UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

MAQUET CARDIOVASCULAR LLC,	)	
Plaintiff/Counterdefendant,	)	
v.	)	**Civil Action No. 17-12311-FDS**
ABIOMED, INC., ABIOMED R&D, INC., and ABIOMED EUROPE GMBH,	)	
Defendants/Counterclaimants,	)	

MEMORANDUM AND ORDER ON DISCOVERY MOTIONS AND MOTION TO AMEND

SAYLOR, C.J.

This is a patent infringement case that is related to earlier litigation between the parties, *Abiomed, Inc. v. Maquet Cardiovascular LLC*, No. 16-cv-10914-FDS (D. Mass.) ("*Abiomed I*").

In this case, plaintiff Maquet Cardiovascular LLC has sued defendants Abiomed, Inc.; Abiomed R&D, Inc.; and Abiomed Europe GmbH for infringing U.S. Patent No. 10,238,783 ("the '783 patent").[1] Defendants (collectively "Abiomed") have counterclaimed for declaratory judgment of noninfringement.

Like *Abiomed I*, this case concerns patents owned by Maquet directed to guidable intravascular blood pumps and methods related to their use. Abiomed manufactures the "Impella" line of intravascular blood pumps, which Maquet alleges infringes its related patents.

Pending before the Court are (1) Maquet's motion for leave to take ESI discovery

[1] Initially, Maquet filed suit alleging infringement of U.S. Patent No. 9,789,238 ("the '238 patent"); however, the suit has since been narrowed to claims of infringement of the more recently issued '783 patent.

concerning Dr. Walid Aboul-Hosn; (2) Abiomed's motion to amend its answer and counterclaim; and (3) Abiomed's motion to compel discovery. For the following reasons, the motion for leave to take ESI discovery will be granted in part and denied in part; the motion to amend the complaint will be granted; and the motion to compel discovery will be granted in part and denied in part.

I. Maquet's Motion for Leave to Take ESI Discovery

A. Background

Dr. Walid Aboul-Hosn is a medical doctor who has been involved in the development of intravascular heart pumps since 1982. (Docket No. 147, Ex. 2 ("Aboul-Hosn Dep.") at 14-18). He is the first named inventor of U.S. Patent No. 7,022,100 ("the '100 patent") and its progeny, which includes both the '238 and '783 patents.

In 1996, he founded A-Med Systems, Inc. ("A-Med"), a company that endeavored to develop intravascular pumps used during heart surgery. (*Id.* at 20-22). He worked there until October 2000, although he continued to consult for the company for a time thereafter. (*Id.* at 29). In July 2002, he assigned to A-Med his rights to the '100 patent, and in January 2008, those rights were assigned to Maquet. (*Abiomed I*, Docket No. 764, Ex. 5 ("Assignment Record") at 3, 5). In 2007, he began working for Abiomed as a consultant. (Aboul-Hosn Dep. at 9).

On August 22, 2019, during discovery in *Abiomed I*, counsel for Maquet deposed Aboul-Hosn in Brussels, Belgium. He was not subject to subpoena, but rather appeared voluntarily, and was represented by separate counsel. (*Id.* at 6-7). In the course of that deposition, he testified that Abiomed hired him as a consultant because it wanted his assistance in the research and design of intravascular heart pumps. (*Id.* at 145). But when counsel for Maquet asked him if he, in fact, provided that assistance, his attorney instructed him not to answer the question. (*Id.* at 145-46). Nor did Aboul-Hosn answer any question, in any form, concerning his participation in

the creation of any Impella product for Abiomed. (*Id.* at 146-52).

On September 6, 2019, Maquet filed two motions to compel in *Abiomed I*. (*Abiomed I*, Docket Nos. 404, 408). One motion sought to compel depositions in response to Maquet's deposition notices under Fed. R. Civ. P. 30(b)(6). (*Abiomed I*, Docket No. 404). As part of that motion, Maquet sought to compel the deposition of a witness pursuant to Rule 30(b)(6) concerning "[a]ll facts and circumstances concerning communications between Abiomed and any third party relating to the Patents-in-Suit, . . . including communications between Abiomed and the named inventors of the Patents-in-Suit—Walid Aboul-Hosn, William, Kanz, and Bruce Baker." (*Abiomed I*, Docket No. 405 at 6). The other motion sought to compel, among other things, discovery related to a defense of assignor estoppel. (*Abiomed I*, Docket No. 409 at 6). That discovery requested by Maquet was as follows:

> All emails sent to or received from Dr. Aboul-Hosn that concern (directly or indirectly) the research, design, development, or manufacture of the accused Impella products;
>
> Any documents created by, sent to, or received by Dr. Aboul-Hosn or referencing Dr. Aboul-Hosn that concern (directly or indirectly) the research, design, development, or manufacture of the accused Impella products;
>
> A supplemental response to Interrogatory No. 8 (Ex. N at 5-7) to provide details of Dr. Aboul-Hosn's role in the design and development of the Accused Products;
>
> The documents and things related to Abiomed's supplemental responses to Interrogatory No. 8; and
>
> A 30(b)(6) witness to testify regarding Dr. Aboul-Hosn's work at Abiomed and the documents produced by Dr. Aboul-Hosn, with the deposition to occur following a production of the above discovery.

(*Abiomed I*, Docket No. 394 at 8).

On September 10, 2019, Maquet filed a motion for contempt on the ground that Abiomed had failed to provide responsive documents concerning the activities of Aboul-Hosn. (*Abiomed I*, Docket No. 418).

