasticised PVC.” Austin, 1; *see also id.* at 3 (“The present invention relates to use of oxaboroles and salts thereof as industrial biocides”), (“No single industrial biocide is ideal for all applications”), (“It has now been found that compounds containing an oxaborole ring are particularly effective against micro-organisms . . . particularly fungi, especially fungi which cause degradation of plastics materials”), 8 (“Particularly useful effects have been obtained in plastics materials and paint films”). Austin does not disclose the use of oxaboroles to control infestation on plant materials or food crops.

activity against, *Aspergillus niger*.” Ex. 1002, 480 (citing Austin’s “Table 9, compound 66”), 482 (“The data provide[d] by Austin . . . teach that the compounds are effective against fungi that are known to attack plants, such as *Aspergillus niger*.”). Moreover, the Examiner found that “compounds taught by Austin are the same compounds disclosed in the instant application.” *Id.* at 520; *see also id.* at 556 (finding that, “[w]hile all the compounds disclosed [in Austin] may not provide protection against fungal attack, many that fall within the scope of the instant claims including elected compound [(compound 66)] . . . do provide that protection”).

So too, Petitioner relies heavily on Austin’s compound 66 and the disclosed activity against fungi. According to Petitioner, “[c]ompound 66 of Austin is identical to the compound of the challenged claims,” and “Austin teaches that compound 66 is extremely active in inhibiting growth of fungi, including plant pathogenic fungi.” Pet. 22; *see also id.* at 24, 34–37 (Austin’s “Table 9 describes the potent antifungal activity of Example 66 against plant pathogenic fungi including ‘AN [*Aspergillus niger*]’”) (brackets in original).

In short, Petitioner’s arguments and citation to relevant teachings in Austin substantially overlap with the Examiner’s findings during prosecution. We find that the Examiner thoroughly considered Austin’s teachings, and that the Petition presents the same or substantially the same arguments related to Austin that were presented to the Office previously.

2. Kohn (Exhibit 1005)

Kohn was also before the Examiner during prosecution. *See, e.g.*, Ex. 1002, 514 (rejecting claims as obvious over Austin and Kohn). And,

Petitioner turns to Kohn for substantially the same reasons that the Examiner did when rejecting the claims.

The Examiner found that Austin did not “specifically disclose the oxaborole is used to control infestation of plants or plant propagation material” as claimed. Ex. 1002, 550–51. So, the Examiner cited Kohn as teaching “the use of boroxarophenanthrenes as fungicides,” which are “applied in fungicidal amounts by conventional methods to fungi or hosts which are subject to fungal attack, especially vegetative hosts, such as plants and plant seeds.” *Id.* (citing Kohn, 5:29–42); *see also id.* at 579 (“Austin . . . do not specifically disclose the oxaborole is used to control infestation of plants . . . [and] [i]t is for this reason that Kohn et al. is added as a secondary reference.”). Also, according to the Examiner, “Kohn was added to provide support for treating plants and plant propagation materials” because Kohn “teaches that compounds with the oxaborole core structure are used to treat plants and seeds.” *Id.* at 616 (“One of ordinary skill in the art would have been motivated to use the teachings of Kohn which teaches compounds with the same core structure are used to treat plants.”).¹³

¹³ In response, Applicants argued that the Examiner was incorrect in asserting that the oxaborole compounds as in Austin or the claims had the same core structure as the compounds of Kohn. *See, e.g.*, Ex. 1002, 636 (“The compounds of Kohn are a fused-ring derivative of phenanthrene as opposed to the benzene derivative of the instant invention.”), 601. Applicants pointed out that “compounds of Kohn at least require two aromatic rings, which is not true for those of the present claims” and the “middle ring of the compounds listed in Kohn are six-membered rings and not five-membered rings as required in the present claims.” *Id.* at 601 (showing side-by-side depiction of the compounds of Kohn and the claims).

