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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/777,230	09/15/2015	Ashokkumar Patel	THV 9840	6168
321	7590	09/26/2019	EXAMINER	
STINSON LLP 7700 FORSYTH BOULEVARD, SUITE 1100 ST LOUIS, MO 63105			RONEY, CELESTE A	
			ART UNIT	PAPER NUMBER
			1612	
			NOTIFICATION DATE	DELIVERY MODE
			09/26/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ASHOKKUMAR PATEL¹

Appeal 2019-003376
Application 14/777,230
Technology Center 1600

Before DONALD E. ADAMS, ERIC B. GRIMES, and TAWEN CHANG,
Administrative Patent Judges.

GRIMES, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) involving claims to an oral care composition, which have been rejected as being directed to patent-ineligible subject matter and as obvious. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM the obviousness rejections.

¹ Appellant identifies the Real Party in Interest as Theranovis Gmbh & Co. Appeal Br. 5.

STATEMENT OF THE CASE

Claims 1, 24–27, 29, 31, 33, and 35–48 are on appeal. Claim 1 is illustrative and reads as follows:

1. Composition for oral care, wherein the composition is an aqueous composition, and, besides water, comprises (in weight percentages):

Peppermint oil:	0.05 - 10%
Rosemary oil:	0.05 - 5%
Neem oil:	0.05 - 10%
Thyme oil:	0.05 - 0.5%
Grapefruit Seed Extract:	0.05 - 1.5%
Grape Seed Extract:	0.05 - 1.5%
Alcohol:	5 - 75%

The claims stand rejected as follows:

Claims 1, 24–27, 29, 31, 33, 35–45, and 48 under 35 U.S.C. § 101 as being directed to a product of nature (Ans. 3);

Claims 1, 24–27, 29, 31, 33, 35–37, 41, 43, 46, and 47 under 35 U.S.C. § 103 as obvious based on Schmolka,² Nabi,³ and Shine⁴ (Ans. 4);

Claims 38 and 39 under 35 U.S.C. § 103 as obvious based on Schmolka, Nabi, Shine, and Mongiat⁵ (Ans. 6);

Claim 40 under 35 U.S.C. § 103 as obvious based on Schmolka, Nabi, Shine, and Winston⁶ (Ans. 7);

² US 4,465,661, issued August 14, 1984.

³ US 5,472,684, issued December 5, 1995.

⁴ US 8,273,385 B1, issued September 25, 2012.

⁵ US 2012/0093896 A1 published April 19, 2012.

⁶ US 4,891,211, issued January 2, 1990.

Claims 42 and 44 under 35 U.S.C. § 103 as obvious based on Schmolka, Nabi, Shine, and Causton⁷ (Ans. 8);

Claim 45 under 35 U.S.C. § 103 as obvious based on Schmolka, Nabi, Shine, Causton, and Thiele⁸ (Ans. 9); and

Claim 48 under 35 U.S.C. § 103 as obvious based on Schmolka, Nabi, Shine, and Giacin⁹ (Ans. 10).

I

The Examiner has rejected claims 1, 24–27, 29, 31, 33, 35–45, and 48 under 35 U.S.C. § 101 “because the combination of peppermint, rosemary, neem and thyme oils with water, alcohol and grapefruit [seed] and grape seed extracts does not materially change the oils, extracts or the alcohol, i.e., the products in each case are not ‘markedly different.’” Ans. 3. The Examiner also finds that “there is no indication that concentration (e.g. of the seeds) has caused the extracts to have any characteristics that are different from the naturally occurring grapefruit or grape seeds” and “the combination of extracts from grapefruit seeds and grape seeds with essential oils does not change the structures of the natural extracts.” *Id.* at 3–4.

Appellant argues that “[t]he claimed composition is prepared from components that are found in nature, but the composition as prepared and claimed differs materially from the natural components from which it is derived.” Appeal Br. 8. Appellant argues that “the claimed composition is

⁷ US 5,885,552, issued March 23, 1999.