On November 22, 2019, Magistrate Judge Boal denied Maquet's motions to compel discovery concerning Aboul-Hosn. (*Abiomed I*, Docket No. 615 at 4, 6). The motion for contempt was also denied on the ground that Abiomed had been required to produce technical documents only with respect to Maquet's requests for production, not emails and other non-technical documents. Moreover, Maquet had not designated Aboul-Hosn as a custodian for the purposes of ESI discovery, despite there being a process for adding custodians if necessary. (*Abiomed I*, Docket No. 614 at 6-7). Those orders were not appealed.

Prior to Judge Boal's discovery rulings in *Abiomed I*, Maquet moved in this case for leave to take ESI discovery concerning Aboul-Hosn. Maquet seeks discovery that would result from the application of ten search terms across Aboul-Hosn's emails.[2]

The Court previously issued a supplemental discovery order providing that discovery served or produced in *Abiomed I*, including all ESI materials, would be used in connection with this case. Thus, the agreement concerning ESI discovery reached by the parties in *Abiomed I* applies to this case as well. (*Abiomed I,* Docket No. 61 ("Stipulated ESI Order")). That order provided for a process by which ESI custodians are to be identified, and relevant discovery collected. (*Id*.) It states that "[i]f more custodians or search terms are necessary, the party seeking additional custodians or search terms shall bear the burden of showing good cause to the Court." (*Id.* at 3).

B. Standard of Review

Under Fed. R. Civ. P. 26(b),

> Parties may obtain discovery regarding any nonprivileged matter that is relevant to any party's claim or defense and proportional to the needs of the case,

[2] Those ten terms are as follows: "Impella*"; "Maquet*"; "Getinge*"; "Datascope*"; "pigtail*" or "pig-tail*" or "pig tail*"; "cannula*"; "guidewire*" or "guide-wire*" or "guide wire"; "A-Med*" or "AMed*"; "patent*" and "pump*"; and "intravascular*" within 100 characters of "guid*".

> considering the importance of the issues at stake in the action, the amount in controversy, the parties' relative access to relevant information, the parties' resources, the importance of the discovery in resolving the issues, and whether the burden or expense of the proposed discovery outweighs its likely benefit.

Fed. R. Civ. P. 26(b)(1).

C. Analysis

Maquet contends that the requested ESI discovery is relevant to Abiomed's invalidity defense of assignor estoppel, to Maquet's claims of infringement, and to issues concerning damages, such as willful infringement. It further contends that the discovery request is also proportional to the needs of the case, because Abiomed already possesses the emails and there are only "ten narrowly-targeted terms."

Abiomed contends that Maquet failed to serve a request for production under Rule 34, thereby depriving it of the 30 days provided by the rule to evaluate and respond to the request; that Maquet failed to meet and confer as required by Rule 37(a) and Local Rule 7.1(a)(2); that the discovery Maquet seeks is duplicative of that addressed by the motions to compel and motion for contempt in *Abiomed I*; and that the proposed search terms are overly broad, unduly burdensome, and not proportional to the needs of the case.

In response, Maquet contends that its requests for production were procedurally proper because it abided by the Stipulated ESI Order; its email correspondence with Abiomed satisfied the meet-and-confer requirement; and Abiomed would not be prejudiced by the discovery. In addition, Maquet contends that its request is more narrowly targeted than those made in *Abiomed I*, and that the highly relevant nature of its requests militate for granting leave to take discovery. According to Maquet, Abiomed's arguments concerning proportionality and the potential burden of production are speculative and fail to account for the discovery limits and protections already afforded by the Stipulated ESI Order.

Under the circumstances, additional discovery concerning Aboul-Hosn appears to be warranted. There is no question that discovery concerning his activities with Abiomed is potentially relevant. Indeed, additional discovery is almost certainly relevant to the issue of assignor estoppel, and possibly issues concerning infringement and damages. Aboul-Hosn is the first-named inventor on the '100 patent, which is a predecessor to the '783 patent; that invention was assigned to a predecessor in interest to Maquet, and subsequently to Maquet itself; and he is now consulting for Abiomed. He testified at his deposition that he began consulting for Abiomed, at least in part, because the company wanted his assistance with the research and design of intravascular heart pumps. (Aboul-Hosn Dep. at 145). When asked if he in fact offered that assistance, or if he assisted in the development of Impella products, he was instructed by counsel not to answer. (*Id.* at 146).

Aboul-Hosn is apparently an independent contractor, not an employee, and presumably, therefore, he is not subject to Abiomed's control. And he apparently resides outside the United States, and is therefore not subject to subpoena. Nonetheless, the discovery in question is not directed to Aboul-Hosn, but to Abiomed itself. At this stage, the Court need not consider the issues arising from Aboul-Hosn's deposition, including his refusal to answer questions on certain topics.

It is true that much of what Maquet requests appears to have been at issue in the *Abiomed I* discovery motions, which were denied. That denial, however, was not appealed, and accordingly the Court never considered the issue directly. Furthermore, the motion before the Court concerns only ESI discovery, and not other forms of discovery that were included in previous requests.

It is also true that some of the search terms are quite broad, and indeed would likely cover

every communication between Abiomed and Aboul-Hosn from the beginning of their relationship to the present. But that issue may be addressed, at a minimum, in stages. The Court will narrow the requests by removing, without prejudice, the terms "cannula*"; "guidewire* or guide-wire* or guide wire*"; "pump*"; and "intravascular*." The remaining terms, which include such terms as "Maquet" and "patent," are not likely to produce an overbroad search. Of course, the initial production may demonstrate that further discovery is necessary or appropriate, but again that is not an issue that the Court need address at this juncture.[3]

Accordingly, the motion to compel ESI discovery will be granted in part and denied in part.

II. Abiomed's Motion to Amend Answer and Counterclaims

Abiomed has moved to amend its pleadings to assert a counterclaim of inequitable conduct. It contends that Maquet concealed and misrepresented material information during the prosecutions of the '238 and '783 patents, and that therefore the patents should be unenforceable.

