

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

L'ORÉAL USA, INC.,
Petitioner,

v.

OLAPLEX, INC.,¹
Patent Owner.

PGR2017-00012
Patent 9,498,419 B2

Before CHRISTOPHER M. KAISER, MICHELLE N. ANKENBRAND,
and DAVID COTTA, *Administrative Patent Judges*.

KAISER, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision on Remand
Determining All Challenged Claims Unpatentable
35 U.S.C. §§ 144, 328(a)

¹ Previously, the Patent Owner was identified as Liqwd, Inc. *See, e.g.*, Paper 4, 1. The challenged patent is now owned by Olaplex, Inc. Paper 109, 1.

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

INTRODUCTION

A. Background

L'Oréal USA, Inc. (“Petitioner”) filed a Petition requesting post-grant review of claims 1–8 and 10 of U.S. Patent No. 9,498,419 B2 (Ex. 1001, “the ’419 patent”). Paper 2 (“Pet.”). Liqwd, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). We instituted trial on two of the grounds asserted in the Petition. Paper 17 (“Inst. Dec.”). After the Supreme Court’s decision in *SAS Institute, Inc. v. Iancu*, 138 S. Ct. 1348 (2018), we also instituted on the remaining ground presented in the Petition. Paper 97.

After we instituted trial, Patent Owner filed a Response (Paper 44, “PO Resp.”), and Petitioner filed a Reply (Paper 55). Patent Owner filed Observations on Cross-Examination of Petitioner’s Reply Witnesses. Paper 77 (“PO Obs.”). Patent Owner filed a Supplemental Response addressing the ground added to the trial after *SAS*, and Petitioner filed a Supplemental Reply. Paper 100 (“Supp. Resp.”); Paper 101 (“Supp. Reply”). In addition, both parties filed Motions to Exclude Evidence. Paper 72 (“PO Mot.”); Paper 73 (“Pet. Mot.”). On the request of both parties, we held an oral hearing, and the transcript of that hearing is in the record. Paper 98.

After considering the arguments of both parties and the evidence of record, we concluded that each of claims 1–8 and 10 of the ’419 patent was unpatentable, and we issued a Final Written Decision explaining those conclusions. Paper 102 (“Dec.”). Patent Owner appealed, and the U.S. Court of Appeals for the Federal Circuit vacated our decision and remanded

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

the proceeding to us with instructions. *Liqwd, Inc. v. L'Oreal USA, Inc.*, 941 F.3d 1133, 1133–39 (Fed. Cir. 2019).

On remand, each party submitted an opening brief setting forth the issues for us to decide and its arguments on those issues. Paper 111 (“PO Remand Br.”); Paper 112 (“Pet. Remand Br.”). Each party then filed a response to the other party’s remand brief. Paper 113 (“PO Remand Reply”); Paper 114 (“Pet. Remand Reply”).

We have jurisdiction under 35 U.S.C. § 6, and we issue this Final Written Decision on Remand pursuant to 35 U.S.C. §§ 144 and 328(a). For the reasons discussed below, we conclude that Petitioner has established by a preponderance of the evidence that each of claims 1–8 and 10 of the ’419 patent is unpatentable.

B. The Issues on Remand

In our original Final Written Decision, we found that Ogawa² did not anticipate claims 1–6, 8, and 10 of the ’419 patent. Dec. 11. We also concluded that claims 1–8 and 10 would have been obvious over the combination of Ogawa, Berkemer,³ and KR ’564.⁴ *Id.* at 32. Finally, we

² Ogawa et al., U.S. Patent No. 7,044,986 B2, issued May 16, 2006 (Ex. 1002, “Ogawa”).

³ Berkemer, German Patent Application Publication No. 1,220,969, published July 14, 1966 (Ex. 1003) (certified translation provided as Ex. 1004, “Berkemer”).

⁴ Korean Patent Application Publication No. 10-2006-0059564, published 2006 (Ex. 1006) (certified partial translation provided as Ex. 1018, “KR ’564”).

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

concluded that claims 1–8 and 10 would have been obvious over the combination of Kitabata,⁵ Berkemer, and KR '564. *Id.* at 40. On appeal, Patent Owner argued that we erred in our original Final Written Decision in holding that its evidence of copying was not relevant as evidence of nonobviousness on the basis that Patent Owner had not shown that Petitioner copied a specific patented product. *See, e.g.*, Dec. 31 (relying on *Iron Grip Barbell Co., Inc. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004)). The Federal Circuit affirmed our finding that “L’Oréal copied Liqwd’s patented method of using maleic acid.” *Liqwd*, 941 F.3d at 1139. But the Court held that we erred by holding this copying immaterial absent evidence that Petitioner had copied a specific patented product. *Id.* at 1136–38. Because of this error, the Federal Circuit vacated our “obviousness determination[s]” and remanded the case with instructions to “consider th[e] finding [of copying] and weigh it appropriately in [our] obviousness analysis.” *Id.* at 1139. The Federal Circuit otherwise agreed with our findings and conclusions. *Id.* (“we agree with the other appealed aspects of the Board’s final written decision”). We have considered and weighed the evidence of copying. And, having considered our obviousness determinations and conclusions anew in light of the copying evidence, as explained below, we conclude that, based on a preponderance of the evidence of record, the claims are unpatentable based on the obviousness grounds advanced in the Petition. Except to the extent that they are further

⁵ Kitabata et al., US 2002/0189034 A1, published Dec. 19, 2002 (Ex. 1005, “Kitabata”).