⁸ US 4,224,307, issued September 23, 1980.

⁹ US 5,330,749, issued July 19, 1994.

not reducible to a bundled aggregate of individually acting components.” *Id.* at 10.

We agree with Appellant that the Examiner has not established that the claimed composition is a product of nature and not markedly different from any of the individual, naturally occurring, components of the overall mixture. The Specification discloses that the claimed composition has a “good effect on the inhibition, reducing and dissolving (eliminating) the biofilms on tooth surfaces.” Spec. 3:17. “[T]he formation of pellicles is modified and any extracellular polymeric structures which are present are dissolved. . . . The regeneration of the mentioned biofilms is impaired sustainably after use.” *Id.* at 3:19–22.

The application of the composition according to the invention on the tooth surface reduces and modifies the formation of pellicles such that the adherence of bacteria is sustainably reduced. Furthermore, the capability of the adherent bacteria to divide themselves and thus to colonize the tooth surface is significantly reduced or disrupted.

As a result, the formation of dental plaque (plaque) can be controlled earlier or even prevented. Harmful bacteria can no longer accumulate on the dental surfaces.

Id. at 3:24–31.

The Examiner has not pointed to evidence in the record to show that the claimed composition does not have the asserted properties, or that a naturally occurring component of the composition has the same properties as the claimed composition. “A claim to a manufacture or composition of matter made from a natural product is not directed to the natural product where it has different characteristics and ‘the potential for significant utility.’” *Natural Alternatives Int’l, Inc. v. Creative Compounds, LLC*, 918

F.3d 1338, 1348 (Fed. Cir. 2019) (quoting *Diamond v. Chakrabarty*, 447 U.S. 303, 310 (1980)).

The *Natural Alternatives* court held that the product claims there were “directed to specific treatment formulations that incorporate natural products, but they have different characteristics and can be used in a manner that beta-alanine as it appears in nature cannot.” *Id.* The same is true here: even if each of the components of the claimed composition appears, separately, in nature, the claimed combination of those components has different characteristics and can be used in a manner different from any of the individual components.

We therefore reverse the rejection of claims 1, 24–27, 29, 31, 33, 35–45, and 48 under 35 U.S.C. § 101.

II

The Examiner has rejected claims 1, 24–27, 29, 31, 33, 35–37, 41, 43, 46, and 47 as obvious based on Schmolka, Nabi, and Shine. The Examiner finds that Schmolka discloses mouthwash compositions comprising water, 0–25 wt% alcohol, and 0.01–5 wt% peppermint oil and rosemary oil as flavorings. Ans. 4. The Examiner also finds that “[t]hyme oil is disclosed at col 4, line 11.” *Id.* at 6.

The Examiner finds that “Schmolka does not disclose neem oil; grapeseed and grape fruit seed extracts” but “Nabi discloses mouth rinses . . . comprising neem oil as a flavoring agent.” *Id.* at 4. The Examiner finds that “Shine discloses oral rinse and mouthwashes . . . comprising grape seed . . . and grapefruit seed extracts.” *Id.* at 5. The Examiner finds that Shine

teaches that the extracts “promote healthy gum tissue, and inhibit the growth of bacteria.” *Id.*

The Examiner concludes that it would have been obvious to modify Schmolka’s mouthwash to include neem oil “based on its recognized suitability for its intended use as a flavoring agent, as taught by Nabi.” *Id.* at 4. The Examiner also concludes that it would have been obvious to modify the composition to include grape seed extract and grapefruit seed extract, “motivated by the desire to promote healthy gum tissue, and to inhibit the growth of bacteria, as taught by Shine.” *Id.* at 5.

