

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

DSM IP ASSETS, B.V. & DSM BIO-BASED
PRODUCTS & SERVICES, B.V.,

Plaintiffs and Counter-Defendants

v.

LALLEMAND SPECIALTIES, INC. &
MASCOMA LLC,

Defendants and Counterclaimants.

OPINION & ORDER

16-cv-497-wmc

This patent case is set for a jury trial commencing May 7, 2018, to resolve plaintiffs' claim of patent infringement. In advance of the final pretrial conference scheduled for April 25, the court issues the following opinion and order on the parties' respective motions in limine.¹

OPINION

I. DSM's Motions in Limine (dkt. #185)

A. MIL No. 1: Exclude Evidence and Argument that Reduced Glycerol Production in the Accused Products Is Not Caused by the Deletion of the GPD2 Gene.

DSM's first motion seeks to prevent Lallemand from arguing or presenting evidence that the Accused Products were "sufficiently altered to make any reduction in glycerol

¹ Consistent with the court's summary judgment decision, plaintiffs will be referred to collectively as "DSM," while defendants will be referred to collectively as "Lallemand." Also before the court is Lallemand's motion for leave to file replies (dkt. #225), with the proposed briefs attached as exhibits. While the court has reviewed these proposed briefs and has cited them occasionally in this opinion and therefore will grant the motion, the court notes that this practice is generally discouraged, especially when replies are simply used to restate arguments already made.

production unrelated to the elimination of the *gpd2* gene as compared to the corresponding wild-type cells,” as such an argument “is contradicted by the sworn testimony of Lallemand’s own Rule 30(b)(6) witness, is not supported by any facts, and would confuse and mislead the jury.” (Dkt. #185 at 1.) Specifically, DSM asserts that Lallemand conducted batch testing to compare glycerol production between the Accused Products and corresponding wild-type cells “conclusively demonstrat[ing] that the Accused Products . . . exhibit a reduced rate of glycerol production.” (*Id.* at 1-2.) Further, DSM criticizes Dr. Winge’s statement at the expert colloquy that the Accused Products’ reduction in glycerol production was unrelated to the deletion of the GPD2 gene as unsupported and contradicted by his other testimony, as well as by testimony of Lallemand’s 30(b)(6) witness, Dr. Kevin Wenger, that the “knockout of that gene has some impact, some effect of glycerol reduction,” and by Lallemand’s internal and regulatory documents. (*Id.* at 2-5.)

Lallemand responds that DSM’s motion is nothing more than “a request for reconsideration” of the court’s decision not to grant summary judgment of infringement, purporting to quote the court at the colloquy while ignoring its ruling that this was all evidence “that the jury should hear.” (Dkt. #209 at 6.) Lallemand also asserts that Winge’s testimony at the colloquy was supported by and consistent with his earlier opinions: (1) attributing TFY+’s reduced glycerol production to the pyruvate to ethanol conversion *and* reduced NADH hindering glycerol production; and (2) opining not that the Accused Products’ GPD2 deletion reduced glycerol production, but that DSM’s expert, Dr. Stephanopoulos, had overstated its impact. (*Id.* at 7-8.) Lallemand further point out

that Winge's opinion is bolstered by scientist Aaron Argyros' testimony that "the metabolic pathway is the primary driver of the glycerol reduction," which "is what enables the glycerol reduction." (*Id.* at 8.) Finally, Lallemand adds that: (1) while Dr. Wenger acknowledged that yeast lacking GPD2 had decreased glycerol synthesis, he was uncertain of the role of GPD2's reduction in the Accused Products' glycerol production; and (2) the cited regulatory document does not clearly tie reduced glycerol production to the knockout of GPD2, but instead is a "simplification" of the metabolic pathways. (*Id.* at 9-10.)

The court largely agrees with Lallemand. Having declined to grant summary judgment on DSM's claims of infringement, the jury will now determine whether the Accused Products' reduction of glycerol production is caused by the GPD2 deletion as compared to corresponding wild-type cells. Accordingly, DSM's MIL No. 1 is DENIED.

B. MIL No. 2: Exclude Argument and Evidence that Strains M8827 and M13021 Are Noninfringing Alternatives.

Next, DSM seeks to prevent Lallemand from arguing that strains M8827 and M13021 were available, acceptable and noninfringing alternatives during the accounting period because they "are not and never have been commercially available." (Dkt. #185 at 6.) As support for this, DSM argues that Lallemand neither produced data showing how these strains perform industrially, nor that they would be viable in the market. Without this evidence, DSM contends, these stains are irrelevant to damages and would only confuse the jury if admitted. (*Id.*) As support, DSM represents that developing a strain from laboratory testing to industrial-scale production "is unpredictable and often fails," which it asserts is confirmed by Lallemand's documents that show numerous strains were

unable to be translated from favorable laboratory testing to successful industrial-scale production. (*Id.* at 7.) Without tests showing that strains M8827 and M13021 were viable for industrial use, DSM asserts they were not commercially available, much less non-infringing substitutes under the *Georgia Pacific* factors.²

Lallemand acknowledges that the M13021 strain was not far enough along to be a viable noninfringing substitute, but argues that the disagreement between experts on the acceptability of strain M8827 is a factual question for the jury. (Dkt. #225-3 at 4 n.2; dkt. #209 at 11.) In fact, Lallemand points to evidence that this strain was among “dozens” of *S. cerevisiae* produced in its normal research and development, and was available because “the necessary equipment, know-how, and experience existed to make and sell” it. (Dkt. #209 at 11-12.) Lallemand further points to evidence that this strain would be acceptable to customers, including that: (1) DSM “confirmed that customers would be willing to switch products for an ethanol yield benefit of just 1%”; (2) other than the Accused Products, there were no alternative yield-enhancing products in the market in August 2014; and (3) as recognized by DSM’s Professor Alper, the M8827 strain produces improved ethanol yields without knocking out the GPD2 gene. In contrast, Lallemand asserts that a minimum 4% improvement necessary to change products, as asserted by DSM’s damages experts, is unsupported by the evidence. (*Id.* at 13-14.) Finally, Lallemand contends that whether this strain had yet to be commercialized is *not* dispositive

² DSM explains that the market for bioethanol-producing yeast is unique in that ethanol producers will not switch from one yeast to another without first conducting their own “commercial-scale trial . . . at each respective facility to confirm performance under industrial conditions,” creating a preference *not* to change products because of the need for this testing. (Dkt. #185 at 7-8.)

because: (1) the M8827 strain not only existed in 2014, but was considered during YP3's development; (2) "Lallemand . . . has the equipment, know-how, and experience to make and sell genetically-engineered yeast products," as demonstrated by Lallemand commercializing three transgenic yeast products within five years; (3) Lallemand performance tests using a proprietary fermentation protocol that more accurately predicts a strain's abilities to endure industrial conditions; and (4) Argyros, Mascoma's director of research and development, can testify about the viability of this strain at trial. (*Id.* at 12-13.)

Again, the court largely agrees with Lallemand, since the viability of the M8827 strain appears to be a factual dispute for the jury to resolve. A technology need not be available for sale during the accounting period to qualify as "an available, noninfringing alternative." *See Micro Chemical, Inc. v. Lextron, Inc.*, 318 F.3d 1119, 1122 (Fed. Cir. 2003) (citing *Grain Processing Corp. v. American Maize-Prods. Co.*, 185 F.3d 1341, 1351-52 (Fed. Cir. 1999)). Indeed, as Lallemand notes, the question of availability is generally fact-dependent. *See id.* at 1123.

Where the asserted alternative was not yet on sale, the burden shifts to the offering party to establish availability. *Grain Processing*, 185 F.3d at 1354. This means Lallemand will have the burden of proving it "had all of the necessary equipment, know-how, and experience" to produce and substitute the M8827 strain for the infringing product at the time of infringement; whether the cost of material inputs for this alternative could make it unavailable; whether the impacts of the changes were well known in the field; and whether the infringer needed to design around the patented technology. *Micro Chemical*, 318 F.3d.

at 1123. In addition, Lallemand must prove that this strain would be “acceptable as a substitute in the relevant market” as defined by consumer demand, which may be shaped by “consumers’ intended use for the patentee’s product, similarity of physical and functional attributes of the patentee’s product to alleged competing products, and price.” *Grain Processing*, 185 F.3d at 1355.

Since all of the above are questions of fact for the jury, DSM’s MIL No. 2 is DENIED as to strain M8827 and GRANTED as to M13021.

