UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

ARBMETRICS, LLC, an Ohio limited liability company, Plaintiff, v. DEXCOM, INC., a Delaware corporation, Defendant.	Case No.: 18-CV-134 JLS (KSC) **ORDER ON CLAIM CONSTRUCTION**

Presently before the Court are Plaintiff Arbmetrics, LLC's ("Pl.'s Br.," ECF No. 66) and Defendant Dexcom, Inc.'s ("Def.'s Br.," ECF No. 123) Opening Claim Construction Briefs, as well as each Party's response to the other's Opening Brief ("Def.'s Resp.," ECF No. 68; "Pl.'s Resp.," ECF No. 69). The parties dispute the meaning of seven terms claimed by U.S. Patent No. 6,343,225 (the "'225 Patent"). The Court heard oral argument, including tutorials from the Parties, on October 31, 2019. *See* ECF No. 77. Having carefully considered the Parties' arguments, the evidence, and the law, the Court rules as follows.

LEGAL STANDARD

"A determination of infringement involves a two-step analysis. 'First, the claim must be properly construed to determine its scope and meaning. Second, the claim as

properly construed must be compared to the accused device or process.'" *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1320 (Fed. Cir. 2003) (citing *Carroll Touch, Inc. v. Electro Mech. Sys., Inc.*, 15 F.3d 1573, 1576 (Fed. Cir. 1993)).

The first step, commonly known as claim construction, is presently before the Court. Claim construction is a matter of law for the Court's determination. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388 (1996) ("[J]udges, not juries, are the better suited to find the acquired meaning of patent terms.").

Words of a claim are "generally given their ordinary and customary meaning." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005). Because the inquiry into the meaning of claim terms is an objective one, "a court looks to those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean." *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004). "Those sources include the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art."[1] *Id.* (citing, *inter alia*, *Vitronics*, 90 F.3d at 1582–83).

Claim construction begins with an analysis of the words of the claims themselves. *See Scanner Techs. Corp. v. ICOS Vision Sys. Corp.*, 365 F.3d 1299, 1303 (Fed. Cir. 2004) (holding that claim construction "begins and ends" with claim's actual words). "In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves

[1] The first three sources are considered "intrinsic evidence" of claim meaning. *See generally Phillips*, 415 F.3d at 1314–17.

little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314. The meaning of a claim term, however, as understood by ordinarily skilled artisans often is not immediately apparent. *Id.* In those situations, the court looks to "sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean." *Id.* Or, when a patentee "chooses to be his own lexicographer and use terms in a manner other than their ordinary meaning," the court can use the patentee's meaning "as long as the special definition of the term is clearly stated in the patent specification or file history." *Vitronics*, 90 F.3d at 1582.

In examining the claims themselves, "the context in which a term is used can be highly instructive." *Phillips*, 415 F.3d at 1314. Moreover, "[o]ther claims of the patent in question, both asserted and unasserted can . . . be valuable sources of enlightenment as to the meaning of a claim term." *Id.* (citing *Vitronics*, 90 F.3d at 1582). "Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims." *Id.* Conversely, under the doctrine of claim differentiation, "'different words or phrases used in separate claims are presumed to indicate that the claims have different meanings and scope.'" *Andersen Corp. v. Fiber Composites, LLC*, 474 F.3d 1361, 1369 (Fed. Cir. 2007) (quoting *Karlin Tech., Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 971–72 (Fed. Cir. 1999)).

"Importantly, the 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." *Phillips*, 415 F.3d at 1313. "The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines them by implication." *Vitronics*, 90 F.3d at 1582. "In addition to providing contemporaneous technological context for defining claim terms, the patent applicant may also define a claim term in the specification 'in a manner inconsistent with its ordinary meaning.'" *Metabolite Labs., Inc. v. Lab. Corp. of Am.*, 370 F.3d 1354, 1360 (Fed. Cir. 2004). "Usually, [the specification] is dispositive; it is the single best guide to the meaning of a disputed term." *Vitronics*, 90 F.3d at 1582; *accord Phillips*, 415 F.3d at

1317 ("It is . . . entirely appropriate for a court, when conducting claim construction, to rely heavily on the written description for guidance as to the meaning of the claims.").

