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Paper 18
Entered: April 7, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DAIICHI SANKYO, INC. and
ASTRAZENECA PHARMACEUTICALS, LP,
Petitioner,

v.

SEAGEN INC.,
Patent Owner.

PGR2021-00042
Patent 10,808,039 B2

Before ERICA A. FRANKLIN, SHERIDAN K. SNEDDEN, and CHRISTOPHER M. KAISER, *Administrative Patent Judges*.

SNEDDEN, *Administrative Patent Judge*.

DECISION
Granting Petitioner's Request on Rehearing
37 C.F.R. § 42.71(d)
Granting Institution of Post-Grant Review
35 U.S.C. § 324

I. INTRODUCTION

A. Status of the Proceeding

Daiichi Sankyo, Inc. and AstraZeneca Pharmaceuticals, LP (collectively, "Petitioner") filed a Petition requesting a post-grant review of claims 6–8 of U.S. Patent No. 10,808,039 B2 (Ex. 1001, "the '039 patent"). Paper 1 ("Pet."). Seagen Inc. ("Patent Owner") filed a Preliminary Response to the Petition. Paper 8 ("Prelim. Resp."). Petitioner filed a Reply to Patent Owner's Preliminary Response. Paper 9 ("Reply"). Patent Owner filed a Sur-reply to Petitioner's Reply. Paper 10 ("Sur-reply").

We exercised our discretion to deny institution under 35 U.S.C. § 324(a) in view of the scheduled trial date of a parallel district court proceeding being nearly four months before our projected statutory deadline for issuing a final written decision, and other *Fintiv*[1] factors. Paper 12 ("Denial Decision" or "Denial Dec."). Petitioner filed a Request for Rehearing, asking us to reconsider our Denial Decision because Patent Owner dropped claims 6–8 of the '039 patent—the claims at issue here—from its infringement contentions in the parallel district court proceeding. Paper 13 ("Reh'g Req." or "Request"), 4–5. Concurrently therewith, Petitioner requested that the Board's Precedential Opinion Panel ("POP") reconsider the Denial Decision. Paper 14; Ex. 3001 ("POP Request"). The

[1] *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) ("*Fintiv* Order").

POP declined to review the issues raised in Petitioner's POP Request. Paper 17. Thus, we proceed to the rehearing request.

As discussed further below, in light of the changed circumstances of claims 6–8 of the '039 patent no longer being asserted in the parallel district court proceeding, we grant Petitioner's Request for Rehearing and decline to exercise our discretion to deny institution.

35 U.S.C. § 324(a) provides that a post-grant review may not be instituted "unless the Director determines that the information presented in the petition filed under section 321, if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable." After considering the Petition and the Preliminary Response, and the evidence cited therein, we determine that Petitioner has shown that it is more likely than not that at least one of the claims challenged in the Petition is unpatentable. Therefore, we grant institution of a post-grant review.

B. Real Parties in Interest

Petitioner identifies Daiichi Sankyo Company, Limited and AstraZeneca UK Limited as well as Petitioners Daiichi Sankyo, Inc. and AstraZeneca Pharmaceuticals, LP as real parties in interest. Pet. 88.

Patent Owner identifies Seagen Inc. as a real party in interest. Paper 6, 1.

C. Related Matters

Petitioner filed a separate petition for post-grant review of claims 1–5, 9, and 10 of the '039 patent in PGR2021-00030.

The parties identify the following related matters:

Daiichi Sankyo Co., Ltd. v. Seattle Genetics, Inc., No. 1:19-cv-02087-LPS (D. Del.) (closed Nov. 13, 2020);

Seattle Genetics, Inc. v. Daiichi Sankyo Co., Ltd., American Arbitration Association Case No. 01-19-0004-0115 (Brown, Arb.);

Seagen Inc. v. Daiichi Sankyo Co., Ltd., No. 2:20-cv-00337 (E.D. Tex.) ("Texas Litigation");

Daiichi Sankyo, Inc. et al. v. Seattle Genetics, Inc., No. 1:20-cv-01524-LPS (D. Del.). Pet. 88–89; Paper 6, 1.

Patent Owner identifies the following U.S. patents and pending published applications that claim the benefit of priority of the filing date of the '039 patent: U.S. Patent No. 7,498,298; U.S. Patent No. 7,994,135; U.S. Patent No. 7,964,566; U.S. Patent No. 7,964,567; U.S. Patent No. 7,745,394; U.S. Patent No. 8,703,714; U.S. Patent No. 8,557,780; U.S. Patent No. 10,414,826; U.S. Patent No. 10,808,039; U.S. Application Publication No. 2020/0347149. Paper 6, 1–2.

II. DISCRETIONARY DENIAL OF INSTITUTION AND REQUEST FOR REHEARING

Institution of post-grant review is discretionary. *See* 35 U.S.C. § 324(a) (no mandate to institute review); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) ("[T]he agency's decision to deny a petition is

a matter committed to the Patent Office's discretion."). The Board's precedential *NHK* decision explains that the Board may consider the advanced state of a related district court proceeding, among other considerations, as a "factor that weighs in favor of denying the Petition under § 314(a)." *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential). The Board's precedential *Fintiv* Order identifies several factors to be considered in analyzing whether the circumstances of a parallel district court proceeding warrant discretionary denial under *NHK*, with the goal of balancing efficiency, fairness, and patent quality. *Fintiv* Order 5–6. These factors are the following: 1) whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted; 2) proximity of the court's trial date to the Board's projected statutory deadline for a final written decision; 3) investment in the parallel proceeding by the court and parties; 4) overlap between issues raised in the petition and in the parallel proceeding; 5) whether the petitioner and the defendant in the parallel proceeding are the same party; and 6) other circumstances and considerations that impact the Board's exercise of discretion, including the merits. *Id*. While *NHK* and the *Fintiv* Order pertain to discretionary denial of *inter partes* review under 35 U.S.C. § 314(a) and do not explicitly extend their application to post-grant review under § 324(a), we have applied the *NHK*/*Fintiv* framework in the context of post-grant review due to the similar statutory language and policy justifications associated with the exercise of discretion between §§ 314(a) and 324(a). *See* Denial Dec. 11–12.

In its Preliminary Response, Patent Owner argued that we should exercise our discretion to deny institution due to the likelihood of the district court in the parallel Texas Litigation ruling on the same invalidity grounds at issue in the Petition prior to the Board issuing a final written decision. Prelim. Resp. 19–23, 25–26. We evaluated the *Fintiv* factors and determined that discretionary denial under § 324(a) was appropriate in view of the Texas Litigation's trial date being scheduled nearly four months before our projected statutory deadline for issuing a final written decision, combined with other factors. Denial Dec. 14–15, 17–21.

In its Request for Rehearing, Petitioner argues that rehearing and institution of trial are warranted because shortly after our Denial Decision, Patent Owner dropped claims 6–8 of the '039 patent—the claims challenged in the Petition—from its infringement contentions in the Texas Litigation. Reh'g Req. 1, 4–5. According to Petitioner, a *Fintiv* analysis is no longer appropriate because "the district court will have no occasion to consider any invalidity challenges to those claims," thereby "eliminat[ing] the danger of duplicative efforts or inconsistent results between the two tribunals." *Id.* at 1, 4. Petitioner further argues that denial of institution would encourage gamesmanship in which patent owners would "strategically allege infringement of challenged claims in the parallel district court litigation, use that fact to obtain institution denial, and then drop those claims from the district court case." *Id.* at 4–5.