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

explained below or contradicted by any statement herein, we maintain the analysis, findings, and conclusions reached in the earlier Final Written Decision, which we incorporate by reference. *See* Paper 102.

C. The '419 Patent

The '419 patent “generally relates to formulations and methods for treating keratin in hair, skin, or nails, and in particular for strengthening and/or repairing hair during or after a coloring or permanent wave treatment.” Ex. 1001, 1:16–19. Certain treatments of hair, including dyeing and bleaching, can result in the disulfide bonds of the hair’s keratin being broken, and the '419 patent expresses “a need for hair formulations and treatments that repair and/or strengthen keratin in hair damaged [by these treatments].” *Id.* at 1:31–2:44. The '419 patent “provide[s] improved formulations and methods for repairing and/or strengthening damaged hair.” *Id.* at 2:49–51. The formulations of the '419 patent “may be applied simultaneously with the hair coloring formulation or subsequently to the application of the hair coloring formulation.” *Id.* at 17:32–34. These formulations are described as containing “an active agent” that may be any of a large number of compounds, including maleic acid or salts thereof. *Id.* at 7:42–11:18.

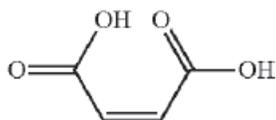
D. Illustrative Claim

Of the challenged claims of the '419 patent, claim 1 is independent and illustrative. It recites:

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

1. A method for bleaching hair comprising:
 - (a) mixing a formulation comprising an active agent with a bleaching formulation, wherein the active agent has the formula:



or salts thereof;

and

- (b) applying the mixture to the hair;
wherein the active agent in the mixture is at a concentration ranging from about 0.1% by weight to about 50% by weight;
and

wherein the mixture does not contain a hair coloring agent.

Ex. 1001, 25:42–26:5. The compound shown in the formula in claim 1 is maleic acid. Ex. 1008 ¶ 59.

ANALYSIS

A. Asserted Obviousness over Ogawa, Berkemer, and KR '564

We begin by considering the obviousness of the challenged claims over the combination of Ogawa, Berkemer, and KR '564 in light of the facts we found in our earlier Final Written Decision.

1. Claim 1

a. Facts Supporting a Conclusion of Obviousness

In our earlier Final Written Decision, we found several facts that tend to support a conclusion that claim 1 would have been obvious over Ogawa, Berkemer, and KR '564.

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

First, we found that “Ogawa teaches or suggests all of the limitations recited in claim 1 when maleic acid is used as the chelating agent in the mixture of Ogawa’s Example 3.” Dec. 13 (citing Ex. 1002, 5:40–46, 6:20–25, 7:1–31). We also found that “Ogawa teaches that the chelating agent . . . may be maleic acid or any of seven other compounds, rather than the salt of ethylenediaminetetraacetic acid or the ascorbic acid that is disclosed in Example 3.” *Id.* (citing Ex. 1002, 2:61–3:3). We found that Ogawa “teaches using maleic acid in its method.” *Id.* at 20 (citing Ex. 1002, 2:61–3:1, 8:34–39). In addition, we found that “the teachings of Berkemer and KR ’564 would have led a person of ordinary skill in the art to make th[e] choice” to select “maleic acid from among the ten acids Ogawa lists as illustrative chelating agents.” *Id.* at 20–24 (citing Ex. 1002, 1:44–53, 7:44–8:16, 8:34–39; Ex. 1004, 1:34–2:5, 2:12–17, 2:19–37, 3:23–24; Ex. 1018, 3; Ex. 1026, 44:16–46:3, 83:10–18; Ex. 2025 ¶ 161; Ex. 2034, 1, 5, 6). Finally, we found that Ogawa teaches the concentration limitation of claim 1. *Id.* at 14 (citing Ex. 1002, 2:61–3:5, 7:1–31). We reiterate those findings here.

b. Facts Opposing a Conclusion of Obviousness

In our earlier Final Written Decision, we addressed Patent Owner’s argument that “Petitioner’s products embody the claims of the ’419 patent and were based on non-public information about the technology whose invention led to the ’419 patent, suggesting that Petitioner copied the technology of the ’419 patent.” Dec. 28 (citing PO Resp. 47–98). With respect to the issue of Petitioner’s products embodying the claims of the ’419 patent, Petitioner argued that its products fell outside the scope of the