Patent claims should ordinarily be construed to encompass the preferred embodiments described in the specification, for "[a] claim construction that excludes a preferred embodiment . . . 'is rarely, if ever, correct.'" *SanDisk Corp. v. Memorex Prods., Inc.*, 415 F.3d 1278, 1285 (Fed. Cir. 2005) (quoting *Vitronics*, 90 F.3d at 1583). A court should not, however, import limitations from the specification into the claims, *Phillips*, 415 F.3d at 1323 ("[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments."), absent a specific reference in the claims themselves. *Reinshaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998) ("[A] party wishing to use statements in the written description to confine or otherwise affect a patent's scope must, at the very least, point to a term or terms in the claim with which to draw in those statements.").

The patent's prosecution history, if in evidence, may also shed light on claim construction. *Vitronics*, 90 F.3d at 1582. "This history contains the complete record of all proceedings before the Patent and Trademark Office [("PTO")], including any express representations made by the applicant regarding scope of the claims." *Id.* "Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent." *Phillips*, 415 F.3d at 1317. Although the prosecution history "often lacks the clarity of the specification," it is nevertheless useful to show "how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

"In most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence." *Vitronics*, 90 F.3d at 1583. Thus, expert testimony on the proper construction of disputed claim terms "may only be relied upon if the patent documents, taken as a whole, are insufficient to enable the court to construe disputed claim terms."

Vitronics, 90 F.3d at 1585. But, *Vitronics* does not state a rule of admissibility, nor does it "prohibit courts from examining extrinsic evidence, even where the patent document is itself clear." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999). As the Federal Circuit has made clear:

> [B]ecause extrinsic evidence can help educate the court regarding the field of the invention and can help the court determine what a person of ordinary skill in the art would understand claim terms to mean, it is permissible for the district court in its sound discretion to admit and use such evidence.

Phillips, 415 F.3d at 1319; *accord Key Pharms. v. Hercon Labs. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998) ("[T]rial courts generally can hear expert testimony for background and education on the technology implicated by the presented claim construction issues, and trial courts have broad discretion in this regard."). The court is not "barred from considering any particular sources or required to analyze sources in any specific sequence, as long as those sources are not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence." *Phillips*, 415 F.3d at 1324 (emphasis added); *see also Biagro W. Sales, Inc. v. Grow More, Inc.*, 423 F.3d 1296, 1302 (Fed. Cir. 2005) ("Extrinsic evidence, such as expert testimony, may be useful in claim construction, but it should be considered in the context of the intrinsic evidence.").

ANALYSIS

The parties dispute the meaning of seven claim terms in the '225 Patent. A brief description of the '225 patent is provided below, followed by an analysis of the claim terms.

I. The '225 Patent

The '225 Patent is directed to the creation of an implantable glucose sensor for use by patients with diabetes. The glucose sensor measures the amount of glucose present in the blood through an electrochemical reaction. The reaction is sparked by an enzyme that causes glucose to react with oxygen, the end product of the reaction being hydrogen peroxide. The amount of hydrogen peroxide created by the reaction is a direct measure of the glucose concentration in the sample. The hydrogen peroxide is then oxidized back to

oxygen, which transfers electrons to an electrode, creating an electric current that can be measured. The electric current measured is directly proportional to the glucose concentration in the sample.

A problem found in many implantable glucose monitors is the high glucose-to-oxygen ratios often found in human tissue. This ratio creates problems because a surplus of glucose and a shortage of oxygen will lead to a limited number of reactions with the enzyme, which lowers the electric current produced and results in inaccurate readings. To solve this problem, the present invention attempts to increase the amount of oxygen that reaches the enzyme. To do this, the invention teaches to create an enzyme emulsion to spark the reaction described above. The emulsion is comprised of, among other things, a substance in which oxygen is extremely soluble. The oxygen soluble substance increases the oxygen available to the enzyme by creating oxygen reservoirs, from which the enzyme can pull to continue the chemical reactions.