We agree with Petitioner that a rehearing of our prior decision to deny institution is appropriate due to the changed circumstances of claims 6–8 of

the '039 patent no longer being asserted in the parallel Texas Litigation. *See Sand Revolution II, LLC v. Cont'l Intermodal Grp. – Trucking LLC*, IPR2019-01393, Paper 24 at 2–3 (PTAB June 16, 2020) (informative) (determining discretionary denial no longer warranted when applying *Fintiv* factors "in light of new evidence of record"); *Canadian Solar Inc. v. Solaria Corp.*, IPR2021-00095, Paper 17 at 7 (PTAB Sept. 24, 2021) (determining discretionary denial no longer supported "in light of the changed facts"). Under the *Fintiv* Order, "if the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial" because "concerns of inefficiency and the possibility of conflicting decisions [are] particularly strong." *Fintiv* Order at 12 (concerning *Fintiv* factor 4, overlap between issues raised in the petition and in the parallel proceeding). Here, the claims challenged in the Petition are no longer asserted in the Texas Litigation that served as our basis for exercising our discretion to deny institution. Reh'g Req. 3–4. As Petitioner points out, this dispels concerns about inefficiency, duplicative efforts, and conflicting results between the district court and the Board with respect to invalidity challenges to claims 6–8 of the '039 patent. *See id.* at 1, 4. In light of the claims at issue in this proceeding no longer being asserted in the parallel district court proceeding, we grant Petitioner's Request for Rehearing and decline to exercise our discretion to deny institution. We consider the merits of the Petition with respect to the threshold for institution below.

III. ELIGIBILITY FOR POST-GRANT REVIEW

A patent's effective filing date must be on or after March 16, 2013, to be eligible for post-grant review. *See* AIA §§ 3(n)(1), 6(f)(2)(A).[2] Petitioner argues that the '039 patent, with an effective filing date of July 10, 2019, is eligible for post-grant review because it is not entitled to any of the pre-AIA filing dates of the applications to which it claims priority, due to lack of written description support and lack of enablement. Pet. 20–21, 33, 56.

Patent Owner acknowledges that the Board has determined eligibility for post-grant review based on written description and enablement analyses. Prelim. Resp. 73 (citing *Eli Lilly & Co. v. Genentech, Inc.*, PGR2019-00043, Paper 11 at 11–12 (PTAB Oct. 7, 2019)). Nonetheless, Patent Owner argues that the application that resulted in the '039 patent is a "transition application," i.e., an application filed on or after March 16, 2013, that claims priority to an application filed before March 16, 2013, and that "[t]he legislative history of the AIA demonstrates that a transition application cannot fall under the AIA regime unless the application *introduced new matter* on which the challenged claims rely for support." *Id.* at 73–74. According to Patent Owner, the '039 patent and the continuation and provisional applications to which it claims priority have identical specifications and, "[b]ecause the '039 patent specification did not add any

[2] Leahy-Smith America Invents Act ("AIA"), Pub L. No. 112-29, 125 Stat. 284 (2011).

new matter, none of the '039 patent claims could have relied on any new matter for support, and as such, the '039 patent should not be eligible for post-grant review." *Id.* at 74. Patent Owner further argues that the '039 patent should not be eligible for post-grant review due to various policy considerations. *Id.* at 75–77.

We are unpersuaded by Patent Owner's arguments because they are contrary to the plain language of the statute. The AIA's post-grant review provisions apply to patents that "contain[] or contained at any time . . . a claim to a claimed invention that has an effective filing date as defined in section 100(i) of title 35, United States Code, that is on or after [March 16, 2013]." AIA §§ 3(n)(1), 6(f)(2)(A). The "effective filing date" of a claimed invention is defined under 35 U.S.C. § 100(i)(1)(B) as being "the filing date of the earliest application for which the patent . . . is entitled, as to such invention, to a right of priority under section 119, 365(a), 365(b), 386(a), or 386(b) or to the benefit of an earlier filing date under section 120, 121, 365(c), or 386(c)." In order for a claimed invention to be entitled to a "right of priority" or "an earlier filing date" based upon an earlier-filed application, the invention must have been disclosed "in the manner provided by section 112(a) (other than the requirement to disclose the best mode)." 35 U.S.C. § 119(e)(1); 35 U.S.C. § 120. Accordingly, for purposes of determining post-grant review eligibility, a patentee may rely on the filing date of an earlier-filed application only if the invention is described in that application in the manner provided by 35 U.S.C. § 112(a). If a claimed invention is not entitled to claim priority to a prior application, the effective filing date is the

"actual filing date of the patent or the application for the patent containing a claim to the invention." 35 U.S.C. § 100(i)(1)(A).

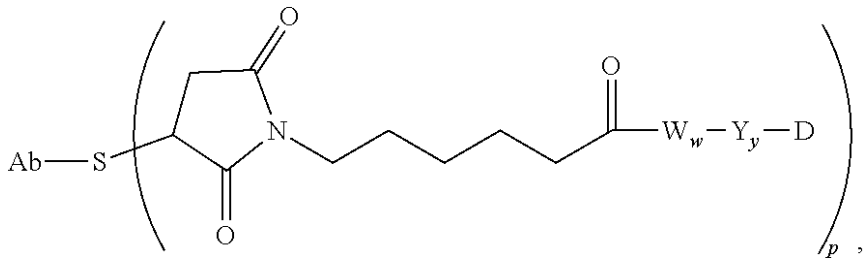
We do not find in the statute any basis for defining the "effective filing date" to include the date of an application in a priority chain that lacks written description support or enablement for the challenged claims, even if the disclosure of such prior application is identical to that of the specification of a challenged patent. Put another way, the mere fact that a patent does not introduce new matter as compared to the applications from which it claims priority is not a basis to deprive it of post-grant review eligibility.

As discussed below, we find that Petitioner is more likely than not to demonstrate that claims 6–8 of the '039 patent lack enablement in all of the applications from which they claim priority. Thus, for purposes of this Decision, we treat these claims of the '039 patent as having an "effective filing date" of July 10, 2019, i.e., "the actual filing date of the patent or the application for the patent containing a claim to the invention." 35 U.S.C. § 100(i). Accordingly, for purposes of this Decision, we find that the '039 patent is eligible for post-grant review.

IV. BACKGROUND OF PROCEEDING

A. The '039 Patent (Ex. 1001)

The '039 patent discloses antibody-drug conjugates ("ADCs"). Ex. 1001, 1:58–63. Disclosed embodiments of the ADCs include the following:



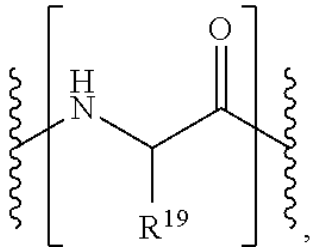
Id. at 331:36–45 (claim 1). "The drug moiety (D) of the [ADCs] are of the dolastatin/auristatin type[,] which have been shown to interfere with microtubule dynamics, GTP hydrolysis, and nuclear and cellular division." *Id.* at 71:21–25 (citations omitted).

"Ab is an antibody that binds one of the tumor-associated antigens." *Id.* at 111:33–37.

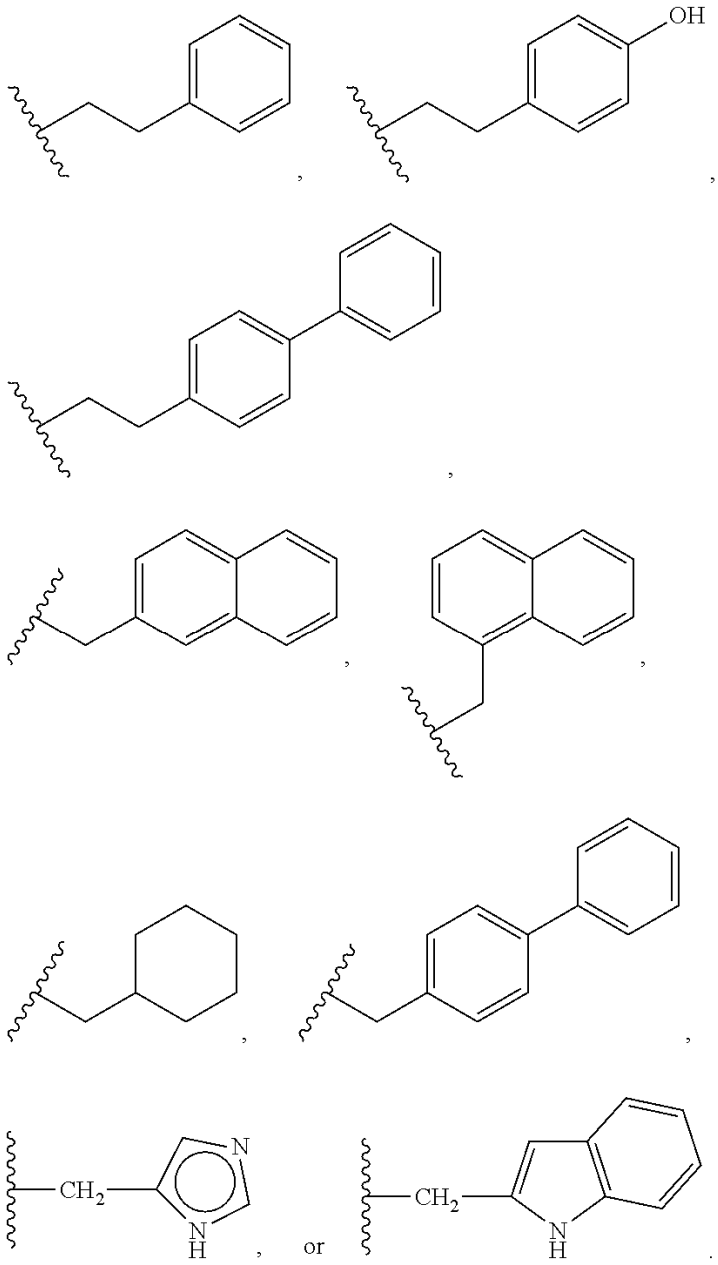
S is sulfur. *Id.* at 331:36–45.