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

claims due to the presence in those products of certain dyes, but we found this argument unpersuasive on the evidence of record. *Id.* at 28–29 (citing Reply 25; Ex. 1001, 25:42–26:53; Ex. 2038, 3; Ex. 2039, 3; Ex. 2040, 44:22–45:19, 46:5–25). In addition, we found that “the preponderance of the evidence suggest[ed] that Petitioner used maleic acid [in its products] because of its access to Patent Owner’s non-public information, rather than because of Petitioner’s own independent development.” *Id.* at 29–30 (citing PO Resp. 96; Reply 25–26; Ex. 1036, 173, 176–77; Ex. 1014 ¶¶ 11–12; Ex. 2012; Ex. 2022 ¶¶ 10–17; Ex. 2023 ¶¶ 8–20). According to the Federal Circuit, these findings amount to a finding that “L’Oreal USA, Inc., used Liqwd’s confidential information and copied Liqwd’s patented method.” *Liqwd*, 941 F.3d at 1134–35. The finding that Petitioner copied Patent Owner’s patented method tends to oppose a conclusion that claim 1 would have been obvious over Ogawa, Berkemer, and KR ’564.⁶

⁶ Petitioner notes that, in PGR2018-00025, “the Board found the evidence to ‘reveal[] Petitioner had developed its own maleic-acid additive for a bleaching composition *before* receiving Patent Owner’s confidential patent application.’” Pet. Remand Br. 5 n.2 (quoting *L’Oréal USA, Inc. v. Liqwd, Inc.*, PGR2018-00025, Paper 78 at 43 (PTAB July 30, 2019)) (alteration and emphasis in original). Not all of the evidence relied upon in PGR2018-00025 was made of record in the present proceeding. For at least this reason, we did not reach the same result here. Moreover, PGR2018-00025 involved a different (albeit related) patent, different claims, and different prior art combinations. *See generally*, IPR2018-00025, Paper 80. The Board’s Final Written Decision in PGR2018-00025 has been appealed and is awaiting a decision from the Federal Circuit. IPR2018-00025, Paper 88 (Notice of Appeal); *Liqwd, Inc. v. L’Oréal USA, Inc.*, No. 2020-1014 (Fed. Cir.).

PGR2017-00012
Patent 9,498,419 B2

c. Weighing the Factual Findings

As discussed above, there are facts that tend to support a conclusion of the obviousness of claim 1 and facts that tend to oppose such a conclusion. Thus, we must determine how to weigh the facts that point in opposite directions.

We start by looking at the strength of the objective evidence of nonobviousness. Patent Owner argues that Petitioner’s copying is not merely strong, but “compelling,” evidence of nonobviousness. PO Remand Br. 7–8 (citing *Adv. Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1285–86 (Fed. Cir. 2000); *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1574–75 (Fed. Cir. 1992)). We disagree. Patent Owner is correct that “copying evidence merits even greater weight in view of [the copying party’s] failure to develop independently the claimed invention.” *Advanced Display*, 212 F.3d at 1285–86. But “failure to develop independently the claimed invention” in this context does not mean merely copying in lieu of independent development. Instead, it refers to failed attempts at independent development followed by copying. *See Dow Chem. Co. v. American Cyanamid Co.*, 816 F.2d 617, 622 (Fed. Cir. 1987) (“Cyanamid tried but failed to develop the claimed invention and copied it instead.”); *Vandenberg v. Dairy Equip. Co.*, 740 F.2d 1560, 1567 (Fed. Cir. 1984) (“The copying of an invention may constitute evidence that the invention is not an obvious one. . . . This would be particularly true where the copyist had itself attempted for a substantial length of time to design a similar device, and had failed.”). Here, there is evidence that Petitioner had access to Patent Owner’s non-public information regarding the method of

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

the '419 patent and that Petitioner began marketing and selling its own products practicing the claimed method at some point following receipt of that information, but there is no evidence of Petitioner's failed attempts at independent development. Thus, we are not persuaded by Patent Owner's argument that Petitioner's copying is compelling evidence of nonobviousness.

We also are not persuaded by Petitioner's argument that evidence of copying alone is always "only equivocal evidence of non-obviousness." Pet. Remand Br. 7–8 (quoting *Ecolochem, Inc. v. S. Cal. Edison Co.*, 227 F.3d 1361, 1380 (Fed. Cir. 2000)) (emphasis removed). Petitioner correctly quotes *Ecolochem* as saying clearly that "[a] showing of copying is only equivocal evidence of non-obviousness in the absence of more compelling objective indicia of other secondary considerations." *Id.* In the context of the Federal Circuit's other decisions regarding copying, however, we interpret *Ecolochem* as standing for the same holding the Federal Circuit attributed to *Iron Grip Barbell* on appeal here: for copying to be evidence of nonobviousness, "more is needed than merely showing that similarity exists between the patent and the competitor's accused product." *Liqwd*, 941 F.3d at 1137. The something more may be access to non-public information, as it is here, or it may be the presence in the record of additional objective indicia of nonobviousness, as *Ecolochem* itself suggests. In addition, it may be the motivation of the party who engaged in copying the patented product, as is made clear in *Cable Electric*, the case on which *Ecolochem* relies. *Cable Elec. Prods. v. Genmark, Inc.*, 770 F.2d 1015, 1028 (Fed. Cir. 1985)

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

(holding that a copyist's reason for copying the patented invention is important in deciding whether the copying in question was evidence of nonobviousness).