C. MIL No. 3: Exclude Evidence and Argument Concerning the Blomberg Assay.

Next, DSM seeks to exclude evidence and argument regarding the Blomberg assay for the purpose of showing noninfringement, because it “does not measure the rate of enzymatic production of glycerol,” which makes its results “irrelevant to Lallemand’s noninfringement defense,” a waste of time, and misleading.³ (Dkt. #185 at 8-9.) In so arguing, DSM repeats evidence offered at summary judgment that: (1) the Blomberg assay determines whether an enzymatic activity occurs -- not a reaction rate -- in an *in vitro* sample, and the ’998 patent used the Blomberg assay to confirm the absence of GPD activity in a mutant lacking both GPD 1 *and* GDP2 genes as compared to the presence of that activity in a corresponding wild-type strain; (2) the Blomberg assay “measures the maximum theoretical capacity [k_{cat}] of the Gpd1 enzyme under ideal conditions (*e.g.*, saturating substrate conditions [E_0] . . .) once the cells have been lysed,” instead of GPD activity in yeast cells under fermentation conditions (and that the two may not be

³ Even so, DSM purports to reserve “the right to rely on Lallemand’s Blomberg assay results for the purpose of showing willfulness in the damages phase of the case.” (Dkt. #185 at 11.)

correlated); and (3) GPD2 is unstable in the Blomberg buffer solutions so that the assay cannot “accurately or reliably measure” GPD2 activity, making it inappropriate “for measuring comparative Gpd activities,” as confirmed by Lallemand’s Blomberg assays that had contradictory results. (*Id.* at 9-10.)⁴

As it did at summary judgment, Lallemand responds by arguing that DSM is seeking to exclude evidence of disputed facts, even relying on “demonstrably false” reasons. (Dkt. #209 at 15.) First, Lallemand notes that it has filed a motion for reconsideration which explains why the court erred in finding that the ’998 patent’s only recognized measurement of NAD-dependent GPD activity is the rate of glycerol production. (*Id.*) Since the court take up the request to reconsider in a separate opinion, it will not address that motion here. Second, Lallemand asserts, DSM’s argument that the Blomberg assay is irrelevant to noninfringement is a *non sequitur*, because the Accused Products’ lack the GPD activity recited in Term 2 and the “rate of enzymatic production of glycerol” is part of Term 3. (*Id.*) This is at best an over-simplification of DSM’s argument, but Lallemand may so argue *provided* that defense counsel and experts do not misrepresent the limitations of the Bloomberg assays to measure *in vivo* (as opposed to *in vitro*) GPD activity. Third, Lallemand argues that even if DSM’s assertions were accurate, the requested relief is overbroad because the Blomberg assay would be relevant to GPD activity, even if it didn’t measure the activity rates (which, Lallemand argues it does), because enzyme capacity or amount (as measured by Blomberg) factors into enzymatic activity. (*Id.* at 15-16.) Again,

⁴ On this last point, DSM also points to Professor Winge’s modifications to the Blomberg assay buffer solution in an attempt to measure GDP2 activity are, as Winge acknowledged, unverified and inadmissible under Rules 702 and 403. (*Id.* at 11.)

Lallemand may so argue -- since the patent itself suggests use of the Blomberg assays as a meaningful test procedure -- provided its counsel and experts do not misrepresent its relevance to measuring the rate of activity *in vivo*.

Where Lallemand goes off the rails is in asserting that the Blomberg assays may be meaningful in ways already rejected by the court. First, the court rejects and Lallemand may not argue that the Blomberg assay “measures the rate of the reaction catalyzed by GPD.” Second, the claims in the patent concern fermentation, making the value of the use of Blomberg assays to measure *in vitro* activity to confirm that a reduction in glycerol production may be explained by something other than the elimination or reduction in GPD activity, if at all. Third and finally, Lallemand may not argue that GPD2 can “indisputably” be measured with the Blomberg assay. Consistent with the above, therefore, DSM’s MIL No. 3 is DENIED IN PART AND GRANTED IN PART.

D. MIL No. 4: Exclude Green’s Opinion on Damages.

DSM next seeks to exclude Phillip Green’s damages opinion under Rule 702 “because he does not rely on sufficient facts, makes improper assumptions, and fails to reliably apply the relevant principles and methods to the facts of this case.” (Dkt. #185 at 11.) DSM begins by explaining that Lallemand prices products by adding two components: (1) the “Yeast Price Component,” which is the amount for the yeast at a per-kg cost; and (2) the “MGT Price Component,” which is based on additional ethanol yield for the Accused Products (or for TransFerm, the savings achieved through the lessened

need for glucoamylase).⁵ (*Id.* at 12.) Then, DSM notes that from 2012–2014, Lallemand’s sale revenues for TransFerm were \$25,503,431, with \$13,447,419 coming from the MGT Price Component; and from August 2014–September 2017, Lallemand’s sales revenues for the Accused Products totaled \$113,579,584, with \$64,647,532 coming from the MGT Price Component. (*Id.*) Accordingly, Dr. Jesse David, DSM’s damages expert, calculates lost sales with a range of \$32–\$40 million from August 2014 to September 2017.

In contrast, Phillip Green, Lallemand’s damages expert, calculates damages for the same period to be approximately \$4.95 million. (*Id.* at 13.) DSM argues that this calculation is based on the incorrect assumptions that Lallemand would have been able to keep selling TransFerm and conventional yeast, as acceptable, non-infringing alternatives at levels comparable to the actual sales of Accused Products.⁶

First, DSM argues that Lallemand cannot show that TransFerm and conventional yeast would have sold comparably to the Accused Products, nor that either was an available and acceptable, non-infringing alternative. (*Id.* at 15.) To the contrary, DSM points out

⁵ DSM notes that, by and large, the Accused Products replaced TransFerm, except for consumers in the POET sub-market, who still purchase TransFerm. (Dkt. #185 at 12 & n.5.) Lallemand clarifies that the MGT Component is a “technology fee” typically based on the number of fermentations performed by a plant and that for TransFerm, the fee is based on savings from reduced glucoamylase purchases, while for the Accused Products, the fee is based on those savings *plus* the value of increased yield. (Dkt. #209 at 19-20.)

⁶ DSM also criticizes Green’s assumption that “strains M8827 and M13021 would have been available and acceptable, non-infringing alternatives and would have been sold by Lallemand at levels comparable to its sales of the Accused Products.” (Dkt. #185 at 13-14.) The court has already addressed this criticism in denying DSM’s MIL No. 2 above. Similarly, DSM criticizes Green’s assumption that sales of the M8827 strain would be comparable to those of the Accused Products, despite offering a smaller yield enhancement and failing to consider other drivers of consumer behavior. (*Id.* at 20-21.) For reasons addressed above, however, this, too, goes to the weight that the jury should assign Green’s opinions, not to their admissibility based on his reliance on those assumptions.

that TransFerm’s sales had “flattened” and decreased before the Accused Products hit the market, something Green does not address. (*Id.*) Similarly, DSM criticizes Green’s attributing Lallemand’s sale of the Accused Products to good customer relationships, when only six customers continued buying TransFerm from 2012 to present rather than switching to TransFerm Yield+ (and in greater quantities), despite the higher fermenter fee. (*Id.* at 15-16 & n.7.) Accordingly, DSM argues that Green greatly underestimates the value of the ’998 patent to Lallemand. (*Id.* at 17.) Second, DSM argues that neither conventional yeast nor TransFerm is an acceptable alternative because neither provides additional revenue or savings from glycerol reduction or yield enhancement.⁷ (*Id.* at 18.) More specifically, DSM argues that Green’s opinion to the contrary must be excluded for failing to account for this difference, the large increase in customer demand for the Accused Products, and the potential savings from TransFerm being insufficient to cover the transaction costs for abandoning conventional yeast. (*Id.*)

Lallemand responds that DSM’s arguments boil down to disagreement with Green’s opinions, rather than their admissibility. (Dkt. #209 at 18.) Lallemand explains that Green calculated a reasonable royalty for use of the patent “by considering a hypothetical negotiation . . . in August 2014 and applying the fifteen factor test set forth in *Georgia-Pacific*,” which is the same framework used by DSM’s expert. (*Id.* at 21.) In Green’s

⁷ DSM illustrates: a hypothetical fermentation plant with a 100-million-gallon capacity would have an additional \$6.6 million of revenue from use of the Accused Products or would save \$1 million through use of TransFerm. Because these amounts would be split with Lallemand, this would result in fractions of those amounts in savings or additional revenue for the producer. (Dkt. #185 at 18.) DSM notes that use of conventional yeast would provide neither savings nor additional revenue. (*Id.*)

opinion, the total profits and revenues associated with the Accused Products are not representative of the patent's value because the patent "does not claim yeast generally or glucoamylase expression," and these features' value should be apportioned out. (*Id.*) Lallemand argues that Green appropriately focused his analysis on the benefits Lallemand got from the patented technology, as he considered that: (1) Lallemand could have continued to sell TransFerm; (2) 80% of customers purchasing Accused Products in 2017 were already Lallemand customers; (3) Lallemand only marketed TransFerm briefly so it had not yet penetrated the market when the Accused Products were launched to replace TransFerm; and (4) Lallemand's pricing structure at the time of TransFerm's launch was unfamiliar to the market, but familiarity increased by the launch of TransFerm Yield+. (*Id.* at 25-27.) Further, Lallemand contends that Green's opinion that TransFerm was an available non-infringing alternative was proper and that DSM's argument to the contrary is flawed because the next-best available alternative (which need not have the patented features) is considered in determining a reasonable royalty analysis. (*Id.* at 27-28.) Further, Lallemand explains that the appropriate comparison is between the noninfringing alternative and the patent owner's product, which is not possible here since DSM had not yet commercialized that product. (*Id.* at 28-29.) Finally, Lallemand defends Green's apportionment of value between the patented invention, the wild type yeast, and features not claimed by the patent, noting that "Mr. David effectively employs the entire market value rule to capture almost the entirety of the profits Lallemand derives from the Accused Products," yet he failed to assess if and how yield improvement impacts market demand. (*Id.* at 29-31.)