We agree that the composition of claim 1 would have been obvious to a person of ordinary skill in the art based on the cited references. Schmolka discloses oral compositions, including mouthwashes, that are free from unpleasant surfactant taste and are visually clear. Schmolka 1:10–13. Specifically, Schmolka teaches that using a tasteless polyoxyethylene-fatty alcohol surfactant in a mouthwash to solubilize a water-insoluble flavoring oil, such as peppermint oil, prevents cloudiness. *Id.* at 2:6–18.

Schmolka discloses that its mouthwash compositions comprise water (60–95 wt%) and an alcohol such as isopropanol or ethanol (0–25 wt%). *Id.* at 4:13–18. Schmolka also teaches that “conventional flavoring components” include peppermint oil, rosemary oil, and thyme oil. *Id.* at 4:4–11. “All types of flavoring materials are generally used in amounts of about 0.01 to about 5.0 percent by weight, preferably about 0.05 percent to about 3.0 percent by weight.” *Id.* at 4:37–40. Schmolka thus would have made obvious an oral care composition comprising water and alcohol, and peppermint oil,

rosemary oil, and thyme oil as flavoring components. The ranges of amounts disclosed by Schmolka overlap those recited in claim 1.

Nabi discloses that “a composition comprising a combination of thymol and eugenol . . . , such as, a toothpaste or mouthrinse provides plaque and gingivitis effect.” Nabi 1:48–52. “Flavoring agents, such as chamomile [sic] tincture, myrrh gum tincture, rhatany root, Australian [Tea] Tree oil, eucalyptol, sage oil and the like can also be added.” *Id.* at 1:54–56. Nabi claims a composition comprising one of the foregoing flavoring agents, and a further flavoring agent which can be neem oil. *Id.* at 12:11–13 (claim 7). Nabi discloses that flavoring agents can be added “in minimal amounts of up to 5 percent by weight and preferably up to about 1 percent.” *Id.* at 3: 49–56.

Based on Nabi’s disclosure, it would have been obvious to modify Schmolka’s composition to include neem oil as a further flavoring agent, because Nabi expressly suggests including it in an oral care composition that comprises one or more other flavorants.

Shine discloses “oral rinse compositions having antimicrobial properties that also alleviate and soothe oral irritations.” Shine 1:61–63. Shine discloses that its composition contains an essential oil (e.g., peppermint oil), hydrogen peroxide, alcohol, and a natural extract. *Id.* at 1:65 to 2:2. “The essential oils used in the inventive oral rinse compositions provide antimicrobial activity, as well as act as flavoring agents and natural analgesics.” *Id.* at 2:57–59.

Shine discloses that “[s]uitable natural extracts for use in the inventive oral rinse compositions include those selected from the group consisting of

antioxidants [and] immune stimulants.” *Id.* at 4:30–32. “Preferred antioxidants are selected from the group consisting of grape seed extract, citrus seed extract,” etc. *Id.* at 4:38–39. “[G]rapefruit seed extract being particular[ly] preferred” as a citrus seed extract. *Id.* at 4:40–44.

“Such extracts contain a wide variety of phytochemicals such as polyphenols, flavanols, proanthocyanins [sic], and other phytochemicals thought to contribute to healing of inflammation in the oral cavity, promote healthy gum tissue, as well as inhibit the growth of bacteria.” *Id.* at 4:33–37. “Grape seed extract can be included in the inventive compositions in an amount of from about 0.001% to about 0.10% w/v. . . . Citrus seed extract can be included in the composition in an amount of from about 0.005% to about 1.0% v/v.” *Id.* at 4:44–51.

Based on these teachings, it would have been obvious to modify the composition made obvious by Schmolka and Nabi—comprising water, alcohol, peppermint oil, rosemary oil, thyme oil, and neem oil—to include grape seed extract and grapefruit seed extract, because Shine teaches that these extracts contain phytochemicals thought to contribute to healing of inflammation, promote healthy gum tissue, and inhibit bacterial growth.

The references disclose ranges for each of the components of claim 1 that overlap the ranges recited in the claim or, in the case of the extracts, reasonably appear to overlap the ranges. “A *prima facie* case of obviousness typically exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art.” *In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003).