Given that we are not persuaded either by Patent Owner's argument that Petitioner's copying here is compelling evidence of nonobviousness or by Petitioner's argument that copying can never be strong evidence of nonobviousness, what can we say about the copying in this case? There is more than mere similarity between Petitioner's product and the '419 patent claims, because Petitioner had access to Patent Owner's non-public information. That said, Patent Owner has not presented persuasive evidence on this record establishing Petitioner's motivation for copying the patented invention, and we did not find that any other objective indicia of nonobviousness were present. Thus, the copying is more than weak evidence of nonobviousness, but it does not rise to the level of strong evidence.

The facts supporting a conclusion that claim 1 would have been obvious, on the other hand, are quite strong. Ogawa's Example 3 would anticipate claim 1 if it used maleic acid as its chelator instead of tetrasodium ethylenediaminetetraacetate ("tetrasodium EDTA") and ascorbic acid. Ex. 1002, 7:1–32. Further, Ogawa lists and claims 10 examples of chelators that can be used, making maleic acid interchangeable with the chelators that actually appear in Example 3. *Id.* at 2:61–3:1, 8:34–39.

Patent Owner argues that the disclosure of possible chelators in Ogawa is too broad to teach or suggest replacing the chelators of Example 3

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

with maleic acid. PO Remand Br. 5–6. We are not persuaded. It is true, as Patent Owner argues, that the mere “disclosure of a chemical genus [does not necessarily] render[] obvious any species that happens to fall within it.” *In re Jones*, 958 F.2d 347, 350 (Fed. Cir. 1992). But the prior-art disclosure in *Jones* did not name the claimed species, only a “potentially infinite genus” that happened to include that species. *Id.* at 350–51. Ogawa’s chelator disclosure is not limited, as Patent Owner suggests, merely to the broad class of all compounds that “ha[ve] the ability to chelate metal ions . . . and [are] commonly used in cosmetic preparations.” Ex. 1002, 2:61–64; PO Remand Br. 5. Instead, and unlike the prior art in *Jones*, Ogawa expressly names maleic acid among a short list of only ten interchangeable chelators. Ex. 1002, 2:64–3:1, 8:34–39. To the extent that Ogawa’s inclusion of the salts of its named chelators broadens the genus of its disclosed compounds, we note that claim 1 of the ’419 patent is broadened in precisely the same way. Ex. 1001, 25:42–26:5 (“wherein the active agent has the formula [of maleic acid] or salts thereof”). Ogawa’s disclosure of a list of only ten interchangeable compounds, one of which is the specific compound recited in claim 1 of the ’419 patent, makes it more similar to the disclosure in *Merck* than to that in *Jones*. *Merck & Co. Inc. v. Biocraft Labs. Inc.*, 874 F.2d 804, 806–09 (Fed. Cir. 1989) (because the fact “[t]hat the [reference] discloses a multitude of effective combinations does not render any particular formulation less obvious,” express disclosure of the claimed combination among a list of 1200 named combinations was sufficient to teach the claimed combination).

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

Patent Owner also argues that the disclosure of the prior art is weak evidence of obviousness because, despite “[m]ore than a decade pass[ing] between Ogawa’s . . . publication[] and the ’419 ancestral application filing,” no one in the intervening time “thought to add maleic acid into a high-pH bleaching method to address bleach damage.” PO Remand Br. 4. We disagree. “The mere age of the references is not persuasive of the unobviousness of the combination of their teachings, absent evidence that, notwithstanding knowledge of the references, the art tried and failed to solve the problem.” *In re Wright*, 569 F.2d 1124, 1127 (CCPA 1977) (relying on a combination of references including a 100-year-old patent). Patent Owner does not present persuasive evidence on this record establishing failed attempts to solve the problem of bleach damage. Thus, the fact that eight years passed between Ogawa’s publication in 2006 and the earliest priority date to which the ’419 patent might be entitled does not weaken the evidence that the prior art teaches or suggests the subject matter of claim 1.