A. Abiomed's Inequitable Conduct Allegations

The patent at issue in *Abiomed I* was the '100 patent, which disclosed an intravascular blood pump system that could be introduced into a patient subcutaneously and then guided through the body to the heart. From the '100 patent descended a series of divisional and continuation applications, all with the same specification. Among the descendant patents are the '283 and '783 patents, which both include new claims describing intravascular blood pump systems with pigtail-shaped or J-shaped distal tips. (*See e.g.*, '238 patent, col. 33 ll. 53-54, col.

[3] As for Abiomed's procedural arguments, the Court considers the current discovery request within the context of discovery already taken in *Abiomed I*. Thus, while Maquet has not made formal requests for production or served interrogatories in this case, it did so in *Abiomed I*. And, in any event, the Stipulated ESI Order provides for a process through which additional ESI custodians may be sought—a process that Maquet has followed here.

34 ll. 65-67, col. 35 ll. 3-5; '783 patent, col. 37 ll. 27-30).

Those new claims were supported in the specification through the incorporation of U.S. Patent Application No. 09/280,988 ("the '988 application"), entitled "Steerable Cannula." ('783 patent, col. 20 ll. 24-44, col. 21 l. 24 to col. 27 l. 11). The parties do not contest, and the Court has previously noted, that the '988 application was abandoned and never published, except to the extent that it may have been incorporated into later patents. (*See Abiomed I*, Docket No. 241 ("*Abiomed I* Mem. & Order on Claim Constr.") at 3 n.1). The named inventors of the '988 application were Aboul-Hosn, William Kanz, Rosalind Castor, and Kelly McCrystle. (Docket No. 188, Ex. D. at 3). Aboul-Hosn and Kanz were listed as inventors on the '100 patent and its descendants, including the '238 and '783 patents; Castor and McCrystle were not.

In the '100 patent, and the patents that followed, the '988 application was incorporated by reference only. Despite the abandoned status of that application, those patents described it as "commonly-owned and co-pending." ('100 patent, col. 18 l. 25; *see also* '238 patent, col. 20 l. 9; '783 patent col. 20. l. 28-29).

While the application for the '238 patent was pending (and during the pendency of *Abiomed I*), Maquet amended the specification by physically incorporating the '988 application into the specification (as opposed to incorporating it by reference). It thereby reproduced the '988 application's description of the pigtail-shaped distal tip within the specification itself. ('238 patent, col. 26 ll. 23-30). On July 21, 2017, the U.S. Patent and Trademark Office ("PTO") permitted the amendment, stating that "no new matter ha[d] been added." (Docket No. 236, Ex. 10 at 2). In September 2018, Maquet applied for what became the '783 patent. That application physically incorporated the '988 application in the same manner as the '238 patent. Thus, the '238 and '783 patents both contain the written description of a pigtail-shaped distal tip that had

been incorporated by reference in previous patents in the priority chain.

Abiomed contends that during *Abiomed I*, Maquet stalled proceedings by requesting extensions to answer the complaint, all the while feigning interest in settlement negotiations. However, during those extensions, Abiomed contends, Maquet sought to prosecute the '238 patent (and, later, the '783 patent), which included the new "distal tip" limitations, in the hope that the new patents would ensnare the accused Impella devices. According to Abiomed's proposed amended answer and counterclaim, Maquet made the following misrepresentations to the PTO:

- During the prosecution of the '238 and '783 patents, Maquet misrepresented and concealed the inventorship of the patents in issue. (*See* Abiomed's Proposed Am. Answer & Countercl. ¶¶ 50-63).
- Maquet neither provided an undated inventor declaration from Aboul-Hosn when prosecuting the '238 patent nor notified the PTO that the submitted declaration was inaccurate. (*Id*. ¶¶ 64-91).
- Maquet misrepresented the ownership and abandoned status of the '988 application when seeking to amend the specification of the '238 patent and when prosecuting the '783 patent. (*Id.* ¶¶ 92-126).

In addition, Abiomed contends that Maquet has engaged in litigation misconduct by withholding or obstructing discovery relevant to the alleged misrepresentations to the PTO. (*Id.* ¶¶ 127-139).

B. Standard of Review

Under Fed. R. Civ. P. 15, a party may amend its pleading once as a matter of course within 21 days after serving it, or within 21 days after service of a responsive pleading or motion under Fed. R. Civ. P. 12(b), (e), or (f). *See* Fed. R. Civ. P. 15(a)(1). In all other cases, a party may amend a pleading only with consent of the opposing party or leave of the court. *See* Fed. R. Civ. P. 15(a)(2). "The court should freely give leave when justice so requires." *Id.* "The leave sought should be granted unless the amendment would be futile or reward undue delay."

Abraham v. Woods Hole Oceanographic Inst., 553 F.3d 114, 117 (1st Cir. 2009).

However, "[a]s a case progresses, and the issues are joined, the burden on a plaintiff seeking to amend a complaint becomes more exacting." *Steir v. Girl Scouts of the U.S.A.*, 383 F.3d 7, 12 (1st Cir. 2004). "Once a scheduling order is in place, the liberal default rule is replaced by the more demanding 'good cause' standard of Fed. R. Civ. P. 16(b)." *Id.* (citing *O'Connell v. Hyatt Hotels of P.R.*, 357 F.3d 152, 154-55 (1st Cir. 2004)). That standard "focuses on the diligence (or lack thereof) of the moving party more than it does on any prejudice to the party-opponent." *Id.* Nevertheless, "motions to amend whose timing prejudices the opposing party by 'requiring a re-opening of discovery with additional cost, a significant postponement of trial, and a likely alteration in trial tactics and strategy'" are "particularly disfavored." *Id.* (quoting *Acosta-Mestre v. Hilton Int'l of P.R., Inc.*, 156 F.3d 49, 52 (1st Cir. 1998)).

