

United States Court of Appeals For the First Circuit

Nos. 03-1682
03-1683
03-1725

MASSACHUSETTS EYE AND EAR INFIRMARY,
Plaintiff/Counterclaim Defendant, Appellant/Cross-Appellee,

v.

QLT PHOTOTHERAPEUTICS, INC.,
Defendant.

QLT, INC.,
Counterclaim Plaintiff, Appellee/Cross-Appellant,

v.

MASSACHUSETTS EYE AND EAR INFIRMARY,
EVANGELOS S. GRAGOUDAS, M.D., JOAN W. MILLER, M.D.,
Counterclaim Defendants, Appellants/Cross-Appellees.

APPEALS FROM THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

[Hon. Joseph L. Tauro, U.S. District Judge]

Before

Torruella, Circuit Judge,
Gibson,* Senior Circuit Judge,
and Lipez, Circuit Judge.

Kenneth B. Herman, with whom James F. Haley, Jr., Christopher J. Harnett, Gerald J. Flattmann, John P. Hanish, Bindu Donovan,

* Hon. John R. Gibson, of the Eighth Circuit, sitting by designation.

Fish & Neave, Christine M. Roach, M. Ellen Carpenter and Roach & Carpenter PC, were on brief, for appellants.

Donald R. Ware, with whom Barbara A. Fiacco, Jessica M. Silbey, Mark A. Reilly and Foley Hoag LLP, were on brief, for appellee/cross-appellant.

June 16, 2005

TORRUELLA, Circuit Judge. The noble pursuit of curative technologies birthed Visudyne, a drug that treats the leading cause of vision loss in people over age fifty. That success involved the efforts of multiple institutions, and the common drive for financial returns now brings us a dispute over rights to the income stream of the fastest growing ophthalmic drug in history.

The entire range of claims articulated by plaintiff-appellant was dismissed by the district court on summary judgment. The bulk of the opinion that follows consists of our de novo review of these dismissals. We must also address defendant-appellee's cross-appeal of several discovery-related rulings. Following a review of the factual background, considered in the light most favorable to the appellant, we will begin our analysis.

I. Factual Background

A. Age-Related Macular Degeneration

Age-related macular degeneration (AMD) is an ocular disease that is the predominant cause of vision loss in people over age fifty. The illness takes two forms: "wet" and "dry." The wet form, though only accounting for ten percent of the cases of age-related macular degeneration, leads to the debilitating condition known as choroidal neovascularization ("CNV" or "neovasculature"), responsible for ninety percent of cases of AMD vision loss. Neovasculature refers to conditions characterized by the proliferation of unwanted blood vessels.

In 1989, several researchers at Massachusetts General Hospital's ("MGH") Wellman Laboratories of Photomedicine began investigating the use of photosensitive drugs to treat eye diseases such as AMD involving neovasculature. In March 1991, the MGH researchers met with Dr. Julia Levy of appellee QLT Phototherapeutic ("QLT") to discuss the possibility of utilizing benzoporphin derivatives ("BPD" or "derivatives") developed by QLT for the treatment of AMD. Levy agreed to provide MGH the BPD needed for research trials.

The Massachusetts Eye and Ear Infirmary ("MEEI" or "the Infirmary"), a medical institution located next to, but distinct from, MGH, also sought out QLT's BPD for photodynamic therapy research. Dr. Joan Miller joined the Infirmary in the fall of 1991 and soon proposed conducting studies using BPD on monkeys. In March 1992, Miller applied to MEEI to investigate the use of BPD to treat neovasculature. Pursuant to Dr. Miller's application, MEEI and QLT signed a material transfer agreement ("MTA") in which MEEI would receive BPD at no cost in exchange for providing QLT the results of Miller's pre-clinical studies for use in QLT's regulatory filings and patent disclosures.

In September 1992, following their successful monkey trials, which demonstrated the potential use of photodynamic therapy with BPD, Dr. Miller and her MEEI colleague, Dr. Gragoudas, presented their data confidentially to QLT representatives visiting

Boston. Within the next two years, MEEI and QLT entered into two more material transfer agreements of similar tenor.

B. Confidential Disclosure Agreement

QLT had interest in commercial applications of the Infirmary's experimental monkey trials and, in May 1993, QLT and Dr. Miller entered into a Confidential Disclosure Agreement ("CDA"). As part of this agreement, QLT promised "not to use the Confidential Information for any purpose other than the evaluation of Products under the terms of this Agreement" and "to maintain Confidential Information in confidence." The parties agreed that "misuse or improper disclosure of Confidential Information would irreparably harm the business of the disclosing party or that party's affiliates." Pursuant to the CDA, Miller continued to provide MEEI's confidential research results to QLT, including results of MEEI research not funded by QLT.

In July 1993, at Dr. Miller's request, QLT agreed to fund further experiments by the Infirmary involving the treatment of neovasculature in monkeys with the derivatives. The results of these studies, as well as other studies not funded by QLT, were shared with QLT in November 1994, in a report entitled the Preclinical BPD-MA Pharmacology Study for Macular Degeneration ("Bolus Study").

C. QLT Partnership with CIBA Vision

In late 1993, QLT contacted the company CIBA Vision¹ to commercialize the use of photodynamic therapies with BPD to treat age-related macular degeneration. QLT provided CIBA Vision with MEEI's confidential research results without first informing MEEI. In February 1994, CIBA Vision sought full access to Dr. Miller's research results to pursue a "high potential opportunity." QLT agreed to share with CIBA Vision the "plans and results of our ocular programme," which included Dr. Miller's research.

Dr. Miller learned of QLT's negotiations with CIBA Vision in the Spring of 1994. In March, she expressed concern about the confidentiality of MEEI's research results to Julia Levy and Edwin Levy of QLT, who assured her that QLT had not disclosed and would not disclose in the future any of MEEI's trade secret information. Dr. Miller then flew to Switzerland "to get CIBA Vision excited in the technology," but during that meeting, and subsequent meetings with CIBA Vision representatives in July and October of 1994 she presented only summaries of her research.

On May 31, 1994, CIBA Vision and QLT executed a Letter of Intent to enter into a strategic partnership for commercializing the use of photodynamic therapy to treat neovasculature arising from age-related macular degeneration. The Letter recognized that QLT had "significant non-clinical evidence" -- some of which came

¹ CIBA Vision is today known as Novartis Ophthalmics, Inc.

from Miller's research -- showing the success of the therapy for this application. The Letter indicated that "[e]ach party will manage the patent portfolio in collaboration with the other party." QLT announced the partnership to the public and MEEI announced that:

Researchers at [MEEI] in Boston are participating in a joint worldwide project with [QLT] and CIBA . . . to develop photodynamic therapy, a potential treatment for certain eye diseases. Infirmary researchers, since 1992, have performed pre-clinical studies, in collaboration with Wellman Laboratories, using Benzoprophin derivative (BPD), a proprietary light-activated drug developed by [QLT].

Clinical trials testing the treatment on humans began in 1995, and the Infirmary was one of several sites performing the trials under a written agreement with QLT. MEEI was paid more than one million dollars for participation in the trials and for the resulting clinical data.

On February 6, 1995, QLT and CIBA Vision signed a definitive agreement to pursue worldwide joint development and commercialization of photo-dynamic therapy for the treatment of choroidal neovasculation. The partnership aimed to obtain FDA approval for its treatment, tradenamed Visudyne, in April 2000. Sales outside the United States began in 1999, and Visudyne received FDA approval in April 2000. As of February 2002, over two hundred twenty million dollars' worth of Visudyne had been sold worldwide.

D. Patent Applications

Prior to QLT's partnering with CIBA Vision, in March 1994, Dr. Miller approached QLT about pursuing a patent application for the treatment. QLT agreed and suggested that Kate Murashige, its long-standing patent attorney, prepare the application. Relying on information provided by Miller, Murashige prepared a patent application with serial number 08/209,473 ("the '473 application") and filed it on March 14, 1994. The claimed invention applied to methods for treating choroidal neovasculation with photodynamic therapy using BPD; the named inventors included only MEEI's Drs. Miller and Gragoudas and another MEEI employee, Lucy Young.

Even though it was not claiming co-inventorship of the '473 application, QLT confirmed that it would pay for the preparation of the application. Murashige told MEEI that "QLT does not see itself as a participant in the invention other than as a supplier of the material BPD," and "the assignment would be entirely to MEEI."

Within months of the '473 filing, however, QLT changed its approach to the patent strategy. On behalf of QLT, Murashige proposed to MEEI that the '473 application could be improved upon by modifying the scope of the patent claims. Murashige argued that it would strengthen the application to include methods of treating CNV with photo-dynamic therapy using liposomal formulations of BPD.