The spacer unit, Y or y, "when present, links an Amino Acid unit [(—W—)] to the Drug moiety when an Amino Acid unit is present." *Id.* at 68:14–16. In some embodiments, "y is 0, 1, or 2." *Id.* at 6:47. The average number of drugs per antibody in a molecule of a particular formula, p, can range from 1 to 20 drugs per antibody. *Id.* at 61:44–46.

The Amino Acid unit (—W—) can be a "dipeptide, tripeptide, tetrapeptide, pentapeptide, hexapeptide, heptapeptide, octapeptide, nonapeptide, decapeptide, undecapeptide or dodecapeptide unit." *Id.* at 65:49–53. Each —W— unit may have the following formula:



wherein the R^{19} groups on the peptide chain can be selected from, but are not limited to, the groups of "hydrogen, methyl, isopropyl, isobutyl, sec-butyl, benzyl, p-hydroxybenzyl, —CH_2OH, —$CH(OH)CH_3$, —$CH_2CH_2SCH_3$, —CH_2CONH_2, —CH_2COOH, —$CH_2CH_2CONH_2$, —CH_2CH_2COOH, —$(CH_2)_3NHC(=NH)NH_2$, —$(CH_2)_3NH_2$, —$(CH_2)_3NHCOCH_3$, —$(CH_2)_3NHCHO$, —$(CH_2)_4NHC(=NH)NH_2$, —$(CH_2)_4NH_2$, —$(CH_2)_4NHCOCH_3$, —$(CH_2)_4NHCHO$, —$(CH_2)_3NHCONH_2$, —$(CH_2)_4NHCONH_2$, —$CH_2CH_2CH(OH)CH_2NH_2$, 2-pyridylmethyl-, 3-pyridylmethyl-, 4-pyridylmethyl-, phenyl, cyclohexyl,



Id. at 65:65–66:43.

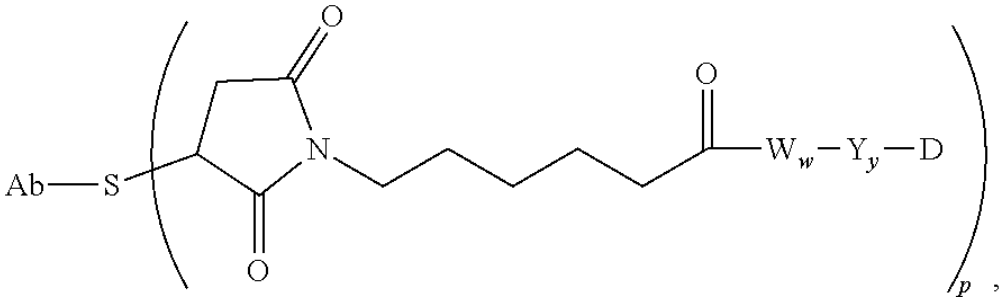
In some embodiments of the invention, "a substantial amount of the drug moiety is not cleaved from the antibody until the antibody-drug conjugate compound enters a cell with a cell-surface receptor specific for the

antibody of the antibody-drug conjugate, and the drug moiety is cleaved from the antibody when the antibody-drug conjugate does enter the cell." *Id.* at 18:56–61. In other aspects of the invention, "the bioavailability of the [ADC] or an intracellular metabolite . . . is improved when compared to a drug compound comprising the drug moiety of the [ADC], or when compared to an analog of the compound not having the drug moiety." *Id.* at 18:62–67.

B. Illustrative Claims

Claims 6–8, as well as independent claim 1 from which they directly or indirectly depend, are reproduced below.

1. An antibody-drug conjugate having the formula:

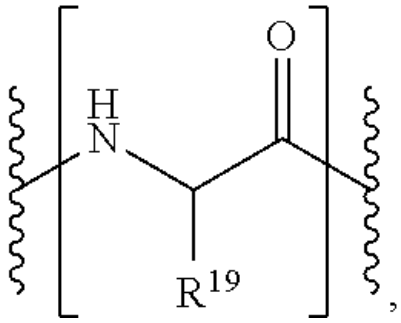


or a pharmaceutically acceptable salt thereof, wherein:

Ab is an antibody,

S is sulfur,

each —W_w— unit is a tetrapeptide; wherein each —W— unit is independently an Amino Acid unit having the formula denoted below in the square bracket:



wherein R^{19} is hydrogen or benzyl,

Y is a Spacer unit,

y is 0, 1 or 2,

D is a drug moiety, and

p ranges from 1 to about 20,

wherein the S is a sulfur atom on a cysteine residue of the antibody, and

wherein the drug moiety is intracellularly cleaved in a patient from the antibody of the antibody-drug conjugate or an intracellular metabolite of the antibody-drug conjugate.

6. The antibody-drug conjugate of claim 1, 2, 3, 4, or 5, wherein the bioavailability of the antibody-drug conjugate or an intracellular metabolite of the antibody-drug conjugate in a patient is improved when compared to a drug compound comprising the drug moiety of the antibody-drug conjugate.

7. The antibody-drug conjugate of claim 1, 2, 3, 4, or 5, wherein the bioavailability of the antibody-drug conjugate or an intracellular metabolite of the antibody-drug conjugate in a patient is improved when compared to an analog of the antibody-drug conjugate not having the drug moiety.

> 8. The antibody-drug conjugate of claim 1, 2, 3, 4, or 5, wherein the drug moiety is intracellularly cleaved in a patient from an intracellular metabolite of the antibody-drug conjugate.

Ex. 1001, 331:36–332:40, 332:48–62.

C. The Asserted Grounds of Unpatentability

Petitioner asserts the challenged claims are unpatentable on the following grounds:

Challenged Claims	35 U.S.C. §	Basis/Reference
6–8	112(a)	Written Description
6–8	112(a)	Enablement
6–8	112(b)	Failing to particularly point out and distinctly claim that which the inventor or a joint inventor regards as his or her invention
6–8	102	Ogitani[3]

Pet. 6.

Petitioner relies on the Declarations of Dr. John M. Lambert, Ph.D. (Exs. 1002, 1080) in support of the Petition.

[3] Ex. 1009, Ogitani, Yusuke et al., *Bystander Killing Effect of DS-8201a, a Novel Anti-Human Epidermal Growth Factor Receptor 2 Antibody-Drug Conjugate, in Tumors with Human Epidermal Growth Factor Receptor 2 Heterogeneity*, 107 CANCER SCI. 1039 (June 22, 2016) ("Ogitani").