Furthermore, pleadings cannot be amended when to do so would prove futile. "In the context of a motion to amend, 'futility means that the [counterclaim], as amended, would fail to state a claim upon which relief could be granted.'" *Teva Pharms. Int'l GmbH v. Eli Lilly & Co.*, 2022 WL 104911, at *6 (D. Mass. Jan. 11, 2022) (quoting *O'Leary v. New Hampshire Boring, Inc.*, 323 F.R.D. 122, 126 (D. Mass. 2018)). "If leave to amend is sought before discovery is complete and neither party has moved for summary judgment, the accuracy of the 'futility' label is gauged by reference to the liberal criteria of Fed. R. Civ. P. 12(b)(6)." *Hatch v. Department for Children, Youth & Their Families*, 274 F.3d 12, 19 (1st Cir. 2001). In short, an amendment must state a "plausible entitlement to relief." *Rodríguez-Ortiz v. Margo Caribe, Inc.*, 490 F.3d 92, 95 (1st Cir. 2007) (quoting *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 559 (2007)).

C. Analysis

1. "Good Cause"

According to the Court's scheduling order, the deadline to amend the pleadings was

August 15, 2018. Given the timing of the motion to amend, the Court will review the request under the "good cause" standard of Fed. R. Civ. P. 16(b).

Abiomed contends that good cause exists for amending the complaint because it has been diligent in asserting its inequitable-conduct counterclaim. According to Abiomed, its allegations of inequitable conduct concern the '783 patent, which did not issue until March 26, 2019, and was not asserted in this case until April 2, 2019. (Docket No. 199 at 1). Moreover, it contends, discovery relevant to the inequitable conduct at issue was not procured until after the deadline to amend had elapsed. (*Id.* at 2). For example, the named inventors of the '988 application, Castor and McCrystle—who Abiomed contends should have been named as inventors of the '238 and '783 patents—were not deposed until August 17 and October 17, 2019, respectively. (Docket No. 193 at 17). In addition, one of the attorneys involved in the prosecution of the patents at issue was not deposed until August 2, 2019, and Maquet's Rule 30(b)(6) representative was not deposed until August 29, 2019. (*Id.*).[4] Finally, Abiomed contends that inventor communications and notebooks were not produced until after August 2019. (Docket No. 199 at 3).

Maquet contends that Abiomed has not been diligent in pursuing its inequitable-conduct claim and that to allow Abiomed to do so now would be unfairly prejudicial. As to diligence, Maquet contends that Abiomed's proposed counterclaim does not depend on information obtained through discovery in 2019, and that the bulk of information bolstering Abiomed's allegations was known or available to Abiomed for years. (Docket No. 193 at 17-18). It further contends that in light of the discovery that occurred in 2019, Abiomed should have promptly prosecuted its claims. In addition, it contends that leave to amend the pleadings would prejudice

[4] Abiomed also contends that a showing of good cause is supported by the fact that Aboul-Hosn's deposition did not occur until August 22, 2019. However, given his consulting relationship with Abiomed, information possessed by him ought to have been readily available to Abiomed.

Maquet by preventing the consolidation of this case with *Abiomed I*.

To begin, Abiomed has not shown good cause as to its contentions that Maquet failed to properly obtain an inventor declaration from Aboul-Hosn or that Maquet misrepresented the abandoned status of the '988 application to the PTO. Whatever the merit of those allegations, the evidence necessary for making them was available to Abiomed for many years. Aboul-Hosn has consulted for Abiomed since 2007. If Abiomed had wished to inquire as to his participation in the prosecution of the patents at issue, surely he was available to them. Likewise, the abandoned status of the '988 application, and Maquet's representations that it was "commonly-owned and co-pending," has been apparent for years. The PTO approved the amendment on July 21, 2017, stating that "no new matter ha[d] been added." If Abiomed believed that the PTO had been duped by Maquet's statements regarding the '988 application, the time to make those allegations was long ago.

However, Abiomed's request to amend the pleadings with respect to the allegation that Maquet concealed the inventorship of the '238 and '783 patents stands on a different footing. The deposition testimony of Castor and McCrystle—who Abiomed alleges are unnamed inventors of the '238 and '783 patents—was not obtained until August and October 2019, respectively. Although Abiomed has an obligation to prosecute its claims diligently, it also must first collect sufficient evidence to allege inequitable conduct. It appears reasonable that the testimony of alleged inventors should have been collected before asserting inequitable conduct on the ground that those inventors were unnamed. *See Marical Inc. v. Cooke Aquaculture Inc.*, 2017 WL 3254693, at *6 (D. Me. July 31, 2017) (finding it was appropriate for defendants to depose principal inventor before alleging a claim of inequitable conduct); *Enzo Life Scis., Inc. v. Digene Corp.*, 270 F. Supp. 2d 484, 489-90 (D. Del. 2003) (finding "good cause" to amend

pleadings to append inequitable conduct allegations following the taking of inventor depositions). Moreover, the production of notebooks and communications of the alleged inventors, as well as the deposition of Maquet's Rule 30(b)(6) representative, occurred at about the same time. Given the timing of those disclosures, Abiomed has acted with sufficient diligence in asserting its claim of inequitable conduct.

Nor does it appear that Maquet would be unduly prejudiced by the amendment. Its central contention is that an amendment may forestall consolidation of this case with *Abiomed I* and that Abiomed would have alleged inequitable conduct at an earlier date if the claim had any merit. But Maquet added the '783 patent to this case in April 2019. It makes little sense to permit Maquet to prolong litigation through the addition of newly issued patents, and yet not allow for the allegations of inequitable conduct that arise from the prosecution of those patents.