Next, Patent Owner argues that the evidence that a person of ordinary skill in the art would have selected maleic acid as the chelator in Example 3 is equivocal because Ogawa itself discourages such use. PO Remand Br. 6 (citing Ex. 1002, 5:47–6:17; Ex. 1026, 158:12–160:10; Ex. 2046, 76:19–77:21). We are not persuaded. First, as discussed above, Ogawa’s short list of exemplary chelators is described and claimed as interchangeable. Ex. 1002, 2:61–3:1, 8:34–39. Second, although Patent Owner is correct that Ogawa’s comparative example 1 does not use the tetrasodium EDTA of Ogawa’s example 1 and does not work as well as example 1, that difference

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

may be just as likely due to the lower overall concentration of chelator in comparative example 1 as to the identity of that chelator. *Id.* at 5:47–6:17 (showing elimination of tetrasodium EDTA in comparative example 1 and no increase in ascorbic acid or substitution of third chelator to compensate). It is true that Patent Owner’s declarant, Dr. Borish, testified that the failure of comparative example 1 would have led him to avoid using any chelator but tetrasodium EDTA in carrying out Ogawa’s method. Ex. 1026, 158:12–160:10. But the record also contains testimony that a person of ordinary skill in the art would have interpreted Ogawa as teaching that maleic acid was interchangeable with the other named chelators in its method. Ex. 1008 ¶¶ 93, 177. In addition, even if Dr. Borish’s testimony were not contradicted on this record, “just because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes.” *In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012). Accordingly, we are not persuaded that the evidence for choosing maleic acid to use in Ogawa’s method is only weak evidence of obviousness.

Moreover, even if Ogawa alone were merely weak evidence of obviousness, Berkemer and KR ’564 provide their own reasons for a person of ordinary skill in the art to have chosen maleic acid from among the chelators listed in Ogawa for use in the method of Ogawa’s example 3. Dec. 21–24; *Liqwd*, 941 F.3d at 1135–36 (“The Board determined that Ogawa, Berkemer, and KR ’564 provided a person of ordinary skill a reason to choose maleic acid as the ‘chelating agent’ over Ogawa’s other options in its bleaching treatment.”), 1139 (“[W]e agree with the . . . aspects of the

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

Board’s final written decision” other than its “disregarding its finding that L’Oreal copied Liqwd’s patent method.”). As for Patent Owner’s arguments that Berkemer is limited to a low-pH process and that a person of ordinary skill in the art would not have expected the benefits of Berkemer’s process to apply in a high-pH hair bleaching process, PO Remand Br. 6–7, we previously found these arguments unpersuasive, Dec. 21–22, and they remain unpersuasive on the record now before us. Finally, although Patent Owner is correct that KR ’564 does not itself teach any benefit specific to maleic acid rather than to mild organic acids generally, PO Remand Br. 7, no such benefit is necessary to support the case of obviousness over the combination of Ogawa, Berkemer, and KR ’564. Ogawa teaches that maleic acid is interchangeable with the other listed chelators, Berkemer provides a reason to use maleic acid over other options in repairing damage from hair treatments, and KR ’564 teaches that maleic acid may be mixed into hair treatments rather than solely applied after the fact, as Berkemer arguably suggests. These teachings, taken together, provide quite strong evidence of the obviousness of claim 1.

Thus, the evidence in favor of obviousness is quite strong, and the evidence in favor of nonobviousness is not as strong. Upon weighing the entirety of the evidence for and against obviousness, we conclude that the preponderance of the evidence favors a conclusion that claim 1 would have been obvious over the combination of Ogawa, Berkemer, and KR ’564.

PGR2017-00012
Patent 9,498,419 B2

2. *Claims 2–6 and 10*

As we noted in the earlier Final Written Decision, Petitioner argued that Ogawa teaches or suggests the limitations that dependent claims 2–6 add to independent claim 1, and Patent Owner did not dispute those arguments. Pet. 56–63, 66–67 (citing Ex. 1002, 2:64–3:7, 4:32–39, 4:43–57, 6:20–26, 7:1–31, 7:44–8:16, 8:28–30; Ex. 1008 ¶¶ 164–171, 174–181, 186–192, 195–202, 204, 211; Ex. 1012, 17); PO Resp. 98–99. We found that the combination of Ogawa, Berkemer, and KR ’564 teaches or suggests all the limitations of claims 2–6 and 10, and that finding was not disturbed on appeal. Dec. 15, 18; *Liqwd*, 941 F.3d at 1135 (“According to the Board, Ogawa disclosed all the limitations of the challenged claims of the ’419 patent . . .”), 1139 (“[W]e agree with the . . . aspects of the Board’s final written decision” other than its “disregarding its finding that L’Oreal copied Liqwd’s patent method.”). Thus, the arguments for the obviousness of claims 2–6 and 10 are the same as those for the obviousness of claim 1. Accordingly, for the reasons discussed above with respect to claim 1, we conclude that claims 2–6 and 10 would have been obvious over the combination of Ogawa, Berkemer, and KR ’564.