V. DISCUSSION

A. Level of Ordinary Skill in the Art

Petitioner states that, as of the filing of the provisional applications to which the '039 patent claims priority through July 2019, a person of ordinary skill in the art of the field of the '039 patent "would have had either (1) a Ph.D. in biochemistry or a similar field, or (2) a master's degree in biochemistry or a similar field with at least two to three years of experience with ADC design," and that "[m]ore education can supplement practical experience, and vice-versa." Pet. 20 (citing Ex. 1002 ¶ 20).

Patent Owner "disagrees with Petitioners' definition of a person of ordinary skill in the art," but "[n]onetheless, for the purposes of [its] Response, . . . appl[ies] Petitioners' definition." Prelim. Resp. 43 n.6.

For purposes of this Decision, we accept Petitioner's proposed definition, which is supported by Dr. Lambert's testimony (Ex. 1002 ¶ 20) and is consistent with the scope and content of the '039 patent and the asserted prior art.

B. Claim Construction

We apply the same claim construction standard as would be used by a district court to construe a claim in a civil action involving the validity or infringement of a patent. 37 C.F.R. § 42.200(b). Under that standard, claim terms are given their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the

prosecution history of record. *Id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–19 (Fed. Cir. 2005) (en banc); *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365–66 (Fed. Cir. 2012).

Petitioner proposes, for purposes of this proceeding, a construction of the claim term "drug moiety" consistent with "the apparent claim construction for 'drug moiety' that is urged by [Patent Owner]" in the Texas Litigation, which, according to Petitioner, "lacks structural limitation and is broad enough to encompass all drug moieties, and not just dolastatin/auristatin derivatives." Pet. 18–19 (citing Ex. 1006, 9; Ex. 1077 at 3–4; Ex. 1078 at 13–20). According to Petitioner, Patent Owner's construction of "drug moiety" in the Texas Litigation "encompass[es] any substance that exerts a physiological effect, such as topoisomerase inhibition." *Id.* at 19.

Patent Owner does not propose any claim constructions at this stage of the proceeding. *See generally* Prelim. Resp.

For purposes of this Decision, we accept Petitioner's unopposed proposed construction of the claim term "drug moiety," and refine it, to mean "a chemical substance, linked to the subject molecule, that is responsible for exerting a physiological effect."

We determine that no explicit construction of any other claim term is necessary for purposes of this Decision. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("[W]e need only construe terms 'that are in controversy, and only to

the extent necessary to resolve the controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

C. Enablement[4]

1. Petitioner's Contentions

Petitioner sets forth three main contentions as to why challenged claims 6–8 lack enablement. Pet. 44–64. First, Petitioner contends that ADCs are complex and unpredictable. *Id.* at 45–49 (citing Ex. 1025, 2168; Ex. 1002 ¶¶ 35–37, 124). In particular, Petitioner contends that "[c]omplex chemical interactions among ADC components affect its structure and properties." *Id.* at 45 (citing Ex. 1002 ¶¶ 35–37, 127, 130, 141). With reference to claims 6–8, Petitioner contends as follows:

> Claims 6–8 recite limitations pertaining to "improved" bioavailability or cleavage "from an intracellular metabolite" but they are not limited to any particular drug or structural class of drugs. (*See, e.g.*, [Ex. 1002] ¶ 127.) While they do limit one aspect of the *linker* that attaches the drug to the antibody—for example, the linker must comprise a tetrapeptide consisting of glycine or phenylalanine (*see* [Pet.] § VI.A)—the structural limitations of the claims still encompass an astronomical number of structurally and functionally disparate compounds. (*See, e.g.*, [Ex. 1002] ¶¶ 127–29.) Moreover, in addition to these structural

[4] For convenience, going forward, our enablement and written description analyses refer only to the '039 patent specification ("Specification"), rather than to the pre-AIA priority applications. It is our understanding that the disclosures are substantially identical and thus referring to the '039 patent rather than the priority applications has no material impact on our analyses. To the extent the parties believe our understanding is incorrect, we invite them to address the issue further during the trial.

> requirements, the claims include the functional limitation requiring that the ADC's drug moiety be "intracellularly cleaved in a patient" from either (a) "the antibody of the antibody-drug conjugate" or (b) "an intracellular metabolite of the antibody-drug conjugate." (*See, e.g.*, [Ex. 1002] ¶ 128.) Whether a composition meets this functional limitation of Claims 6–8 cannot be ascertained without testing and undue experimentation. (*See* [Pet.] § VI.C.3; *see, e.g.*, [Ex. 1002] ¶¶ 8, 46–51, 122, 154.)

Pet. 46–47 (footnote omitted). Furthermore, Petitioner contends that the Specification limits its disclosure to "the narrowly described auristatin derivatives" and that "its examples do not involve any drug moieties other than dolastatin/auristatin derivatives." *Id.* at 48 (citing Ex. 1001, 130:38–141:58 (testing performed only with MMAE and MMAF drug moieties); Ex. 1002 ¶¶ 129–30, 134–35).

Second, Petitioner argues that the '039 patent "fails to enable the [person of ordinary skill in the art] to make the full scope of the claimed genus of ADCs" without undue experimentation. Pet. 45, 49–50. Specifically, Petitioner argues that the "vast genus of ADCs" covered by independent claim 1 is not enabled and that claim 1's lack of enablement carries through to dependent claims 6–8. *Id.* at 50 (citing Ex. 1002 ¶¶ 122–57), 55.

According to Petitioner, claim 1 "recites a structure in which the drug moiety 'D' is covalently attached to either Y_y, a 'Spacer unit,' or, when y is zero, W_w, a tetrapeptide," and "[a]ttaching a drug moiety to the linker unit in the claimed ADCs would require the drug moiety to have a functional group capable of forming such a bond with a spacer or a gly/phe-only

tetrapeptide." *Id.* at 49–50 (citing Ex. 1002 ¶¶ 39, 142). Petitioner argues that, as far as enabling a stable and functional bond between the drug moiety and linker, the '039 patent only provides working examples limited to drug moieties that are dolastatin/auristatin derivatives:

> The '039 Patent provides no examples or specific disclosure for attaching any drug moiety other than dolastatin/auristatin derivatives—a small corner of the vast genus of drug moieties covered by Claims 6–8—to linkers of the claimed ADCs. (*See, e.g.*, Ex. 1002 ¶¶ 61, 97, 129–30, 134–35, 139–40, 145.) Nor does the patent disclose a general rubric for attaching any drug moiety to linkers of the claimed ADCs, because no such rubric exists. (*See, e.g.*, *id.* ¶ 145.) In the years since [Patent Owner] filed its priority applications, researchers around the world still have labored to develop attachment techniques, and when a new reaction suitable for attaching a moiety is discovered, it typically is treated as an innovative advance, rather than routine chemistry. (*See, e.g.*, *id.* ¶ 146.)

Pet. 51; *see also id.* at 48. Petitioner goes on as follows:

> [T]he '039 Patent provides several columns of disclosure concerning synthesis of "Compounds of the Invention" and a table identifying "exemplary" ADCs that PO says it prepared, all of which incorporate dolastatin/auristatin derivatives by coupling the dolastatin/auristatin derivatives' primary or secondary amine to a linker. (Ex. 1001 at 141:60–154:14.) Dr. Lambert has examined these disclosures and concluded that they do not enable the synthesis of ADCs other than by coupling to a drug's primary or secondary amine. (*See, e.g.*, Ex. 1002 ¶¶ 112, 135, 145.) That the '039 Patent provides eleven figures depicting synthesis schemes and over a dozen columns of text to teach how to make a small fraction of conjugates—those containing dolastatin/auristatin derivatives—starkly illustrates what the '039 Patent is lacking: any disclosure of how to make an ADC

> using a drug moiety *other than* dolastatin/auristatin derivatives. (*See, e.g.*, *id.* ¶¶ 72, 109, 123, 129–30, 135.)