The disputed terms are found in Claims 1 and 5 of the '225 Patent. Claim 1 describes the present invention as follows:

> An implantable sensor for sensing a concentration of an organic substrate, the sensor comprising:
>
> a conductive electrode; and
>
> a stabilized enzyme emulsion in contact with the electrode, the enzyme emulsion comprising:
>
> an oxidase enzyme that quantitatively oxidizes the organic substrate;
>
> a water immiscible oxygen dissolving substance emulsified into intimate contact with the enzyme to provide oxygen; and
>
> a protein crosslinking agent to crosslink and insolubilize the enzyme forming a stabilized gel comprising crosslinked protein and particles of said oxygen dissolving substance.

'225 Patent at 14:16–29.

Dependent Claim 5 describes:

> The implantable sensor of claim 1, wherein the oxygen dissolving substance is selected from the group consisting of perflourocarbons, silicone oils, flourosilicone oils, aromatic and aliphatic hydrocarbon oils or solids, carotenoids and steroids.

Id. at 14:39–43.

II. Disputed Terms

A. "emulsion" (all asserted claims of the '225 Patent)

Plaintiff would construe the term "emulsion" as "a mixture of two or more immiscible components, in which one component is dispersed in another component." Pl.'s Br. at 12. Defendant would construe the term as "a mixture of two or more immiscible liquids, in which one liquid is dispersed in another liquid." Def.'s Br. at 15. The dispute therefore centers around whether the emulsion described in Claim 1 of the '225 Patent should be limited to liquids, as Defendant contends, or whether it should include any mixtures of immiscible components, as Plaintiff contends.[2]

After reviewing the intrinsic and extrinsic evidence, the Court agrees with Defendant's proposed construction because it comports with the plain and ordinary meaning of "emulsion" as understood by a person with ordinary skill in the art. "As a general rule, the ordinary and customary meaning controls unless 'a patentee sets out a definition and acts as his own lexicographer, or . . . the patentee disavows the full scope of a claim term either in the specification or during prosecution.'" *Sumitomo Dainippon Pharma Co. v. Emcure Pharm. Ltd.*, 887 F.3d 1153, 1157 (Fed. Cir. 2018) (quoting *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)). To act as its own lexicographer, the patentee must "clearly set forth a definition of the disputed

[2] The Court notes that in its Response, Plaintiff argues that the claims do not refer to emulsion in isolation and instead use the full term "enzyme emulsion," and thus the Court should construe that full term. Pl.'s Resp. at 6. Both Parties agreed at the October 31, 2019 hearing, however, that the term to be construed is "emulsion," not "enzyme emulsion."

claim term" and "clearly express an intent to define the term." *GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014). Here, both the intrinsic and extrinsic evidence leads the Court to determine that the ordinary and customary meaning is appropriate because the patentee did not clearly set forth a contrary definition to the term.

Plaintiff contends that the intrinsic evidence clearly sets forth the patentee's intent to define the term. Plaintiff points to a sentence in the specification that it contends makes explicit that the emulsion is not limited to liquids. Pl.'s Br. at 13. That sentence describes "tiny solid or liquid particles" of the oxygen dissolving substance and the enzyme that are in "insoluble form." '225 Patent at 8:56–59. This sentence, however, is not a clear indication that the patentee intended to deviate from the ordinary and customary meaning. Indeed, as Defendant notes, "the sentence seems to describe the gel formed after the emulsion is crosslinked, rather than before as in the claims." Def.'s Resp. at 11. The "tiny solid . . . particles" could therefore be formed after the gel is created and would not be present when the claimed emulsion is created.

Next, Plaintiff points to Claim 5 as evidence that the patentee did not intend for the term emulsion to be limited to liquids. Plaintiff asserts that Claim 5 "unambiguously defines the 'oxygen dissolving substance' of claim 1 as a 'solid'" and, since one of the major components of the claimed emulsion may be a solid, Defendant's attempt to limit the emulsion to liquids must be wrong. Pl.'s Br. at 13. But this evidence is not as clear as Plaintiff contends. As Defendant points out, "whenever the '225 Patent describes solids used in the emulsion, it is describing solids that have been dissolved in solution—in other words, liquid." Def.'s Br. at 18. Thus, it is not clear the patentee defined emulsion contrary to its plain meaning.