Since QLT's Dr. Levy and the MGH inventors had contributed to the invention of this form of treatment, the addition of these claims to the application would make them co-inventors. QLT appreciated the legal significance of the amplification of inventorship in the '591 application. Jennifer Kaufman-Shaw, QLT's in-house counsel, wrote to CIBA Vision that:

at the time the invention was made, there was no contractual agreement in place whereby QLT would be entitled to ownership of the invention. Therefore QLT claims ownership only through Dr. Julia Levy If Dr. Levy were not an inventor, QLT would have no rights to the patent.

Thus, Murashige convened the three institutions -- QLT, MEEI, and MGH -- and requested that MEEI and MGH retain their own patent counsel.

Implementing the proposal entailed a "continuation-in-part application," with serial number 08/390,591 (the '591 application). At the same time, Murashige removed from the '473 applications those claims directed to methods of treating unwanted choroidal neovasculation with photodynamic therapy using the benzoporphin derivatives. Those claims were joined to the '591 application.

After receiving assurances that MEEI would receive fair compensation for its contributions, the MEEI inventors consented to the changes, and Murashige filed the '591 application on February 17, 1995. MEEI's Miller and Gragoudas executed a

"Combined Declaration of Inventorship and Power of Attorney for Continuation-in-Part Application," affirming that they were joint inventors along with the others of those inventions claimed in the '591 application. Drs. Miller and Gragoudas maintained that they signed the Declaration of Inventorship and Power of Attorney with (1) the expectation that the proper inventorship would be determined once final claims were allowed, and (2) in consideration for QLT's express promise that MEEI would be compensated appropriately for Drs. Miller and Gragoudas's contributions through a license agreement.

On August 25, 1998, the '591 application issued as U.S. Patent 5,798,349 (the '349 patent). Drs. Miller and Gragoudas assigned their rights as inventors to the Infirmary, and Drs. Hasan and Schmidt-Erfurth assigned their rights to MGH. Dr. Levy assigned her rights to QLT. Among the assignees of the inventorship of the '349 patent, QLT is distinguished by its ownership of the patents on the benzoporphin derivatives integral to the invented treatment. This ownership means that QLT alone can independently exploit the rights of the '349 patent.

E. Licensing Negotiations

In December 1995, QLT had signed a letter of intent to negotiate exclusive licenses of MEEI's and MGH's co-ownership rights in any patent that issued from the pending '591 application. Such a license would prevent MGH or MEEI from licensing their

rights under a patent issuing from the '591 application to a competitor of QLT. According to the letter, "QLT does intend to negotiate in good faith with MEEI/MGH and other assignees to come to an agreement on reasonable terms and royalty rates which will be consistent with industry standards under similar circumstances." In the same letter, QLT indicated "its intent to negotiate with the MEEI/MGH for an option to license the technology which is the subject of the ['473 application]." Negotiations would commence, according to QLT, once a patent issued and the feasibility of the invention was proven.

MEEI responded in February 1996 that the Letter of Intent "is insufficient in that it does not address the issue of how the Infirmary will participate in the licensing or transferring of MEEI technology by QLT to third parties." MEEI also accused QLT of entering into an agreement with CIBA Vision "using, in part, technology that was developed . . . at the Infirmary." MEEI concluded, "If that is untrue, please advise us. If that is true, our position is that the Infirmary should be a party to that agreement as well as any future agreements relative to that technology." QLT did not respond to this letter.

II. QLT's Cross-Appeal

The above narrative anticipates the disposition of the cross-appeal, as the picture we have painted includes information

that QLT wished never to disclose.² Because QLT has challenged a number of evidentiary rulings, we must explain which evidence we find properly before us.

QLT contends that the district court erroneously ordered the production of certain attorney-client communications with Murashige and other attorneys of her firm. The district court found that QLT met its burden of establishing the prima facie applicability of the attorney-client privilege to the communications in question. See Mass. Eye & Ear Infirmary v. QLT Phototherapeutics, Inc., 167 F. Supp. 2d 108, 115 (D. Mass. 2001) (accepting report and recommendation of discovery master). Such communications are privileged unless an exception -- here, the common-interest exception -- applies. The party challenging the privilege carries the burden of establishing that any communications are discoverable. FDIC v. Ogden Corp., 202 F.3d 454, 460 (1st Cir. 2000). The common-interest exception permits a party access to his joint-client's communications with the shared counsel. The district court held that the common-interest exception applied, within a specified time frame and as to certain

² We note that the existence of MEEI and QLT's common-interest does not abrogate the attorney-client privilege vis-à-vis the general public. However, nearly all confidential information divulged in this opinion has long been available to the public in the district court discovery opinion of April 13, 2001. Mass. Eye & Ear Infirmary v. QLT Phototherapeutics, Inc., 167 F. Supp. 2d 108, 110-13. Moreover, we have taken care to recount only those communications essential to the issues before us, issues that will also be at the heart of the ongoing litigation.

matters, thereby granting, in part, MEEI's motion for production of certain documents. Mass. Eye & Ear Infirmary, 167 F. Supp. 2d at 127-28.

We disturb a district court's discovery management "only upon a clear showing of manifest injustice, that is, where the lower court's discovery order was plainly wrong and resulted in substantial prejudice to the aggrieved party." Mack v. Great Atl. & Pac. Tea Co., 871 F.2d 179, 186 (1st Cir. 1989). QLT invites us to conduct a plenary review of the relevant orders, arguing that whether an exception to the attorney-client privilege applies is a question of law that deserves de novo review, citing Cavallaro v. United States, 284 F.3d 236, 245 (1st Cir. 2002). The authority QLT cites, however, specifies only that the "formulation of . . . the . . . common-interest doctrine" should be reviewed de novo. Id. (emphasis added). The application of properly formulated doctrine to the facts remains a matter of discretion for the district court. Id.

The discovery master spelled out MEEI's burden as follows:

MEEI must first establish that MEEI shared an attorney-client relationship with Morrison & Foerster [Murashige's law firm] on the following matters: (1) the preparation and prosecution of the '473 application (which issued as the '986 patent); (2) the preparation and prosecution of the '591 application (which issued as the '349 patent); (3) the licensing of the '986 patent; and (4) the licensing of the '349 patent.

Mass. Eye & Ear Infirmary, 167 F. Supp. 2d at 116-17. QLT asserts that the discovery master's inquiry was inadequate as a matter of law because MEEI not only had to show that MEEI and QLT were joint clients of Morrison & Foerster, but that, in addition, they shared "an identical (or nearly identical) legal interest as opposed to a merely similar interest." Ogden, 202 F.3d at 461. QLT argues that Murashige's legal work for MEEI and QLT regarding the matters was not directed toward a nearly identical legal interest. Absent converging interests, parties who shared an attorney ought not have access to their counsel's communications with the other party.

It is peculiar to address this question first as it inevitably requires reaching into the merits we have yet to discuss. But the district court had to do so, as must we. The irony that the ensuing discovery shows just how polarized the two parties' interests may already have been is not material to the inquiry. "A joint attorney-client relationship remains intact until it is expressly terminated or until circumstances arise that readily imply to all the joint clients that the relationship is over." Ogden, 202 F.3d at 463. The rules of discovery therefore do not insulate from discovery the communications of a duplicitous party who feigns common interest while scheming otherwise with a shared, trusted advisor.

We agree, for the reasons elaborated in the master's recommendation, 167 F. Supp. 2d at 118-23, that QLT and MEEI were

joint clients of Morrison & Foerster during at least part of Murashige's representation of the parties for two of the four matters advanced by MEEI: prosecution of the '473 and '591 applications. Federal patent law shapes and limits the scope of joint inventors' interest in the successful prosecution of a patent. Until an event affirmatively terminates the joint-client relationship of parties relying on the same attorney for that prosecution, or otherwise "readily impl[ies]" that the relationship is over, as a matter of law, the joint relationship endures. Behind the scenes machinations adverse to the joint client are not necessarily determinative. Id. at 126.

The district court found an endpoint to joint-client status as of October 1, 1998:

There is no evidence in the record that MEEI's and QLT's joint attorney-client relationship with Morrison & Foerster for the preparation and prosecution of the '473 application, or for the preparation and prosecution of the '591 application, was expressly terminated.

However, in a letter dated October 1, 1998, MEEI informed QLT that MEEI had filed in the PTO a continuation patent application of the '591 application. From the record, it is clear that neither QLT nor Morrison & Foerster was involved in the preparation or prosecution of the continuation patent application. Thus, . . . at least as of October 1, 1998, both MEEI and QLT understood that their respective legal interests in the '349 patent were no longer the same, or nearly the same, legal interest.

