

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SYMRISE AG and SYMRISE INC.,
Petitioner,

v.

INOLEX INVESTMENT CORP.,
Patent Owner.

Case IPR2023-01035
U.S. Patent No. 10,995,048

Title: NATURAL 1,2-ALKANEDIOLS, COMPOSITIONS HAVING NATURAL
1,2-ALKANEDIOLS AND PROCESSES FOR MAKING THE SAME

**PATENT OWNER'S PRELIMINARY RESPONSE
UNDER 37 C.F.R. § 42.107**

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	BACKGROUND	2
	A. The Background Technology and Inventions Claimed By the '048 Patent.....	2
	1. The Teachings of the '048 Patent	2
	2. The Prior Art Discussed in the '048 Patent	4
	3. The Challenged Claims of the '048 Patent	5
	4. The Prosecution History of the '048 Patent.....	6
	5. The Prosecution History of the Related '365 Patent	7
	6. The Prosecution History of the Related '803 Patent	7
III.	THE LEVEL OF ORDINARY SKILL IN THE ART	8
IV.	CLAIM CONSTRUCTION	9
	A. The Applicable Legal Standard.....	9
	B. The Claim Term(s) in Dispute	10
	C. Symrise's Proposed Construction Is Unsupported By The Intrinsic Record	13
	1. Symrise's Proposed Construction Is Unsupported By The Specification.....	13
	2. Symrise's Proposed Construction Is Unsupported By The Prosecution History	15
	3. Symrise's Case Law Is Irrelevant Under <i>Phillips</i>	16
	D. Inolex's Proposed Construction is Supported By The Intrinsic Record	17

V. THE BOARD SHOULD EXERCISE ITS DISCRETION PURSUANT TO
§ 325 TO DENY INSTITUTION ON GROUNDS 5-6 OF SYMRISE’S
PETITION.....19

1. The Wright ’788 Pub. (Ex. 1009) Was Presented to and
Considered By The Office During Prosecution of the ’048 Patent 20
2. Petitioner Has Not Demonstrated That The Office Erred in Not
Rejecting the Claims of the ’048 Patent Over Wright 22

TABLE OF AUTHORITIES

CASES	PAGE(S)
<i>Advanced Bionics, LLC v. MED-EL Electromedizinische Geräte GmbH</i> , IPR2019-01469, Paper 6 at 8 (P.T.A.B. Feb. 13, 2020).....	20, 22
<i>C.R. Bard, Inc. v. U.S. Surgical Corp.</i> , 388 F.3d 858 (Fed. Cir. 2004)	10
<i>CCS Fitness, Inc. v. Brunswick Corp.</i> , 288 F.3d 1359 (Fed. Cir. 2002)	18
<i>Edwards Lifesciences LLC v. Cook Inc.</i> , 582 F.3d 1322 (Fed. Cir. 2009)	18
<i>ICU Med., Inc. v. Alaris Med. Sys., Inc.</i> , 558 F.3d 1368 (Fed. Cir. 2009)	18
<i>Kinetic Concepts, Inc. v. Blue Sky Med. Grp.</i> , 554 F.3d 1010 (Fed. Cir. 2009)	18
<i>Peiczenik v. Dyax Corp.</i> , 226 F.Supp.2d 314 (D. Mass. 2002)	16
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) (<i>en banc</i>).....	<i>passim</i>
<i>Tubular Rollers, LLC v. Maximus Oilfield Prods., LLC</i> , Case No. 2021-2319, 2023 WL 4230371 (Fed. Cir. June 28, 2023).....	14
<i>Vitronics Corp. v. Conceptiontronic, Inc.</i> , 90 F.3d 1576 (Fed. Cir. 1996)	9
<i>Wilson Sporting Goods v. Hillerich & Bradsby</i> , 442 F.3d 1322 (Fed. Cir. 2006)	10

STATUTES AND REGULATIONS	PAGE(S)
35 U.S.C. § 103	1, 7
35 U.S.C. § 325(d)	1, 19
37 C.F.R. § 1.290	6
37 C.F.R. § 42.100(b)	9
37 C.F.R. § 42.107(a).....	1

I. INTRODUCTION

Pursuant to 35 U.S.C. § 313 and 37 C.F.R. § 42.107(a), Patent Owner, Inolex Investment Corp. (“Inolex” or “Patent Owner”), submits this Preliminary Response to the Petition (“Pet.”) by Symrise AG and Symrise Inc. (“Symrise” or “Petitioner”) for *Inter Partes* Review of U.S. Patent No. 10,995,048 (“the ’048 patent”).