In support of its position, Defendant turns to the prosecution history. In the prosecution history, the patentee distinguishes a prior art reference, U.S. Patent 5,431,160 ("Wilkens"), because Wilkens discloses a suspension or gel—both of which may contain solids—rather than an emulsion. Def.'s Resp. at 10. The fact that the patentee distinguished the prior art on this basis shows the patentee did not intend to use the term

emulsion to capture these other types of mixtures, which Plaintiff's construction would do. By differentiating the terms, the patentee indicated that he defined the term emulsion consistent with its ordinary meaning, not contrary to it.

Defendant also points out that throughout the intrinsic evidence, the '225 Patent uses words for liquids when describing the emulsion. Def.'s Br. at 17–18; Def.'s Resp. at 10–11. For example, the prosecution history states that "droplets of the emulsion . . . serve as an oxygen reservoir . . . and because there is close contact between droplets of the oxygen dissolving substance and the enzyme, the lag due to slow oxygen diffusion through water is avoided." ECF No. 66-14 at 103. "Droplet" is a term for liquids and, as used in the prosecution history, describes the components of the emulsion as two liquids. *See* Def.'s Br. at 16.

Finally, the Court finds that the extrinsic evidence supports Defendant's construction. In fact, "all of the dictionaries and texts relied on by both parties define emulsion as a dispersion of two or more liquids." *Id.* at 15.

Based on the above, the Court adopts Defendant's construction and construes the term "emulsion" in accordance with its ordinary and customary meaning: "a mixture of two or more immiscible liquids, in which one liquid is dispersed in another liquid."

B. "in contact with" (all asserted claims of the '225 Patent)

Plaintiff would construe the term "in contact with" as "in direct, indirect, or diffusional communication with." Pl.'s Br. at16. Defendant would construe the term as "touching." Def.'s Br. at 7. Defendant argues that the term "in contact with" must be limited to physical touching, *id.* at 7–11, while Plaintiff contends that "in contact with" does not necessarily require physical touching. Pl.'s Br. at 18.

Plaintiff contends that both the intrinsic and extrinsic evidence supports its construction. Pl.'s Br. at 16. Regarding the intrinsic evidence, Plaintiff contends that the claim language mandates a broader meaning of contact that includes communication because the Patent discloses several different types of contact, all of which require more than just physical touching. *Id.* at 16–17. Plaintiff also points to extrinsic evidence that

Plaintiff contends supports its construction, including several dictionary definitions that offer definitions of "contact" meaning communication, rather than physical touching. *Id.* at 17.

Defendant argues for the plain and ordinary meaning of "contact," which it contends is "touching." Def.'s Br. at 7. Defendant contends that the intrinsic evidence, including Claims 1 and 15 and the specification, supports this meaning. *Id.* at 8–11. Defendant contends its construction is bolstered by the extrinsic evidence, asserting that every dictionary cited in the briefing—including the dictionaries cited by Plaintiff—supports its construction. *Id.* 7–8; Def.'s Resp. at 7. Defendant contends that Plaintiff's construction would render the claims indefinite and make much of the claims and specification nonsensical. Def.'s Br. at 10–11.

The Court agrees with Defendant and finds that "in contact with" means "touching." The Court begins with the language of Claim 1 itself. *Scanner Techs. Corp.*, 365 F.3d at 1303 (holding that claim construction "begins and ends" with a claim's actual words). Claim 1 uses the term in two instances, both of which use "contact" consistent with its ordinary and customary meaning of touching. First, Claim 1 describes "a stabilized enzyme emulsion in contact with the electrode." '225 Patent at 14:19–20. This language does not "clearly indicate" the patentee intended the term to embody a special meaning, such as Plaintiff's proposed construction of "indirect or diffusional communication." *See Vitronics*, 90 F.3d at 1582. Indeed, based on the specification's description of the present invention, this sentence in Claim 1 is entirely consistent with the ordinary meaning of contact, which is touching.

Second, Claim 1 describes "the enzyme emulsion, comprising: . . . a water immiscible oxygen dissolving substance emulsified into intimate contact with the enzyme to provide oxygen." '225 Patent at 14:23–25. Plaintiff contends that because the term "intimate" modifies "contact," the meaning given to "contact" as opposed to "intimate contact" must be broader and include direct, indirect, or diffusional communication. Pl's Br. at 16–17. While the Court agrees that "intimate" modifies the meaning of "contact" in

this sentence, the modification is one of degree and does not mandate Plaintiff's complete deviation from the term's ordinary and customary meaning. Defendant's construction, on the other hand, is consistent with the ordinary meaning as both "intimate contact" and "contact" can describe touching to different degrees. For example, a tap on the shoulder and a hug both involve "contact" that constitutes touching, even though a hug might be described as "intimate contact" while the tap is not. The same is true here.