3. *Claim 7*

We found that the additional limitation of claim 7 was known to a person of ordinary skill in the art, and that finding was not disturbed on appeal. Dec. 15–16; *Liqwd*, 941 F.3d at 1139 (“[W]e agree with the . . . aspects of the Board’s final written decision” other than its “disregarding its finding that L’Oreal copied Liqwd’s patent method.”). Neither party

PGR2017-00012
Patent 9,498,419 B2

presents arguments with respect to claim 7 on remand that differ from the general arguments discussed above. Accordingly, for the reasons discussed above with respect to claim 1, we conclude that claim 7 would have been obvious over the combination of Ogawa, Berkemer, and KR '564.

4. Claim 8

We found that Ogawa taught the additional limitation of claim 8, and that finding was not disturbed on appeal. Dec. 17–18; *Liqwd*, 941 F.3d at 1139 (“[W]e agree with the . . . aspects of the Board’s final written decision” other than its “disregarding its finding that L’Oreal copied Liqwd’s patent method.”). Neither party presents arguments with respect to claim 8 on remand that differ from the general arguments discussed above. Accordingly, for the reasons discussed above with respect to claim 1, we conclude that claim 8 would have been obvious over the combination of Ogawa, Berkemer, and KR '564.

B. Asserted Obviousness over Kitabata, Berkemer, and KR '564

We next consider the obviousness of the challenged claims over the combination of Kitabata, Berkemer, and KR '564 in light of the facts we found in our earlier Final Written Decision.

1. Claim 1

a. Facts Supporting a Conclusion of Obviousness

In our earlier Final Written Decision, we found several facts that tend to support a conclusion that claim 1 would have been obvious over Kitabata, Berkemer, and KR '564.

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

First, we found that “Kitabata teaches or suggests all of the limitations recited in claim 1 when maleic acid is used as the pH adjustor in the mixture of Kitabata’s primary and secondary agents.” Dec. 33–34 (citing Ex. 1005, code (57), ¶¶ 5, 13–16, 40, 43, 61, 71). We also found that “Kitabata itself provides a reason to use maleic acid in its bleaching treatment.” *Id.* at 34. In addition, we found that the teachings of “Berkemer and KR ’564 provide an additional reason why a person of ordinary skill in the art would have chosen Kitabata’s maleic acid over Kitabata’s other pH adjustors.” *Id.* at 34, 38–39. Finally, we found that Kitabata teaches the concentration limitation of claim 1. *Id.* at 34 (citing Ex. 1005 ¶¶ 39–40, 61, 76, Table 1; Ex. 1008 ¶¶ 237–241). We reiterate those findings here.

b. Facts Opposing a Conclusion of Obviousness

In our earlier Final Written Decision, we addressed Patent Owner’s argument that “Petitioner’s products embody the claims of the ’419 patent and were based on non-public information about the technology whose invention led to the ’419 patent, suggesting that Petitioner copied the technology of the ’419 patent.” Dec. 28, 39–40 (citing PO Resp. 47–98). With respect to the issue of Petitioner’s products embodying the claims of the ’419 patent, Petitioner argued that its products fell outside the scope of the claims due to the presence in those products of certain dyes, but we found this argument unpersuasive on the evidence of record. *Id.* at 28–29, 39–40 (citing Reply 25; Ex. 1001, 25:42–26:53; Ex. 2038, 3; Ex. 2039, 3; Ex. 2040, 44:22–45:19, 46:5–25). In addition, we found that “the preponderance of the evidence suggest[ed] that Petitioner used maleic acid

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

[in its products] because of its access to Patent Owner’s non-public information, rather than because of Petitioner’s own independent development.” *Id.* at 29–30, 39–40 (citing PO Resp. 96; Reply 25–26; Ex. 1036, 173, 176–77; Ex. 1014 ¶¶ 11–12; Ex. 2012; Ex. 2022 ¶¶ 10–17; Ex. 2023 ¶¶ 8–20). As the Federal Circuit has explained, these findings amount to a finding that “L’Oreal USA, Inc., used Liqwd’s confidential information and copied Liqwd’s patented method.” *Liqwd*, 941 F.3d at 1134–35. The finding that Petitioner copied Patent Owner’s patented method tends to oppose a conclusion that claim 1 would have been obvious over Kitabata, Berkemer, and KR ’564.

c. Weighing the Factual Findings

As discussed above, there are facts that tend to support a conclusion of the obviousness of claim 1 and facts that tend to oppose such a conclusion. Thus, we must determine how to weigh the facts that point in opposite directions.

We start by looking at the strength of the objective evidence of nonobviousness. Because neither party raises different arguments in the context of the ground of obviousness over the combination of Kitabata, Berkemer, and KR ’564, the analysis for this evidence is the same as it was in the context of the ground of obviousness over the combination of Ogawa, Berkemer, and KR ’564, discussed above. As we did above, we find the evidence opposing a conclusion of obviousness is more than weak evidence but does not rise to the level of strong evidence.