Symrise submitted six proposed grounds (Grounds 1-6) based on obviousness (35 U.S.C. § 103). In view of the arguments herein, Inolex respectfully requests that the Board:

1. Reject Petitioner’s proposed claim construction as erroneous under the standard set forth in *Phillips v. AWH*;
2. Adopt Inolex’s proposed claim construction because it comports with the standard set forth in *Phillips v. AWH*; and
3. Exercise its discretion under 35 U.S.C. § 325(d) and deny institution on Grounds 5 and 6 of Symrise’s Petition because the primary reference (Wright, Ex. 1009) was previously considered by the Office, and Petitioner has not demonstrated that the Office erred in a manner material to the patentability of challenged claims.

II. BACKGROUND

A. The Background Technology and Inventions Claimed By the '048 Patent

The '048 patent is titled “Natural 1,2-Alkanediols, Compositions Having Natural 1,2-Alkanediols and Processes for Making the Same” and issued on May 4, 2021, to inventors Rocco V. Burgo, Michael E. Wright, Gary B. Mosser, and Michael J. Fevola. (Ex. 1001.) The '048 patent ultimately claims priority to U.S. Provisional Appl. No. 62/623,985, which was filed on January 30, 2018. (*Id.*) The '048 patent issued with 28 claims, of which claim 1 is independent, and claims 2-28 depend directly or indirectly therefrom. (*Id.*)

1. The Teachings of the '048 Patent

The '048 patent teaches that at the time of the invention, consumers and governmental bodies expressed a need for personal care products containing “natural and renewable antimicrobial components and alternatives to traditional preservatives.” (See Ex. 1001 at col. 1:61 col. 2:20.) 1,2-alkanediols had been identified as a preservative component that could maintain anti-microbial efficacy while avoiding the use of parabens. (See Ex. 1001 at col. 2:21-32.) While 1,2-octanediol (i.e., caprylyl glycol) had emerged as one of the fastest-growing preservatives in this area (*id.* at col. 2:52-54), commercial methods at the time of the claimed invention utilized petrochemically-derived 1-octene as a starting material (*id.* at col. 2:57 – 3:17).

The inventors of the '048 patent developed a novel method to prepare bio-1,2-alkanediols having a regioselectivity of 80% or higher that are “100% ‘natural’.” (Ex. 1001, col. 7:64-66.) The invention “includes a process for the synthesis of bio-1,2-alkanediols, comprising: providing a bio-alkene having a carbon chain of about 5 to about 20 carbon atoms and a bio-1-alkene regioselectivity of at least about 80%; and converting the bio-alkene to a bio-1,2-alkanol having a carbon chain length of about 5 to about 20 carbon atoms.” (Ex. 1001, col. 8:5-10.)

The methods and products claimed in the '048 patent relate to the preparation of bio-alkenes that can serve as a key intermediate to prepare bio-1,2-alkanediols. Specifically, “the bio-alkene preferably results from a process wherein a bio-1-alcohol is dehydrated by heating the bio-1-alcohol in a reactor with a catalyst.” (Ex. 1001, col. 8:20-23.) The resulting bio-alkene has a bio-1-alkene regioselectivity of at least 80% or greater (claim 1), and in preferred embodiments the bio-1-alkene regioselectivity is about 92% to about 99% (claim 9), or about 95% to about 99% (claim 10). Generally, the claimed methods are suitable for preparing C5 to C20 bio-alkenes, and the preferred embodiment is a method to prepare bio-1-octene (Ex. 1001 at col. 7:55-60; col. 8:17-19; col. 13:44-52; col. 26:55 – col. 27:10 (Example 3).

2. The Prior Art Discussed in the '048 Patent

Admittedly, various methods were known in the prior art to convert 1-octanol to octene using heat and a “traditional acid catalyst,” but most allowed the more thermodynamically stable 2-octene to form, and the various regio-isomers (1-, 2-, and 3-octene) are difficult to separate. (*See* Ex. 1001 at col. 5:11 – col. 6:5.) Other prior art methods provided low yield (*id.*, col. 6:25-32 (discussing WO 2004/078336)), were not commercially feasible (*id.*, col. 6:33-47 (discussing U.S. 7,576,250)), or used toxic catalysts (*id.*, col. 6:48-57 (discussing CN Pat. No. 10-5312044)).

The '048 patent also discloses that a process to convert 1-butanol to 1-butene with high yield and regioselectivity had been developed that relied on a catalyst treated with a basic aqueous solution followed by treatment with an organosilane. (*See id.* at col. 7:23-32.) While not identified explicitly, this section of the '048 patent's “Background” section plainly refers to U.S. Pub. No. 2012/0238788 (“the Wright '788 Pub.”; Ex. 1009.) While the Wright '788 Pub.—in a single section—discusses the use of the claimed methods to convert 1-alkanols having C4-C23 carbon chains to corresponding 1-alkenes (Ex. 1009 at ¶ [0016]-[0017]), its disclosure as a whole focuses on bio-alkenes useful as high-flashpoint diesel and jet fuel, which refers to bio-1-butene. (*See, e.g.*, Ex. 1009, Abstract ([a] method and apparatus for dehydrating bio-1-alcohols to bio-1-alkenes ... useful in

preparing high flashpoint diesel and jet biofuels...”; *see also* ¶ [0003], ¶ [0008]-[0009], ¶ [0019].) What is more, the Wright ’788 Pub.’s examples are limited to making bio-1-butene (*see* Ex. 1009 at ¶ [0034]-[0036]) and do not show that the regioselectivity and conversion efficiency disclosed by the Wright ’788 Pub. for bio-1-butene could actually be obtained with any bio-1-alkanols having longer carbon chains.