Petitioner makes the same points about Kohn here. According to Petitioner, Kohn teaches “compounds with an oxaborole core structure could be used as fungicides to treat plants and seeds.” Pet. 26–27; *see also id.* at 42–43 (block quoting, with apparent approval, the Examiner’s findings about Kohn in combination with Austin). Like the Examiner, Petitioner cites Kohn’s teaching of the use of “boroxarophenanthrenes” as fungicides, and the application of such fungicides in effective amounts on vegetative hosts. Pet. 46 (claim chart, citing Kohn’s teachings). Indeed, Petitioner expressly invokes the reasons offered by the Examiner during prosecution as motivating the combination of Austin and Kohn. Pet. 44 (“For all the reasons discussed above and in the prosecution history, a POSITA would have been motivated to combine the teachings of Austin and Kohn with a reasonable expectation of success.”).¹⁴

¹⁴ In fact, the *only* reasons that are expressly offered in the Petition for combining Austin and Kohn come from the Examiner. Pet. 42–49 (Ground 2). Petitioner’s assertion that the declaration submitted during prosecution was “misleading” is not a reason for combining Austin and Kohn. Pet. 43–44. Nor do vague citations to testimony of Petitioner’s declarants, without any adequate explanation in the Petition itself, suffice to demonstrate persuasive reasons for combining the art. *Id.*; *see also id.* at 23 (asserting vaguely in a section titled “Overview of Grounds” that “[a] POSITA would also be motivated to combine Austin and Kohn to arrive at the claimed invention”) (citing Ex. 1003 ¶ 82; Ex. 1018 ¶¶ 63–65, 82–85). Even the cited testimony here is unpersuasive. For example, Dr. Hall’s cited testimony merely repeats that a skilled person “would have been motivated to combine Austin and Kohn with a reasonable expectation of success.” Ex. 1003 ¶ 82; Ex. 1018 ¶¶ 63–65 (conclusory opinion about an alleged “structure similar to that of a benzoxaborole compound” in Kohn), ¶¶ 82–85

3. Baker (Exhibit 1008)

Baker relates to the use of oxaborole compounds for the treatment of onychomycosis, in lay terms, fungal infections of toe and fingernails of humans and other animals. Ex. 1008, Abstr., 5:17–24.¹⁵ Petitioner relies primarily on Baker’s teaching of “compound 1” and “compound 2” as having “optimal physiochemical properties.” Pet. 60, 64; *see also id.* at 27–28. As Petitioner notes, Baker’s compound 1 is a 5-F benzoxaborole and Baker’s compound 2 is a 5-Cl benzoxaborole. *Id.* at 60; *see also id.* at 27 (“Compound 1 is nearly identical to the compound encompassed by the ’096 patent where R is a hydrogen atom. The only difference is the substitution of chlorine for fluorine at R⁷.”). As Petitioner elsewhere notes, the compound with the 5-fluoro substitution (compound 1) is otherwise referred to as “AN2690,” and the compound with the 5-chloro substitution (compound 2) is otherwise known as “AN2718.” Pet. 6–7; Ex. 1013, 3 (Fig. 2, showing “[s]tructure of AN2690, currently in clinical trials for

(conclusory opinion about “similar” structures motivating “routine optimization”).

¹⁵ Baker discloses that “the present compounds have physiochemical properties that facilitate penetration into the nail plate.” Ex. 1008, Abstr.; *see also id.* at 31:59–32:25. According to Baker, “[o]nychomycosis is a disease of the nail caused by yeast, dermatophytes, or other molds,” and “[d]ermatophytes are the most frequent cause of nail plate invasion.” *Id.* at 28:17–27 (identifying *Trichophyton rubrum* as the most frequently isolated dermatophyte followed by *T. mentagrophytes*). Baker also discloses that the described compounds may have topical and cosmetic antifungal efficacy against infections of the skin, hair, claws, or hooves of animals. *Id.* at Abstr., 9:59–67, 11:60–12:24, 28:5–15.

onychomycosis); Exs. 1015 and 1016 (disclosing AN2718 in development for the treatment of *tinea pedis* (athlete's foot) and nail infection).¹⁶

The disclosures of Baker relied upon by Petitioner were previously presented to the Office. Although the same Baker reference on which Petitioner now relies was not cited to the Examiner, as Patent Owner points out, two related Baker publications were submitted by the Applicants during prosecution. Prelim. Resp. 55 (“That Baker reference is cumulative to two different references having the same author/inventor and claiming priority to the same provisional application.”), 59 (“Notably, the WO 2006/089067 [Baker] publication cited during prosecution contained the same disclosures of the Baker [’621] patent cited by Petitioner.”). Patent Owner shows that the same disclosures that Petitioner cites from Baker were in the related Baker references before the Examiner. As Patent Owner explains, “paragraph 135 of WO 2006/089067 includes the same table disclosing compounds 1 and 2, as the Baker reference relied on in Ground 4 by Petitioner,” and WO 2006/089067 “contains the same listing of MIC concentrations in FIGS 1A-1C that Petitioner cites.” Prelim. Resp. 59. Ex. 1002, 56, 102–103, 166–169.