. . .
It is less clear when MEEI's and QLT's respective legal interests in the '986 patent

were no longer the same, or nearly the same, legal interest [However], at least as of October 1, 1998, both MEEI and QLT understood that their respective legal interests in the '986 patent were no longer the same, or nearly the same, legal interest.

Mass. Eye & Ear Infirmary, 167 F. Supp. 2d at 126.

QLT does not disagree, but instead raises as an alternative argument in its appeal that, if it shared a common interest with MEEI, the common interest would have terminated more than a year earlier, at the latest on July 31, 1997. On that date, MEEI contested, by letter, QLT and MGH's role in the '591 invention. The letter from MEEI's patent attorney, Edmund Pitcher, to Murashige, expressed MEEI's view that "the entirety of the subject matter of the allowed claims is the invention of MEEI personnel only, and that neither Dr. Levy [of QLT], nor Drs. Hasan or Schmidt [of MGH] made any inventive contribution." Pitcher noted that "Dr. Levy's presence on the application places MEEI in the uncomfortable position of being dependent on the fairness of QLT, despite its directly adverse economic interest, in the negotiation of a license agreement." The letter included the demand that QLT:

make a concrete license proposal immediately and/or file a continuation application to permit correction of the named inventors. If the Infirmary and QLT cannot come to an agreement on a reasonable royalty rate and other financial terms, we are instructed to assume responsibility for prosecution of patent applications covering subject matter

invented without the involvement of Dr. Levy
so as to try to preserve MEEI's rights.

QLT responded to the district court's order with a "Motion to Amend Order as to Date of Termination of 'Common Interest,'" in which QLT, for further support, drew on letters and memoranda written by Murashige and employees from QLT and CIBA Vision subsequent to MEEI's July 31 letter. In QLT's motion, QLT argued that MEEI's letter implied to QLT that it no longer shared the same interest in the successful prosecution of the '591 application, as MEEI was threatening to pursue an alternative and conflicting avenue for realizing federal protection for its invention. Thus, QLT contended that "as a matter of fact, as a result of MEEI's July 31, 1997 letter, QLT appreciated that QLT and MEEI no longer shared a common interest in successfully prosecuting the claimed inventions in" the '591 application.

The discovery master denied the motion to move the date of termination of interest forward, finding, in essence, that MEEI's conflicting interest was only conditional. That is to say, MEEI shared QLT's interest in the successful prosecution of the '591 application so long as a reasonable royalty rate was in the cards. MEEI argues that it "was merely exploring other possibilities of protecting its rights in the event that QLT did not live up to its promises once the '349 patent issued," when it filed the 1997 application. The discovery master discussed how the letters and memoranda QLT offered supported this interpretation.

A memorandum drafted by Jennifer Kauffman-Shaw, of QLT, to the QLT-CIBA Vision Joint Coordinating Committee, dated October 27, 1997, stated that "the Director of Intellectual Property for MEEI, Carl Finn, has indicated that if QLT were willing to negotiate a satisfactory license agreement for the patent, that MEEI would not pursue the inventorship issue." The master read

the memorandum [to] show[] that QLT understood that MEEI remained interested in the successful prosecution of the '591 application. Thus, contrary to QLT's assertions, the Kaufmann-Shaw Memorandum does not show that QLT implied, from the Pitcher Letter and the Finn Letter, that MEEI was no longer interested in the successful prosecution of the '591 application.

May 29, 2002, slip op. at 3.³

We believe that whether the common-interest exception expires upon the implication that a party has a conditionally adverse interest of the sort at issue here is a question of law over which we should exercise de novo review. The question is

³ In its original objections to MEEI's motion for production, QLT argued that an October 21, 1997 letter by MEEI's Carl Finn to QLT's Dolphin terminated any common interest that might have existed. Its later motion to terminate the interest as of July 31, 1997 relied upon materials released pursuant to the district court's order to produce privileged documents. Without entering into a complicated area of patent law that would require us to ascertain what QLT would infer from Finn's reference to a "patent application recently filed on behalf of MEEI," we note that the master's ultimate conclusion that "the October 21, 1997 letter did not readily imply that MEEI's and QLT's respective legal interest in the '591 application was no longer the same or nearly the same, legal interest," 167 F. Supp. 2d at 131, relies on the same conditional analysis we deem worthy of de novo review.

whether a party has "an identical (or nearly identical) legal interest" with another when (1) they share a nearly identical interest with regard to one outcome -- here successful prosecution of the '591 application -- which (2) depends on a condition that pits the parties against each other -- here, negotiation of a license on agreeable terms. We believe that it does. Our view is that the district court correctly focused on the continuing joint representation of the parties by Murashige as to the '591 application. Inasmuch as MEEI hoped to license its rights to the '591 application to QLT, its objective depended upon that application's successful prosecution. The fact that one potential outcome, announced by MEEI in the July 31, 1997 letter, would render its interests in the '591 application contrary to QLT's did not of its own force terminate their joint representation as to the prosecution of that application. Rather, it begs the factual question of whether Murashige ceased to represent MEEI's interests as to that prosecution. The discovery master noted that in a November 25, 1997 letter from Kaufman-Shaw of QLT to MEEI, QLT indicated that it "was willing to put aside the argument over inventorship in favor of settling upon an arrangement whereby the participants in the AMD/ocular neovasculature project would derive a benefit from their contributions." This letter also proposed a meeting date between Murashige and MGH employees, CIBA Vision employees, QLT employees, and MEEI employees. The discovery master

concluded that this letter "continues to show that QLT did not readily [infer], from MEEI's letter by Pitcher and Finn, (1) that MEEI was no longer interested in the successful prosecution of the '591 application and, (2) as a result, that MEEI and QLT no longer shared the same, or nearly the same, legal interest, in the '591 application." Accordingly, QLT's motion to amend the date of the termination of the joint interest was denied. The district court correctly framed the common-interest exception, and we find that it was within its discretion in requiring disclosure of communications between QLT and Murashige of Morrison & Foerster relating to the prosecution of the '349 and '591 applications up until October 1, 1998.

III. MEEI's Appeal

The pivotal moment that shapes nearly all of MEEI's claims involves the filing of the continuation-in-part '591 application, which added Dr. Julia Levy of QLT and Drs. Schmidt-Erforth and Hasan of MGH as inventors on the patent. In the course of that switch in patent strategy, QLT made numerous assurances to MEEI that it would license MEEI's patent rights on reasonable terms. This case is before us because no licensing agreement was ever reached. MEEI claims that it was injured by this failure, and further harmed by QLT's unlawful disclosure of MEEI's trade secrets.

A. Contract Claims

1. Breach of Contract

The parties' disagreement regarding the existence of an enforceable contract is a legal one, and so this court reviews the question of contract formation de novo. Coady v. Ashcroft & Gerel, 223 F.3d 1, 10 (1st Cir. 2000). The district court determined that the parties failed to reach an agreement whose terms were sufficiently determinate to constitute a binding contract. MEEI counters that the district court erred in failing to recognize that a valid contract could include terms defined by industry standards. While there are surely some contracts in which a crucial term could be sufficiently defined by pegging it to industry standards, we agree with the district court's conclusion that there is insufficient evidence in the record to find that the parties had reached a meeting of the minds. See, e.g., Lucey v. Hero Intern. Corp., 281 N.E.2d 266, 269 (Mass. 1972) (finding that "[a]n agreement to enter into a contract which leaves the terms of that contract for future negotiation is too indefinite to be enforced") (quoting Cygan v. Megathlin, 96 N.E.2d 702, 703 (Mass. 1951)).

MEEI has also claimed breach of contract with regard to the May 1993 Confidential Disclosure Agreement signed by QLT and Dr. Miller. We agree with the district court that MEEI was not a party to this agreement and that there is no evidence that Miller was acting as an agent of MEEI. Furthermore, MEEI does not fall

within the limited class of third party beneficiaries who can enforce a contract to which they are not a party. Under Massachusetts law, in order for a third party to enforce a contract, "[i]t must appear from 'the language and circumstances of the contract' that the parties to the contract 'clear[ly] and definite[ly]' intended the beneficiaries to benefit from the promised performance." Miller v. Mooney, 725 N.E.2d 545, 550 (Mass. 2000) (quoting Anderson v. Fox Hill Vill. Homeowners Corp., 676 N.E.2d 821, 822 (Mass. 1997)). Nothing in the language of the Confidential Disclosure Agreement indicates that MEEI was meant to be either a party or a third party beneficiary. QLT was listed as a party, and a vice president of the company signed for QLT. In contrast, Dr. Miller signed only in her personal capacity without reference to MEEI. Furthermore, the mere fact that MEEI would likely benefit from such an agreement does not, by itself, show that MEEI was an intended rather than an incidental beneficiary. See Miller, 725 N.E.2d at 550 (citing Restatement (2d) of Contracts § 302 (1981)). Thus, MEEI cannot pursue a claim for breach of contract as a third party beneficiary based on the Confidential Disclosure Agreement.