In applying Rule 702, a district court is to function as a “gatekeeper,” determining whether a party’s proffered expert testimony is relevant and reliable. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589 (1993); *see also United States v. Johnsted*, 30 F. Supp. 3d 814, 816 (W.D. Wis. 2013) (expert testimony must be “not only relevant, but reliable”). Still, “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” *Daubert*, 509 U.S. at 596. Here, DSM’s criticisms go almost entirely to the factual assumptions underlying Green’s opinions, not to their admissibility. *See Williams v. Illinois*, 567 U.S. 50, 57, 132 S. Ct. 2221, 2228 (2012) (“Under settled evidence law, an expert may express an opinion that is based on facts that the expert assumes, but does not know, to be true. It is then up to the party who calls the expert to introduce other evidence establishing the facts assumed by the expert.”). DSM may, of course, cross-examine him on those assumptions. Likewise, DSM can question him about how and why he apportioned value between the elements claimed in the ’998 patent, a wild-type yeast cell, and unclaimed features. Accordingly, DSM’s MIL No. 4 is DENIED.

E. MIL No. 5: Limit the Number of Prior Art Combinations Lallemand May Present on its Obviousness Defense.

DSM seeks to limit the number of prior art combinations Lallemand can present to “prevent” the “needless[] present[ation of] cumulative evidence,” thereby “ensur[ing] that the jury’s time is not wasted” without “prejudic[ing] Lallemand in any way.” (Dkt. #185 at 21-22.) Specifically, DSM explains that Lallemand has identified twelve prior art

combinations that it asserts render the '998 patent obvious, but that Professor Winge testified that the four primary references are “equivalent” and the three secondary references are “equivalent,” effectively reducing the twelve combinations to two.⁸ (*Id.*)

Lallemand opposes this motion because: (1) “it seeks to solve a ‘problem’ that does not actually exist”; and (2) “limiting Lallemand to only two specific prior art combinations that DSM has selectively chosen would be unfairly prejudicial.” (Dkt. #209 at 32.) As to the first, Lallemand explains that even if it were inclined to force Professor Winge to walk the jury through the thirty-five pages of his report analyzing the combinations (which it represents it is not), the trial schedule does not afford sufficient time to do so. (*Id.*) Accordingly, Lallemand represents that it has already culled the prior art references it intends to rely on at trial, as noted in the proposed jury instructions.⁹ (*Id.*) As to the second, allowing DSM to “cherry-pick two combinations which are most beneficial to its own validity case would be unfairly prejudicial to Lallemand.” (*Id.* at 33.) Regardless, Lallemand represents it plans to present two combinations of its own choosing to the jury on obviousness.¹⁰ (*Id.*) Accordingly, DSM’s MIL No. 5 is GRANTED IN PART AND DENIED IN PART by limiting Lallemand to those two combinations.

⁸ DSM summarizes the two combined references as: (1) “Nevoigt ’270, Zhang, Nissen *or* Guo in view of Wahlbom *or* Sonderegger II (and Taherzadeh)” and (2) “Nevoigt ’270, Zhang, Nissen *or* Guo in view of Mueller (and Taherzadeh).” (Dkt. #185 at 22.)

⁹ Lallemand specifies the five prior art references are: Sun, Nevoigt, Wahlbom, Sonderegger and Valadi. (Dkt. #209 at 32.)

¹⁰ Specifically, these two combinations are: (1) “Nevoigt in view of Wahlbom” and (2) “Sonderegger in view of Valadi.” (*Id.* at 33.)

F. MIL No. 6: Exclude Evidence and Argument Relating to the Replacement of Stephanopoulos with Alper.

DSM next seeks to prevent Lallemand from attempting to impeach Professor Alper “on the basis that his opinions have been substituted for those of Dr. Stephanopoulos,” relying on the parties’ joint submission to the court in which they agreed that “neither party will draw any inference from, or rely in any argument on, the unavailability and replacement of Dr. Stephanopoulos.” (Dkt. #185 at 22-23 (quoting dkt. #137 at 2).) Specifically, DSM argues that allowing Lallemand to impeach Alper on the basis of Stephanopoulos’s unavailability would result in unfair prejudice to plaintiffs. (*Id.* at 23.)

In response, Lallemand contends that it will not violate the parties’ agreement. (Dkt. #209 at 34.) Rather, Lallemand argues that DSM is trying to “insulate Dr. Alper’s opinions from fair-game criticism stemming from Dr. Alper’s own lack of diligence.” (*Id.*) Specifically, as at the expert colloquy, Lallemand intends to establish that Alper failed to “perform his own search of the scientific literature,” which goes to the weight of his opinion that the Blomberg assay cannot measure GPD2 activity and does not concern Stephanopoulos’s unavailability or replacement. (*Id.* at 35.)¹¹

¹¹ During the colloquy, Lallemand asked Alper: “The literature that you reviewed in your expert report came from Dr. Stephanopoulos, from his report, didn’t it?” and “So for the purpose of determining whether the Blomberg assay could measure GPD2 activity, you did not go into a literature search to see if there were references that successfully reported GPD2 activity, did you?” (See dkt. #209 at 34 (quoting dkt. #166 at 99:20-100:7).) Lallemand represents that Alper’s deposition contains “essentially the same line of questioning.” (*Id.* at 34 n.11.) In the deposition transcript, Alper testifies that he did not make changes from Stephanopoulos’s prior report; that Stephanopoulos relied on the cited articles to support the opinion that GPD2 could not be measured; and that Alper reviewed Stephanopoulos’s work and adopted his opinions. (Dkt. #172 at 55:15-56:6.) Then Alper was questioned about whether he conducted his own literature search (no, but he had previously reviewed many of the cited papers in working on the invalidity report); and then he testified that his review of the literature associated with Stephanopoulos’s report led to his opinions. (*Id.* at 56:7-57:6.)

The parties agreed that they would not “draw any inference from, or rely in any argument on, the unavailability and replacement of Dr. Stephanopoulos” (dkt. #137 at 2), and they are still bound by that. While their agreement does not create a blanket prohibition on referencing the work of Professor Stephanopoulos, any reference should be cleared in advance with the court outside the jury’s presence. By asking about how the scientific literature reviewed was located and how Professor Alper came to his opinions, Lallemand did not breach its agreement during pretrial discovery, including the colloquy. However, in the case of Alper’s diligence in looking for further confirmation of the inability of the Blomberg Assay to detect GPD2 activity in particular, Lallemand’s expert conceded the same limitation at the colloquy, making any detour as to Alper’s reliance on Stephanopoulos in this regard an unnecessary departure at best. Accordingly, DSM’s MIL No. 6 is RESERVED pending a proffer by Lallemand as to any reference to Stephanopoulos it believes may still be appropriate at trial.

II. Lallemand’s Combined Motions in Limine (dkt. #188)

A. MIL No. 1: Exclude Evidence from Certain Inventors of the ’998 Patent.

Lallemand seeks to exclude testimony, documents or other evidence from inventors Victor Gabriel Guadalupe Medina and Antonius Jeroen Adriaan Van Maris because: (1) Lallemand has been unable to contact them, as DSM has provided no contact information; and (2) Mayer Brown, DSM’s counsel, declined to accept service on behalf of Dr. Van Maris, despite previously informing Lallemand that it represented all of the

patent's inventors. (Dkt. #188 at 7.)¹² After Mayer Brown refused to accept service of the subpoena, however, DSM served supplemental Rule 26 disclosures, still listing all three inventors as people who may be relied upon to support DSM's claims or defenses. (*Id.* at 8-9.)

Lallemand further adds that at the deposition of the final inventor, Dr. Jacobus Pronk, Pronk testified that Mayer Brown had collected documents from him and Dr. Van Maris, but only two documents were produced. (*Id.* at 9-10.) Lallemand argues that since DSM claimed not to know where these witnesses were located, "it should be axiomatic that DSM cannot call either of these inventors to testify at trial or offer into evidence documents from them." Otherwise, Lallemand argues, DSM's game of "hide-the-ball" would be rewarded. (*Id.* at 10.)

DSM responds that it "has not identified either [Van Maris or Medina] as a potential trial witness," making Lallemand's complaints both "irrelevant" and untrue. (Dkt. #212 at 1.) Instead, DSM explains, "Lallemand seeks to exclude evidence that does not and will not exist in this case," and its motion should be denied. Regardless, since DSM is not calling either Medina or Van Maris, this motion is MOOT as to their testimony. This motion is further DENIED at this time as to documents, although Lallemand can object individually to DSM's proposed trial exhibits based on unfair surprise, assuming it did not waive any objection by failing to ripen this issue through a

¹² In DSM's initial disclosures under Rule 26(a), Medina and Van Maris were identified as likely having discoverable information that may be used to support DSM's claims or defenses, acknowledging that their exact addresses were unknown, but that "on information and belief" they were associated with "Novozyme, in Curitiba, Parana, Brazil" and "KTH Royal Institute of Technology, Stockholm, Sweden," respectively. (Dkt. #188 at 7-8.)

timely discovery motion.