The related Baker references were not cited by the Examiner in a rejection of the claims during prosecution. But, a rejection applying a reference that is later relied upon by a petitioner is not a prerequisite to a finding that such reference was already presented to the Office under

¹⁶ As Petitioner explains, AN2718 is a compound encompassed by formula (Ic) of claim 1 of the ’096 patent where R is a hydrogen atom, and shares the same structure as Austin’s Compound 66. Pet. 22–25, 35–36.

§ 325(d). *Advanced Bionics* 7–8 (“Previously presented art [under § 325(d)] includes art made of record by the Examiner, and *art provided to the Office by an applicant, such as on an Information Disclosure Statement (IDS)*, in the prosecution history of the challenged patent.”) (emphasis added). The related Baker publications were cited among a relatively short list of references (along with Austin and Kohn) in the Information Disclosure Statement as well as the International Search Report submitted early in the prosecution of the ’096 patent. Ex. 1002, 178–184; *see also id.* at 1–4 (Information Disclosure Statement dated Mar. 26, 2014 (identifying the two Baker references, Kohn, and Austin)), 479 (portion of Examiner’s obviousness rejection over Austin and Kohn, noting that “Austin et al. and Kohn et al. are cited by Applicant in the IDS dated 3/26/2014”); Prelim. Resp. 59 (“Only 7 references in total were cited against the ’096 patent during prosecution, including the two prior Baker applications.”). So, we find that the related Baker references, with the same allegedly relevant disclosures cited by Petitioner here, were presented during prosecution.

4. Sibley (Exhibit 1006)

Sibley was not of record during prosecution. As explained below, however, we find Sibley is cumulative to art that was before the Examiner.

Whether Sibley is cumulative hinges on whether we agree with Petitioner’s or Patent Owner’s opposing interpretations of the reference. According to Petitioner, Sibley “discloses that AN2718—the very same compound claimed in the ’096 patent—had utility as an agricultural fungicide.” Pet. 8. More specifically, Petitioner contends that Sibley describes a method of controlling fungal disease in plants “by applying two

antifungal agents: a pyrrole derivative and an agricultural fungicide such as AN2718, which [is] the compound of claim 1 of the '096 patent, where R is a hydrogen atom.” Pet. 25–26 (citing Ex. 1006, 69, 227 (claims 20-21)); *see also id.* at 30 (“Both references [Austin and Sibley] teach that the 5-chloro benzoxaborole compound is efficacious against plant pathogenic fungi.”), 35–36 (citing, e.g., Sibley’s claim 12 as reciting “A combination according to claim 10 or 11 wherein the second antifungal agent is selected from the group . . . [including] AN2718.”) (Petitioner’s emphasis and bracketing). Patent Owner counters that “none of the cited passages of Sibley discloses the use of AN2718 in agriculture.” Prelim. Resp. 38. Instead, Patent Owner contends, Sibley mentions AN2718 only twice and, even then, only as a secondary antifungal agent for pharmaceutical embodiments—not the separate agricultural embodiments. *Id.* at 38–39.

We find Patent Owner has the more reasonable interpretation of Sibley. Petitioner’s interpretation, in contrast, strains Sibley’s actual teachings and is rooted in hindsight.

Sibley relates in particular to the use of “pyrrole compounds” as antifungal agents. Ex. 1006, 1, 2. These pyrrole compounds are not the claimed compounds, nor do they appear to be related or structurally similar to the claimed compounds or the antifungal compounds highlighted by Petitioner in the other asserted art. *Id.* at 3 (showing formula (I)). Sibley teaches that the pyrrole “compounds and their pharmaceutically acceptable salts are useful in prevention or treatment of a fungal disease” and also that pyrrole compounds “and agriculturally acceptable salts thereof, may also be used as agricultural fungicides.” *Id.* at 1.