2. Breach of Implied Contract

We construe MEEI's breach of implied contract claim to be a claim of contract implied-in-fact rather than contract implied-in-law. Although both causes of action exist in Massachusetts,

MEEI has argued principally that it reached an actual, enforceable agreement with QLT that was implied by the dealings of the two parties. MEEI's implied-in-law oriented arguments will be addressed in this court's analysis of the unjust enrichment claim. See 1 Richard A. Lord, Williston on Contracts § 1:6 (4th ed. 2004).

"A contract implied in fact requires the same elements as an express contract and differs only in the method of expressing mutual assent." 6 William Meade Fletcher et al., Fletcher Encyclopedia of the Law of Private Corporations § 2580 (perm. ed. rev. vol. 2004). Thus, MEEI's implied contract claim fails for the same reason we have rejected its express contract claim -- failure to reach agreement on the basic terms of the contract. In the prototypical implied contract case, the terms are already sufficiently clear, and the court looks to the actions of the parties only to determine whether their actions indicate that they, in fact, agreed on those terms. However, in this case, where the terms proposed by each side remain at odds, searching the actions of the parties for indicia of consent becomes a fruitless exercise. Without agreement on the essential terms of the agreement, MEEI's implied contract claim gets no further than does its express contract claim.

3. Breach of Covenant of Good Faith and Fair Dealing

Having concluded that no contract exists, there can be no derivative implied covenant of good faith and fair dealing

applicable to these parties. Under Massachusetts law, "[t]he covenant of good faith and fair dealing is implied in every contract." UNO Rests., Inc. v. Boston Kenmore Realty Corp., 805 N.E.2d 957, 964 (Mass. 2004). "The covenant may not, however, create rights and duties not otherwise provided for in the existing contractual relationship, as the purpose of the covenant is to guarantee that the parties remain faithful to the intended and agreed expectations of the parties in their performance." Id. In other words, the implied covenant of good faith and fair dealing governs conduct of parties after they have entered into a contract; without a contract, there is no covenant to be breached. Where, as here, the parties have not yet reached a binding agreement, there is no duty to negotiate in good faith. See Levenson v. L.M.I. Realty Corp., 575 N.E.2d 370, 372 (Mass. App. Ct. 1991) (rejecting the argument that where defendant stopped short of binding himself to a contract he nevertheless had a duty to negotiate the terms in good faith).

B. Conversion and Misrepresentation Claims

1. Conversion

MEEI claims that QLT converted MEEI's intellectual property rights in the invention of the photodynamic therapy "by causing MEEI to file a joint patent application with MGH and QLT so that a patent issued would name employees of all these institutions as inventors." "Conversion requires the exercise of dominion or

control over the personal property of another." Third Nat'l Bank of Hampden Cty. v. Cont'l Ins. Co., 446 N.E.2d 380, 383 (Mass. 1983). However, MEEI agreed to the filing of the joint patent application. From the moment QLT became a co-inventor of the '349 patent, it too had full and equal rights to exploit the patented intellectual property. Under a more refined statement of Massachusetts law, only a defendant that "wrongfully exercises acts of ownership" has committed conversion. In re Halmar Distribs., Inc., 968 F.2d 121, 129 (1st Cir. 1992) (emphasis added) (internal citation omitted). Since QLT jointly owned the property at issue and since it did nothing to prevent MEEI from exercising its own rights in the property, QLT did not "wrongfully exercise acts of ownership," id., and thus, no conversion occurred. Hence, it is unnecessary for us to address the district court's analysis of whether intangible property, such as patent rights, can be the subject of a conversion claim.

2. Misrepresentation

MEEI claims that QLT falsely represented to MEEI that MEEI would be adequately compensated for its role in the inventions included in the '349 patent. In order to succeed on its misrepresentation claims, MEEI must show that QLT did not intend to comply with these representations at the time they were made. See Doyle & H.P. Leasing, Inc. v. Hasbro, Inc., 103 F.3d 186, 194 (1st Cir. 1996) ("plaintiffs must allege (1) that the statement was

knowingly false; (2) that [defendants] made the false statement with the intent to deceive; (3) that the statement was material to the plaintiffs' decision . . . ; (4) that the plaintiffs reasonably relied on the statement; and (5) that the plaintiffs were injured as a result of their reliance") (citations omitted). Since MEEI does not provide sufficient evidence for a reasonable jury to draw this conclusion, we affirm the district court's grant of summary judgment.

C. MEEI's Motion to Amend

"We review the denial of a motion to amend under Rule 15(a) for an abuse of discretion, and we defer to the district court if any adequate reason for the denial is apparent on the record." Steir v. Girl Scouts of the USA, 383 F.3d 7, 12 (1st Cir. 2004) (internal quotations omitted). In the instant case, we cannot say that the district court abused its discretion in denying MEEI's motion to amend its complaint concerning its unjust enrichment claim and to include a claim of promissory estoppel.

MEEI made its motion to amend more than two years after filing the complaint, after the court had entered summary judgment for QLT on Counts I-IV of MEEI's complaint and the parties had fully briefed summary judgment arguments on the remaining four counts. "Where the motion to amend is filed after the opposing party has timely moved for summary judgment, a plaintiff is required to show 'substantial and convincing evidence' to justify

a belated attempt to amend a complaint." Id. (quoting Resolution Trust Corp. v. Gold, 30 F.3d 251, 253 (1st Cir. 1994)). The district court did not abuse its discretion in determining that MEEI has failed to meet its burden of showing "some valid reason for [its] neglect and delay."⁴ Acosta-Mestre v. Hilton Int'l of Puerto Rico, Inc., 156 F.3d 49, 52-53 (1st Cir. 1998) (internal quotations omitted). Although the summary judgment motions already filed necessarily did not apply to MEEI's newly proposed promissory estoppel theory, given the undue delay in raising this theory, the district court acted within its discretion in denying MEEI's motion to amend.

D. Unjust Enrichment

The district court believed that MEEI's unjust enrichment claim "distill[ed] into a disagreement over the inventorship in the '349 patent." Based on that premise, the district court reasoned that MEEI could not use a Massachusetts unjust enrichment claim to circumvent federal patent law, and accordingly, granted summary judgment to QLT. We find, however, that the district court

⁴ MEEI points to Corey v. Look as an instance where this court allowed the plaintiff to amend a complaint despite the fact that the "motion to amend came 15 months after the Authority's motion to dismiss." 641 F.2d 32, 38 (1st Cir. 1981). In that case, however, the plaintiff sought only to incorporate facts in the complaint that had been discovered from interrogatories. Id. Here, plaintiff seeks to add an entirely new legal theory. Furthermore, in Carey, we decided only that it would have been within the district court's discretion to allow amendment, not, as MEEI's urges here, that the district court abused its discretion by denying the amendment. Id.

misinterpreted MEEI's unjust enrichment claim, and in light of our interpretation of the claim, we find summary judgment inappropriate.

While the proper inventorship of either the '473 application or the '591 application is indeed a non-negotiable question of federal law, the question of which application to prosecute was a choice available to the parties. Under the U.S. patent scheme, inventors have discretion to articulate the scope of their patent claims. Donald S. Chisum, 3-8 Chisum on Patents, § 8.06[4], at 8-247 (2003) ("An applicant may present more than one claim and is afforded reasonable latitude in varying the scope and terminology with which he defines his invention."). MEEI's original '473 application's primary claim involved three main green porphyrin-based methods: a "method to treat conditions of the eye characterized by unwanted neovasculature" (claim 1); a "method to treat pigmented tumors in the eye" (claim 10); and a "method to observe the condition of blood vessels in the eye" (claim 19). The three methods had much in common: each claim involved administering green porphyrin, which would then localize in the blood vessels in the eye; the diagnostic method simply involved observing the vessels, and the two treatment methods involved irradiating the neovasculature or tumor with light. Furthermore, each method had an associated but separate claim that specified that "said green porphyrin is contained in a liposomal preparation" (claims 7, 16,

and 24). Based on these claims, Murashige explained in March 1994 that "QLT does not see itself as a participant in the invention other than as a supplier of the material BPD."