B. MIL No. 2: Exclude Evidence from Marco Mölling.

Lallemand next asks the court to exclude evidence from Marco Mölling, the lead attorney who drafted and prosecuted the '998 patent, because DSM did not produce any evidence concerning him. (Dkt. #188 at 11.) Lallemand explains that while it “sought documents and information concerning the preparation and prosecution of the '998 patent and its European counterpart,” DSM only produced a handful of documents concerning Mölling and his firm, which DSM represented were the relevant, non-privileged documents in its possession. Otherwise pointing to privilege logs, DSM produced only one document relating to draft patent applications, while the remaining documents related to communications to or with Mölling, two of which were produced and clawed back as privileged.¹³ (*Id.* at 12-14.) Following this narrow production, Lallemand notes that DSM added Mölling to its Supplemental Rule 26 Disclosures on the last day of discovery. (*Id.* at 14.) Accordingly, Lallemand argues that DSM should not be allowed to rely on Mölling’s testimony or unproduced documents at trial after this conduct. (*Id.* at 14-15.)

While DSM responds that the limited evidence from Mölling is unsurprising, since he was patent counsel to TU Delft, the original patent owner, and Lallemand chose to subpoena TU Delft’s U.S. patent counsel instead of Mölling himself, DSM further notes

¹³ Lallemand also represents that it sought documents concerning Mölling’s involvement in the preparation and prosecution of the patent from inventor Pronk and the U.S. Patent counsel, who prosecuted the application, but received no communications and no additional privilege logs. (Dkt. #188 at 13-14.) Since it appears that Lallemand sat on its rights by failing to seek to compel production, these representations have little to no bearing on the court’s ruling here.

it did not identify Mölling as a trial witness, and Lallemand failed to identify any document or evidence from Mölling that DSM intends to use at trial. (*Id.*) (Dkt. #212 at 2.) For these reasons, Lallemand's MIL No. 2 is DENIED AS MOOT, although it may object to the use or admission of individual documents as applicable.

C. MIL No. 3: Exclude Evidence and Argument Concerning Preparation and Prosecution of the '998 Patent beyond What Is Contained in DSM's Expert Reports.

Lallemand next seeks to exclude evidence and argument about the preparation and prosecution of the patent not contained in DSM's expert reports because: (1) DSM's 30(b)(6) witness, Atul Thakrar, was unable to answer questions about the '998 patent's preparation and prosecution; (2) "Lallemand's attempts to obtain discovery from or about people familiar with the preparation and prosecution of the patent-in-suit . . . proved futile"; and (3) DSM represented in response to an interrogatory that the only relevant facts that it contends support its infringement claims are found within its experts' reports. (Dkt. #188 at 16.) Basically, Lallemand argues that DSM should "be limited to the record that it disclosed during the fact and expert discovery period" and "be precluded from presenting evidence or argument at trial inconsistent with its interrogatory answers" to avoid unfair surprise and undue prejudice. (*Id.* at 17-18.)

DSM opposes this motion explaining that: (1) DSM only purchased the patent from TU Delft after it was issued, thus it is unsurprising that DSM's 30(b)(6) representative was unable to provide certain information about prosecution of the patent; (2) Lallemand failed to subpoena the people involved in the prosecution, including Mölling, Van Maris and Medina, so the lack of discovery is Lallemand's own doing;

(3) DSM is not limited to prosecution statements identified in Professor Alper's report; and (4) DSM is entitled to rebut Lallemand's use of prosecution history at trial. (Dkt. #212 at 2-3.)

In addition to its Rule 26(a)(1) disclosure obligations, Lallemand specifically requested by interrogatory that DSM "[i]dentify any fact concerning the preparation, filing, prosecution, examination, or maintenance of the '998 Patent that DSM contends supports its infringement contentions." (Dkt. #191-17 at 10.) On December 22, 2017, DSM substantively responded "direct[ing] Lallemand to the expert reports of Dr. Gregory Stephanopoulos."¹⁴ (*Id.*) Rule 33 requires that "[e]ach interrogatory . . . to the extent it is not objected to, be answered separately *and fully* in writing under oath." Fed. R. Civ. P. 33(b)(3) (emphasis added). One purpose of interrogatories is to identify evidence or to point a party to where it may find such evidence. *See U.S. v. 216 Bottles, More or Less, Sudden Change by Lanolin Plus Lab. Div. Hazel Bishop Inc.*, 36 F.R.D. 695, 701 (E.D.N.Y. 1965) ("The purpose of the interrogatories is to discover facts or to learn where such facts are available and to narrow the issues of fact."). Finally, DSM was under an obligation to update its initial Rule 26 disclosures and interrogatory responses as it acquired additional information under Rule 26(e). *See Barker v. Bledsoe*, 85 F.R.D. 545, 548 (W.D. Okla. 1979) ("Answers given at initial stages of discovery are not expected to be final, and are not binding to the party giving them. Thus the duty of supplementing answers." (internal citations omitted)). To the extent DSM failed to meet these obligations, it is unfair for

¹⁴ Lallemand notes that the references included in Stephanopoulos's reports are also found in Professor Alper's substitute infringement report. (Dkt. #188 at 17.)

DSM rely on this information at trial. Accordingly, this motion is GRANTED and DSM may only rely on the information timely disclosed under Rule 26 and in response to discovery requests, including for infringement purposes, only what was disclosed in its expert reports concerning preparation, prosecution and maintenance of the '998 patent in response to Lallemand's specific interrogatory on that subject. At the final pretrial conference, DSM may still proffer any other information related to the preparation, prosecution and maintenance of the '998 patent *not* in its expert report that is maintains was timely disclosed or need not have been disclosed for impeachment purposes for the court's consideration. Otherwise, all such information will be excluded from trial for any purpose.

D. MIL No. 4: Preclude DSM from Offering Evidence or Argument Concerning Firestart on Damages.

Next, Lallemand seeks to prevent DSM from introducing evidence or argument about DSM's Firestart project and related yeast, which Lallemand believes DSM will use to try to demonstrate the competition between the two companies "in the first-generation yeast market" to establish that DSM "would have demanded a higher royalty."¹⁵ (Dkt. #188 at 19.) Lallemand's basis for seeking exclusion is that the Firestart project would have been irrelevant to a hypothetical negotiation between the parties because it was not

¹⁵ Lallemand explains that the difference between first- and second-generation ethanol production is the input: in the former, "production uses starch or sugar-based materials"; while in the latter, production "uses cellulosic feedstock," such as wood, grass, and crop residues. (Dkt. #188 at 13 n.6.)

conceived until almost a year after the hypothetical negotiation.¹⁶ (*Id.*) Accordingly, Lallemand argues that evidence of this project would be irrelevant, unfairly prejudicial, misleading and confusing to the jury. (*Id.*) Specifically, Lallemand contends that: (1) time would be wasted and the jury confused by the introduction of an unrelated complex technology for genetically modifying yeast; and (2) Lallemand would be prejudiced by the implication that DSM planned to enter the first-generation yeast market before it did, suggesting a higher royalty would be appropriate. (*Id.* at 23-24.)¹⁷

DSM responds that the Firestart product is not irrelevant, as seen by Professor Winge examining the strains and opining that they do not fall under the '998 patent and Lallemand's damages expert referencing Firestart in calculating his proposed reasonable royalty. (Dkt. #212 at 3.) The court agrees that Lallemand cannot have its cake and eat it too -- Lallemand cannot prevent DSM from relying on evidence that Lallemand itself relies on. However, Lallemand's proposed reply on this motion "represents that neither it nor any of its witnesses (fact or expert) intend to utter the word 'Firestart' unless DSM is allowed to introduce it into this case." (Dkt. #225-1 at 6.)

This brings the court back to the question of Firestart's relevance to DSM's damages case. On this, Lallemand has made a convincing case for excluding Firestart as evidence of

¹⁶ Lallemand explains that Firestart was spearheaded by Atul Thakrar, who joined DSM in May 2015, and that DSM had no intention of designing first-generation yeast before his arrival. (*Id.* at 19-20.) Instead, DSM worked on second-generation yeast exclusively from 2008–2014. (*Id.* at 20.) Further, Lallemand contends that Firestart only resulted in commercially-viable strains in August 2017, when DSM filed a Microbial Commercial Activity Notice for five yeasts (none of which practice the patent) and DSM began large-scale testing of a Firestart strain in October 2017. (*Id.*)

¹⁷ At the same time, Lallemand concedes that its motion is not directed towards DSM's ability to argue about the parties' competition as relates to DSM's request for injunctive relief. (*Id.* at 24.)

competition, since it appears undisputed that Firestart was the brainchild of Thakrar, a DSM employee, who only joined DSM's ranks in 2015, meaning that Firestart was not even on the horizon at the time DSM would have entered into the hypothetical negotiation in August 2014. The existence of a noninfringing alternative is considered throughout the accounting period, however for it to be a factor at the hypothetical negotiation, it must at least be conceptualized by that point. Accordingly, Lallemand's MIL No. 4 is GRANTED unless it opens the door by introducing evidence or argument relating to Firestart into the trial record.