Further, the technology disclosed in the Wright ’788 Pub. is discussed in the Background of the ’048 patent, which states that “the conversion of 1-octanol to 1-octene is not simply a homolog of a conversion of 1-butanol to bio-1-butene” (*see* Ex. 1001, col. 7:39-42.) Thus, the ’048 patent instructs that the particular catalyst of the Wright ’788 Pub., which was silanized, leads to a loss of regioselectivity when converting 1-octanol to 1-octene.

3. The Challenged Claims of the ’048 Patent

The challenged claims¹ of the ’048 patent are directed to methods for making a bio-alkene having a bio-1-alkene regioselectivity of at least about 80%. (*See* Ex. 1001 at col. 27:45-51 (claim 1).)

Claims 2-6, 8-10, and 22-25 depend directly or indirectly from claim 1 and further define the claimed methods. (*See id.* at col. 29:52-63, col. 29:66 – col. 30:6,

¹ Symrise has not challenged the validity of claims 7 and 11-21 of the ’048 patent. (*See* Pet. at 5.)

col. 30:49-61.) In particular, claims 9 and 10 specify that the bio-alkene has a bio-1-alkene regioselectivity of “about 92% to about 99%” and “about 95% to about 99%,” respectively. (*See id.*) Claims 26-28 also depend directly or indirectly from claim 1 and are further directed to a bio-alkene compound made according to the method of claim 1. (*See id.* at col. 30:62 – col. 31:2.)

4. The Prosecution History of the '048 Patent

The application that issued as the '048 patent (U.S. Appl. No. 16/682,059, “the '059 Appl.”) was filed on November 13, 2009. On September 8, 2020, a third party filed a list of seven prior art references under 37 C.F.R. § 1.290, which it submitted were “of potential relevance to the examination of the application.” (*See* Ex. 1005 at 175-87.) Among the seven references was U.S. Patent No. 8,912,373 to Wright (“Wright '373 Patent,” Ex. 1012). (*See* Ex. 1005 at 175.) The Wright '373 Patent, which issued on December 16, 2014 (*see* Ex. 1012 at 1), was previously published on September 20, 2012 as U.S. Pub. No. 2012/0238788 (“Wright '788 Pub.,” Ex. 1009).

Less than three months after the third party submission of prior art, the Office issued a Notice of Allowability on January 4, 2021, in which the PTO examiner stated that:

Osterholt et al. (US 7,385,092, disclosed by applicant) appears to be the closest prior art and discloses a process for the synthesis of diols comprising providing an alkene

having a carbon chain of about 5 to about 20 carbon atoms and converting the alkene to a 1,2-alkanediol having a carbon chain length of about 5 to about 20 carbon atoms (Abstract, column 10, Example 4). Osterholt et al. are silent in regard to dehydrating an alcohol by heating.

(Ex. 1005 at 206.) Notably, the claims of the '059 application were not amended during prosecution, and were not at any time rejected as being unpatentable under any of the provisions of 35 U.S.C. § 101, 102, 103, or 112. The issue fee was paid on March 31, 2021 (*id.* at 230), and the '048 patent issued on May 4, 2021.

5. The Prosecution History of the Related '365 Patent

The '048 patent is a Continuation application of U.S. Appl. No. 16/262,902 ("the '902 Appl."), which was filed on January 30, 2019 and on August 16, 2022 issued as U.S. Patent No. 11,414,365. A copy of the prosecution history of the '902 Appl. accompanied Symrise's Petition as Ex. 1006.

The Wright '788 Pub. (Ex. 1009) was cited as prior art by the Office during prosecution of the '902 application as disclosing the formation of bio-alkenes with 90-99% selectivity. (*See* Ex. 1006 at 201-03.) The only bio-1-alkene explicitly disclosed in the Wright '788 Pub. (Ex. 1009) as having 90%-99% regioselectivity is bio-1-butene. (*See* Ex. 1009 at ¶ [0034]-[0036].)

6. The Prosecution History of the Related '803 Patent

The '048 patent is also related to U.S. Appl. No. 16/262,898 ("the '898 Appl."), which was filed on January 30, 2019 and on January 5, 2021 issued as

U.S. Patent No. 10,882,803. A copy of the prosecution history of the '898 Appl. accompanied Symrise's Petition as Ex. 1004.