In December 1994, Murashige suggested substantially changing the scope and inventorship of the '473 application. First, she recommended spinning off the diagnostic method as a separate patent which would be "properly assignable solely to MEEI." Second, she recommended combining the separately stated methods for treatment of neovasculature (claim 1) and treatment of pigmented tumors (claim 10) into a single method. The goal was to "be able to claim treating conditions of the eye more broadly," i.e., expand the scope of the patent. In order to do this, however, it was necessary to "introduce the limitation of using the green porphyrin in a liposomal composition." To this end, Murashige proposed a modified claim 1 that claimed "administering . . . green porphyrin in a liposomal composition." As Murashige acknowledged, that "is substantially the same as claim 1 in the original case except that the limitation of using a liposomal composition has been included."

Murashige explained the significance of this proposal. On the one hand, by broadening claim 1 "to claim treating conditions of the eye more broadly," the patent, if granted, would have "potentially broader coverage than contemplated [earlier]." But the only way to justify these broad claims was to "introduce

the limitation of using the green porphyrin in a liposomal composition," which, Murashige explained, was "a liberating device, allowing us to claim more broadly."

However, this change to claim 1 broadened not just coverage of potential eye treatments, but also the list of inventors. Murashige explained that "if we include conditions of the eye generally using liposomal compositions, . . . a larger circle of inventors would be included both because of this greater breadth and by virtue of the necessity to supply the green porphyrin in liposomes. It then appears that the inventorship would properly include . . . Julia Levy" In other words, the very aspect of the application that was "a liberating device, allowing [the inventors] to claim more broadly" also happened to be the aspect of the revised application that would require adding Dr. Levy as an inventor. (Conversely, had liposomal preparations not been claimed at all, arguably the patent would be less valuable, but Dr. Levy might not be an inventor.) Adding Dr. Levy, of course, would give QLT full co-ownership rights to exploit the patent. Thus, QLT presented MEEI with a second viable formulation of its patent application: it asked MEEI to change the scope of its patent application to QLT's benefit in exchange for fair compensation.⁵

⁵ At times, both parties have disputed the inventor status of the other party. QLT has questioned MEEI's exclusive role in the claims listed in the '473 application, and MEEI has challenged

MEEI already possessed a valid, and seemingly defensible, patent application, when QLT sought MEEI's assent to replace the '473 application with the '591 application.⁶ QLT acknowledged that the patent as MEEI envisioned it (without Levy and her claims) would be difficult to challenge on grounds of either obviousness or noninventorship. Nevertheless, QLT argued that the patent could be made stronger -- in some ways both broader and more defensible -- by changing the scope of the patent and adding the additional inventors who participated in the new claims. The addition of QLT inventor Dr. Levy, however, would drastically reduce MEEI's potential profits from the patent. If MEEI agreed to the '591 application with the additional inventors, QLT would no longer need a license in order to commercialize the photo-dynamic therapy that became known as Visudyne. Since QLT already owned the other

QLT's participation in the claims added in the '591 application. However, we find that at this summary judgment stage, the record does not contradict the listed inventors on either application, and we assume that both applications were valid.

⁶ The '591 application (later approved as the '349 patent) also added Drs. Schmidt-Erfurth and Hasan of MGH. It is appropriate to note here that, in addition to their primary arguments about federal preemption, the district court and QLT rely on the fact that QLT also purchased a license to MGH's co-ownership rights in the '349 patent. Given this license, QLT points out that it would still have full rights to exploit the patent even if QLT, itself, had not played any role in the inventorship. This argument, though, misses the mark entirely, as it ignores the fact that MGH, like QLT, only has rights to the core inventions covered by the original '473 patent because MEEI agreed to the later '591 application. QLT's redundant licensing scheme with MGH in no way undermines MEEI's argument that it consented to proceed with the '591 application on based on QLT's assurances of fair compensation.

required patent for the necessary BPD, QLT's inclusion in the new '591 application enabled it to commercially exploit Visudyne without MEEI. We note that QLT was, of course, well aware that securing co-inventorship would put it in this uniquely lucrative position, and it was QLT's attorney, Murashige, who, acting also as patent counsel to MEEI, spearheaded the effort to convince MEEI to go along with the '591 application.

Not surprisingly, MEEI did not initially agree with this new approach proposed by QLT. Attorney Murashige nevertheless prepared the '591 continuation-in-part application, and MEEI eventually assented after being promised fair compensation for its contribution. Of course, MEEI and QLT never came to an agreement on the critical compensation figures, and it is for that reason that we have affirmed summary judgment for QLT on MEEI's contract claims. This inadequate meeting of the minds does not, however, call for summary judgment in the context of unjust enrichment. A claim of unjust enrichment is appropriate "where an agreement is too indefinite to be enforced . . . [or] where no contract is made because each of the parties had a materially different understanding of the terms." 1-1 Corbin on Contracts, § 1.20(b) (2004). Unjust enrichment provides an equitable stopgap for occasional inadequacies in contractual remedies at law by mandating that "[a] person who has been unjustly enriched at the expense of another is required to make restitution to the other." Fox v. F &

J. Gattozzi Corp., 672 N.E.2d 547, 552 (Mass. App. Ct. 1996) (quoting Restatement of Restitution § 1 (1937)). Although QLT's continued reassurances that it would pay MEEI royalty rates "consistent with industry standards" were not specific enough to support MEEI's contract claims, they form a key component of MEEI's unjust enrichment claim and present a triable issue of fact.⁷

Furthermore, this analysis of MEEI's unjust enrichment claim illustrates why it was not preempted by federal patent law. MEEI's claim is not that Dr. Levy was not a proper inventor of the '349 patent, but rather that QLT induced MEEI to agree to the change in scope of the claims, and then unjustly profited from that change by denying fair compensation. In these circumstances, conflict preemption, not the broader field preemption, is appropriate. See Hunter Douglas, Inc. v. Harmonic Design, 153 F.3d

⁷ QLT argues that MEEI did not give up anything by agreeing to the '591 application. It contends that MEEI retained the right to file a continuation application in its own behalf under 35 U.S.C. § 120, and in fact did exactly that by "secretly" filing continuation applications that claimed the full range of treatment methods as MEEI's sole invention. We need not address this issue because a claim seeking restitution for unjust enrichment does not require consideration. In Massachusetts, the elements of such a claim are "'unjust enrichment of one party and unjust detriment to the other party.'" Bushkin Assocs., Inc. v. Raytheon Co., 906 F.2d 11, 15 (1st Cir. 1990) (quoting Salamon v. Terra, 477 N.E.2d 1029, 1031 (Mass. 1985)). Thus, MEEI need only establish that QLT was unjustly enriched, and that MEEI suffered an unjust detriment. MEEI argues that, as a result of QLT's unjust conduct during negotiations and/or patent prosecution, MEEI has received no royalties at all, and, by not having to pay those royalties, QLT has retained large sums that it would have had to forego if it had not committed that allegedly unjust conduct. If so, the elements of a quasi-contract claim might be established.

1318, 1334-35 (Fed. Cir. 1998). Under the conflict preemption standard, if the tort action is based on conduct that is not "protected or governed by federal patent law," then "the remedy is not preempted." Id. at 1335; compare Univ. of Colo. Found., Inc. v. Am. Cyanamid Co., 196 F.3d 1366, 1372 (Fed. Cir. 1999) (independent state law inventorship standards frustrate basic objectives of patent law and thus entire field of inventorship is preempted) with id. at 1373-74 (unjust enrichment claim preempted only because it "hinge[d]" on a determination of inventorship).

QLT argues that MEEI's claims are preempted by 35 U.S.C. § 262, which reads: "In the absence of any agreement to the contrary, each of the joint owners of a patent may make, use, offer to sell, or sell the patented invention within the United States, or import the patented invention into the United States, without the consent of and without accounting to the other owners." (Emphasis added). QLT contends that § 262 creates a federal right to practice an invention without fear of suit by co-inventors, preempts state law claims between co-owners on the basis of anything other than a written contract, and/or effectively represents a Congressional determination that any asserted wrong by one co-inventor against another is not "unjust" unless it violates such a contract.

We recognize that the preemption issue here is close. It is true that allowing MEEI's claim to proceed would, to some

extent, impinge upon QLT's rights as a co-inventor. However, the statute itself admits of an exception to those rights when there is "any agreement to the contrary." QLT suggests that this exception only applies where there is a written, legally enforceable contract. But § 262 says no such thing. Congress knew how to insist upon a contract, and even how to specify that it must be reduced to writing. Cf. 35 U.S.C. § 261 (holding that patent rights are "assignable in law by an instrument in writing") (emphasis added). However, § 262 simply speaks of "any agreement." MEEI has provided evidence of an agreement with QLT in which QLT promised to "negotiate in good faith with MEEI . . . to come to an agreement on reasonable terms and royalty rates which will be consistent with industry standards under similar circumstances." We have held, supra Part III.A.1, that this agreement was not enforceable as a contract, because the terms are too indefinite. However, if the fact-finder determines that there was such an agreement, it might still qualify as an "agreement" under § 262, and therefore form the basis for equitable relief on a theory of unjust enrichment without presenting any conflict with the allegedly preempting statute.