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

The facts supporting a conclusion that claim 1 would have been obvious, on the other hand, are quite strong. Kitabata teaches mixing a primary agent and a secondary agent and applying the mixture to hair as a bleaching agent. Ex. 1005, code (57), ¶¶ 5, 43, 61, 71. The primary agent contains a pH adjustor, and the secondary agent contains hydrogen peroxide. *Id.* ¶¶ 5, 13–16. The pH adjustor is present in the primary agent in an amount between 0.1 and 10 weight percent. *Id.* ¶ 40. This disclosure would anticipate claim 1 if maleic acid were chosen as the pH adjustor in the primary agent, and Kitabata teaches that the pH adjustor is “selected from the group consisting of polycarboxylic acids and their salts,” with maleic acid as one of 14 expressly named choices. *Id.* ¶¶ 13–16, 39.

Patent Owner argues that the disclosure of possible pH adjustors in Kitabata is too broad to teach or suggest choosing maleic acid in particular. PO Remand Br. 5–6. We are not persuaded. As we note above, it is true that the mere “disclosure of a chemical genus [does not necessarily] render[] obvious any species that happens to fall within it,” *Jones*, 958 F.2d at 350, but the prior-art disclosure in *Jones* did not name the claimed species, only a “potentially infinite genus” that happened to include that species. *Id.* at 350–51. As Patent Owner admits, “Kitabata mentions maleic acid as one of a large number of ‘polycarboxylic acid and their salts’ pH-adjusters.” PO Remand Br. 5 (quoting Ex. 1005 ¶¶ 35, 39). The “mention[]” of maleic acid is key, because such a mention of the claimed compound was missing in *Jones*, rendering that case inapposite. As with Ogawa, to the extent that Kitabata’s inclusion of the salts of its named polycarboxylic acids broadens

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

the genus of its disclosed compounds, we note that claim 1 of the '419 patent is broadened in precisely the same way. Ex. 1001, 25:42–26:5 (“wherein the active agent has the formula [of maleic acid] or salts thereof”). Kitabata’s disclosure of a list of only fourteen interchangeable compounds, one of which is the specific compound recited in claim 1 of the '419 patent, makes it more similar to the disclosure in *Merck* than to that in *Jones*. *Merck*, 874 F.2d at 806–09 (because the fact “[t]hat the [reference] discloses a multitude of effective combinations does not render any particular formulation less obvious,” express disclosure of the claimed combination among a list of 1200 named combinations was sufficient to teach the claimed combination).

Patent Owner also makes the same argument about Kitabata as it does about Ogawa: despite “[m]ore than a decade pass[ing] between . . . Kitabata’s publication[] and the '419 ancestral application filing,” no one in the intervening time “thought to add maleic acid into a high-pH bleaching method to address bleach damage.” PO Remand Br. 4. We disagree for the same reason we discussed above: “The mere age of the references is not persuasive of the unobviousness of the combination of their teachings, absent evidence that, notwithstanding knowledge of the references, the art tried and failed to solve the problem.” *Wright*, 569 F.2d at 1127 (relying on a combination of references including a 100-year-old patent).

Moreover, even if Kitabata alone were only weak evidence of obviousness, Berkemer and KR '564 provide their own further reasons that would have motivated a person of ordinary skill in the art to have chosen maleic acid from among the pH adjustors listed in Kitabata for use in

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

Kitabata's method. Dec. 21–24, 39; *Liqwd*, 941 F.3d at 1136 (“The Board also found . . . that a person of ordinary skill would have had a reason to combine the teachings of the references by choosing maleic acid over other compounds disclosed in Kitabata.”), 1139 (“[W]e agree with the . . . aspects of the Board’s final written decision” other than its “disregarding its finding that L’Oreal copied *Liqwd*’s patent method.”). We find Patent Owner’s arguments regarding Berkemer’s limitation to a low-pH process or the teachings of KR ’564 being applicable to mild organic acids generally unpersuasive with respect to this ground for the same reasons discussed above with respect to the ground based on Ogawa. Kitabata teaches that maleic acid is interchangeable with the other listed pH adjustors, Berkemer provides a reason to use maleic acid over other options in repairing damage from hair treatments, and KR ’564 teaches that maleic acid may be mixed into hair treatments rather than solely applied after the fact, as Berkemer arguably suggests. These teachings, taken together, provide quite strong evidence of the obviousness of claim 1.

Thus, the evidence in favor of obviousness is quite strong, and the evidence in favor of nonobviousness is not as strong. Upon weighing the entirety of the evidence for and against obviousness, we conclude that the preponderance of the evidence favors a conclusion that claim 1 would have been obvious over the combination of Kitabata, Berkemer, and KR ’564.