In an Office Action dated August 6, 2019, the PTO examiner cited the Wright '373 Patent as "prior art made of record and not relied upon" in a rejection, but "considered pertinent to applicant's disclosure." (Ex. 1004, 120-29 at 128.) Instead, the PTO examiner rejected claims 35-41 over another Wright publication (WO2016/007196), which allegedly disclosed each and every element of then pending claims 35-41 but without particularity so as to amount to anticipation, but "with sufficient guidance, particularity, and with a reasonable expectation of success, that the invention would be prima facie obvious to one of ordinary skill...." (See Ex. 1004, 120-29 at 127-28.)

III. THE LEVEL OF ORDINARY SKILL IN THE ART

Symrise's Petition relies on a person of ordinary skill in the art as having a bachelor's degree and two or more years of experience or a master's degree in organic synthesis or chemical engineering, with education substituting for experience and vice versa. (Pet. at 15.) Inolex takes no position at this time as to the level of education, degree(s) held, or years of experience held by a person of ordinary skill in the art in fields relevant to the subject matter of the '048 patent.

IV. CLAIM CONSTRUCTION

A. The Applicable Legal Standard

In an *inter partes* review proceeding, patent claims are interpreted in accordance with the standard set forth in *Phillips v. AWH Corp.* 415 F.3d 1303, 1312-17 (Fed. Cir. 2005) (*en banc*); see 37 C.F.R. § 42.100(b), as amended October 11, 2018.

Claim construction begins by examining the intrinsic record: the language of the claims themselves, the specification, and the prosecution file history. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (“Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.”). “[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.* at 1313. “[T]he claims themselves provide substantial guidance as to the meaning of particular claim terms.” *Id.* at 1314 (citing *Vitronics*, 90 F.3d at 1582). At the same time, “claims ‘must be read in view of the specification, of which they are a part.’” *Id.* at 1315 (quoting *Markman*, 52 F.3d 967, 979 (Fed. Cir. 1995)). “[T]he specification ‘is always highly relevant to the claim construction analysis [and] is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics*, 90 F.3d at 1582). Further, “[l]ike the specification, the prosecution

history provides evidence of how the PTO and the inventor understood the patent.”
Id. at 1317 (citing another source).

Extrinsic evidence is “less significant than the intrinsic record in determining ‘the legally operative meaning of disputed claim language.’” *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004) (quoting *Vanderlande Indus. Nederland BV v. I.T.C.*, 366 F.3d 1311, 1318 (Fed. Cir. 2004)).

“The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Phillips*, 415 F.3d at 1316 (quoting *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

B. The Claim Term(s) in Dispute

Symrise’s Petition identifies the term “a carbon chain of about 5 to about 20 carbon atoms” in claim 1 of the ’048 patent as requiring construction. (Pet. at 6.) As an initial matter, reference to the chain length of the bio-alkene produced by the claimed method appears identically in each of claims 1-4 of the ’048 patent. (See Ex. 1001 at col. 29:48-59.) “[T]he same terms appearing in different claims in the same patent ... should have the same meaning ‘unless it is clear from the specification and prosecution history that the terms have different meanings at different portions of the claims.’” *Wilson Sporting Goods v. Hillerich & Bradsby*, 442 F.3d 1322, 1328 (Fed. Cir. 2006) (internal citations omitted). However,

Symrise’s Petition omits any discussion of claims 2-4. Inolex submits that the claim term at issue should be construed consistently for all of claims 1-4 of the ’048 patent.

Further, Symrise’s claim construction truncates the claim term at issue by omitting an essential element: the carbon chain at issue is not generic but instead refers specifically to a “bio-alkene” produced by the claimed method. (Ex. 1001 at col. 29:47-48 “the resulting bio-alkene has a carbon chain of about 5 to about 20 carbon atoms”.) Including “bio-alkene” in the claim term at issue, it becomes clear that Symrise’s proposed construction cannot possibly be correct under the *Phillips* standard because the intrinsic record makes clear that bio-alkenes having a carbon chain of 4 carbon atoms are not encompassed in the present invention.

Instead, the intrinsic record supports a construction for the disputed term, as it appears in claims 1-4, that permits the bio-alkenes prepared by the claimed methods to include “trace impurities and minor undesired fractions,” as set forth in the following table.