Sibley is 230 pages long. Ex. 1006, *passim*. Compound AN2718 is mentioned only twice, and only briefly as a possible second antifungal agent for combination with a primary pyrrole compound. *Id.* at 69, 225. In its more complete context, AN2718 appears in the following passage of Sibley:

In one embodiment, the present invention provides combinations of the pyrrole derivative of formula (I), (IA) or (IB) or a pharmaceutically acceptable salt thereof, with a further antifungal agent. Thus, the pyrrole derivative of formula (I), (IA), (IB) or pharmaceutically acceptable salt thereof (also referred to herein as the first antifungal agent) is present in the combinations, compositions and products of the invention with a second antifungal agent. The second antifungal agent used in the invention can be any suitable antifungal agent that the skilled person would judge to be useful in the circumstances. Particularly suitable classes of antifungal agents include azoles, polyenes, purine nucleotide inhibitors, pyrimidine nucleotide inhibitors, mannan inhibitors, protein elongation factor inhibitors, chitin synthase inhibitors, Beta-glucan synthase inhibitors, echinocandins, allylamines, anti-HSP90 antibodies, bactericidal/permeability inducing protein products and polyoxins. *Other suitable antifungal agents which do not fall within the classes above include the compounds AN2690, AN2718 and icofungipen.*

Id. at 68 (emphasis added).

From this, we find that Sibley is, at best, suggesting a potential use in *pharmaceutical* embodiments. For example, the cited passage refers to use of “pharmaceutically acceptable” salts and, in the additional surrounding pages and context, Sibley is referring to pharmaceutical applications for treating a human or other animal “subject.” *See generally, id.* at 69–76; *see also id.* at 74 (“The invention also provides for the treatment of dermatological infections.”), 75 (“Examples of systemic infections which

might be prevented or treated using compounds of the invention include: systemic candidiasis; pulmonary aspergillosis, e.g. in immunosuppressed patients such as bone marrow recipients or AIDS patients.”), 75 (“Examples of superficial infections, which can be prevented or treated using compounds of the invention, include: ring worm; athlete’s foot; [and] tinea unguium (nail infection,” among other conditions). Even in that context, Sibley provides no further detail on AN2718, much less identifies it as an advantageous or preferred “second antifungal agent.” *Id.* at 69 (“Particularly preferred second antifungal agents are caspofungin, micafungin, amphotericin B, voriconazole, posaconazole, fluconazole, and itraconazole.”).

Sibley later transitions to describing agricultural embodiments. *Id.* at 77 (“The present invention also provides a method of controlling fungal disease of a plant, which comprises applying to the locus of the plant a pyrrole derivative,” such as shown in formula (I), or “an agriculturally acceptable salt thereof.”); *see also id.* at 78–80. Although Sibley discloses that the agricultural embodiments may optionally include a second antifungal agent, notably absent is any mention of AN2718, much less any teaching or suggestion that AN2718 would be safe and effective for controlling fungal infection on plants. *Id.* at 78.

The second mention of AN2718 in Sibley appears in one of Sibley’s claims, where it is again identified in another long list of potential second antifungal agents. *Id.* at 226 (claim 12). Here too, however, this disclosure relates to pharmaceutical embodiments given the dependency on claims 10 and 11, which expressly require a “pharmaceutical combination” along with

a “pharmaceutically acceptable salt.” *Id.* (claims 10 and 11). The agricultural embodiments are claimed separately with no corresponding disclosure of AN2718 or incorporation of the claim in which AN2718 is mentioned. *See, e.g., id.* at 227 (claims 20–21).

Patent Owner’s interpretation of Sibley as, at most, suggesting AN2718 for pharmaceutical uses is also more consistent with the state of the art at that time. As explained above, the related 5-F and 5-Cl benzoxaborole derivatives (AN2690 and AN2718) were known to have potential utility as antifungals *for pharmaceutical use* as described, for example, in Baker. Ex. 1008, Abstr., 32:6–25 (showing compound 1 (i.e., AN2690) and compound 2 (i.e., AN2718) as having optimal properties for treating nail fungus); *see also* Ex. 1013, 3 (describing, in 2006, clinical trials of AN2690 against nail infections); Exs. 1015 and 1016 (disclosing, in 2008 and 2009, AN2718 for the treatment of nail infections). Petitioner’s contention that Sibley teaches that AN2718 had a known utility as an agricultural fungicide overstates Sibley’s very limited disclosure on AN2718. *See, e.g.,* Pet. 8, 30.

Shorn of Petitioner’s hindsight-driven and unpersuasive interpretation of Sibley, we conclude that Sibley is cumulative to other prior art that was presented during prosecution. For example, Sibley is cumulative to the Baker references cited to the Examiner that, as already discussed, described 5-F and 5-Cl benzoxaborole derivatives (i.e., AN2690 and AN2718) as

potent compounds for topical treatment of fungal infections of the nails.