Pet. 55. That is, Petitioner argues that, while the "drug moiety" recited in claim 1 (and required by claims 6–8) covers any type of drug moiety, the '039 patent only describes making ADCs using dolastatin/auristatin derivatives and lacks enabling disclosure for the synthesis of ADCs using any of "the numerous other classes of drug moieties." *Id.* at 52. Dr. Lambert attests to Petitioner's assertion that attaching a linker to a drug moiety in a manner that retains its activity "requires extensive experimentation and ingenuity" and "different classes of drug moieties pose distinct challenges with respect to attachment to ADC linkers." *Id.* at 54 (citing Ex. 1002 ¶¶ 139–46); *see also id.* at 50 (citing Ex. 1002 ¶¶ 39, 44, 125, 130, 142). According to Petitioner, in the years after Patent Owner filed its priority applications, some of Patent Owner's named inventors encountered challenges in attaching ADC linkers to alcohol-containing drug moieties and tertiary amine-containing drug moieties, illustrating the complexity and unpredictability of the claimed ADCs. *Id.* at 51–54 (citing Exs. 1028–1030).

Petitioner's third main contention is that the '039 patent "fails to enable the [person of ordinary skill in the art] to make the full scope of the claimed genus of ADCs and identify which compounds will be 'intracellularly cleaved' as dependent Claims 6–8 require." Pet. 45. Specifically, Petitioner contends that challenged claims 6–8 lack enablement because identifying ADCs susceptible to intracellular cleavage requires

undue experimentation. *Id.* at 57–64. Dependent claims 6–8 depend from claims 1–5, which are limited to ADCs for which "the drug moiety is intracellularly cleaved in a patient from the antibody of the antibody-drug conjugate or an intracellular metabolite of the antibody-drug conjugate," as recited in claim 1. According to Petitioner, this "functional limitation . . . requires that 'the covalent attachment, e.g., the linker, between the drug moiety (D) and the antibody (Ab) is broken, resulting in the free drug dissociated from the antibody inside the cell.'" *Id.* at 57–58 (quoting Ex. 1001, 29:52–55). Claim 8 narrows the intracellular cleavage to being "from an intracellular metabolite of the antibody-drug conjugate." Petitioner argues that, due to the complexity and unpredictability of the claimed ADCs, ascertaining which of the "vast genus of ADCs" covered by claims 6–8 "possess the required functional characteristic of being cleaved intracellularly in a patient" cannot be done without testing and undue experimentation. *Id.* at 46, 58.

2. Patent Owner's Contentions

Patent Owner contends:

> Petitioners' enablement argument . . . relies on evidence that did not come into existence until after the filing date of the earliest priority application of the '039 patent. As such, Petitioners have failed to meet their burden to show that the '039 patent or the priority applications fail to enable the '039 patent claims as of the filing date sought by Patent Owner. *See Janssen Pharmaceutica N.V. v. Teva Pharms. USA, Inc. (In re '318 Patent Infringement Litig.)*, 583 F.3d 1317, 1323 (Fed. Cir. 2009) ("Enablement is determined as of the effective filing date of the patent.").

Prelim. Resp. 62. Specifically, Patent Owner contends that "the vast majority of the scientific articles on which Petitioners and their expert rely are dated after the relevant priority dates." *Id.* (citing Pet. 49–53, 60–63; Ex. 1002 ¶¶ 122–155; Ex. 1080 ¶¶ 122–155).

Patent Owner also contends that Petitioner overstates the requirements for enablement. Prelim. Resp. 63–66. In particular, Patent Owner contends that Petitioner assumes FDA approval is required to establish enablement (*id.* at 63–64), Petitioner "improperly import[s] requirements of particular levels of efficacy for and stability of the ADC" that are not claimed (*id.* at 64), and improperly relies on the presence of less effective or inoperative embodiments within the scope of the claims to support its contention that the claimed subject matter is non-enabled (*id.* at 65, 70).

Patent Owner contends that Petitioner has not shown that testing for intracellular cleavage would require undue experimentation. Prelim. Resp. 66–71. In particular, Patent Owner contends that 1) "the art was replete with well-known *in vitro* and *in vivo* assays that, together, would have informed persons of ordinary skill in the art about whether the claimed ADCs were likely to be intracellularly cleaved in a patient" (*id.* at 67); 2) "art-accepted assays were also available that allowed the indirect determination of ADC cleavage by intracellular enzymes . . . lysosomes" (*id.* at 68); and 3) "assays were available to persons of ordinary skill in the art for ruling out undesirable extracellular release" and "would have demonstrated to persons of ordinary skill in the art whether the conjugate is extracellularly stable" (*id.* at 69).

3. Analysis

"[T]o be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.'" *Genentech Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993)). "The enablement requirement ensures that the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims. The scope of the claims must be less than or equal to the scope of the enablement. The scope of enablement, in turn, is that which is disclosed in the specification plus the scope of what would be known to one of ordinary skill in the art without undue experimentation." *National Recovery Techs. Inc. v. Magnetic Separation Sys., Inc*., 166 F.3d 1190, 1195–96 (Fed Cir. 1999).

> [Although] a specification need not disclose what is well known in the art . . . , that general, oft-repeated statement is merely a rule of supplementation, not a substitute for a basic enabling disclosure. . . . [W]hen there is no disclosure of any specific starting material or of any of the conditions under which a process can be carried out, undue experimentation is required; there is a failure to meet the enablement requirement that cannot be rectified by asserting that all the disclosure related to the process is within the skill of the art. It is the specification, not the knowledge of one skilled in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement.

Genentech Inc., 108 F.3d at 1366.

Having considered the parties' positions and evidence of record, summarized above, we determine that Petitioner has established that it is

more likely than not that claims 6–8 of the '039 patent lack enablement. In particular, we are persuaded based on the record at this stage of the proceeding that the Specification does not enable the full scope of the claims. The Specification focuses on dolastatin/auristatin derivatives and does not describe novel ADCs having non-dolastatin/auristatin derivative drug moieties. Ex. 1001, Abstract. For example, the Specification states that "there is a clear need in the art for *dolastatin/auristatin derivatives* having significantly lower toxicity, yet useful therapeutic efficiency [sic]" and purports that "[t]hese and other limitations and problems of the past are addressed by the present invention." *Id.* at 4:25–29 (emphasis added). Moreover, each embodiment, example, figure, and assay disclosed in the Specification appears to use a drug moiety that is a dolastatin/auristatin derivative. *See*, *e.g.*, Ex. 1001, Abstract, 4:22–29, 50:56–52:30, 71:19–22, 131:23–48, Figs. 1–19, Examples 2–16. Claim 1, however, recites ADCs having "a drug moiety," which, under our current interpretation, is not limited to dolastatin/auristatin derivatives. *Id.* at 331:35–332:40.[5] The Specification appears to lack any guidance enabling the use of any drug moiety other than dolastatin/auristatin derivatives, and it therefore appears to lack guidance enabling the entire scope of the claims. *See generally* Ex. 1001.

[5] We note that dependent claims 6–8 do not further limit the drug moiety, D, recited in claim 1. Ex. 1001, 332:49–62.

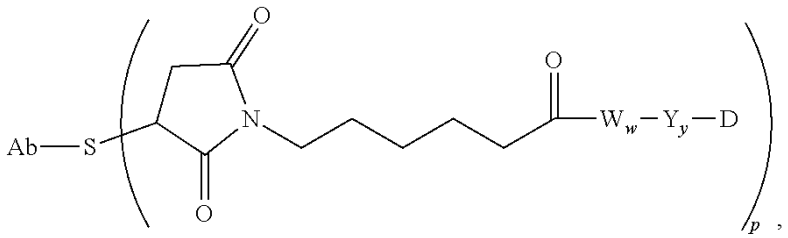
Accordingly, in view of the above, we determine that Petitioner has made a threshold showing that the claimed subject matter is not enabled for the full scope as claimed.

D. Written Description

1. Petitioner's Contentions

a. "Drug Moiety"

Independent claim 1 is drawn to an ADC having the formula:



where "D is a drug moiety." Claims 6–8 depend directly or indirectly from claim 1 and recite limitations pertaining to "improved" bioavailability (claims 6–7) or cleavage "from an intracellular metabolite" (claim 8), without further limiting the recited "drug moiety."