Claim Term(s)	Inolex’s Proposed Construction	Symrise’s Proposed Construction
“bio-alkene has a carbon chain of about 5 to about 20 carbon atoms”	A bio-alkene having a carbon chain length of 5 to 20 carbon atoms,	A bio-alkene having a carbon chain length with a minimum of 4 carbon

(claim 1)	permitting trace impurities and minor undesired fractions.	atoms and a maximum of 21 carbon atoms.
“bio-alkene has a carbon chain of about 6 to about 14 carbon atoms” (claim 2)	A bio-alkene having a carbon chain length of 6 to 14 carbon atoms, permitting trace impurities and minor undesired fractions.	No construction proposed.
“bio-alkene has a carbon chain of about 6 to about 10 carbon atoms” (claim 3)	A bio-alkene having a carbon chain length of 6 to 10 carbon atoms, permitting trace impurities and minor undesired fractions.	No construction proposed.
“bio-alkene has a carbon chain of about 6 to about 8 carbon atoms” (claim 4)	A bio-alkene having a carbon chain length of 6 to 8 carbon atoms, permitting trace	No construction proposed.

	impurities and minor undesired fractions.	
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**C. Symrise’s Proposed Construction Is Unsupported By The
Intrinsic Record**

**1. Symrise’s Proposed Construction Is Unsupported By The
Specification**

First, Symrise’s proposed construction is unsupported by the “Background of the Invention” section of the ’048 patent, which makes clear that bio-alkenes having carbon chains of 4 carbon atoms and the claimed regioselectivity were known in the prior art. Specifically, in discussing “Related Art” the ’048 patent states that bio-1-butanol was known “as a pathway for converting straight-chain, linear, primary four-carbon alcohols to bio-1-alkenes at very high yield” (Ex. 1001 at col. 7:19-25) and a method to convert bio-1-butanol to bio-1-butene “at a 92-99% regioselectivity” was known in the prior art (*see id.* at col. 7:33-36). There, the conversion of bio-1-butanol to bio-1-butene relied upon a silanized catalyst. (*See id.* at col. 7:27-33.)

The ’048 patent goes on to teach that “conversion of 1-octanol to 1-octene is not simply a homolog of a conversion of 1-butanol to bio-1-butene” and that “silanization of the catalyst leads to a loss of regioselectivity for the dehydration chemistry of 1-octanol.” (*Id.* at col. 7:42-45, referring to Example 10 at col. 28:53-

67.) Thus, the specification of the '048 patent plainly teaches that the prior art methods suitable for preparing bio-1-butene having high regioselectivity are not suitable to prepare longer-chain alkenes having the claimed regioselectivity. (*See id.*)

Symrise's Petition nonetheless relies upon this same "Description of Related Art" in the '048 patent as supporting its construction (Pet. at 6-7), despite the '048 patent's admission that bio-alkenes having four carbon atoms and the claimed regioselectivity could be prepared by prior art methods using a catalyst. (Ex. 1001 at col. 7:23-39.) However, the specification of the '048 patent never describes the invention as providing a bio-alkene having a carbon chain of 4 carbon atoms—rather, a discussion of bio-alkenes having four carbon atoms is only in the Background section, "Description of Related Art."

Therefore, adopting Symrise's construction would implicate the validity of claim 1 over prior art discussed in the specification that was before the Patent Office—namely the Wright '788 Pub. (Ex. 1009). "[I]t is appropriate to construe the claims to preserve their validity when, as here, that construction 'is practicable, is based on sound claim construction principles, and does not revise or ignore the explicit language of the claims.'" *Tubular Rollers, LLC v. Maximus Oilfield Prods., LLC*, Case No. 2021-2319, 2023 WL 4230371 at *11 (Fed. Cir. June 28, 2023) (quoting *Generation II Orthotics Inc v. Medical Tech. Inc.*, 263 F.3d 1356,

1365 (Fed. Cir. 2001)).

For at least this reason, Symrise's proposed construction cannot be correct. Indeed, *Phillips* explained that "the role of the specification is to describe and enable the invention. In turn, the claims cannot be of broader scope than the invention that is set forth in the specification." 415 F.3d at 1321.

2. Symrise's Proposed Construction Is Unsupported By The Prosecution History

Symrise's claim construction argument also inaptly relies on a claim amendment made during prosecution of the related '902 Appl., in which pending claim 42 was amended as follows:

42. (Currently Amended) A preservative composition, comprising about 60% to about 99% of a bio-1,2-alkanediol having a carbon chain length of 1[[about 8]] to [[about]]20 carbon atoms, wherein the carbon atoms of the first bio-1,2-alkanediol are derived from a plant source and are not petrochemically derived.

(Ex. 1006 at 335.) In making this amendment, Applicants stated that they sought:

[T]o further delineate claims 42 and 72 by removing the term 'about' from the number of carbon atoms required by the claimed bio-1,2-alkanediol. Applicants further note that the as-filed specification at ¶ [0066] describes the use of 'bio-1-heptene' as one of several starting materials for the synthesis of the claimed bio-1,2-alkanediols. Thus, the as-filed specification describes 'a bio-1,2-alkanediol having a carbon chain length of 7...' as required by amended claims 42 and 72, and similarly describes 'bio-1,2-heptanediol' as required by claims 43 and 73.

(Ex. 1006 at 338.) Thus, Applicants never stated that the amendments at issue did

not change the scope of pending claims 42 and 72. Further, the claim amendment was merely “entered” by the PTO examiner, and contrary to Symrise’s assertions, the PTO examiner did not state that the amendment “did not enlarge the scope of the claims.” (Pet. at 7.) Indeed, if the PTO examiner was of that opinion, she could have instead checked box “b)” to indicate that the amendment was “entered as directed to matters of form not affecting the scope of the invention.” (*Compare* Pet. at 7 with Ex. 1006 at 344.)