The specification also supports Defendant's construction. *See Phillips*, 415 F.3d at 1315 (noting a patent's specification "is the single best guide to the meaning of a disputed term"). For example, the specification states that, "[g]enerally the device is *not directly in contact* with the circulatory system so that formation of blood clots does not interfere with operation." '225 Patent at 6:62–65 (emphasis added). Both Parties argue that this sentence supports their constructions. Plaintiff contends that, because the present invention requires the monitor to communicate with the blood, this sentence indicates that the device may be in indirect communication with the blood. Pl.'s Br. at 16. This interpretation, however, fails to take into account the entire passage. The very next sentence states that "[a]ll of the body tissues come into glucose equilibrium with the blood fairly rapidly so that placement of the device *in contact with the blood is not really required*." '225 Patent at 6:65–67 (emphasis added). If the Court construes the term as Plaintiff requests, it would mean that the glucose monitor is "not really required" to be in communication with the blood. This would make no sense because the device's purpose is to measure glucose levels of the blood. Defendant's construction, on the other hand, gives meaning to the entire passage.

Likewise, Figure 2 of the specification supports Defendant's construction. Figure 2 shows the enzyme emulsion touching the electrode. While Figure 2 cannot limit the scope of the claim, *see, e.g.*, *Playtex Prod., Inc. v. Procter & Gamble, Co.*, 400 F.3d 901, 907 (Fed. Cir. 2005), it supports this reading in combination with the other intrinsic evidence.

Finally, the extrinsic evidence supports the construction proposed by Defendant. The Court notes that all of the dictionaries cited by Plaintiff include a definition consistent with the plain meaning, touching. *See, e.g.*, Pl.'s Br. Ex. E (Concise Oxford Dictionary

(1999) defining "contact" as "the state or condition of physical touching"); Ex. F (American Heritage Dictionary (1994) defining "contact" as "[a] coming together or touching, as of objects or surfaces"); Ex. G (Merriam-Webster's Collegiate Dictionary (1999) defining "contact" as "union or junction of surfaces").

In conclusion, the Court adopts Defendant's construction and construes the term "in contact with" to mean "touching."

C. "water immiscible" (all asserted claims of the '225 Patent)

Similar to the term "emulsion," the Parties dispute whether the term "water immiscible," should be limited to liquids. Plaintiff would construe the term to mean "will not mix with or dissolve in water." Pl.'s Br. at 20. Defendant would construe the term to mean "a liquid that will not mix with water." Def.'s Br. at 21. The Court agrees with Plaintiff and concludes that the term is not limited to liquids only.

To start, the Claim language supports Plaintiff's contention that the term does not pertain to liquids only. As used in the '225 Patent's claims, "water immiscible" describes a *characteristic* of an "oxygen dissolving substance," not what type of substance it is. This fact is supported by the claims using "water immiscible" to describe both liquids and solids. For example, Claim 5 of the '225 Patent describes the sensor of Claim 1, wherein the "oxygen dissolving substance" is selected from the group consisting of, among others, "hydrocarbon . . . solids" and "steroids," both of which are solids. *See* '225 Patent at 14:23–24. While the Court agrees that the oxygen dissolving substance is part of the emulsion, which does require liquids, *see supra* Section II.A, it is not the term "water immiscible" that mandates that the emulsion is liquids. Instead, it is the ordinary meaning of emulsion in conjunction with the specification.

The prosecution history also supports Plaintiff's construction. When distinguishing the '225 Patent from Wilkens, the patentee explicitly references solid particles as being immiscible. The patentee states that "[t]he fine particles of graphite used by Wilkins are immiscible but do not constitute an oxygen dissolving substance." *Id.* The graphite

///

materials in Wilkens are all solid, *see id.*, thus, this supports that the patentee did not limit the adjective immiscible only to liquids.