Taken together, Abiomed has adequately demonstrated good cause to amend the pleadings as to its contention that Maquet misrepresented the inventorship of the disputed patents.

2. Futility

Maquet contends that notwithstanding a showing of good cause, the motion to amend should be denied as futile because Abiomed has failed to state an inequitable conduct claim.

"To prevail on a claim of inequitable conduct, the accused infringer must prove that the patentee acted with the specific intent to deceive the PTO." *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011). To prove inequitable conduct, the accused infringer must show, by clear and convincing evidence, that the patent applicant (1) knew of the undisclosed information, (2) knew that the information was material, and (3) nonetheless made a deliberate decision to withhold it from the PTO. *See id.*

Because inequitable conduct is a defense against a patent fraudulently obtained, the

heightened standard for alleging fraud set forth in Fed. R. Civ. P. (9)(b) applies. *Exergen Corp. v. Wal-Mart Stores, Inc.*, 575 F.3d 1312, 1326-27 (Fed. Cir. 2009). "The Federal Circuit has tightened the inequitable conduct pleading standard to ensure that the defense is sustained only in egregious circumstances and to discourage parties from using it as a mere litigation tactic in garden-variety cases." *Teva Pharms. Int'l GmbH*, 2022 WL 104911, at *8 (alterations omitted) (quoting *PetEdge, Inc. v. Fortress Secure Sols., LLC*, 2016 WL 407065, at *3 (D. Mass. Feb. 2, 2016)). To successfully plead inequitable conduct, therefore, a party must identify the specific "who, what, when, where, and how of the material misrepresentation or omission committed before the PTO." *Exergen Corp.*, 575 F.3d at 1327. That said, Rule 9(b) provides that "[m]alice, intent, knowledge, and other conditions of a person's mind may be alleged generally." Fed. R. Civ. P. 9(b). "The relevant 'conditions of mind' for inequitable conduct include: (1) knowledge of the withheld material information or the falsity of the material representations, and (2) specific intent to deceive the PTO." *Exergen Corp.*, 575 F.3d at 1327. Although those elements may be alleged generally, the pleadings must nonetheless allege "sufficient underlying facts from which a court may reasonably infer that a party acted with the requisite state of mind." *Id.*

Maquet contends that the proposed counterclaim fails to allege with sufficient particularity that (1) Castor and McCrystle were inventors of the '238 and '783 patents and (2) Maquet acted with deceptive intent.[5] Each will be addressed in turn.

[5] Although inequitable conduct claims are evaluated under the standard set forth under Rule 9(b), it is by no means clear that Abiomed's allegations concerning inventorship should be assessed under that standard. Maquet's contention that Castor and McCrystle were not inventors of the '238 and '783 patents has nothing to do with the "who, what, when, where, and how of the material misrepresentation or omission committed before the PTO," but rather challenges the validity of the underlying information allegedly withheld. That is, whether Castor or McCrystle were in fact inventors is a question properly addressed under the plausibility standard of Rule 12(b)(6); whether Maquet knew that information and withheld it from the PTO during the prosecution of the patents at issue is an issue properly assessed under Rule 9(b).

However, Maquet has cited case law that addressed, under similar circumstances, the issue of inventorship and inequitable conduct according to the requirements of Rule 9(b). *See Brixham Sols. Ltd. v. Juniper Networks, Inc.*, 2014 WL 250204, at *7 (N.D. Cal. Jan. 22, 2014). For the reasons described, the Court disagrees with that

The statutory basis for the joint inventorship doctrine is 35 U.S.C. § 116, which provides:

> "Inventors may apply for a patent jointly even though (1) they did not physically work together or at the same time, (2) each did not make the same type or amount of contribution, or (3) each did not make a contribution to the subject matter of every claim in the patent."

35 U.S.C. § 116(a). "In fact, [§ 116] sets no explicit lower limit on the quantum or quality of inventive contribution required for a person to qualify as a joint inventor." *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1358 (Fed. Cir. 2004) (quotation marks omitted) (quoting *Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1473 (Fed. Cir. 1997)). However, the Federal Circuit has held "that a person is a joint inventor only if he contributes to the conception of the claimed invention." *Id.* "The line between actual contributions to conception and the remaining, more prosaic contributions to the inventive process . . . is sometimes difficult to draw." *Id.* Contributions that merely explain the present "state of the art," that "are too far removed from the real-world realization of an invention," or that are "focused solely on such realization" may fail to qualify someone as a joint inventor. *Id.*

The proposed counterclaim for inequitable conduct alleges that when Maquet amended the application for the '238 patent to incorporate the '988 application, which allegedly provided the essential material in support of the newly added distal-tip claim limitation, it did not amend the inventorship of the patent to include all inventors listed on the '988 application—in particular, Castor and McCrystle. (Docket No. 187, Ex. 1 ("Abiomed Proposed Am. Answer & Countercl.") ¶¶ 52-54). Similarly, when Maquet applied for the '783 patent, it did not credit Castor or McCrystle as inventors. (*Id.* ¶ 54). According to Abiomed, Maquet was required to do so, because "[a]s evidenced by laboratory notebooks and deposition testimony . . . Mr.

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approach, and will assess the counterclaim's allegations concerning inventorship under Rule 12(b)(6) and those concerning misrepresentations to the PTO under Rule 9(b).

McCrystle and Ms. Castor contributed to the design of the 'distal tip' elements that Maquet sought to patent after August 17, 2016." (*Id.* ¶ 55). Abiomed further alleges that Castor's laboratory notebooks "confirm that [she] contributed to the claimed subject matter." (*Id.* ¶ 62). It does not further allege how Castor or McCrystle otherwise contributed to the conception of the invention disclosed in the patents at issue.