3. Symrise’s Case Law Is Irrelevant Under *Phillips*

Finally, the Board should reject Symrise’s attempt to analogize the disputed claim terms with those at issue in litigation involving an unrelated patent in *Peiczenik v. Dyax Corp.*, 226 F.Supp.2d 314 (D. Mass. 2002), which concerned the length of amino acid residues. (Pet. at 7-8.) Under *Phillips*, *Peiczenik* is at best extrinsic evidence that in general is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *See Phillips*, 415 F.3d at 1318. And the intrinsic record makes clear that this is not a case in which “about” has its plain and ordinary meaning of “approximately,” as this would provide a non-sensical result that is contradicted by the specification of the ’048 patent.

For these reasons, Symrise’s proposed claim construction does not conform with the guidance of *Phillips* and should be rejected. Instead, as discussed below,

the Board should adopt Inolex's proposed construction that is supported by the intrinsic record.

D. Inolex's Proposed Construction is Supported By The Intrinsic Record

Inolex's proposed construction for the claim terms at issue is anchored in the intrinsic record, and specifically the specification, which includes a definition for the terms. The Board should therefore adopt Inolex's proposed construction, which is "a bio-alkene having a carbon chain length of 5 to 20 carbon atoms, permitting trace impurities and minor undesired fractions."

As discussed above, the claimed invention is a method that provide a bio-alkene having "a bio-1-alkene regioselectivity of at least about 80%." (Ex. 1001, claim 1.) And the resulting "bio-alkene" can be further reacted to form a bio-1,2-alkanediol. (Ex. 1001 at col. 18:22-25 ("[o]nce the bio-1-alcohol is dehydrated to form the highly regioselective terminal, bio-1-alkene, that material is then converted to a bio-1,2-alkandiol having a carbon chain length of about 5 to about 20 carbon atoms.").) However, as the specification of the '048 patent teaches, while having a high bio-1-alkene regioselectivity of at least 80%, the bio-alkene produced by the claimed method can include other components including "trace impurities and minor undesired fractions." (Ex. 1001, col. 18:25-30.)

Therefore, "[p]rior to conversion, the bio-1-alkene may optionally be further

refined such as by a distillation, vacuum distillation, fractionation or similar refining step to further purify the bio-alkenes to remove trace impurities and minor undesired fractions.” (*Id.* at col. 18:25-30.) What is more, the ’048 patent teaches that “the bio-alkene preferably undergoes a distillation step to refine the bio-alkene prior to converting the bio-alkene to the bio-1,2-alkanediol.” (*Id.* at col. 8:52-54.) However, claim 1 of the ’048 patent plainly does not require a distillation step to purify the resulting bio-alkene. Instead, “a distillation step to refine the bio-alkene” is only required by claim 22.

A patentee can act “as his own lexicographer” if he “clearly set[s] forth a definition of the disputed claim term.” *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). That is precisely what has happened in this case. What is more, the Federal Circuit routinely construes the scope of claim terms in light of a consistent use throughout the specification, even when there is not an express definition that does so. *See, e.g., Kinetic Concepts, Inc. v. Blue Sky Med. Grp.*, 554 F.3d 1010, 1018-19 (Fed. Cir. 2009) (giving “wound” a narrower-than-ordinary construction to fit the description of the invention in the specification); *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1375 (Fed. Cir. 2009) (construing “spike” to be pointed in light of the consistent use of the term in the specification); *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1329-30 (Fed. Cir. 2009) (construing “graft” to mean only intraluminal grafts because those

were the only devices described in the specification); see also *Phillips*, 415 F.3d at 1316 (“The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction) (quoting *Renishaw*, 158 F.3d at 1250).

Accordingly, the disputed claim terms should be construed to reflect the teaching in the specification that the bio-alkene compounds resulting from the claimed method can include impurities and undesired fractions. Inolex’s proposed constructions are therefore consistent with and explicitly supported by the specification of the ’048 patent and its prosecution history.

For all the reasons discussed above, the Board should reject Symrise’s proposed construction for the claim terms at issue and should instead adopt Inolex’s proposed constructions.

Inolex also reserves the right to seek to amend claims 1-4 of the ’048 patent to delete the word “about.”

V. THE BOARD SHOULD EXERCISE ITS DISCRETION PURSUANT TO § 325 TO DENY INSTITUTION ON GROUNDS 5-6 OF SYMRISE’S PETITION

The Board should deny institution of IPR for Grounds 5 and 6 under 35 U.S.C. § 325(d) because the primary reference in the obviousness inquiry (the Wright ’788 Pub., Ex. 1009) was considered by the Office, and Petitioner has failed to demonstrate that the Office erred in any material way.