Prelim. Resp. 59. Ex. 1002, 56, 102–103, 166–169.¹⁷

For the reasons discussed above, we find that Austin and Kohn were already presented to the Office as memorialized in the numerous rejections of the claims for obviousness over those references. Baker includes the same relevant disclosures as two other Baker references that were of record during prosecution. And, we find that Sibley is less relevant than, and cumulative to, references that were presented during prosecution. In sum, Austin, Kohn, Baker, and Sibley reflect the same or substantially the same prior art as was already presented to the Office.

C. Becton, Dickinson Factors (c), (e), and (f)

Because we find that the “same or substantially the same prior art or arguments previously were presented to the Office,” we turn to whether Petitioner has shown that the Office erred in evaluating the art or arguments. *Becton, Dickinson*, Paper 8 at 24; *Advanced Bionics* at 8–10.

At the outset, we note that Petitioner does not expressly assert any “error” by the Office. Pet. 3–4. But, even attempting to distill Petitioner’s criticisms with the ’096 patent’s prosecution and the putative new evidence

¹⁷ Although neither party addresses the “Kumar” and “Mao” references that were also before the Examiner during prosecution, the title of the Mao reference alone suggests it is more detailed than Sibley (properly interpreted) to the oxaboroles that are relevant to the claimed subject matter. See Ex. 1002, 182 (citing a publication from “Mao” titled “AN2690, a topical antifungal agent in development for the treatment of onychomycosis represents a new class and has a novel mechanism of action”); see also Ex. 1001, (56) (References Cited).

here, we do not find that a material error has been shown on this record that warrants the Office reconsidering the patentability of the '096 patent's claims over substantially the same prior art.

1. The “Improper” Declaration

Petitioner argues that the Zeun Declaration submitted during prosecution to overcome the Examiner's rejection was “improper.” Pet. 3; *see* Ex. 1002, 530–536 (Declaration of Ronald Zeun, Ph.D., dated May 17, 2016). According to the Petition, the declaration “failed to compare the activity of the claimed compounds with the closest prior art compounds.” Pet. 3–4; *see also id.* at 43–44 (“The declaration, however, provided misleading results by not comparing the pending claims to the closest prior art compounds.”).

This vague critique of the declaration fails to persuasively demonstrate material error during prosecution. As Patent Owner points out, the Petition never clearly identifies what other compounds should have been used, much less persuasively explains why such other compounds would have been more appropriate for comparison by Dr. Zeun. Prelim. Resp. 3, 57. Although true that some of Austin's dozens of example compounds fall within the scope of claim 1's formula (Ic) and are described as having antifungal activity, other compounds in Austin that *are not* embraced by the claims have the same and even broader activity and efficacy. *See, e.g.*, Ex. 1004, 39 (Table 9, Example 60, which has the same activity against various fungi as well as activity against several bacteria, compared to Example 66 (i.e., Austin's compound 66 discussed above), which is inactive against bacteria); *see also id.* at 40–41 (Table 10, Example 80, which shows

high activity against fungi and bacteria but is not within the claimed scope); Prelim. Resp. 36 (discussing Austin’s compound 60 and 80).

In addition to the above, Petitioner’s criticism of the Zeun Declaration overlooks other reasons for which the declaration was offered, which was not simply as evidence of unexpected results (where comparison to the closest prior art may be required). As Dr. Zeun explains, he “selected compounds for testing that are disclosed in the cited document, WO95/33754 [(Austin)], both those that are within the present claims and those that are not.” Ex. 1002, 530. After reporting results of his antifungal assays, Dr. Zeun concludes that “data illustrates that certain compounds of WO9533754 are not nearly as active on living plants or plant propagation material as those in the present application,” and that an ordinarily skilled person “would not have known which compounds were more or less active on such [plant] materials based on the information provided from WO9533754.” *Id.* at 536.