E. MIL No. 5: Preclude DSM from Offering Argument Concerning Competition between the Parties in the First-Generation Ethanol Production Market.

Similarly, Lallemand seeks to prevent DSM from arguing or suggesting that the parties compete in the first-generation ethanol production market, arguing that "DSM has produced no evidence showing actual competition," meaning any argument "based on purely illusory competition" should be excluded under Rules 402 and 403. (Dkt. #188 at 25.) As an initial matter, Lallemand explains that the Accused Products are used in first-generation ethanol production, while DSM was exclusively concerned with the second-generation market until May 2015. Moreover, Lallemand contends that there is no evidence that the Firestart strains compete with the Accused Products because: (1) DSM has not sold them; (2) internal speculation is insufficient to establish market behavior; (3) DSM has not settled on a pricing strategy for these strains; and (4) DSM conducted "pilot trials" only in October 2017, after this litigation was underway yet declined to make the results of those trials available for the depositions of relevant employees. (*Id.* at 25-

27.)

DSM again argues that Firestart is relevant because: Lallemand's experts considered it; "Firestart is DSM's new first-generation yeast product that was recently approved for commercialization"; and the October 2017 test showed an average 3% ethanol yield increase over TFY+. (Dkt. #212 at 4.) DSM adds that "Lallemand's complaints of lack of sales or pricing as of mid-December 2017" lack merit because Firestart was only recently approved and DSM continues to commercialize Firestart. (*Id.* at 5.) Finally, DSM contends Lallemand's concerns about discovery are "baseless" as Lallemand sought these additional fact depositions after the close of fact discovery. (*Id.*)

Lallemand again has the better argument. Because DSM's initial foray into first-generation ethanol production began in 2015 and has not yet been successfully commercialized, DSM cannot say that it directly competes with Lallemand or the Accused Products through Firestart. On the contrary, the evidence appears to show Firestart only began yielding preliminary results (regulatory approval and industrial-scale testing) in 2017. Accordingly, Lallemand's MIL No. 5 is GRANTED absent DSM proffering at the final pretrial conference timely-disclosed evidence of a basis for such an argument other than Firestart.

F. MIL No. 6: Preclude DSM from Offering Evidence or Argument Concerning DSM's Products that Embody the '998 Patent.

In yet another motion criticizing DSM's discovery conduct, Lallemand next argues that DSM should be prevented "from introducing evidence or argument concerning sales of any products DSM now alleges embody, practice, are covered by, or use any claim of

the '998 patent” because in an interrogatory answer, “DSM represented that it had ‘not sold any products that embody, practice, are covered by, or use any claim of the '998 patent,’” only to change its tune three weeks and then mere hours before discovery closed to assert one, and then three, such products *were* sold. (Dkt. #188 at 28 (internal citation omitted).) More specifically, Lallemand explains that eleven months after DSM’s initial interrogatory answer quoted above, DSM’s employee identified one yeast product that practiced the patent (SCY-LIB 4). (*Id.* at 29.) Then, two weeks later, DSM produced documents relating to multiple yeast strains, including documents indicating an intent to commercialize DY-LIB and DY-LIB 3. (*Id.* at 29-30.) Finally, DSM supplemented its interrogatory response on the last night of discovery to identify three “commercial products” -- SCY-LIB 4, DY-LIB, and DY-LIB 3 -- that DSM “manufactured, used, and sold,” each of which were “covered by at least claims 1, 5, and 7 of the '998 patent.” (*Id.* at 30.)

First, Lallemand argues that DSM failed to supplement its discovery responses in a timely fashion, as required under Rule 26(e), because it waited until the end of discovery to “completely reverse[] course,” even though it had obtained approval to sell two of the strains in 2016 and began selling the third in early 2017. (*Id.*) Second, Lallemand argues that preclusion is the appropriate sanction because: (1) Lallemand could not fully conduct discovery into these three products; (2) the prejudice cannot be corrected because discovery has closed, the deposition testimony of DSM’s employee was contradicted by the revised interrogatory response, and the documents about commercializing these three strains should have been produced earlier; (3) trial would be disrupted by the inclusion of the

issue of patent marking, which otherwise would not be relevant; and (4) because 2015 Microbial Commercial Activity Notices indicate that these products were covered by the '998 patent, and DSM sought and obtained regulatory approval to commercialize two of the strains and sold the other well *before* the close of discovery, DSM has no justification for its delay in disclosing them. (*Id.* at 31-34.)

Alternatively, Lallemand requests that DSM be prevented “from presenting any evidence or argument concerning marking these products with the '998 patent number.” (*Id.* at 28.) Lallemand explains that patent holders can only recover post-filing infringement damages *unless* it marked the products it sold with the patent number *or* gave pre-suit notice of infringement. (*Id.* at 35.) Recognizing the question of notice is for the jury, Lallemand nevertheless argues DSM should not be able to argue that it marked its products because of (1) the delayed identification of products sold that embody the patent, and (2) DSM’s failure to produce evidence of marking the products it now claims to have sold. (*Id.*)

DSM responds by arguing that “Lallemand had every opportunity to depose DSM witnesses on the subject of all three commercial strains and, in fact, did so,” as Lallemand deposed DSM’s 30(b)(6) witness and a DSM scientist who worked on the development of DY-LIB and DY-LIB 3. (Dkt. #212 at 6.) Further, DSM faults Lallemand for failing to ask DSM’s witnesses if the products were marked, thereby waiving its argument as to patent-marking. (*Id.*) Regardless, DSM further contends that it did not have an obligation to mark products because Lallemand had notice of the infringement claim in 2015, and it is entitled to damages over the entire infringement period since any failure to mark was

“excus[ed].” (*Id.* at 7.) DSM closes by claiming to have “promptly” supplemented its interrogatory response, produced responsive documents, and offered two witnesses for deposition. (*Id.*)

In fact, there was nothing “prompt[.]” about DSM’s last-minute supplementation. DSM responded first in January 2017, and then it failed to update the interrogatory response until December of that year. The court cannot conceive of a good reason for DSM not identifying these three products earlier. Arguing that Lallemand failed to ask the right questions of DSM’s witnesses in deposition misses the point as well. Why would Lallemand question DSM witnesses about commercialized yeast strains, including whether they were marked with the patent number, unless DSM had timely supplemented its initial interrogatory response?¹⁸

In the end, DSM fails to provide any reason for delaying the disclosure of sales that took place in 2016 and early 2017. The court is left to conclude that DSM either failed to take its responsibilities in responding to discovery seriously or was sandbagging Lallemand on its sale of products embodying the ’998 patent. Either way, Lallemand’s MIL No. 6 is GRANTED.¹⁹

¹⁸ In its proposed reply, Lallemand adds that DSM scientist Paul Klaassen (who was involved in the development of DY-LIB and DY-LIB-3) testified at his deposition that he was “not so much involved” with sales and did not know about sale figures. (Dkt. #225-1 at 11.)

¹⁹ The court is perplexed by DSM’s argument, citing to 35 U.S.C. § 287(a), that Lallemand would be responsible for damages going back to August 2014, even if DSM had not marked the products. (Dkt. #212 at 7.) Section 287(a) provides that

In the event of failure so to mark, no damages shall be recovered by the patentee in any action for infringement, except on proof that the infringer was notified of the infringement and continued to infringe thereafter, in which event damages may be recovered only for

G. MIL No. 7: Strike New Opinions in the 2018 Alper Report.

Lallemand next seeks to prevent DSM from offering Alper's new opinions contained in his substitute report, arguing that the substitution of Professor Stephanopoulos's report "was never intended to give DSM free rein to inject new expert opinions into this case" and "DSM should not profit from the accommodations necessitated by its own expert's medical issues." (Dkt. #188 at 37.) Lallemand explains that it agreed to a schedule allowing DSM to replace Stephanopoulos and serve a substitute report, but that it never agreed to allow DSM to provide new expert opinions. (*Id.* at 37 & n.17.) Lallemand then identifies ten sections of Alper's report that it contends contain new opinions. (*Id.* at 38.) Lallemand further contends it was prejudiced by these new sections because of the "short period of time to respond," Alper's inability at his deposition to answer questions about his new opinions, and Alper's failure to provide calculations and data for these new opinions. (*Id.* at 39.) Lallemand then goes through the new categories of opinions, explaining why each should be struck. (*Id.* at 39-45.)

In response, DSM argues that there is no unfair prejudice in Professor Alper offering additional opinions because the parties recognized that his substitute report could contain additional or revised opinions, *and* Lallemand had the opportunity to address these new opinions in supplemental reports by Professor Winge and Mr. Green. (Dkt. #212 at 7-8.)

The parties' joint motion for new trial date explains that the "revised schedule will

infringement occurring after such notice.