We also note that, while there is no direct precedent concerning preemption under § 262, we may draw analogies from other situations where patent law preemption has been alleged.

First, there is precedent suggesting that a state law action alleging that the defendant secretly filed and received a patent for the plaintiff' invention, and requesting monetary or equitable relief but not a change to the patent itself, is not preempted. See Becher v. Contoure Labs., 279 U.S. 388 (1929) (Holmes, J.);⁸ Burns v. Mass. Inst. of Tech., 394 F.2d 416 (1st Cir. 1968) (Aldrich, C.J.);⁹ Laning v. Nat'l Ribbon & Carbon Paper

⁸ In Becher, an inventor employed Becher as a machinist to help work on his invention, under a confidentiality agreement. Becher secretly applied for and received a patent for the invention. The inventor sued in state court for breach of contract and other state theories, and the state court ordered a constructive trust on the patent rights, i.e., ordered Becher to assign the rights to the inventor. Becher sued in federal court to enjoin the inventor from further state court proceedings on the grounds of patent preemption. Justice Holmes held that the inventor's claims were not preempted:

[The inventor]'s right was independent of and prior to any arising out of the patent law, and it seems a strange suggestion that the assertion of that right can be removed from the cognizance of the tribunals established to protect it by its opponent going into the patent office for a later title. It is said that to establish [the inventor]'s claim is to invalidate Becher's patent. But, even if mistakenly, the attempt was not to invalidate that patent but to get an assignment of it, and an assignment was decreed. Suits against one who has received a patent of land to make him a trustee for the plaintiff on the ground of some paramount equity are well known.

279 U.S. at 391.

⁹ In Burns, the plaintiff had been negotiating with a federal agency regarding some unpatented inventions. The government asked MIT to evaluate his ideas, and Burns turned over secrets to MIT pursuant to a confidentiality agreement. MIT gave the government an unfavorable report on his ideas, but then secretly developed and patented them. Burns sued for state law breach of trust. The

Mfg. Co., 125 F.2d 565, 566-67 (7th Cir. 1942) (action to determine title to assigned patent rights under state law is not preempted); Kleinerman v. Snitzer, 754 F. Supp. 1 (D. Mass. 1990);¹⁰ Zemba v. Rodgers, 210 A.2d 95, 98 (N.J. Super. Ch. 1965);¹¹ see also Corpus

court applied the Massachusetts statute of limitations, and held that his claim was untimely. The court never even hinted that his claim was preempted.

¹⁰ In Kleinerman, the inventor sued in state court alleging that defendant Snitzer "breached the trust implied in plaintiff's disclosure to him of plaintiff's technology and knowingly misappropriated plaintiff's technology, to plaintiff's detriment," and that another defendant, the patent attorney, helped Snitzer to do so. Id. at 1-2. The complaint sought damages, not correction of inventorship or invalidation of the patent. Defendants argued that the complaint was preempted by patent law and sought to remove to federal court on the basis of federal question jurisdiction. The court held that, since the plaintiff never obtained a patent for the technology he claims that he invented, he therefore was not seeking to enjoin a defendant from infringing on his patent, but rather seeking damages for common law torts. It remanded the case for want of federal jurisdiction. Id. at 2.

¹¹ In Zemba, plaintiff and Rodgers separately invented the same product, then decided to jointly apply for a patent. A patent attorney was consulted. Rodgers and the attorney then allegedly conspired to process the patent application without plaintiff, and to represent Rodgers as the sole inventor. See id. at 96. "Rodgers falsely and fraudulently told plaintiff that the invention was unpatentable, that an application would be rejected, and that he had doubt as to whether the patent application would be pursued." Id. With the help of the patent attorney, Rodgers filed and received the patent. Plaintiff sued in state court for fraud and various other state law theories. Defendants argued that the claims were preempted by patent law and subject to exclusive federal jurisdiction. See id. at 97-98. The court rejected the claim of preemption, explaining:

[The complaint] depends on principles of common law and equity governing fraud and disparagement, and plaintiff's rights are dependent upon such principles. Plaintiff has not sought a declaratory judgment to void the patent on the federal grounds of non-invention. Nor has he based

Juris 2d Patents § 315 ("[I]n the absence of any agreement to the contrary, each of the joint owners of a patent may make, use, offer to sell, or sell the patented invention . . . unless such profits accrue after a joint owner has procured an assignment of his coowner's interest to himself by fraud.") (emphasis added) (footnotes omitted) (citing Zemba).

Here, the allegation is that the defendant manipulated the plaintiff into agreeing to change the scope of the patent so as to include contributions made by the defendant. MEEI has not provided evidence that QLT's alleged conduct was actually fraudulent. However, arguably, the case for preemption here is weaker than in the cited cases. In the cited cases, the plaintiff struck at the heart of inventorship by arguing (essentially) that the patent was applied for fraudulently and never should have issued. Here, the plaintiff argues that the defendant induced plaintiff to agree to a certain scope of invention in exchange for compensation, and then provided none.

his claim for disparagement on the invalidity of the patent. Instead, plaintiff claims ownership of an interest in the patent, and demands an assignment of that interest and damages resulting from slander of his ownership.

210 A.2d at 98 (internal citations omitted).

We also draw an analogy from the doctrine of inequitable conduct before the Patent and Trademarks Office (PTO).¹² Courts have distinguished state claims alleging bad faith misconduct by the applicant against the PTO -- which are preempted -- from state claims alleging bad faith misconduct occurring subsequently in the marketplace -- which are not. See, e.g., Methode Elecs. Inc. v. Hewlett-Packard Co., 55 U.S.P.Q.2d 1602, 1604-05 (N.D. Cal. 2000) (finding that an unjust enrichment claim alleging bad faith misconduct by the applicant against the PTO was preempted because its "fundamental premise" was incorrect inventorship, but making the distinction described above, and emphasizing that "the focal point of the [instant case] is Methode's conduct before the PTO and not . . . conduct subsequent to the PTO proceedings."). The reason for this distinction is instructive: claims of inequitable conduct before the PTO are preempted because "PTO procedures themselves provided a remedy for [an applicant]'s malfeasance. An additional state action would be an inappropriate collateral intrusion on the regulatory procedures of the PTO, 'under the guise of a complaint sounding in tort' . . . and is contrary to Congress' preemptive regulation in the area of patent law." Abbott Labs. v. Brennan,

¹² "Applicants for patents are required to prosecute patent applications in the PTO with candor, good faith, and honesty." Molins PLC v. Textron, Inc., 48 F.3d 1172, 1178 (Fed. Cir. 1995). "A breach of this duty constitutes inequitable conduct." Id. If the conduct was sufficiently culpable, a court may declare the patent to be unenforceable. Id.

952 F.2d 1346, 1357 (Fed. Cir. 1991) (internal citations omitted). In other words, state claims alleging misconduct before the PTO are preempted because federal law contains a specific remedy for just such misconduct. Even then, not all state claims that implicate the issue of inequitable conduct before the PTO are preempted. See Dow Chem. Co. v. Exxon Corp., 139 F.3d 1470, 1471 (Fed. Cir. 1998) (state law tort claim for intentional interference with contractual relations that implicates patent law issue of inequitable conduct before PTO is not preempted by federal patent law, even if it requires state court to adjudicate question of federal patent law, provided state law cause of action includes additional elements not found in federal patent law cause of action and is not impermissible attempt to offer patent-like protection to subject matter addressed by federal law).

Again, this precedent is not directly on point. The distinction cited above is between state claims alleging misconduct by an applicant against the PTO (which are usually, if not always, preempted), and claims alleging misconduct between parties after the patent has issued. Here, the claim is misconduct by an applicant against a co-applicant before the application is completed. But misconduct between parties before the patent issues is more analogous to misconduct between parties after the patent issues than it is to misconduct by a party against the PTO.