Grounds 5 and 6 of Symrise’s Petition rely upon the following prior art combination:

Ground	Prior Art	Basis	Claims Challenged
5	Wright ’788 Pub. (Ex. 1009)	§ 103	1-6, 8-10, 22, 23, and 26-28
6	Wright ’788 Pub. (Ex. 1009) in view of U.S. Patent No. 6,528,665 (“Cheng,” Ex. 1010)	§ 103	24 and 25

(See Pet. at 5.)

Under § 325(d), the Board applies a two-part test:

- (1) [a] whether the same or substantially the same art previously was presented to the Office or [b] whether the same or substantially the same arguments previously were presented to the Office; and
- (2) if either condition of first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Advanced Bionics, LLC v. MED-EL Electromedizinische Geräte GmbH, IPR2019-01469, Paper 6 at 8 (P.T.A.B. Feb. 13, 2020) (precedential) (“*Advanced Bionics*”).

Both parts of the test are satisfied here.

1. The Wright ’788 Pub. (Ex. 1009) Was Presented to and Considered By The Office During Prosecution of the ’048 Patent

There can be no dispute that the Wright ’788 Pub. (Ex. 1009) was considered by the Office during prosecution of the ’059 application that eventually

issued as '048 patent. Indeed, the face of the '048 patent lists the Wright '373 Patent (Ex. 1012), which issued from the application that published as the Wright '788 Pub. (Ex. 1009). (See Ex. 1001 at 1 (listing "Wright U.S. 8,912,373).) The Wright '373 Patent was made of record in the '059 application by way of a third party submission dated September 8, 2020. (See Ex. 1005, 175-187 at 175, 180.) In that submission, the third party alleged that the Wright '373 Patent was relevant to the patentability of the pending claims because:

Wright describes the dehydration of bio-1-alcohols to bio-1-alkenes with high selectivity. See column 3, line 54-column 4, line 26. Fig. 1 illustrates a general overview of creating renewable and sustainable biodiesel, biojet, and biolubricants based on a feed stream of bio-1-alcohols. It is clear that this are non-petrochemically-derived products, as is evidenced by the starting materials, e.g. cellulosic and hemi-cellulosic biomass, in Fig. 1. Wright thus covers "bio"-1-alkenes according to pending claim 42 of US2019/0289848. The "bio"-1-alkenes according to Wright can serve as starting materials for forming "bio"-1,2-alkanediols according to pending claim 42 of US2019/0289848.

Despite "signing off" as having considered the third party submission and Wright '373 Patent (Ex. 1005 at 219-21), the PTO examiner did not reject any of the pending claims over the Wright '373 Patent (or the Wright '788 Pub.). Instead, on January 4, 2021, the PTO examiner issued a notice of allowance for claims 1-28 that issued as the claims of the '048 patent. (See Ex. 1005 at 205-07.)

The Wright '788 Pub. (Ex. 1009) was also made of record in the co-pending

'902 Appl. that led to issuance of the related '365 patent. (See Ex. 1006, Third Party submission dated August 16, 2020, 175-83 at 176-77 and 181.) That third party submission in the co-pending '902 Appl. included a nearly identical "Concise Description of Relevance" that was made in the '059 Appl. third party submission. (Compare Ex. 1006 at 176 with Ex. 1005 at 175.) Shortly after that third party submission in the related and co-pending '902 Appl., the PTO examiner relied upon the Wright '788 Pub. to reject the pending claims in an Office Action dated September 17, 2020. (See Ex. 1006, 199-204 at 201-03.) Notably, the same PTO examiner reviewed the patentability of the claims of the '048 and '365 patents.

In light of these facts, the primary prior art reference of Grounds 5 and 6 was previously presented to the Office, as the PTO examiner was plainly aware of the Wright '788 Pub. (Ex. 1009) during prosecution of the '059 Appl. that issued as the '048 patent, Therefore, the first requirement of *Advanced Bionics* is satisfied as applied to the Wright '788 Pub., which is the only prior art relied upon in Ground 5 and the primary reference relied upon in Ground 6.

2. Petitioner Has Not Demonstrated That The Office Erred in Not Rejecting the Claims of the '048 Patent Over Wright

Symrise argues that the Office "erred in overlooking the claims of the '048 patent encompassing the same scope as taught by Wright" [Ex. 1009]. (Pet. at 63.) Symrise is incorrect for three reasons:

First, the disclosure at issue in the Wright '788 Pub. is a single sentence that generically discloses a wide range of chain lengths from C1 to C20. (See Ex. 1009 at ¶ [0017].) However, throughout the disclosure Wright focuses on bio-alkenes useful as high-flashpoint diesel and jet fuel, which refers to bio-1-butene. (See, e.g., Abstract ([a] method and apparatus for dehydrating bio-1-alcohols to bio-1-alkenes ... useful in preparing high flashpoint diesel and jet biofuels...."; see also ¶ [0003], ¶ [0008]-[0009], ¶ [0019].) Thus, the Petition relies on an interpretation of the Wright '788 Pub. that goes beyond what the reference itself fairly teaches.