35 U.S.C. §287(a). Accordingly, without proof of marking, DSM's potential damages would only have started accruing once Lallemand was on notice of the claim, a date that remains for the jury to decide.

allow time for the plaintiffs to retain an expert to substitute for Dr. Stephanopoulos and provides the defendants the opportunity to depose the plaintiffs' new expert and to respond to any revised or new expert opinions." (Dkt. #137 at 1.) In fairness, the motion also notes that "[d]efendants reserve all their rights to seek appropriate relief from the court in the event any new opinions and/or facts are provided in the substitute report." (*Id.* at 2.) During the telephonic status conference, the court recognized that DSM's substitute expert "will either have to adopt Dr. Stephanopoulos's report and deposition and stand on [them] *or* he will want to add some kind of modified report, which would probably require some additional discovery." (Dkt. #139 at 6:20-24 (emphasis added).) While DSM's counsel was "hopeful that [the substitute expert] would provide opinions that are consistent and equivalent to what Dr. Stephanopoulos has already provided in his report," he also noted that "the two potential experts [they had] talked with [could] not commit to that because they ha[d]n't really delved into the information" yet. (*Id.* at 7:13-18.)

Recognizing that it would prejudice Lallemand to maintain the original trial schedule, thereby allowing DSM to disclose its new expert less than a month before trial (*id.* at 8:6-8), the court proposed alternate trial dates, directing DSM to provide "definitive dates as to when an alternative expert will be able to provide . . . an updated report and then [be] produced for deposition" (*id.* at 8:16-7:2). In setting those new dates, therefore, both sides *and* the court recognized that DSM's substitute expert *could* have opinions different from or in addition to those of Dr. Stephanopoulos. (*See id.* at 9:12-14 (recognizing that Lallemand might even want to choose a different *response* expert based on

the content of this substitute expert report).)

Considering that Lallemand had the opportunity to respond *and* its experts did respond to Alper's additional opinions, there is no sound reason to exclude these opinions on the basis of timeliness. Indeed, even if, as Lallemand contends, additional fact discovery was necessitated by the new expert report, it should have asked for additional discovery instead of waiting until the eve of trial to complain. Accordingly, Lallemand's MIL No. 7 is DENIED.

H. MIL No. 8: Preclude DSM from Offering Self-Serving Evidence as Objective Evidence of Non-Obviousness.

Lallemand further asks the court to prevent DSM from presenting self-serving documents as objective evidence of non-obviousness, arguing that industry praise *provided by a patentee or patent owner* "has little probative value." (Dkt. #188 at 45.) Specifically, Lallemand identifies a TU Delft press release forwarded from Professor Ingledew to Lallemand employees, titled "Here is a likely important advance!!" and argues that the subject line has little to no probative value, as the email fails to connect the purported praise to the invention, and the press release "contains only the self-serving statements of" the patent owner, TU Delft, and inventor, Jack Pronk. (*Id.*) Finally, Lallemand contends that this email would mislead and confuse the jury because the jury (1) is unlikely to recognize that the press release's praise is from the inventor and patent-holder and (2) would view the subject line as sponsoring the press release's content. (*Id.* at 46.)

DSM responds that it does not intend to rely on the press release itself as evidence of industry praise, instead it intends to rely on the statement by Professor Ingledew that

the patented technology marks an “important advance!!” Moreover, there appears to be an appropriate nexus between Ingledew’s statement and the patent: Dr. Ingledew was referencing the Medina publication, which disclosed the same yeast as the patent. (Dkt. #212 at 8-9.)

As DSM has represented that it intends only to rely on the statement by Professor Ingledew, the court will focus on whether that statement has sufficient nexus to the ’998 patent. The email’s title is “Here is a likely important advance!!” and the only text in addition to the press release is the comment “Please see below originating from the Delft yeast group. Mike.” (Dkt. #45-13 at 1.) The press release’s synopsis notes that “[t]he invention was published in the scientific journal ‘Applied and Environmental Microbiology,’” the press release concludes with “[p]ublished at Guadalupe Medina et al. Appl. Environ. Microbiol. doi:10.1128/AEM.01772-09,” and the factual description of the invention describes decreased glycerol production and acetate consumption. (*Id.* at 1-2.) Accordingly, Ingledew’s praise circulated to Lallemand’s own employees is tied closely enough to the patent to be probative. Lallemand may address any concerns it has about jury confusion during trial. Lallemand’s MIL No. 8 is, therefore, DENIED.

I. MIL No. 9: Preclude DSM from Offering Evidence or Argument Concerning Lallemand’s Initial Licensing Communications with TU Delft.

Lallemand next seeks to exclude argument and evidence about its communications with TU Delft about licensing the patent, arguing that the communications’ probative value concerning non-obviousness of the ’998 patent would be substantially outweighed by the risk of misleading the jury in its assessment of whether Lallemand needed or wanted

to license the patent. (Dkt. #188 at 47.) In its motion, Lallemand acknowledges having preliminary communications with TU Delft in 2014 about possibly licensing the patent, but contends that these emails are “introductory and preliminary in nature,” did not include “substantive discussions of the patent itself or licensing terms,” and “are not evidence of actual licensing.” (*Id.*) Further, Lallemand adds that the emails did not concern the Accused Products. (*Id.*)

DSM argues that this request should be denied for two reasons: (1) Lallemand’s desire to license the patent is “a relevant secondary consideration of non-obviousness” as both Mascoma and Lallemand sought to license the technology; and (2) Professor Alper established a connection between the patent and Lallemand wanting to license it. (Dkt. #212 at 9-10.) As to the first, DSM argues that Lallemand’s reasons for attempting to license the patent are relevant to secondary considerations and quotes two emails to inventor Pronk: (a) Lallemand informing him that “we have read with interest your recent publication” and “would very much like to have a chance to discuss with you opportunities to work together to bring this technology to industry”; and (b) Mascoma writing “[w]e are interested in finding out more,” and “[t]his technology would be valuable to our lignocellulosic ethanol CBP process,” before closing with “[a]s always it’s great to read of your path-breaking discoveries!” (*Id.* at 9-10 (quoting dkt. #210).) As to the second, DSM explains that a connection between the Accused Products and the patent is not necessary, but rather the nexus must be between the secondary consideration and the patent. (*Id.* at 10.)

The defendants’ potential interest in licensing the ’998 patent is relevant to the

whether the patent was obvious because that interest indicates that the invention was new. See *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311 (Fed. Cir. 2006) (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)). Lallemand's concern about the jury confusing potential *interest* in licensing with a *need* to license can be addressed through argument (or if necessary, an appropriate jury instruction), while Lallemand's concern that the jury may think the defendants wanted to license is exactly why these documents are relevant. Moreover, because of the preliminary nature of the emails and the fact of this lawsuit, it is highly unlikely that the jury would infer that a license ever issued. Finally, that the emails do not concern the Accused Products is irrelevant because the emails clearly concern the '998 patent. See *id.* at 1311-12. Accordingly, Lallemand's MIL No. 9 is DENIED.²⁰

J. MIL No. 10: Exclude Certain Internal Lallemand and Patent Documents and Related Expert Testimony.

Lallemand also challenges Professor Alper opinion that it "copied the '998 technology" based on his review of Lallemand's documents and patent filings. (Dkt. #188 at 49.) Lallemand argues that the documents Alper relied on do not relate to copying, do not clearly show a nexus between the alleged copying and the Asserted Claims, and would be highly prejudicial if admitted during the liability phase of trial. (*Id.*) Accordingly, Lallemand seeks to exclude as proof of copying certain internal documents and patent filings that refer to an article by Medina et al., *Elimination of Glycerol Production in Anaerobic*

²⁰ In its reply, Lallemand raises a concern about Professor Alper tying communications from defendants about possible licensing to the Accused Products and defendants' need for a license. (Dkt. #225-1 at 12.) Reviewing the excerpted portion of Alper's report, these concerns are overblown, except to the extent that Alper will not be allowed to opine about the reason for Lallemand's interest because he has no specialized knowledge in interpreting others' motives

Cultures of a Saccharomyces cerevisiae Strain Engineered to Use Acetic Acid as an Electron Acceptor. (*Id.* at 49-50.) Lallemand argues that (1) this article and the '998 patent do not provide the same information; (2) the Accused Products differ from the Medina disclosure because they only knock out GPD2, not both GPD1 and GPD2, and Medina does not disclose the addition of a bifunctional acetaldehyde/alcohol enzyme; and (3) allowing DSM to argue that the references show copying would confuse the jury and prejudice defendants. (*Id.* at 50-51.)

Lallemand further argues that three cited patent filings could not have copied the '998 patent because they were filed before the '998 patent was published, plus in Example 1 those filings do not copy the Medina disclosure, but “merely acknowledges that the strain taught by the Medina reference is not suitable for industrial application.” (*Id.* at 51-52.) Specifically, Lallemand argues, the documents recognize that acetate inhibits cell growth, while Medina showed that a yeast cell can be genetically modified to convert acetate to “a less inhibitory compound,” *without* suggesting the addition of a bifunctional acetaldehyde/alcohol dehydrogenase to yeast and deleting either GPD1 *or* GPD2 -- neither of which was suggested by Medina. (*Id.* at 52-53.) As to its own internal documents, Lallemand again contends that because Medina does not disclose a single-knockout yeast strain or the addition of a bifunctional acetaldehyde/alcohol dehydrogenase -- both features found in the Accused Products -- those products could not have been copied from the Medina reference, making Alper's discussions of that reference misleading and irrelevant.