Finally, we note that QLT's position, while it has the advantage of creating an easily manageable bright-line rule, could lead to injustices that Congress did not intend. Purely as a hypothetical, imagine a case where the evidence clearly showed that the defendant deceived and manipulated a naive inventor into modifying the scope of the inventor's application (within the range of properly patentable applications) so as to force the inclusion of the defendant as a co-inventor. Further suppose that the defendant deflected all requests for a legally enforceable licensing contract with empty assurances of future agreements which it never intended to fulfill. We cannot imagine that Congress intended, simply by enacting the phrase "[i]n the absence of any agreement to the contrary," to preclude the inventor-plaintiff from establishing such an agreement within the framework of an equitable cause of action under state law. Conflict preemption applies only when "there is such a direct conflict between . . . the patent code and . . . [state] law that compliance with both the patent law and state law is a 'physical impossibility,' or . . . the state law 'stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress' in enacting" the federal statute. Cover v. Hydramatic Packing Co., 83 F.3d 1390, 1393 (Fed. Cir. 1996) (quoting Gade v. Nat'l Solid Wastes Mgmt. Ass'n, 505 U.S. 88, 98 (1992)). We do not find such a "direct conflict" here, and while the present case differs from the hypothetical, the

differences lie in the facts and equities, not the law of preemption.

For all these reasons, MEEI's unjust enrichment claim is not preempted.

We also find that MEEI's unjust enrichment claim should survive summary judgment based on the allegations of QLT's misuse of confidential information. Under Massachusetts law, "[a] constructive trust is . . . imposed to avoid the unjust enrichment of one party at the expense of the other where 'information confidentially given or acquired was used to the advantage of the recipient at the expense of the one who disclosed the information.'" Mass Cash Register, Inc. v. Comtrex Sys. Corp., 901 F. Supp. 404, 423 (D. Mass. 1995) (quoting John Alden Transp. Co. v. Arnold Bloom, 415 N.E.2d 250, 250 (Mass. App. Ct. 1981)). The facts underlying this theory will be laid out in the course of our subsequent trade secret claim analysis.¹³

E. Trade Secret and Unfair Trade Practices Claims

The right to control how research is used and who is privy to trade secrets is crucial to protecting the economic interests of non-profit research institutions like MEEI, just as it is essential to for-profit businesses. Without the ability to guard their own data, there would be fewer incentives for

¹³ Although MEEI cannot recover twice for the same conduct, MEEI should have the opportunity to prove the distinct elements of its unjust enrichment and trade secret claims.

institutions like MEEI to engage in this type of cutting-edge research. The allegations before this court are that QLT was entrusted with the result of MEEI's research and breached that trust, primarily by sharing information with its partner CIBA Vision without authorization from MEEI. We now consider whether the district court correctly found that these claims were brought by MEEI after the statute of limitations had already run.

1. Misappropriation of Trade Secrets

MEEI claims that QLT misappropriated its trade secrets without MEEI's knowledge, in particular, by disclosing certain research results to QLT's eventual partner, CIBA Vision. MEEI argues that the district court erred in concluding that MEEI's trade secret claim was time barred by the three-year statute of limitations for tort actions because, under Massachusetts law, the statute should have been tolled.

Massachusetts law establishes two avenues by which the three-year statute of limitations that would ordinarily apply to MEEI's trade secret claims can be tolled. The Massachusetts common law "discovery rule" provides that the statute of limitations is tolled "until a plaintiff knows, or reasonably should have known, that it has been harmed or may have been harmed by the defendant's conduct." Taygeta Corp. v. Varian Assocs., Inc., 763 N.E.2d 1053, 1063 (Mass. 2002). "The appropriate standard to be applied when assessing knowledge or notice is that of a 'reasonable person in

the plaintiff's position.'" Id. (citing Riley v. Presnell, 565 N.E.2d 780, 785 (Mass. 1991)). Thus, under Massachusetts' discovery rule, the question before the district court was when MEEI actually knew or should have known of QLT's misappropriations of its trade secrets.

Massachusetts statutory law also grants a reprieve from the statute of limitations when a potential defendant fraudulently conceals the basis for a cause of action:

If a person liable to a personal action fraudulently conceals the cause of such action from the knowledge of the person entitled to bring it, the period prior to the discovery of his cause of action by the person so entitled shall be excluded in determining the time limited for the commencement of the action.

Mass. Gen. Laws ch. 260, § 12 (2004). Under this law, the statute of limitations "will be tolled if the wrongdoer either concealed the existence of a cause of action through some affirmative act done with intent to deceive or breached a fiduciary duty of full disclosure." Stark v. Advanced Magnetics, Inc., 736 N.E.2d 434, 442 (Mass. App. Ct. 2000) (quotations and citations omitted). "The statute of limitations, however, is not tolled if the plaintiff has actual knowledge of the facts giving rise to his cause of action." Id.

The district court made short work of MEEI's trade secrets claims by finding that MEEI had actual knowledge of its claims more than three years before bringing this suit on April 24,

2000. Since the district court concluded that there were sufficient facts to prove MEEI's knowledge of its claims, it did not need to go any further in analyzing the tolling of the trade secret claims under either the common law discovery rule or the fraudulent concealment statute. However, we must evaluate the district court's factual conclusions to determine whether they supported summary judgment.

a. Review of District Court Summary Judgment Decision

Summary judgment is appropriate when "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c). Since genuine issues of material fact remain concerning MEEI's knowledge of QLT's misappropriations of its trade secrets -- facts that could bring MEEI's claims within the statute of limitations -- we find that the court erred in granting summary judgment on MEEI's trade secret claims.

"Our review of the district court's grant of summary judgment is plenary, and we read the record in the light most amicable to the party contesting summary judgment." Cambridge Plating Co. v. Napco, Inc., 991 F.2d 21, 24 (1st Cir. 1993) (reversing the district court grant of summary judgment because material facts remained at issue where plaintiff knew it had been

harm, but could not attribute it with certainty to defendant's actions). Considered in the light most favorable to MEEI, neither the facts singled out by the district court, nor the record as a whole, suffice to support the district court's conclusion that MEEI had knowledge of trade secret misappropriations. The district court based its conclusion on, inter alia, MEEI's awareness of QLT's partnership with CIBA Vision, Dr. Miller's statements that she was concerned about the confidentiality of her work, and Dr. Miller's learning from CIBA Vision that some of her data had been shared without her permission. However, it is not enough to show that Dr. Miller was suspicious about what QLT might have disclosed. "Suspicion and knowledge are poles apart on a continuum of understanding," and "the [Massachusetts fraudulent concealment] statute itself uses the unqualified word 'knowledge' in setting forth the prescribed state of a plaintiff's perception." Tracerlab, Inc. v. Indus. Nucleonics Corp., 313 F.2d 97, 102 (1st Cir. 1963). We will address the question of MEEI's admitted knowledge of some disclosures below.

The district court seems to have given little weight to MEEI's claims that QLT repeatedly reassured Miller that it was not disclosing any confidential information. Rather, the district court found that in a 1996 letter to QLT, MEEI indicated that it

was already aware of its trade secrets cause of action.¹⁴ The letter stated in part, "[w]e believe that you may have already entered into an agreement with a third party using, in part, technology that was developed here at the Infirmary. If that is untrue, please so advise us." Tracerlab, 313 F.2d at 102. QLT never responded to the letter. In our view, this letter demonstrates only that MEEI was aware of QLT's business relationship with CIBA Vision and about the potential for trade secret misappropriation existing in that relationship. The letter makes no precise accusations and gives no indication that MEEI was aware of particular instances of misappropriation.

b. Applying Massachusetts Tolling Law

We have held that "the Massachusetts court does not equate suspicion with knowledge, but is explicit in requiring actual knowledge, or, as an equivalent, full means of detecting the fraud." Id. (internal quotation omitted). The district court rejected MEEI's reliance on Tracerlab, because it found that the 1992 letter, among other evidence, showed that MEEI actually believed it had a cause of action for trade secret misappropriation. The district court believed that plaintiffs

¹⁴ The district court also placed weight on the deposition testimony of MEEI's witness Lisa Petukian that Miller had said that some of her data had been shared with CIBA Vision. However, from this testimony, we do not know whether Miller knew anything about the scope of the misappropriations or whether they were more than isolated events.

clearly had more knowledge of QLT's misappropriations than the plaintiffs had in Tracerlab, where the court found that the plaintiff's belief was based on "gossamer threads of speculation, suspicion and surmise." Id. at 100.

However, we find Tracerlab instructive. As in this case, the plaintiffs in Tracerlab knew that the defendants possessed the trade secrets in question. Id. at 99 ("There is no question but that [the plaintiff] was aware from the beginning that [the defendants] knew plaintiff's trade secrets" because they were former employees of the plaintiff.) Furthermore, in Tracerlab, the court found that the plaintiff was "well aware from the very outset that [the defendants] had gone into the [same] field and were producing a competitive product." Id. at 100. Still, in that case, we found that "all of this is a far different thing from having knowledge that the defendant had misappropriated and was using the self-same . . . trade secrets . . . underl[ying] the present cause of action." Id. Moreover, unlike most trade secret cases, during much of the time in question in this case, use of MEEI's trade secrets by data recipients like CIBA Vision would still have remained behind closed doors, as product development was not yet complete. Therefore, MEEI was even less likely to become aware of any unauthorized disclosures.