Maquet contends that the proposed counterclaim fails to plead with sufficient particularity that Castor or McCrystle conceived of any invention in the '238 and '783 patents. According to Maquet, they made only general contributions to the patents at issue, and the counterclaim fails to allege that they contributed to any specific claim or limitation in the patent. Maquet then surveys the available evidence, pointing to testimony that suggests that Castor and McCrystle played an insignificant role in the conception and development of the distal tip claims, as well as alleged admissions by Castor and McCrystle themselves that they were not inventors of the '238 and '783 patents.

To begin, the proposed counterclaim sufficiently alleges that Castor and McCrystle contributed to the conception of the invention disclosed by the '238 and '783 patents, even if it fails to specify the claims to which they contributed. Maquet analogizes this case to others where claims of joint inventorship were dismissed because allegations concerning the contribution of general ideas or assistance in the development of the patented invention were deemed insufficient. *See Beco Dairy Automation, Inc. v. Global Tech. Sys., Inc.*, 2015 WL 925588, at * 5 (E.D. Cal. Mar. 3, 2015). Although the allegations as pleaded do not identify a particular claim or limitation to which Castor and McCrystle contributed, the counterclaim makes clear, when read in context, that their status as alleged inventors hinges on their alleged contributions to the development of the distal tip, which is the subject of claims asserted in this

case.

It is true that there are few, if any, alleged facts that concern *how* Castor and McCrystle contributed to the development of the ’238 and ’783 patents. Abiomed, in its briefing, cites to deposition testimony excerpts, but the Court’s inquiry is limited to the facts as they are alleged. And the facts alleged in the proposed counterclaim are spare, to say the least. Other than the assertion that deposition testimony and inventor notebooks demonstrate Castor’s and McCrystle’s contributions to the patents at issue, and that Castor’s notebook demonstrated her material contribution, the counterclaim lacks any reference to specific facts that bolster those claims. (*See* Abiomed Proposed Am. Answer & Countercl. at ¶¶ 50-63). Nonetheless, Castor and McCrystle were listed inventors on the ’988 application, and the technology disclosed in that application appears to have provided essential support (given Maquet’s amendment of the patent specification) to the distal tip claims at issue in this case. Under the circumstances, the counterclaim plausibly alleges that Castor and McCrystle were inventors of the ’238 and ’783 patents such that Maquet was obliged to disclose their contributions to the PTO.

Furthermore, the Court finds that the proposed counterclaim sufficiently alleges Maquet’s intent to deceive the PTO. Even under the heightened standard of Rule 9(b), intent can be pleaded in general terms. Here, the proposed counterclaim alleges that Maquet knew, through its knowledge of the ’988 application and possession of materials such as inventor notebooks, that Castor and McCrystle contributed to the development of the distal tip claims of the ’238 and ’783 patents. (*Id.* ¶ 60). It also alleges that when Maquet sought a revised inventor declaration from Aboul-Hosn during the prosecution of the ’238 patent, he “did not confirm that Mr. Baker and Mr. Kanz were the correct inventors” of the ’238 patent.” (*Id.* ¶ 57). Potentially, that should have put Maquet on notice as to the existence of other potential inventors. Finally, the

counterclaim asserts that Maquet's dilatory production of the Castor notebook in discovery reflects its deceptive intent. (*Id.* ¶ 62). Taken together, and construing the facts as alleged in a light most favorable to Abiomed, the proposed counterclaim sufficiently alleges, in general terms, Maquet's specific intent to deceive the PTO.[6]

Accordingly, the motion to amend will be granted.

III. Abiomed's Motion to Compel

A. Background

Abiomed has filed a motion to compel (1) responses to interrogatories concerning Maquet's positions as to the validity of the patents in question; (2) responses to interrogatories concerning prior art and the prosecution of the '783 patent; (3) responses to interrogatories concerning the conception, reduction to practice, and priority dates of claimed subject matter; (4) responses to 74 requests for production of documents submitted by Abiomed; and (5) discovery related to Abiomed's allegations of inequitable conduct.

B. Standard of Review

Under Fed. R. Civ. P. 26(b),

> Parties may obtain discovery regarding any nonprivileged matter that is relevant to any party's claim or defense and proportional to the needs of the case, considering the importance of the issues at stake in the action, the amount in controversy, the parties' relative access to relevant information, the parties' resources, the importance of the discovery in resolving the issues, and whether the burden or expense of the proposed discovery outweighs its likely benefit.

Fed. R. Civ. P. 26(b)(1). If a party submits a proper discovery request and is nonetheless

[6] Abiomed also alleges that Maquet's misconduct during the pendency of this case, as well as *Abiomed I*, provide further evidence of Maquet's specific intent to deceive the PTO. (*Id.* ¶¶ 127-139). In support of its contention, Abiomed cites to *Regeneron Pharmaceuticals, Inc. v. Merus N.V.*, 864 F.3d 1343, 1364 (Fed. Cir. 2017), as an example where litigation gamesmanship resulted in a court sanctioning a plaintiff by drawing an adverse inference as to the intent with which the plaintiff omitted or misrepresented information to the PTO. Here, drawing such an inference is premature at best, and the Court declines to do so at this time. Although Abiomed has sufficiently alleged Maquet's intent to deceive such that it can assert a claim of inequitable conduct, it still bears the burden of proving that intent if it is to prevail on that claim.

rebuffed by the opposing party, the party seeking discovery "may move for an order compelling an answer, designation, production or inspection." Fed. R. Civ. P. 37(a)(3)(B).