(*Id.* at 53-54.)²¹

DSM responds that the evidence Lallemand identifies “should not be excluded because it demonstrates the source of Lallemand’s copying and the nexus to the merits of the invention claimed in the ’998 patent.” (Dkt. #212 at 11.) First, DSM argues that Medina’s research taught for the first time combining mutations to the GPD genes with acetylating acetaldehyde dehydrogenase activity, and these features were claimed in the ’998 patent. (*Id.*) Professor Alper further concluded both Medina and the patent disclosed these properties in the IMZ132 strain. (*Id.*) While acknowledging that Medina only considered a GPD double knockout strain, DSM notes that the patent claims both double- and single-knockout strains, contending that one of ordinary skill would see the benefit of a single knockout strain upon reading Medina. (*Id.*) DSM’s position, of course, is that “Lallemand’s argument that its bifunctional acetaldehyde/alcohol enzyme negates Medina’s nexus to the claimed invention is of no moment because such enzyme has the claimed AADH activity as does the AADH taught in Medina,” and Medina “expressly suggests optimizing kinetics with a faster AADH enzyme.” (*Id.*)

Second, DSM argues that Lallemand’s frequent “citation to and use of” Medina is “a common thread in Lallemand’s patent filings” and internal documents, and “Lallemand’s attempts to distinguish . . . based on the use of ‘bifunctional

²¹ Lallemand more clearly articulates its arguments in its proposed reply brief, contending that since DSM cannot establish that it copied the ’998 patent’s invention, because the Medina article preceding the patent failed to disclose either of the essential features of the Accused Products -- the deletion of only the GPD2 gene or a bifunctional acetaldehyde/alcohol dehydrogenase -- DSM’s argument that Lallemand copied aspects of the Medina article would only confuse the jury. (Dkt. #225-1 at 14-15.)

acetaldehyde/alcohol dehydrogenase' enzyme is not credible in view of the overwhelming evidence that such enzyme has the AADH activity taught by Medina and the '998 patent.” (*Id.* at 12.) Finally, DSM argues Professor Alper’s expert opinions would be helpful to the jury. (*Id.*)

In order to establish copying as a secondary consideration of nonobviousness, however, a patent-owner must offer “evidence of efforts to replicate a *specific* product.” *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010) (emphasis added). This prevents all competing products arguably falling within a patent’s scope from suggesting that a patent is nonobvious. *Id.* (quoting *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004)). Here, DSM cannot point to the Medina publication (or a citation to it) as evidence of copying because its disclosures are not identical to the patented invention and lack two features that are alleged to infringe the patent. Regardless, allowing Professor Alper to opine that undisclosed features were somehow “copied” from the Medina article *would* confuse the jury. Accordingly, Lallemand’s MIL No. 10 is GRANTED.

K. MIL No. 11: Preclude DSM from Offering Evidence or Argument on Infringement of Claims other than the Asserted Claims.

Lallemand argues that “evidence and argument related to the importance or infringement of claims other than the Asserted Claims . . . should be excluded because any alleged relevancy they may have is outweighed by the substantial risk of misleading the jury and sowing juror confusion.” (Dkt. #188 at 55.) In particular, Lallemand objects to the introduction of internal comments made in February 2011 on the broadness of the

international patent predecessor (and the resulting patent cooperation treaty application (the “PTC application”)), noting that the “[f]irst claim . . . potentially impacts all of our current metabolic engineering approaches.” (*Id.* at 55-56 (quoting dkt. #192-11 at 1).) Lallemand argues that this internal document has no more than marginal relevancy because the claim addressed was greatly narrowed before the ’998 patent issued, and accordingly Alper’s reliance on it in forming his opinion on non-infringing alternatives was improper. (*Id.* at 57.) Further, Lallemand contends that admitting this document and other evidence related to unasserted claims would mislead and confuse the jury. (*Id.* at 57-58.)

Similarly, Lallemand argues that DSM should not be able to reference or discuss patents not covering the Accused Products as there is little evidence of them in the record, they are “only marginally relevant,” and introduction of such evidence “would inevitably lead to juror confusion.” (*Id.* at 58.) For example, Lallemand argues that Alper’s opinion that Firestart is covered by the 6,265,186 patent is based only on DSM’s prior statements, rather than his own independent analysis. (*Id.* at 58-59.)²²

DSM argues that this evidence should be admitted into evidence. (Dkt. #212 at 13.) As to the February 2011 meeting agenda in particular, DSM argues that it shows: (1) “Lallemand routinely obtains freedom-to-operate clearance when developing its products,” as the agenda notes a need for “a clear statement re FTO for Ethanol Red”; (2) Lallemand knew of the “potential legal impact” of the patent in February 2011; and (3) “Lallemand routinely monitored the intellectual property landscape.” (*Id.*) Accordingly,

²² Lallemand also argues that evidence of patents covering genetically-modified yeast products that are sold by third-parties be excluded (dkt. #188 at 59), an argument addressed more fully in § II.L *infra*.

DSM contends that the agenda is “highly relevant to” both noninfringing alternatives and willfulness. (*Id.*) Further, DSM explains that Lallemand’s request for exclusion “misses the point” because the “PCT application discloses the same subject matter as the ’998 patent,” even if claim 1 was broader, and believing that the conversation at that meeting focused solely on claim 1 is unreasonable. (*Id.* at 14.)

As to the ’186 patent, DSM argues “it shows that the underlying technology is not available to Lallemand as a noninfringing alternative.” (*Id.*) DSM contends that Alper’s opinion is not conclusory as he relied on the evidence contained in DSM’s Firestart Microbial Commercial Activity Notice, in which DSM certified the information provided was “complete and truthful.” (*Id.*) Further, DSM argues that Lallemand failed to identify a reason that the jury would be confused by the introduction of this evidence, adding that any possible confusion could be mitigated with a jury instruction. (*Id.* at 14-15.)

While DSM is correct that the February 2011 agenda may be relevant to willfulness and noninfringing alternatives, the first claim in the PTC application is broader than that finally encompassed in the ’998 patent. (*Compare* dkt. #1-1 at 40 *with* dkt. #192-12 at 49.)²³ This, combined with the fact that the PTC application is referred to in the agenda

²³ Claim 1 of the ’998 patent provides:

Transgenic yeast cells comprising one or more recombinant heterologous, nucleic acid sequences encoding a protein with NAD⁺-dependent acetylating acetaldehyde dehydrogenase activity (EC 1.2.1.10), wherein said cells lack enzymatic activity needed for the NADH-dependent glycerol synthesis, or said cells have a reduced enzymatic activity with respect to the NADH-dependent glycerol synthesis compared to a corresponding wild-type yeast cell, and wherein said cells are free of NAD-dependent glycerol 3-phosphate dehydrogenase activity or have reduced NAD-dependent glycerol 3-

as the “latest Pronk patent” does pose a serious risk of juror confusion. Specifically, the jury could confuse the scope of the PTC application’s claim 1 with the final, narrower terms of claim 1 in the ’998 patent. Further, DSM’s intent to argue, explicitly or implicitly, that this single agenda demonstrates that Lallemand “routinely” sought freedom-to-operate clearance underscores the potential confusion the introduction of this evidence may have, especially when based on one reference to “need[ing] a clear statement re FTO for Ethanol Red.” (See *dkt. #192-11* at 2.) Accordingly, the February 2011 agenda is excluded.

As to evidence and testimony concerning the ’186 patent, the court starts from the premise that Firestart is of limited relevance for reasons discussed earlier in this opinion. *See* §§ II.D-E *supra*. Lallemand does not appear to argue that Firestart was a noninfringing

phosphate dehydrogenase activity compared to corresponding wild-type cells, and/or wherein the cells are either free of glycerol phosphate phosphatase activity or have reduced glycerol phosphate phosphatase activity compared to corresponding wild-type cells, and which comprise a genomic mutation in at least one gene selected from the group consisting of GPD2, GPD2, GPP1 and GPP2, and wherein said cells further comprise one or more nucleic acid sequences encoding an acetyl-Coenzyme A synthetase activity (EC 6.2.1.1) and one or more nucleic acid sequences encoding NAD⁺-dependent alcohol dehydrogenase activity (EC 1.1.1.1).

(*Dkt. #1-1* at 40 (67:12-37).) Claim 1 of the PTC application, on the other hand provided simply:

Recombinant yeast cell, in particular a transgenic yeast cell, the cell comprising one or more recombinant, in particular heterologous, nucleic acid sequences encoding an NAD⁺-dependent acetylating acetaldehyde dehydrogenase (EC 1.2.1.10) activity, said cell either lacking enzymatic activity needed for the NADH-dependent glycerol synthesis or the cell having a reduced enzymatic activity with respect to the NADH-dependent glycerol synthesis compared to its corresponding wild-type yeast cell.