"Although the Massachusetts legislature has set statutory limitations periods for various causes of action[,]. . .

determining when claims accrue 'has long been the product of judicial interpretation.'" Cambridge Plating Co., 991 F.2d at 25 (quoting Franklin v. Albert, 411 N.E.2d 458 (Mass. 1980)). "Massachusetts courts have recognized that it would be unfair to begin running the statute of limitations before a plaintiff is put on notice that she has a claim." Id. (citing Bowen v. Eli Lilly & Co., 557 N.E.2d 739 (Mass. 1990)).

Although it is true that "[t]he plaintiff need not know the full extent of the injury before the statute starts to run," Bowen, 557 N.E.2d at 741 (emphasis added), the district court incorrectly expanded this principle to find that MEEI need not know "the full extent of its claim." Mass. Eye & Ear Infirmary v. QLT Phototherapeutics, Inc., No. 00-10783, at 12 (D. Mass. Apr. 23, 2002) (sealed memorandum in support of summary judgment). This is not a case in which MEEI claims only that it did not know how much it had been harmed; rather, MEEI claims that it did not know that it had been harmed at all.

c. MEEI's Awareness of Some of QLT's Misappropriations

In order for the statute of limitations to start to run, "an event or events [must] have occurred that are reasonably likely to have put the plaintiff on notice that he has been harmed." Stark, 736 N.E.2d at 442 (citing Bowen, 557 N.E.2d at 741). We do not believe that in a complex case of this nature -- where trade secrets of varying importance are alleged to have been divulged

over a period of years -- that notice of one misappropriation can constitute sufficient notice to begin tolling the statute for all misappropriations. Although we are not prepared to state a general rule, in a case such as this one, a wronged party should not be prejudiced with regards to later torts committed against it, simply because a defendant started the clock running by committing similar acts at an earlier time. Statutes of limitations provide necessary closure and fairness for potential defendants. However, a plaintiff must be able to decide when the harms it has sustained require bringing suit, and no defendant should be able to immunize itself from later, potentially graver claims, by openly engaging in prior, similar offenses that the future plaintiff does not believe warrant bringing suit.

MEEI has not denied knowledge of some of QLT's alleged trade secrets misappropriations. The record does not, however, indicate that MEEI knew of all, or substantially all, such misappropriations. Furthermore, MEEI's claims are strengthened by the existence of the Confidentiality Agreement and QLT's repeated assurances that its trade secrets were not being disclosed. To assume that MEEI knew the full extent of disclosure to CIBA Vision would be to assume that MEEI was already aware that it was on the verge of being cut out of any future profits from the newly developed photodynamic therapy. Though this may be the case, we do

not believe that such a factual judgment can be made at the summary judgment stage.

QLT points out that MEEI does not claim that it gained any additional knowledge in the years prior to filing suit in 2000, and thus MEEI could just as easily have filed suit more than three years prior. However, this fact alone is not sufficient to show that MEEI should have filed suit earlier. Because of the nature of the claim, it is possible that some of MEEI's trade secret claims were only shots in the dark at the time MEEI filed its complaint, and that MEEI only learned of the facts substantiating some of its claim after receiving discovery. Although the fact that a plaintiff files suit is usually strong evidence that he knows the facts underlying each of his own claims, filing suit does not prove, in itself, that he has sufficient knowledge to prevent tolling of the statute of limitations.

d. Fraudulent Concealment or Breach of Fiduciary Duty

Since the district court found that MEEI had actual knowledge of QLT's alleged misappropriations, it did not need to reach the question of whether QLT actively concealed its disclosures of MEEI's trade secrets. Having found that the issue of MEEI's knowledge of its trade secret claims was not properly decided on summary judgment, we believe that MEEI's claims based on fraudulent concealment should also survive summary judgment.

Where a "defendant[] 'made representations [he] knew or should have known would induce the plaintiff to put off bringing suit and . . . the plaintiff did in fact delay in reliance on the representations,'" the statute of limitations is tolled. Olsen v. Bell Tel. Labs., Inc., 445 N.E.2d 609, 612 (Mass. 1983) (quoting White v. Peabody Constr. Co., 434 N.E.2d 1015, 1023 (Mass. 1982)). QLT does not dispute that MEEI may have been assured by QLT that certain trade secrets were not disclosed. Furthermore, considering the evidence that QLT continued licensing negotiations at least in part because it feared suit by MEEI, it is reasonable at this summary judgment stage to assume that QLT's purpose in making assurances to MEEI could have been to delay a suit that would include trade secret claims.

In addition, MEEI's claim that QLT owed fiduciary duties to MEEI has some persuasive force. Fiduciary duties exist "when a party to a contract expressly repose[s] a trust or confidence in the other party" or "where the contract or transaction was intrinsically fiduciary and, therefore, required perfect good faith." 26 Richard A. Lord, Williston on Contracts, § 69:23 (4th ed. 2004). By entering into their joint research relationship, MEEI and QLT each put their valuable trade secrets in the others' hands, arguably requiring full disclosure of any misappropriation of those secrets. Furthermore, in Massachusetts, if a defendant fails to learn of a trade secret violation due to a fiduciary's

failure to disclose, then plaintiffs do not have a duty to exercise due diligence. Puritan Med. Ctr., Inc. v. Cashman, 596 N.E.2d 1004, 1010, n.9 (Mass. 1992). "Once fraudulent concealment is established, the limitations period is tolled until plaintiffs actually become aware of the operative facts. Mere suspicion of fraud is insufficient to end the tolling period." Compagnie de Reassurance d'Ile de France v. New Eng. Reins. Corp., 944 F. Supp. 986, 995 (D. Mass. 1996) (citing Tracerlab, 313 F.2d at 102). Thus, if QLT owes a duty of disclosure, then QLT will be forced to prove that MEEI had actual knowledge of all of QLT's alleged misappropriations in order to prevent tolling of the statute.

e. MEEI's Late Addition of Trade Secret Claims

MEEI provided no credible explanation for its delayed attempt to amend its complaint, and thus, we cannot say that the district court abused its discretion in refusing to allow MEEI to assert additional claims based on QLT's alleged disclosure of the results of the Preclinical Bolus Study and its visual acuity data. See, Torres-Ríos v. LPS Labs., Inc., 152 F.3d 11, 16 (1st Cir. 1998); Hayes v. New Eng. Millwork Distribs., 602 F.2d 15, 19 (1st Cir. 1979).

2. Unfair Trade Practices

The district court held that its "previous rulings on Contract and Trade Secret Claims," as well as MEEI's other claims, "indicate there is no basis, on these facts, for a 93A claim."

Mass. Eye & Ear Infirmary v. OLT Phototherapeutics, Inc., No. 00-10783, at 21 (D. Mass. Sep. 23, 2002) (sealed memorandum in support of summary judgment). Having remanded the unjust enrichment and trade secret claims, we also remand MEEI's 93A unfair trade practices claims, noting that the success of the unfair trade practices claims is not necessarily dependent on the success of the unjust enrichment or trade secret claims.

Massachusetts General Law ch. 93A, § 2 provides that "[u]nfair methods of competition and unfair or deceptive acts or practices in the conduct of any trade or commerce" are unlawful. Mass. Gen. Law ch. 93A, § 2. In determining whether a practice violates Chapter 93A, we look to "(1) whether the practice . . . is within at least the penumbra of some common-law, statutory, or other established concept of unfairness; (2) whether it is immoral, unethical, oppressive, or unscrupulous; [and] (3) whether it causes substantial injury to consumers (or competitors or other businessmen)." PMP Assocs., Inc. v. Globe Newspaper Co., 321 N.E.2d 915, 917 (Mass. 1975) (quotations omitted). We believe that the same allegations underlying MEEI's unjust enrichment claim could potentially meet these requirements. Moreover, MEEI alleges that QLT's trade secret misappropriations played an integral part in cutting MEEI out of its fair share of the ample profit from the sale of Visudyne. From the record developed thus far, this court sees no reason why these allegations and possibly others could not

meet all three of the 93A factors. Under Massachusetts law, misappropriation of trade secrets alone can constitute a violation of Chapter 93A. See, e.g., Jillian's Billiard Club of Am., Inc. v. Beloff Billiards, Inc., 619 N.E.2d 635 (Mass. App. Ct. 1993). Thus, we remand MEEI's unfair trade practices claim along with its unjust enrichment and trade secret claims.

IV. Conclusion

For the foregoing reasons, the judgment of the district court is affirmed in part and reversed and remanded in part.

Affirmed in part and reversed and remanded in part. No costs.