Second, the Background section of the '048 patent specifically discusses the technology disclosed in the Wright '788 Pub., and states that "conversion of 1-octanol to 1-octene is not simply a homolog of a conversion of 1-butanol to bio-butene. In fact, comparative examples described herein below illustrated that silanization of the catalyst [as in the Wright '788 Pub.] leads to a loss of regioselectivity for the dehydration chemistry of 1-octanol." (Ex. 1001 at col. 7:39-45.) The Petition (at 49-50) and supporting Declaration of Dr. Taber (Ex. 1002 at ¶ 116) make no attempt to address this disclosure at col. 7 of the '048 patent, but instead merely parroted back the disclosure of the Wright '788 Pub. at ¶ [0016]-[0017]. For the same reason, the Wright '788 Pub. does not raise a new question of patentability for dependent claims 2-5 (which require processes for making bio-1-alkenes with carbon chains having 6-14, 6-10, 6-8, and 8 carbon atoms,

respectively) or claim 28 (which requires bio-1-alkenes made by the process of claim 1 having 5, 6, 7, 8, 9, 10, or 12 carbon atoms). (See Ex. 1001 at cols. 29-31.) Indeed, in discussing these claims the Petition and Expert Declaration again make no attempt to rebut or contradict the statements concerning Wright's technology at col. 7 of the '048 patent. (See Pet. at 55, 59; Ex. 1002 at ¶ 127, ¶ 136.) Thus, there is nothing in the Petition or supporting expert declaration demonstrating that the Office erred in failing to apply the Wright '788 Pub. to those challenged claims.

Third, under Inolex's proposed claim construction there is no overlap between claim 1 of the '048 patent and the Wright '788 Pub. (Ex. 1009) because the disputed term of claim 1 would encompass "bio-alkene having a carbon chain length of 5 to 20 carbon atoms, permitting trace impurities and minor undesired fractions," and would not encompass the conversion of bio-1-butanol to bio-1-butene as disclosed by the Wright '788 Pub. Thus, the Petition tacitly admits that Grounds 5 and 6, which rely solely on the Wright '788 Pub. as disclosing the elements of independent claim 1, would only raise a substantial new question of patentability as to the challenged claims if Petitioner's proposed claim construction were adopted. However, as discussed above, Petitioner's proposed claim construction should be rejected as plainly contradictory to the *Phillips* standard.

In sum, Exhibits 1004, 1005, and 1006 make clear that the Wright '788 Pub. (Ex. 1009) was previously presented to, and considered by, the Office during

prosecution of the '048 patent, as well as the related '365 and '803 patents.

Further, given the discussion in the Background section of the '048 patent, the Wright '788 Pub. should not be fairly viewed as disclosing processes for preparing bio-1-alkenes having the claimed regioselectivity for carbon chains having more than 4 carbon atoms. And finally, given Symrise's overly broad proposed construction for the disputed term, the Wright '788 Pub. taken as a whole is not relevant to the obviousness of any of the Challenged Claims.² For all of these reasons, the Office did not err in failing to apply the Wright '788 Pub. (Ex. 1009) to the challenged claims of the '048 patent and institution on Petitioner's Grounds 5 and 6 should therefore be denied.

CONCLUSION

For the reasons discussed herein, the Board should reject Symrise's proposed claim construction and adopt Inolex's proposed construction because it comports with the Phillips standard, and the Board should deny institution of Grounds 5 and 6 of Symrise's Petition for IPR of the '048 patent.

² Ground 6 relies on Cheng in combination with the Wright '788 Pub. as allegedly teaching the elements of claims 24 and 25. (See Pet. at 59-60.) Claims 24 and 25 depend from claim 1 and incorporate all of its limitations. And the Wright '788 Pub. is the sole prior art reference relied upon in Ground 5 for the obviousness of claim 1. Therefore, to the extent the Board denies institution of Ground 5, it should deny institution of Ground 6 for the same reasons.

Date: September 21, 2023

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

I hereby certify that pursuant to 37 C.F.R. § 42.24(d), the foregoing PATENT OWNER'S PRELIMINARY RESPONSE UNDER 37 C.F.R. § 42.107 contains 5,678 words, excluding those portions identified in 37 C.F.R. § 42.24(a), as measured by the word processing software used to prepare this document.

Date: September 21, 2023

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CERTIFICATE OF SERVICE

I hereby certify that on September 21, 2023, a true and correct copy of the foregoing PATENT OWNER'S PRELIMINARY RESPONSE UNDER 37 C.F.R. § 42.107 was served on counsel of record for Petitioner by filing this document through the P-TACTS System as well as delivering a copy via electronic mail to the following addresses:

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