(*Dkt. #192-12* at 49 (47:1-7).)

alternative available to it. While the fact that Firestart is subject to a separate patent is not unduly confusing to the jury by itself, Firestart is simply not relevant enough to overcome the risks of jury confusion and undue delay regarding disputes tangential to the principle issues actually before the jury. Accordingly, Lallemand's MIL No. 11 is GRANTED.

L. MIL No. 12: Preclude DSM from Referring to Third-Parties' Enhanced Yeast Products.

Next, Lallemand seeks to exclude evidence of "genetically-modified yeast products made, used, sold, or offered for sale by third parties" because neither side "argued that these products constitute potential non-infringing alternatives" and "their existence is otherwise not relevant." (Dkt. #188 at 60.)²⁴ Lallemand argues that referencing this evidence, particularly "the alleged proprietary or patented nature of such products," would be unfairly prejudicial because DSM's damages expert will testify that there were "competing yeast products on the market" when the infringement began, "but that these products were not 'available' to Lallemand because they are proprietary to third parties." (*Id.* at 60-61.) This hardly seems good grounds to exclude evidence of the marketplace in which Lallemand competes. In particular, Lallemand's argument that it would be unfairly prejudicial because such testimony could "suggest to the jury that Lallemand is competing unfairly," ignores that the introduction of this evidence would only come in during the damages phase of the trial, *after* the jury would have already found exactly that.

²⁴ Lallemand, however, "reserves the right to rely on evidence of past negotiations between DuPont and DSM concerning a potential license to the '998 patent." (Dkt. #188 at 60 n.25.)

Lallemand's contention that because it will not rely on third-party technology as noninfringing alternatives, Dr. David's testimony is irrelevant similarly misses the mark: Lallemand does not get to arbitrarily define what market information may be important during a theoretical royalty negotiation. Finally, Lallemand argues that David's opinion that "few other companies" used "patented techniques or proprietary enzymes" is unsupported, but it will be up to the jury whether company publications are sufficient to support David's observation about the marketplace.

Accordingly, Lallemand's MIL No. 12 is DENIED, except that evidence of other competitor's introduction of enhanced yeast products may only come in during the damages phase of trial.

M. MIL No. 13: Trifurcate Trial, Separating Willful Infringement from Damages.

Lallemand requests that instead of bifurcating trial into two phases (liability and damages), the court create a third and separate phase for the jury to hear evidence of willful infringement (if necessary). (Dkt. #188 at 63.) Specifically, Lallemand contends that "any potential efficiency gained from t[r]ying willfulness together with other issues is outweighed by the possibility of prejudice to Lallemand." (*Id.*) Recognizing that isolating issues for separate adjudication rests in the discretion of the court, Lallemand argues that infringement and willfulness "present different underlying issues and, at least generally speaking, require different proof," adding that the court has previously separated willfulness from liability. (*Id.* (quoting *Robert Bosch, LLC v. Pylon Mfg. Corp.*, 719 F.3d 1305, 1317 (Fed. Cir. 2013) and citing *Ameritox, Ltd. v. Millennium Health, LLC*, No. 13-cv-832-wmc, 2015 WL 1520821, at *2 (W.D. Wis. Apr. 3, 2015)).)

DSM responds that Lallemand's request is unsupported and unnecessary. (Dkt. #212 at 16.) Pointing out that this court typically includes willfulness in the damages phase, DSM would distinguish *Ameritox* based on its reliance on *In re Seagate Technology, LLC*, 497 F.3d 1360 (Fed. Cir. 2007), which was subsequently overruled by the U.S. Supreme Court. *See Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1928 (2016).

Regardless, separating out willfulness falls squarely within the discretion of the court. Typically, willfulness is considered by the jury at the same time as damages. Lallemand neither distinguishes this case from those typically brought before this court, nor identifies any specific form of prejudice that would make trifurcation necessary, or even appropriate, here. Nor does it identify any evidence that would relate only to willfulness that would not have been introduced during the liability or damages phases anyway. Accordingly, Lallemand's MIL No. 13 is DENIED without prejudice.

N. MIL No. 14: Exclude Evidence or Argument Regarding Lallemand's Lack of Advice of Counsel before Launching the Accused products.

Perhaps an exception to the discussion above is Lallemand's contention that DSM "intends to assert that Lallemand 'did not obtain a freedom-to-operate opinion . . . prior to launch of the Accused Products'" and that that assertion is prejudicial and irrelevant, and should otherwise be excluded under 35 U.S.C. § 298. (Dkt. #188 at 65 (quoting dkt. #191-17 at 13).) Lallemand adds that this type of argument is particularly prejudicial because Lallemand launched the Accused Products before the '998 patent was issued. (*Id.*)

Predictably, DSM opposes this motion as well. (*See* dkt. #212 at 18-19.) First, DSM contends that § 298 offers no protection because Lallemand obtained a letter from

counsel after DSM sued and designated the letter's author as a trial witness. Second, DSM argues that Lallemand began selling YP3 two years *after* the '998 patent was issued, as well as a year after DSM alerted Lallemand about the alleged infringement. (*Id.* at 18.) DSM acknowledges that Lallemand began selling TransFerm Yield+ to non-POET customers before the '998 patent was issued, but the launch of specific TransFerm Yield+ for POET customers occurred afterwards, in mid-2015. (*Id.* at 19.) Finally, again relying on the February 2011 agenda, DSM argues Lallemand knew about the technology disclosed in the '998 patent as early as 2011 and recognized its relevance. (*Id.* at 19.)

An infringer's failure to seek the advice of counsel cannot be used to prove willful infringement. *See* 35 U.S.C. § 298. Specifically,

[t]he failure of an infringer to obtain the advice of counsel with respect to any allegedly infringed patent, or the failure of the infringer to present such advice to the court or jury, may not be used to prove that the accused infringer willfully infringed the patent or that the infringer intended to induce infringement of the patent.

Id. As this court has previously explained, however, “the protection granted by 35 U.S.C. § 298 dissolves in the event defendants ‘open the door’ by attempting to refute a claim of willful infringement by implying that they relied on the advice of counsel.” *Ultratec, Inc. v. Sorenson Communs., Inc.*, No. 13-cv-346-bbc, 2014 WL 4976596, at *2 (W.D. Wis. Oct. 3, 2014). Merely naming counsel as a trial witness does not by itself constitute such an exception, particularly since Lallemand represents in its reply that it “will not seek to introduce evidence and otherwise will not suggest to the jury that it sought advice of counsel with respect to the '998 patent at any time before it launched the Accused Products.” (Dkt. #225-1 at 16.) Accordingly, this motion is DENIED unless Lallemand

opens the door at trial.

O. MIL No. 15: Strike References to Lallemand's Counsel in Professor Alper's 2018 Report

Finally, Lallemand asks the court to strike portions of Alper's substitute report that rely on or refer to statements of Lallemand's counsel for the purpose of "avoid[ing] implicating [Lallemand's] counsel as a fact witness," adding that statements or argument by counsel are not evidence. (Dkt. #188 at 66.)²⁵ Since expert reports are inadmissible hearsay and DSM agrees, any reference to Mr. Cahill's statements made during the telephonic hearing" are inadmissible, this motion is DENIED AS MOOT.²⁶

ORDER

IT IS ORDERED that:

- 1) DSM's motions in limine (dkt. #185) are GRANTED IN PART, DENIED IN PART, AND RESERVED IN PART as set forth above.

²⁵ During the court's telephonic motion hearing, Lallemand explained that Mr. Argyros "said that the defendants didn't engage in a process to design around the patent They engaged in a process of building a number of alternatives and testing them for the purpose of seeing which ones had the best performance." (Dkt. #188 at 66 (quoting dkt. #139 at 13:19-23).) Professor Alper then cited these statements to support his testimony that (1) "Lallemand has admittedly not genuinely pursued any strategies to design around the '998 patent to date" and (2) "Lallemand admits that, to date, it has not taken any steps to implement a design-around." (*Id.* at 67 (quoting dkt. #146 ¶¶ 220, 257).)

²⁶ DSM does assert that "the substance of Dr. Alper's opinions . . . is undisputed and supported by the testimony of a Lallemand Employee, Aaron Argyros," so that Alper should still be able to opine that Lallemand failed to design around the '998 patent. (Dkt. #212 at 19.) Rule 26(a)(2)(B) requires an expert report to contain "a complete statement of all opinions the witness will express and the basis and reasons for them." Fed. R. Civ. P. 26(a)(2)(B)(i). Because the only evidence Alper cites in his report as support for the identified opinions is the hearing transcript, these two "opinions" would appear unsupported in any event. The court will address this concern further in its opinion and order on Lallemand's motion to exclude two types of Dr. Alper's opinions (dkt. #190).

2) Lallemand's motions in limine (dkt. #188) are GRANTED IN PART AND DENIED IN PART as set forth above.

3) Lallemand's motion for leave to file reply brief (dkt. #225) is GRANTED.

Entered this 24th day of April, 2018.

BY THE COURT:

/s/

WILLIAM M. CONLEY
District Judge