2. Claims 2–6 and 10

As we noted in the earlier Final Written Decision, Petitioner argued that Kitabata teaches or suggests the limitations that dependent claims 2–6

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

add to independent claim 1, and Patent Owner did not dispute those arguments. Pet. 78–83, 85–86 (citing Ex. 1005 ¶¶ 5, 40, 49, 53, 72–89; Ex. 1008 ¶¶ 245–252, 256–259, 261–263, 265–266, 268–269, 277–279); PO Resp. 98–99. We found that the combination of Kitabata, Berkemer, and KR ’564 teaches or suggests all the limitations of claims 2–6 and 10, and that finding was not disturbed on appeal. Dec. 35, 38; *Liqwd*, 941 F.3d at 1135 (“The Board also found that the combination of Kitabata, Berkemer, and KR ’564 taught or suggested all the limitations of claims 1–8 and 10”), 1139 (“[W]e agree with the . . . aspects of the Board’s final written decision” other than its “disregarding its finding that L’Oreal copied *Liqwd*’s patent method.”). Thus, the arguments for the obviousness of claims 2–6 and 10 are the same as those for the obviousness of claim 1. Accordingly, for the reasons discussed above with respect to claim 1, we conclude that claims 2–6 and 10 would have been obvious over the combination of Kitabata, Berkemer, and KR ’564.

3. Claim 7

We found that the additional limitation of claim 7 was known to a person of ordinary skill in the art, and that finding was not disturbed on appeal. Dec. 35–36; *Liqwd*, 941 F.3d at 1139 (“[W]e agree with the . . . aspects of the Board’s final written decision” other than its “disregarding its finding that L’Oreal copied *Liqwd*’s patent method.”). Neither party presents arguments with respect to claim 7 on remand that differ from the general arguments discussed above. Accordingly, for the reasons discussed

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

above with respect to claim 1, we conclude that claim 7 would have been obvious over the combination of Kitabata, Berkemer, and KR '564.

4. *Claim 8*

We found that Kitabata taught the additional limitation of claim 8, and that finding was not disturbed on appeal. Dec. 37–38; *Liqwd*, 941 F.3d at 1139 (“[W]e agree with the . . . aspects of the Board’s final written decision” other than its “disregarding its finding that L’Oreal copied Liqwd’s patent method.”). Neither party presents arguments with respect to claim 8 on remand that differ from the general arguments discussed above.

Accordingly, for the reasons discussed above with respect to claim 1, we conclude that claim 8 would have been obvious over the combination of Kitabata, Berkemer, and KR '564.

C. *Confidentiality*

We entered our original Final Written Decision as confidential and available only to the parties and the Board. In that decision, we ordered the parties to “file a joint motion to seal, explaining why th[e] decision should remain under seal, and including a redacted version of this decision that can be made publicly available,” and we ordered “that the present decision shall remain under seal until the joint motion to seal the present decision is resolved.” Dec. 50. As ordered, the parties filed a joint motion to seal the Final Written Decision and a redacted version of the decision, both publicly available. Paper 104; Paper 105. We have reviewed the motion to seal, and we agree that good cause exists to seal the original Final Written Decision. Accordingly, we grant the joint motion to seal.

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

As with the original Final Written Decision, the present decision may discuss confidential matters. Accordingly, we issue the present decision under seal, and we order the parties, within ten days after the issuance of this decision, to file a joint motion to seal explaining why this decision should remain under seal and including a redacted version of this decision that can be made publicly available. The present decision shall remain under seal until the joint motion to seal the present decision is resolved.

CONCLUSION

Petitioner has shown by a preponderance of the evidence that claims 1–8 and 10 would have been obvious either over the combination of Ogawa, Berkemer, and KR '564 or over the combination of Kitabata, Berkemer, and KR '564.

ORDER

It is hereby

ORDERED that Petitioner has proven by a preponderance of the evidence that claims 1–8 and 10 of U.S. Patent No. 9,498,419 B2 are unpatentable;

FURTHER ORDERED that, pursuant to 35 U.S.C. § 328(b), upon expiration of the time for appeal of this decision, or the termination of any such appeal, a certificate shall issue canceling claims 1–8 and 10 of U.S. Patent No. 9,498,419 B2;

FURTHER ORDERED that the parties' joint motion to seal the original Final Written Decision is granted;

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

FURTHER ORDERED that, no later than ten days after the issuance of this decision, the parties shall file a joint motion to seal, explaining why this decision should remain under seal, and including a redacted version of this decision that can be made publicly available;

FURTHER ORDERED that the present decision shall remain under seal until the joint motion to seal the present decision is resolved; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
1-6, 8, 10	102	Ogawa		1-6, 8, 10
1-8, 10	103	Ogawa, Berkemer, KR '564	1-8, 10	
1-8, 10	103	Kitabata, Berkemer, KR '564	1-8, 10	
Overall Outcome			1-8, 10	

PUBLIC VERSION

PGR2017-00012
Patent 9,498,419 B2

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