Petitioner contends that the Specification "does not describe the full scope of this claimed genus, because its disclosure is limited to ADCs containing drugs known as dolastatin/auristatins." Pet. 32–33 (citing Ex. 1002 ¶¶ 100–114). According to Petitioner, the Specification "does nothing to illuminate the 'common structural features' of ADCs comprising drug moieties of any structure, as opposed to derivatives of the dolastatin/ auristatin structure." *Id.* at 33. Thus, according to Petitioner, "[t]he absence of even one, let alone a 'representative' number of species of the claimed genus, precludes [Patent Owner] from satisfying the written description

requirement." *Id.* at 35 (citing *Ariad Pharms., Inc. v. Eli Lilly & Co*., 598 F.3d 1336, 1353–54 (Fed. Cir. 2010) (en banc)); *see also* Pet. 37–39.

Petitioner contends that the Specification "plainly focuses on ADCs containing auristatins, compounds derived from a class of natural compounds known as dolastatins," but that:

> because not a single one of th[e] exemplified compounds features the tetrapeptide required by dependent Claims 6–8 (which recite limitations pertaining to "improved" bioavailability or cleavage "from an intracellular metabolite" but do not further limit the tetrapeptide recited in independent Claim 1), the '039 Patent discloses *zero* examples of an ADC falling within the claimed genus. (*See*, *e.g.*, [Ex. 1002] ¶¶ 100–08.)

Pet. 33–34. Petitioner further argues that the Specification "does not identify any common structural features of the 'drug moiety' that would permit the [person of ordinary skill in the art] to visualize the claimed genus' members by its structure, rather than by its function as a drug" to satisfy the written description requirement under *Ariad*. *Id.* at 36 (citing Ex. 1002 ¶¶ 108–113); *see id.* at 43. Specifically, Petitioner argues that the Specification provides eleven "illustrative" drug moieties that are all structural derivatives of dolastatin/auristatin, and discusses how to synthesize certain dolastatin/auristatin derivatives, without disclosing "any structural features that these molecules have in common with the overwhelming majority of the members of the claimed genus, which are *not* of the dolastatin/auristatin type." *Id.* at 38–39 (internal quotation marks omitted) (citing Ex. 1002 ¶¶ 67, 108–110, 113); *see id.* at 37–38 (citing

Ex. 1001, 74:11–77:16), 42–43 (citing Ex. 1001, 143:17–146:2; Ex. 1002 ¶¶ 112–13).

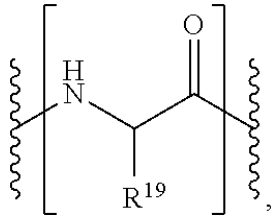
Regarding the '039 patent's disclosure that "D is a Drug unit (moiety) having a nitrogen atom that can form a bond with the Spacer unit when y=1 or 2" (Ex. 1001, 71:31–32), Petitioner argues that

> To the extent that a nitrogen atom may be a structural feature common to the "drug" in each of these disclosures, the [person of ordinary skill in the art] would have understood that countless organic compounds—many of which are inert and thus are not drugs—and virtually all pharmaceutical agents, comprise a nitrogen atom. (*See, e.g.*, Ex. 1002 ¶ 111.) Accordingly, a nitrogen atom is not a common structural feature that would permit the [person of ordinary skill in the art] to "visualize or recognize the members of the genus" under *Ariad*.

Pet. 40 (citing Ex. 1001, 71:31–32, 146:10, 146:40–41, 146:45–46, 150:46–49). Petitioner also notes that Patent Owner has not construed the claims to be limited to having a spacer bound to a drug moiety via a nitrogen atom in the Texas Litigation. *Id.* at 41 (citing Ex. 1006, 8–9; Ex. 1009, 1041).

b. "Tetrapeptide"

Independent claim 1 further recites that "each —W_w— unit is a tetrapeptide; wherein each —W— unit is independently an Amino Acid unit having the formula denoted below in the square bracket:



wherein R^{19} is hydrogen or benzyl." According to Petitioner, this requires that "each of the four amino acids has (i) a backbone that is not N-methylated and (ii) a side chain that is either 'hydrogen or benzyl,' i.e., the amino acids must be glycine or phenylalanine." Pet. 23 (citing Ex. 1002 ¶ 58; Ex. 1020, 769, 773). Dependent claims 6–8 do not further limit the claimed "tetrapeptide." Thus, according to Petitioner, claims 6–8 require a tetrapeptide consisting of only glycine or phenylalanine amino acids. *Id.* at 23, 31–32.

Petitioner argues that claims 6–8 lack written description for "the claimed subgenus of ADCs that feature a tetrapeptide consisting of only glycine or phenylalanine." Pet. 31; *see id.* at 23–34. According to Petitioner, "[b]ecause phenylalanine has two possible stereoisomers and glycine has one, the genus of tetrapeptides recited in Claim 1 (and incorporated by dependent Claims 6–8) encompasses 3^4 (i.e., 81) different species." *Id.* at 23–24 (citing Ex. 1002 ¶¶ 81–83, 83 n.13). Yet, argues Petitioner, the Specification fails to identify any of the 81 species of tetrapeptides falling within the scope of the claims. *Id.* at 24, 26.

Specifically, Petitioner argues that the Specification "allow[s] for each non-N-methylated residue of an amino acid unit to 'independently' be any of 83 potential options," resulting in "83^4 (i.e., over 47 million) different species of tetrapeptide amino acid units having the (non-N-methylated) backbone recited in Claim 1 (and incorporated by dependent Claims 6–8)." *Id.* at 25 (citing Ex. 1002 ¶¶ 82–83). Of those, argues Petitioner, the Specification identifies two tetrapeptide sequences in Formula IX, with

neither example containing only glycine or phenylalanine. *Id.* at 25–26 (citing Ex. 1001, 67:35–50; Ex. 1002 ¶¶ 86, 88), 28–29, 31 (citing Ex. 1002 ¶¶ 75, 86). Thus, argues Petitioner, "the only blaze marks to any subgenus in the [Specification] point *away* from the later-claimed genus." *Id.* at 27. Petitioner argues that "because not a single one of [the Specification's] exemplified compounds features the tetrapeptide required by dependent Claims 6–8 . . . , the '039 Patent discloses *zero* examples of an ADC falling within the claimed genus" rather than a "representative number" of species within the claimed genus under *Ariad*. *Id.* at 34 (citing Ex. 1002 ¶¶ 100–108).

2. Patent Owner's Contentions

Patent Owner contends that, "[r]ather than apply the relevant structure-based standard to the claims at issue, Petitioners attempt to rely on case law developed for assessing functionally-based claims to compounds defined purely in terms of their function without the recitation of any structure." Prelim. Resp. 44 (citing Pet. 35–37, 40–41, 43; *AbbVie Deutschland GmbH & Co. v. Janssen Biotech, Inc.*, 759 F.3d 1285, 1299–300 (Fed. Cir. 2014); *Carnegie Mellon Univ. v. Hoffmann-La Roche Inc.*, 541 F.3d 1115, 1125 (Fed. Cir. 2008); *In re Alonso*, 545 F.3d 1015, 1021–22 (Fed. Cir. 2008)). Patent Owner contends that "[a] genus can be adequately described by 'a precise definition, such as by structure, formula, chemical name, physical properties, or other properties of species falling within the genus sufficient to distinguish the genus from other materials.'" *Id.* (quoting *Ariad*, 598 F.3d at 1350; citing *Capon v. Eshhar*, 418 F.3d

1349, 1356 (Fed. Cir. 2005)). According to Patent Owner, the chemical formula recited in the '039 patent claims "provid[es] a precise structure that defines the scope of the claimed genus." *Id.* at 45. Specifically, Patent Owner argues that the claims "provide a specific chemical formula for the linker, including each of the components of this linker, which serves to link an antibody (Ab) to a drug moiety (D)" and "further define the substituents for the tetrapeptide component that must be selected from the 39 options provided in the specification." *Id.* at 46–47 (citing Ex. 1010, 26–27; Ex. 1014, 97–98).