From this, Applicants argued—repeatedly—that there was no “reasonable expectation of success” based on the cited evidence in using particular compounds in agriculture on living plants as claimed. *Id.* at 543–544 (“Austin does nothing to show which of the compounds in the disclosure would have any effect against fungal strains on living materials. . . . Accordingly, one would not have any reasonable expectation of success when pursuing the present claims.”), 569–570; *see also id.* at 602 (“Examiner misses the aim of the declaration that shows the variance in the compounds disclosed in Austin and how little protection they may have over other ones that are part of the claimed methods as shown between

Compound 3.1 v. Compound 3.3., where proper agricultural-level efficacy is present even in low rates.”). That the Examiner may also have credited Applicants’ arguments and evidence on such points does not convince us of any material error on this record.¹⁸

Petitioner also contends the Applicants “distorted the data presented in Austin and misled the Examiner by asserting that not all the compounds of the pending claims fell within the scope of Austin.” Pet. 23; Ex. 1003 ¶ 34 (opining that “the Zeun Declaration is misleading”), 47–48 (opining that Austin discloses the compounds in the Zeun Declaration).

We are not persuaded that the Examiner was misled by the declaration or Applicants’ alleged assertions. The Zeun Declaration explains plainly that the compounds selected for testing are from Austin (but only some of the tested compounds were embraced by the claims). Ex. 1002, 530 (“I have selected compounds for testing that are disclosed in the cited document, WO95/33754, both those that are within the present claims and those that are not.”). Ex. 1002, 530. Even if Applicants said something different during prosecution,¹⁹ there is insufficient evidence cited here that such an assertion was material to the Examiner’s allowance of the claims, or that the Examiner did not understand the art or the declaration and testing. Prelim. Resp. 36–37 (noting that “Applicants did not dispute that Austin disclosed compounds

¹⁸ The Examiner never gave express reasons for allowance, and thus all of the reasons that may have ultimately convinced the Examiner to allow the claims remain unclear. Ex. 1002, 658–660.

¹⁹ Petitioner provides no specific citation to where the allegedly misleading assertion was made by the Applicants.

having structures within the scope of the claims of the '096 patent"). To the contrary, the Examiner remarked that many of Austin's compounds fell within the scope of the claims and provided antifungal activity. Ex. 1002, 556. And, in extended back-and-forth with the Applicants, the Examiner continued to push back on the sufficiency of the testing data to support the patentability of the claims, which reveals detailed consideration of the evidence. *See, e.g.*, Ex. 1002, 554 (pointing out that "these three compounds [1.2, 2.2, and 2.3 in the declaration] are not commensurate in scope with the oxaborole compounds of the general formula (Ic), as claimed"), 618 (pointing out that some of the relied-upon results were based on in vitro testing rather than living plants).

Petitioner also contends that Applicants presented data on "irrelevant Austin compounds." Pet. 23. This assertion is wanting for an explanation in the Petition itself. Although the Petition does not make this clear, we assume Petitioner is referring to compounds having an alleged "bulky" substituent as discussed in Dr. Hall's declaration. Ex. 1003 ¶¶ 66–71. According to Dr. Hall, the results in the Zeun Declaration are "hardly surprising" because the less potent compounds have "a bulky, hydrophobic phenyl substituent" that may negatively impact hydrolysis to the 5-Cl benzoxaborole compound. *Id.* ¶67. Dr. Hall provides no documented support for his assertion that compounds including this "bulky" group would be expected to inhibit hydrolysis and have lower antifungal activity. Plus, as Patent Owner notes, other Austin compounds that have bulky substituents, such as Compound 80, are described as being highly active. Ex. 1004, 40–41; Prelim. Resp. 35–36 ("[C]ompound 80 of Austin includes an even

bulkier multi-ring structure . . . but was still shown to have the same lowest measured MIC (5) against all tested fungal strains as Austin’s compound 66.”).

In sum, we are not persuaded the Zeun Declaration, or the Examiner’s reliance on it, was “improper.” To be clear, we are not saying the Zeun Declaration and Applicants’ arguments are immune from criticism. Nor are we necessarily suggesting that, were we to play the role of examiner and consider the prosecution record anew, that we would have reached the same conclusions without requiring more from the Applicants. But the question here is different and centers on whether error by the Office has been shown. On this record, the answer to that question is “no.” Insofar as the Examiner accepted Applicants’ arguments and declaration, we are unpersuaded that such acceptance rises to the level of a clear and material error about which reasonable minds could not disagree. *Advanced Bionics* at 9.

1. “New Combinations” of Prior Art

Petitioner argues that some of its grounds rely on “new combinations of prior art,” such as Austin combined with Sibley (Ground 1), and that Baker “was never relied on by the Examiner for a rejection.” Pet. 3–4. *Becton, Dickinson* factor (c) includes consideration of whether the asserted prior art was cited in a rejection, and factor (f) asks whether new evidence that was not before the Examiner justifies the Office reconsidering the patentability of the claims. *Becton, Dickinson* at 17–18. Neither of these factors weighs against discretionary denial.