Moreover, the fact that immiscible is an adjective contradicts Defendant's construction. Defendant's proposal would improperly turn the word into a noun, describing the substance and its properties all in one. The Court finds no support for this outcome.

Based on the above, the Court adopts Plaintiff's construction and construes the term "water immiscible" to mean "will not mix with or dissolve in water."

D. "oxygen dissolving substance" (all asserted claims of the '225 Patent)

Plaintiff would construe the term "oxygen dissolving substance" to mean "a substance (a particular kind of matter with uniform properties) having a higher oxygen solubility or higher oxygen permeability than at least one of a hydrocarbonaceous polymer and an oxyhydrocarbon polymer." Pl.'s Br. at 22. Defendant would construe the term to mean "a liquid in which oxygen is preferentially soluble in comparison to water." Def.'s Br. at 23. The Parties' disagreements regarding this term focus on two characteristics: (1) whether the substance is limited to liquids; and (2) whether the substance should be preferentially soluble as compared to water or certain polymers.

Beginning with Defendant's proposal that the "oxygen dissolving substance" must be limited to liquids, the Court finds no basis for this in the evidence. The term is described as a solid in both Claim 5 and the specification. As noted above, Claim 5 describes that the oxygen dissolving substance may be "hydrocarbon . . . solids" or "steroids." '225 Patent at 14:23–24. The fact that the oxygen dissolving substance is dissolved or emulsified into a liquid when part of the claimed emulsion does not mandate that, when described in isolation, it is not a solid.

Likewise, the extrinsic evidence supports that the meaning of "substance" is not limited to liquids. As noted by Plaintiff, multiple dictionaries offer definitions that do not limit the term "substance" to liquids. *See, e.g.*, Pl.'s Br. Ex. E (Concise Oxford Dictionary (1999) defining "substance" as "a particular kind of matter with uniform properties"); Ex.

F (American Heritage Dictionary (1994) defining "substance" as "[a] material of a particular kind or constitution"); Ex. G (Merriam-Webster's Collegiate Dictionary (1999) defining "substance" as "matter of particular or definite chemical constitution"). This extrinsic evidence supports Plaintiff's construction.

Next, Plaintiff's proposed construction attempts to add permeability to the term. This finds no support in the claims or specification. Dissolving a substance is different than diffusion of the substance; consequently, permeability has no place in the construction of this term.

Turning to the solubility of the substance, both Parties agree that the construction for this term requires preferential or higher solubility. The question, therefore, is whether the substance should be preferentially soluble as compared to water or as compared to certain polymers. Plaintiff contends that "hydrocarbonaceous polymer" and "oxyhydrocarbon polymer" should be the points of comparison to the solubility of the substance. Pl.'s Br. at 24–25. These terms, however, do not come from the intrinsic record or the prior art; on the contrary, they come from two separate patents owned by Defendant that were issued *after* the '225 Patent. *See* Def.'s Br. at 25. Although Defendant owns those patents and they reference similar terms, those references are not prior art and do not overcome the fact that the terms find no support in the Patent-in-suit.

Turning to Defendant's construction, Defendant contends that the solubility of the substance should be compared to water. Def.'s Br. at 24–25. The specification describes the solubility of oxygen as compared to water multiple times. *See, e.g.*, '225 Patent at 3:33–40 ("This limits the distance that oxygen must diffuse through a poor oxygen carrier such as water."); 13:2–4 ("[A]n advantage is that steroids, like perfluorocarbons, are much better at dissolving oxygen than is water."). While the specification also describes the solubility as compared to "biological fluids," these fluids—as Defendant notes—are essentially water. Def.'s Br. at 24. And by describing the solubility as compared to water instead of biological fluids, the term avoids possible problems with ambiguity.

///

Based on the above, the Court construes the term "oxygen dissolving substance" as "a substance in which oxygen is preferentially soluble in comparison to water."

E. "oxygen dissolving substance emulsified into intimate contact with the enzyme" (all asserted claims of the '225 Patent)

Plaintiff would construe the term "oxygen dissolving substance emulsified into intimate contact with the enzyme" as "[oxygen dissolving substance as construed above] placed into close communication with the enzyme, via the emulsion." Pl.'s Br. at 26. Defendant would construe the term as "the oxygen-dissolving substance surrounds the enzyme with an emulsion-droplet reservoir of oxygen." Def.'s Br. at 26.