Patent Owner also contends that Petitioner has not established that "the priority applications and the '039 patent specification lack support for ADCs having drug moieties other than dolastatin/auristatin derivatives." *Id.* at 47. Patent Owner contends that the Specification discloses "the use of a variety of drug moieties with which the linker unit of the invention could be used to connect to an antibody unit, not just dolastatin/auristatin derivatives," including prodrugs and chemotherapeutic agents, particularly, drugs in the doxorubicin, paclitaxel, mitomycin, dolastatin, calicheamicin, and camptothecin classes of drugs. *Id.* at 48 (citing Ex. 1001, 31:39–33:31, 34:50–55, 35:2–5).

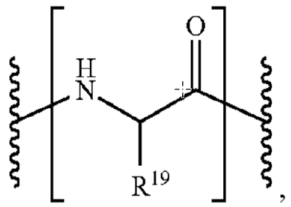
Patent Owner contends that the Specification recognizes a number of mechanisms for conjugating drug moieties to form ADCs disclosed in the prior art. *Id.* at 49 (Ex. 1001, 2:43–3:50, 3:7–12, 3:51–4:29).

Patent Owner contends also that

> although the [S]pecification[] provide[s] certain formulae in which the drug moiety is a dolastatin/auristatin derivative, each of the formulae is specified as just an "aspect" of the invention, without limiting the invention to conjugates that use only these drug moieties. Such a characterization of the invention does not limit the scope of the claims to the recitation of the particular aspects provided in the [S]pecification. *See Laitram Corp. v. NEC Corp.*, 163 F.3d 1342, 1348 (Fed. Cir. 1998) ("the mere repetition in the written description of a preferred aspect of a claimed invention does not limit the scope of an invention that is described in the claims in different and broader terms").

Prelim. Resp. 49–50.

Regarding the claimed tetrapeptide amino acid unit, Patent Owner contends that the claims define each of the amino acids W in the tetrapeptide as having the formula below:



"wherein the R^{19} side chain are either a hydrogen (glycine) or benzyl (phenylalanine), selected from a list of 39 options" disclosed in the earliest priority applications. *Id.* at 52 (citing Ex. 1001, claim 1; Ex. 1010, 26–27; Ex. 1014, 97–98). Patent Owner contends that "[t]his disclosure is sufficient to meet the written description requirement under the rubric adopted by the Federal Circuit and the Board for chemical inventions in which the claims recite precise structures with substituents selected from a list of options provided in the specification." *Id.* at 54 (citing *Novartis Pharms. Corp. v.*

Plexxikon Inc., PGR2018-00069, Paper 16 at 14–17 (PTAB Jan. 16, 2019); *In re Driscoll*, 562 F.2d 1245, 1249–50 (CCPA 1977)). Patent Owner contends that

> The specifications of the priority applications explicitly disclose that the Amino Acid unit can be a tetrapeptide, provide examples of conjugates with tetrapeptides, disclose the same formula for both the overall compound and the Amino Acid unit recited in the claim, and also disclose a list of 39 side chains for R^{19} in the Amino Acid unit that includes the two side chains recited in the claims. (Ex. 1001 at 65:49-52, 67:35-50, 67:61-62, 65:52-66:40.) As in *Novartis* and *Driscoll*, the R^{19} recited in claim 1 of the '039 patent is selected from a Markush group of a finite number of substituents (39 substituents in the '039 patent as compared to 23 in *Novartis* and 14 in *Driscoll*) in the formula provided in the specification. *Novartis*, No. PGR2018-00069, Paper 16 at 16; *Driscoll*, 562 F.2d at 1249-50. Thus, under both precedents most relevant for the claims at issue here, the priority applications provide sufficient guidance to lead a person of ordinary skill in the art to the claimed subgenus.

Prelim. Resp. 56.

Patent Owner contends that "the priority applications disclose every possibility that is recited in the claimed formula" and thus provide adequate written description to the subject matter of the claims, "because the claimed compounds are within the disclosed formulas, which explicitly enumerate a tetrapeptide and glycine and phenylalanine as express options (written in terms of a formula with optional functional groups) within the tetrapeptide." *Id.* at 58 (comparing *Idenix Pharms. LLC v. Gilead Scis. Inc*., 941 F.3d 1149 (Fed. Cir. 2019)).

3. Analysis

Patent Owner preliminarily relies on the disclosures in the Specification related to prodrugs and chemotherapeutic agents to support its contention that the disclosed invention is described as using more than "just dolastatin/auristatin derivatives" as the claimed drug moiety. Prelim. Resp. 48 (citing Ex. 1001, 34:50–55, 35:2–5). We have considered that argument but, on the present record, tend to agree with Petitioner that the Specification's various disclosed therapeutic compounds other than dolastatin/auristatin derivatives "are identified as agents to be administered as part of multi-drug therapy *with* the patent's ADCs, not *as* the drug moieties of the patent's ADCs." Pet. 38, n.14 (citing Ex. 1001, 31:39–33:31, 161:60–163:28; Ex. 1002 ¶ 107). For example, the Specification discloses:

> In other embodiments, methods for treating or preventing cancer are provided, including administering to a patient in need thereof an effective amount of an Exemplary Conjugate and a chemotherapeutic agent.
>
> * * *
>
> In a specific embodiment, the Exemplary Conjugate is administered concurrently with the chemotherapeutic agent or with radiation therapy. In another specific embodiment, the chemotherapeutic agent or radiation therapy is administered prior or subsequent to administration of an Exemplary Conjugates . . . .

Ex. 1001, 161:3–20.

The Specification, however, does specify under heading "9.4 The Drug Unit (Moiety)" that

> [t]he drug moiety (D) of the antibody drug conjugates (ADC) are of the dolastatin/auristatin type (U.S. Pat. Nos. 5,635,483; 5,780,588) which have been shown to interfere with microtubule dynamics, GTP hydrolysis, and nuclear and cellular division (Woyke et al. (2001) Antimicrob. Agents and Chemother. 45(12):3580-3584) and have anticancer (U.S. Pat. No. 5,663,149) and antifungal activity (Pettit et al. (1998) Antimicrob. Agents Chemother. 42:2961-2965).

Id. at 71:21–30. The Specification further specifies that

> D is a Drug unit (moiety) having a nitrogen atom that can form a bond with the Spacer unit when y=1 or 2, with the C-terminal carboxyl group of an Amino Acid unit when y=0, with the carboxyl group of a Stretcher unit when w and y=0, and with the carboxyl group of a Drug unit when a, w, and y=0. It is to be understood that the terms "drug unit" and "drug moiety" are synonymous and used interchangeably herein.

Id. at 71:31–38. And the Specification further specifies that "[i]n one embodiment, -D is either formula D_E or D_F," which Petitioner identifies as formulas defining drugs within the dolastatin/auristatin class of drugs. *Id.* at 71:39; Pet. 37 (acknowledging that formula D_E includes auristatin E derivatives and D_F includes auristatin F derivatives). In view of the above passages of the Specification, we are skeptical that the Specification "clearly allow[s] persons of ordinary skill in the art to recognize that the inventor invented what is claimed," specifically, ADCs where –D is construed to encompass all drug moieties, and not just those of the dolastatin/auristatin type which have been shown to interfere with microtubule dynamics, GTP hydrolysis, and nuclear and cellular division, as described in the Specification. *Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723

F.3d 1336, 1346 (Fed. Cir. 2013) (citing *Ariad*, 598 F.3d at 1351). Patent Owner is, nevertheless, welcome to timely introduce evidence to the contrary at trial.

Regarding the parties' dispute as to whether the recitation of "tetrapeptide" in claim 1 lacks written description support, we preliminarily agree with Patent Owner's analysis, which we adopt as our own, that the Specification adequately discloses the Amino Acid unit (—W—), including expressly naming a tetrapeptide as one option. Prelim. Resp. 51–53; *see also In re Driscoll*, 562 F.2d at 1249–50 (holding that the written description was sufficient where the disclosure listed a number of possible structures that could be incorporated at the position in question, including one option that ultimately appeared in the claims). Accordingly, we are skeptical that Petitioner will prevail in establishing that claims 6–8 lack written description support for the "tetrapeptide" element of the claims.