As explained above, we find that Petitioner misreads Sibley’s teachings. Because Sibley does not, contrary to Petitioner’s assertions,

describe use of AN2718 for agricultural applications, the fact that Sibley itself was not before the Examiner does not favor institution. Inasmuch as Sibley provides the briefest of suggestions that AN2718 might be used in a pharmaceutical context, it is cumulative to Baker as discussed.

Baker was not before the Examiner, but the two related Baker publications were presented to the Office during prosecution. Neither of those Baker publications was, however, cited in a rejection of the claims. As the claims of the '096 patent relate to use of certain compounds on plants and seeds, we are not surprised. Baker (and the related Baker publications) describes a use of benzoxaborole compounds for the topical treatment of nail fungus—Baker is unrelated to use of the compounds on plants. Ex. 1008, Abstr., 31:59–32:25. We cannot, therefore, say that it was unreasonable or a material error for the Examiner to have not applied the Baker references in a rejection, alone or along with Austin and Kohn.

Also, Patent Owner persuades us that the “optimal physiochemical properties” described in Baker relate to the ability of the antifungal compounds to better penetrate the nail plate. Prelim. Resp. 50–51. Petitioner provides no persuasive evidence to show that the ordinarily skilled person would consider those properties germane to use of the compounds on plants or seeds. *Id.* at 51 (“It is not explained, for example, whether these properties would make the compounds more effective, less effective, or whether they would even be relevant for agricultural purposes.”).²⁰

²⁰ Petitioner also cites *Coalition for Affordable Drugs XLLC v. Anacor Pharmaceuticals*, IPR2015-01776, Paper 70 (PTAB Feb. 23, 2017). *See*,

Petitioner also contends that Applicants’ argument during prosecution about not using industrial fungicides on living organisms and plants, in particular, was “meritless.” Pet. 17. Petitioner’s assertion does not demonstrate material error by the Office. Quite the opposite, the Examiner tacitly rejected that “meritless” argument multiple times in advancing the combination of Austin’s industrial fungicides with Kohn’s agricultural application techniques. Petitioner’s request that we revisit the same issue and reach a conclusion favorable to Petitioner is not new argument or evidence that warrants reconsideration of the claims over substantially the same prior art. Nor do Petitioner’s assertions about the alleged obviousness of broadly using benzoxaboroles on “living organism[s]” based on Baker—as if what is appropriate for antifungal treatment of an animal’s nails would be applicable to plants—convince us otherwise. *See, e.g.*, Pet. 59–61. Plants and animals plainly encompass a vast number of very different

e.g., Pet. 28–29. Petitioner’s reliance on that decision is misplaced. First, that decision does not impact whether it is appropriate to deny the Petition on a discretionary basis here on the well-developed prosecution record. Second, that decision does not present any inconsistency with the present analysis. Even considering aspects of the merits of Petitioner’s challenge, the issue here is not whether Austin is “non-analogous” art as was argued in *Anacor*. Prelim. Resp. 52; *Anacor*, Paper 70 at 12–14. The issue is whether, based on the record presented by Petitioner, there is a sufficient reason for the skilled artisan to have used Austin’s industrial fungicides in agriculture. Those reasons are wanting for reasons explained. Moreover, in *Anacor*, the Board cited specific reasons in the evidence for choosing Austin’s particular compounds due, for example, to their low molecular weight and the advantage of those smaller compounds to penetrate the nail plate. *See, e.g.*, *Anacor*, Paper 70 at 16–17.

organisms. Petitioner simply fails to make a persuasive evidentiary link between Baker's use of benzoxaboroles for treating nail infections and use of the compounds on plants as claimed. Thus, we find that there is insufficient additional facts or evidence on this record that justify reconsidering the patentability of the '096 patent's claims.

D. Weighing the Factors

Weighing the above factors, we conclude on the record presented that the circumstances of this case favor discretionary denial based on § 325(d).

IV. CONCLUSION

Upon consideration of the Petition and the Preliminary Response, and the evidence presented here, we exercise discretion to deny institution of a trial under 35 U.S.C. § 325(d).

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is denied, and we do not institute *inter partes* review of any claim of the '096 patent based on the grounds asserted in this Petition.

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