Both Parties focus their proposed constructions on the meaning of the term "intimate contact," with Plaintiff contending that "intimate contact" means "close communication." Pl.'s Br. at 26–27. As noted above, *see supra* Section II.B, the Court rejects Plaintiff's proposed construction of "in contact with" to mean "communication." The Court therefore rejects Plaintiff's proposal to inject "communication" into "intimate contact" for the same reason.

Plaintiff's proposed meaning for "intimate," however, captures the plain and ordinary meaning of the word. The Court agrees that a person of ordinary skill in the art at the time of the invention would have understood "intimate" as a very close connection, association, or contact. This meaning tracks with the use of "intimate" in the specification, where the word intimate is used in conjunction with both "contact" and "association." *See, e.g.*, '225 Patent at 5:23, 8:57, 8:61 (preceding contact); 10:26 (preceding association). In both instances, the specification uses "intimate" as a term of degree, describing how close the components are.

The extrinsic evidence also supports this ordinary meaning; indeed, all of the dictionaries offered by Plaintiff provide a definition of "intimate" including "close." *See* Pl.'s Br. Ex. E (Concise Oxford Dictionary defining "intimate" as "[i]nvolving very close connection"), Ex. F (American Heritage Dictionary defining "intimate" as "[m]arked by close acquaintance, association, or familiarity"), Ex. G (Merriam-Webster's Collegiate

Dictionary defining "intimate" as "marked by very close association, contact, or familiarity").

Defendant contends that "emulsified into intimate contact with the enzyme" is a coined term, not having an ordinary and customary meaning. Def.'s Br. at 26. Defendant argues that without such a definition, the term would be indefinite. *Id.* The Court does not agree and finds that the term, viewed in light of the Patent as a whole, adequately describes the proximity and relationship between the oxygen dissolving substance and the enzyme. Importantly, Defendant has failed to show that the patentee "clearly set forth a definition of the disputed claim term" and "clearly express[ed] an intent to define the term." *GE Lighting*, 750 F.3d at 1309. Without such a showing, the Court declines to find the term is a coined term and declines to deviate from the ordinary and customary meaning of the words.

As for the last remaining word in this disputed term, "emulsified," neither Party indicates any reason why the Court should deviate from the ordinary and customary meaning. *See Websidestory, Inc. v. Netratings, Inc.*, No. 06CV408WQH(AJB), 2007 WL 2019654, at *10 (S.D. Cal. July 10, 2007) (citing *Orion IP, LLC v. Staples, Inc.,* 406 F. Supp. 2d 717, 738 (E.D. Tex. 2005) ("[W]hile every word in a claim has meaning, not every word requires construction.")). The Court therefore adopts the ordinary and customary for this term as well.

Accordingly, the Court construes the phrase "oxygen dissolving substance" as defined above, *supra* Section II.E, and adopts the ordinary and customary meaning for the remainder of the term as outlines above: "oxygen dissolving substance [as defined above] emulsified into very close contact with the enzyme."

F. "electrode" (all asserted claims of the '225 Patent)

Plaintiff would define the term "electrode" as "a conductive material, optionally including a membrane." Pl.'s Br. at 18. Defendant, on the other hand, would construe "electrode" to mean "a solid electric conductor through which an electric current enters or

///

leaves a substance." Def.'s Br. at 11. In other words, the Parties dispute whether the term "electrode" includes a membrane, or whether membrane and electrode are separate terms.

Plaintiff contends that "there is nothing in the prosecution history . . . , the specification, or the claims that precludes the presence of a membrane or coating on the claim electrode." Pl.'s Br. at 18. The Court agrees this may be true but, at the same time, there is zero evidence in the claims or the specification that supports Plaintiff's construction that an optional membrane *must* be included in the term's construction, which would effectively combine the two terms. And as Defendant points out, dependent Claim 2 describes a membrane as a separate element, describing "the sensor of Claim 1 further comprising a semipermeable membrane covering the electrode." '225 Patent at 14:30–33. If the Court were to adopt Plaintiff's construction, dependent Claim 2 would encompass the same scope as independent Claim 1 and become superfluous. *See Power Mosfet Techs., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1410 (Fed. Cir. 2004) ("[I]nterpretations that render some portion of the claim language superfluous are disfavored.").