C. Analysis

1. Interrogatories Concerning Validity Positions (Supplemental Interrogatories Nos. 9 and 16)

Supplemental Interrogatory No. 9 states:

> For each claim of the Patents-in-Suit that Maquet contends is valid under 35 U.S.C. § 112, on a claim-by-claim basis, state how a person of ordinary skill in the art at the time of the priority date would have found such claim to have sufficient written description and enabling disclosure, including identifying any support in the specification of the patent by column and line number or in the prior art.

(Docket No. 222, Ex. 1, App'x A at 1).

Supplemental Interrogatory No. 16 states:

> If Maquet disagree[s] with any of the bases for invalidity set forth in Abiomed's Invalidity Contentions [served on August 17, 2019], state each disagreement and the basis for that disagreement, including identifying any fact that supports Maquet's position, including any person with knowledge of that fact and each document that refers or relates to that fact, identifying the support in the specification of each Patent-in-Suit that supports any disagreement related to any 35 U.S.C. § 112 position stated in Abiomed's Invalidity Contentions, identifying the basis for any position that any cited prior art patent, publication, reference or system is not prior art under any statutory provision, and identifying any claim limitation that Maquet contends is absent from any prior art reference analyzed in Abiomed's Invalidity Charts.

(*Id.*)

Neither side appears to contest that the interrogatories seek relevant information. Instead, the crux of the issue is whether Maquet is required to provide initial validity positions at this stage of the proceedings. Abiomed contends that the Court should order Maquet to respond to its interrogatories so that it can have the benefit of reviewing those positions before submitting its final invalidity contentions. Maquet contends that neither the Local Rules nor the Court's scheduling order require Maquet to submit validity positions. It has nevertheless offered a

compromise whereby Maquet will provide its response to Abiomed's invalidity contentions 28 days after Abiomed serves its final invalidity contentions. (Docket No. 227 at 10). Moreover, Maquet contends that many of its rebuttal contentions provided in *Abiomed I* remain applicable here, as Abiomed asserts the same prior art references that it asserted in *Abiomed I*. (*Id.* at 11).

In any event, the Court's order on claim construction is being issued at the same time as this memorandum and order. The initial scheduling order provides that Abiomed may amend or supplement its invalidity disclosures up to 30 days after the issuance of the order on claim construction. Maquet has agreed to answer Abiomed's interrogatories concerning its validity positions within 28 days after Abiomed submits its final invalidity contentions—that is, up to 58 days after the issuance of the claim-construction order. Although Abiomed requests that the Court amend the scheduling order "to permit sufficient time for the parties to exchange contentions and complete discovery after the Court issues its claim-construction order," (Docket No. 224 at 4 n.2), the Court finds that the current schedule is sufficient for present purposes.

2. Interrogatories Concerning Prior Art and Prosecution of '238 Patent (Supplemental Interrogatories Nos. 17 and 25)

Supplemental Interrogatory No. 17 states:

> Identify and describe in detail all the manners and techniques by which the Patents-in-Suit improved upon the Prior Art, added functionality that did not exist in the Prior Art, and provided a variation on or upgrade of the Prior Art and, for each such claimed improvement, added functionality, or variation or upgrade, explain Maquet's contention that it was a non-obvious or unpredictable improvement, addition of functionality, and variation and upgrade, including what features if any the Patents-in-Suit provided over the product developed and sold as Hemopump.

(Docket No. 222, Ex. 1, App'x A at 1-2).

Supplemental Interrogatory No. 25 states:

> Identify each individual who participated in the preparation of, and who reviewed and authorized the filing of, any paper presented to the U.S. Patent and Trademark Office during the prosecution of the Patents-in-Suit and any Related Applications

> and describe which Patents-in-Suit and any Related Applications they were involved with and when, including without limitation, all persons (including any outside counsel) who (a) participated in the decision to seek patent protection on any subject matter discussed in the Patents-in-Suit, (b) advised on the scope of potential claims, and (c) contacted inventors or third parties concerning the Patents-in-Suit or any Related Applications.

(*Id.* at 2).

Abiomed served the same interrogatories in *Abiomed I*, but Maquet objected to them and refrained from answering. Abiomed did not move to compel responses before the discovery period closed.

Maquet contends that because the Court's supplemental discovery order provides that "discovery served or produced in *Abiomed I* shall be considered served or produced in this litigation," and because Abiomed failed to compel discovery as to those interrogatories in *Abiomed I*, it does not have to produce them in this litigation. That, to say the least, misconstrues the Court's order, which was intended to facilitate discovery in this case and prevent unnecessary and redundant production. Appropriate discovery in this case is not foreclosed simply because it was not pursued fully in the last.

As to Supplemental Interrogatory No. 17, Abiomed contends that the interrogatory is relevant because it concerns issues of validity and damages. Maquet responds that the interrogatory is not proportional to the needs of the case because it is duplicative. According to Maquet, its validity contentions, which it will provide at some point in the future, will encompass the issue of validity, and its response to Supplemental Interrogatory No. 4 already addresses the issue of damages. Abiomed contends that the interrogatory is not cumulative because it asks about the added functionality of the invention disclosed by the '783 patent, which other interrogatories apparently do not.

On balance, the information requested in the supplemental interrogatory is relevant to the

issue of validity. Although some of the information produced may also be encompassed by Maquet's validity contentions, those contentions, as discussed previously, need not be presented until Abiomed sets forth its invalidity contentions. But the supplemental interrogatory at issue seeks information relevant to discerning grounds upon which to assert invalidity. Therefore, the Court will grant the motion to compel Supplemental Interrogatory No. 17.