E. Failure to Particularly Point Out and Distinctly Claim That Which the Inventor or a Joint Inventor Regards as His or Her Invention

Petitioner contends that claims 6–8 fail to set forth "the subject matter which the inventor or a joint inventor regards as the invention." Pet. 65–67 (citing 35 U.S.C. § 112(b)). Specifically, Petitioner contends:

> That the named inventors regarded their inventions as necessarily comprising dolastatin/auristatin derivatives is plain from (i) the '039 Patent's specification, (ii) expert testimony regarding the understandings of the [person of ordinary skill in the art], and (iii) PO's related prosecution efforts. (*See*, *e.g.*, [Pet.] § III.) Even on its face, the '039 Patent is directed to "[a]uristatin peptides" and ligand-drug conjugates thereof.

> (Ex. 1001 at Abstract.) Each of the three categories of "compounds of the invention" described in the specification include dolastatin/auristatin drug moieties. (*See*, *e.g.*, *id.* at 44:57–59 (regarding "Drug-Linker-Ligand Conjugates having Formula Ia," wherein the drug moiety is a dolastatin/auristatin derivative of structural Formula D_E or D_F), 51:48–60 (regarding "Drug Compounds of Formula (Ib)," which have a dolastatin/auristatin structure), 57:20–22 (regarding "antibody-drug conjugate compounds (ADC) having Formula Ic," wherein the drug moiety is a dolastatin/auristatin derivative of structural Formula D_E or D_F).)

Pet. 65–66 (citing Ex. 1002 ¶¶ 118–120). Petitioner further contends that the claims cover ADCs not comprising dolastatin/auristatin derivatives despite the "clear focus on dolastatin/auristatin derivatives" in the Specification. *Id.* at 66. According to Petitioner, "[t]he Board should cancel Claims 6–8 for at least this reason." *Id.* at 67.

Patent Owner contends that Petitioner is "[r]epackaging their written description arguments" and improperly interprets 35 U.S.C. § 112(b) in a manner inconsistent with *Nautilus, Inc. v. Biosig Instruments, Inc*., 572 U.S. 898, 902 (2014). Prelim. Resp. 71.

The second paragraph of 35 U.S.C. § 112 provides, "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." The Federal Circuit has interpreted Section 112, paragraph two as containing two requirements: 1) the claim must set forth what the patentee regards as his invention, and 2) do so with sufficient particularity and definiteness. *Allen Eng'r Corp. v. Bartell Indus*., 299 F.3d 1336, 1348

(Fed.Cir.2002) (citing *Solomon v. Kimberly–Clark Corp*., 216 F.3d 1372, 1377 (Fed.Cir.2000)).

Having considered the parties' positions and evidence of record, summarized above, we determine that Patent Owner has the better position. In determining whether a claim is sufficiently definite, we must analyze whether "one skilled in the art would understand the bounds of the claim when read in light of the specification." *Id.* (interior quotation omitted). In *Allen*, the court addressed patent claims directed to concrete riding trowels powered by a combustion engine and controlled with a steering mechanism. The steering mechanism contained a gearbox that was the subject of the court's discussion on indefiniteness. The claims at issue in *Allen* limited the "pivoting of the gear box only in a plane perpendicular to said biaxial plane." *Id*. at 1349 (emphasis in original). The specification, however, described the same structure in "'contrary terms,' stating that rotation ... cannot pivot in a plane perpendicular to the biaxial plane." *Id*. (emphasis in original). Based upon this contradiction, the *Allen* court held that the claims were indefinite. *Id*.

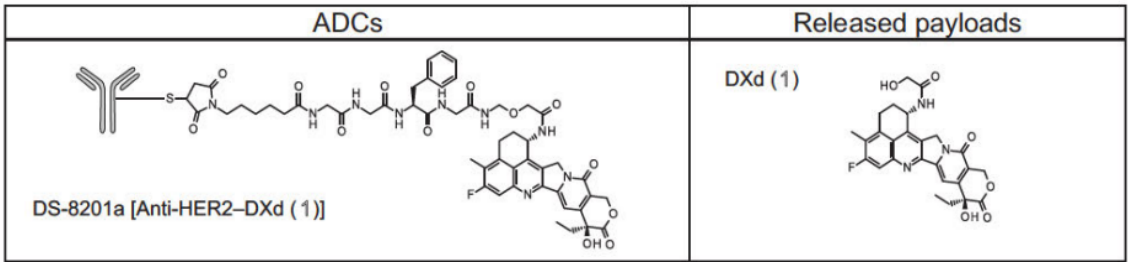
In contrast to the issue before the *Allen* court, the issue before us in this case is a question of breath of the claims, not whether the claims describe the invention in a manner that is ambiguous or contrary to what a person of ordinary skill in the art would understand the Specification to disclose. To the former, we have addressed Petitioner's arguments regarding the scope of the claims above. To the latter, we are not persuaded on the current record that the claims recitation of "drug moiety" is contrary

to its use in the Specification so as to create an irreconcilable contradiction rendering the claims indefinite.

F. Anticipation by Ogitani

1. Summary of Ogitani

Ogitani is a scientific journal article titled "Bystander killing effect of DS-8201a, a novel anti-human epidermal growth factor receptor 2 antibody-drug conjugate, in tumors with human epidermal growth factor receptor 2 heterogeneity," published electronically on June 22, 2016, and in print in July 2016. Ex. 1009, 4; *see* Pet. 70. Ogitani discloses DS-8201a, a "human epidermal growth factor receptor 2 (HER2)-targeting antibody drug conjugate prepared using a novel linker-payload system with a potent topoisomerase I inhibitor, exatecan derivative (DX-8951 derivative, DXd)." Ex. 1009, 4. The structure of DS-8201a and its released payload as disclosed in Figure 1 of Ogitani is reproduced below:



Structure of DS-8201a and its Released Payload

Id. at 6.

2. Analysis

Petitioner contends that claims 6–8 are anticipated by Ogitani. Pet. 67–76. To support its contention, Petitioner provides a detailed claim chart and discussion of how each element of claims 6–8 is disclosed by Ogitani. *Id.*

Patent Owner does not, at this time, provide any arguments with respect to the anticipation ground advanced by Petitioner. *See generally* Prelim. Resp.

Having considered the parties' positions and evidence of record, we determine that Petitioner has established that it is more likely than not that Ogitani anticipates at least one of the challenged claims.

VI. CONCLUSION

Taking account of the information presented in the Petition, the Preliminary Response, and the evidence of record, we conclude that the information presented in the Petition establishes that it is more likely than not that Petitioner would prevail in showing that at least one claim of the '039 patent is unpatentable. Consistent with precedents and Board guidance, we institute post-grant review on all challenges raised in the Petition. *See* Guidance on the Impact of *SAS* on AIA Trial Proceedings (Apr. 26, 2018), *available at* *https://www.uspto.gov/sites/default/files/documents/guidance_on_the_impact_of_sas_on_aia_trial_proceedings_%20%28april_26%2C_2018%29.pdf* ("As required by [*SAS*] decision, the PTAB will institute as to all claims or

none," and "[a]t this time, if the PTAB institutes a trial, the PTAB will institute on all challenges raised in the petition."); Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019), 5–6, *available at https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf?MURL=*.

Our findings and conclusions discussed herein are based on a preliminary record. We will make a final determination on the patentability of the challenged claims, as necessary and applying the preponderance of the evidence standard, based on a fully developed record through trial. Any argument not raised in a timely Patent Owner Response to the Petition, or as permitted in another manner during trial, shall be deemed waived even if asserted in the Preliminary Response. *See In re NuVasive, Inc*., 842 F.3d 1376, 1380–81 (Fed. Cir. 2016) (holding Patent Owner waived an argument addressed in the Preliminary Response by not raising the same argument in the Patent Owner Response). In addition, nothing in this Decision authorizes Petitioner to supplement information advanced in the Petition in a manner not permitted by the Board's Rules.

VII. ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 324(a), a post-grant review is instituted as to claims 6–8 of the '039 patent; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 324(d) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial will commence on the entry date of this decision.

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