The Court therefore agrees with Defendant that membrane and electrode should be construed as two separate terms and adopts Defendant's construction of "electrode" as "a solid electric conductor through which an electric current enters or leaves a substance."

G. "hydrocarbon oils or solids" (claim 5 of the '225 Patent)

Plaintiff would construe the term "hydrocarbon oils or solids" to mean "oils or solids including a chemical group or side chain composed of hydrogen and carbon only." Pl.'s Br. at 28. Defendant would construe the term to mean "oils or solids composed only of carbon and hydrogen." Def.'s Br. at 28. The Parties' dispute boils down to whether "hydrocarbon oils and solids" must be composed of only hydrogen and carbon, as Defendant proposes, or whether they can be any oil or solid that includes a hydrogen and carbon side chain, as Plaintiff proposes.

Defendant contends that its construction is consistent with the ordinary and customary meaning of the term. Conversely, Plaintiff asks the Court to deviate from the ordinary meaning primarily based on one sentence from the specification. *See* Pl.'s Br. at

28. That sentence lists examples of substances that may be used as an "oxygen dissolving substance," stating that "[b]esides perflourocarbons hydrocarbon drugs (e.g., cortical steroids) silicones, silanes, cyclic silanes, siloxanes, fluorinated silicones and other similar organo-silicon compounds are excellent oxygen solvents and are useful in the present invention." '225 Patent at 8:13–17. Plaintiff notes that the specification refers to "hydrocarbon drugs," including cortical steroids, which are compounds that are not composed of hydrogen and carbon only and instead consist of oxygen with hydrogen and carbon as a side chain. According to Plaintiff, this precludes any interpretation of the term that limits "hydrocarbon oils and solids" to only substances composed of hydrogen and carbon. The Court cannot agree.

Under Plaintiff's interpretation, several terms in Claim 5 would become redundant or illogical. As pointed out by Defendant, "under Plaintiff's interpretation, hydrocarbon would include the claimed silicone oils, flourosilicone oils, carotenoids, and steroids" listed in Claim 5 "because these chemical classes include a chemical group or side chain composed of hydrogen and carbon only." Def.'s Br. at 29. This would render Claim 5 redundant. Because different claim terms are presumed to have different meanings, the Court declines to find that "hydrocarbon oils and solids" includes silicone oils, flourosilicone oils, carotenoids, and steroids. *See SimpleAir, Inc. v. Sony Ericsson Mobile Commc'n*, 820 F.3d 419, 431 (Fed. Cir. 2016) (quoting *Bd. of Regents of the Univ. of Tex. Sys. v. BENQ Am. Corp.*, 533 F.3d 1362, 1371 (Fed. Cir. 2008) ("Different claim terms are presumed to have different meanings.") (citation omitted)).

The Court therefore adopts Defendant's construction of "hydrocarbon oils or solids" as "oils or solids composed only of carbon and hydrogen."

///

///

///

///

///

CONCLUSION

The terms in dispute are construed as follows:

TERM	CONSTRUCTION
1. "emulsion" (all asserted claims of the '225 Patent)	"a mixture of two or more immiscible liquids, in which one liquid is dispersed in another liquid"
2. "in contact with" (all asserted claims of the '225 Patent)	"touching"
3. "water immiscible" (all asserted claims of the '225 Patent)	"will not mix with or dissolve in water"
4. "oxygen dissolving substance" (all asserted claims of the '225 Patent)	"a substance in which oxygen is preferentially soluble in comparison to water"
5. "oxygen dissolving substance emulsified into intimate contact with the enzyme" (all asserted claims of the '225 Patent)	"oxygen dissolving substance [as defined above] emulsified into very close contact with the enzyme."
6. "electrode" (all asserted claims of the '225 Patent)	"a solid electric conductor through which an electric current enters or leaves a substance"
7. "hydrocarbon oils or solids" (claim 5 of the '225 Patent)	"oils or solids composed only of carbon and hydrogen"

IT IS SO ORDERED.

Dated: December 30, 2019

Janis L. Sammartino
Hon. Janis L. Sammartino
United States District Judge