As to Supplemental Interrogatory No. 25, Abiomed contends that the interrogatory seeks relevant information concerning the individuals involved in the prosecution of the '783 patent. Abiomed also contends that the interrogatory is necessary to uncover relevant discovery in the future. In response, Maquet contends that the interrogatory seeks irrelevant information because Abiomed fails to point to any future discovery topic for which a response to the interrogatory would be necessary. Maquet further contends, in substance, that the interrogatory is overbroad because it requests the identity of individuals involved not only in the prosecution of the '783 patent, but also the identity of individuals involved in the prosecution of related patents and applications not asserted in this case.

It does appear that the interrogatory, as written, is overbroad in its request for information concerning all patents and applications related to the patents at issue. However, the Court will grant the motion to compel insofar as it concerns individuals involved in the prosecution of the '238 and '783 patents.

3. Interrogatories Concerning Conception, Reduction to Practice, and Priority Dates (Supplemental Interrogatories Nos. 3 and 8)

Supplemental Interrogatory No. 3 states:

> For each asserted claim of the Patents-in-Suit, set forth a complete chronological description of the development of the claimed subject matter from conception to actual reduction-to-practice, including identification of any alleged dates of conception and actual reduction-to-practice, and for each date stated, identify the person(s) involved with or having knowledge of the conception and the reduction-to-practice, identify all documentary or other evidence (if any) supporting such

> conception and reduction-to-practice, and describe in detail the specific role of each person in the conception and the reduction-to-practice of each claim.

(Docket No. 222, Ex. 1, App'x A at 2).

Supplemental Interrogatory No. 8 states:

> Identify the priority dates that Maquet is relying on for each of the claims of the Patents-in-Suit and identify any information and documents that support those priority claims and the person(s) most knowledgeable.

(*Id.*).

Maquet responded to those interrogatories, and Abiomed now moves to compel based on what it alleges are deficiencies in those responses. Specifically, Abiomed alleges that the responses are deficient because they do not (1) identify specific dates when the asserted claims were conceived and reduced to practice; (2) explain the relationship between the claimed priority date and the dates of conception and reduction to practice; (3) provide support for the diligence it is required to show between the conception and the reduction to practice; (4) identify which inventors conceived each claim limitation and who reduced those claims to practice; and (5) provide sufficiently precise citations in support of its responses. (Docket No. 224 at 6). Maquet responds that its responses are sufficient and that Abiomed requests an inordinate amount of detail.

The Court has reviewed Maquet's responses and finds them sufficient under the circumstances. Accordingly, the motion to compel responses to Supplemental Interrogatories Nos. 3 and 8 will be denied.

4. Abiomed's Requests for Production

Abiomed requested supplementation of 74 requests for production of documents that were submitted in *Abiomed I* (RFPs 1-2, 4-29, 32-38, 42-45, 47-48, 50-54, 57-84). To those requests, Maquet offered what Abiomed characterizes as generalized objections and responses.

(Docket No. 223, Ex. J ("Maquet's Objs. & Resps.") at 1-3). Abiomed now moves to compel particularized responses to each of its requests. It contends that the responses violate Fed. R. Civ. P. 34 and Local Rule 34.1. It further contends that the generalized responses fail to apprise it of what Maquet has agreed to produce and what it is withholding. Finally, it argues that the responses fall short of the level of detail that Maquet requested of Abiomed in its own supplemental requests.

Maquet contends that Abiomed is not entitled to the supplemental requests under governing discovery orders, and that Abiomed failed to litigate Maquet's responses to these requests during *Abiomed I*. Abiomed should not be afforded, Maquet contends, a second opportunity to relitigate the issue here, given the time and expense already devoted to discovery in *Abiomed I*. And, in any event, Maquet contends that it has continued to supplement discovery and produce documents in this case that are responsive to the requests at issue.

Fed. R. Civ. P. 34(b)(2)(B) provides:

> For each item or category, the response must either state that inspection and related activities will be permitted as requested or state with specificity the grounds for objecting to the request, including the reasons. The responding party may state that it will produce copies of documents or of electronically stored information instead of permitting inspection.

Local Rule 34.1(c) also provides:

> (1) When an objection is made to any document request, or subpart thereof, it shall state with specificity all grounds upon which the objecting party relies. Any ground not stated in an objection within the time provided by the Federal Rules of Civil Procedure, or any extensions thereof, shall be deemed waived.
>
> (2) No part of a document request shall be left unanswered merely because an objection is interposed to another part of the document request.

Maquet's response to the requests for information provided only general objections that were not tailored to the requests at issue. (Maquet's Objs. & Resps. at 2). Those general responses do not accord with the applicable federal and local rules. Accordingly, the motion to

compel will be granted as to those responses.

5. Discovery Requests Concerning Inequitable Conduct

Abiomed has submitted Interrogatory No. 1 and Request for Production No. 1, which seek information concerning Maquet's position on Abiomed's allegations of inequitable conduct. Maquet contends that the Court should deny the motion on the ground that Abiomed seeks discovery as to a claim it has not pleaded. However, as discussed above, the Court has allowed the proposed amended answer and counterclaim asserting a claim of inequitable conduct. Therefore, the Court will grant the motion and permit necessary discovery on that claim.

IV. Conclusion

For the foregoing reasons,

1. Plaintiff's motion for leave to take ESI discovery concerning Dr. Aboul-Hosn (Docket No. 145) is GRANTED in part and DENIED in part, as set forth in this memorandum and order;
2. Defendant's motion to amend its answer and counterclaims (Docket No. 186) is GRANTED; and
3. Defendant's motion to compel (Docket No. 222) is GRANTED in part and DENIED in part, as also set forth in this memorandum and order.

So Ordered.

/s/ F. Dennis Saylor IV
F. Dennis Saylor IV
Chief Judge, United States District Court

Dated: September 12, 2022