Appellant argues that Schmolka provides a “lengthy list of flavoring agents [that] includes peppermint oil and rosemary oil, but there is no suggestion of their use in combination. . . . The working examples use peppermint oil as a flavoring agent, but only by itself.” Appeal Br. 19. Appellant argues that Nabi “mentions neem oil among a Markush list of eleven different flavoring agents. Peppermint oil is mentioned as a flavoring . . . but never in combination with neem oil.” *Id.* at 20.

As we understand it, Appellant’s position is that it would not have been obvious to combine multiple flavoring agents, or to combine other flavoring agents with peppermint oil. As understood, the arguments are unpersuasive, because the references disclose specific oral compositions that comprise multiple flavoring agents, and that comprise peppermint oil along with other flavoring agents.

Nabi discloses a mouth rinse composition comprising chamomile, myrrh gum, rhatany root, and peppermint oil. Nabi 5:30–45. Nabi also discloses a mouth rinse composition comprising all of those flavoring agents, as well as Australian tea tree oil and sage oil. *Id.* at 9:12–30 (Rinse (3)). Shine discloses oral rinse compositions comprising both peppermint oil and spearmint oil. Shine 8:1–3, 8:55–57.

Thus, the cited references show that flavoring agents were routinely combined in prior art mouth rinse formulations. The disclosure, in the cited references, that peppermint oil, rosemary oil, thyme oil, and neem oil were flavoring agents known for use in oral compositions would have made their combination, for that use, in such compositions obvious to a skilled artisan.

Appellant also argues that “Shine discloses oral rinse compositions that contain grape seed extract and/or grapefruit seed extract as antioxidants. But Schmolka does not suggest the need for an antioxidant. Shine also fails to provide any reason relevant to Schmolka, or in fact any reason at all, for the incorporation of an antioxidant.” Appeal Br. 21.

This argument is also unpersuasive. Shine discloses that antioxidant natural extracts are suitable for use in its oral compositions. Shine discloses that such extracts include “grape seed extract, citrus seed extract, olive leaf extract, and mixtures thereof.” Shine 4:38–40. Shine also discloses that natural extracts contain phytochemicals “thought to contribute to healing of inflammation in the oral cavity, promote healthy gum tissue, as well as inhibit the growth of bacteria.” *Id.* at 4:33–37. These teachings would provide ample reason for a skilled artisan to include grape seed extract and grapefruit seed extract in Schmolka’s mouthwash composition.

Appellant also argues that the Patel Declaration¹⁰ provides evidence of unexpected results. Appeal Br. 27. Appellant argues that the data show the effect of the claimed composition in loosening a bacterial biofilm on the tooth surface and in reducing biofilm regeneration. *Id.* at 27–28. Appellant concludes that “the claimed composition exhibits high[ly] desirable and unexpected properties as an oral product.” *Id.* at 29.

In response to the Examiner’s objection that the Specification demonstrates the same results for compositions outside the scope of the claims because they lack thyme oil, neem oil, grape seed extract, and

¹⁰ Declaration under 37 C.F.R. § 1.132 of Ashokkumar Patel, signed May 4, 2017.

grapefruit seed extract (Ans. 25), Appellant argues that those results were obtained with “compositions of Applicant’s own invention . . . not compositions of the prior art.” *Id.* at 29–30.

“Applicant acknowledges that the data do not constitute a comparison with what the Examiner has deemed the closest prior art.” *Id.* at 30. The data, in fact, do not show a comparison to any prior art composition.

Appellant states that Shine discloses a composition that includes two of the six active agents recited in claim 1. *Id.* In fact, Shine’s Formulation A and Formulation B both contain grape seed extract, grapefruit seed extract, and “Essential Oil(s),” including peppermint oil, along with alcohol and water. Shine 7:20 to 8:24. Those compositions therefore appear to be the closest prior art to the claimed composition.

“To be particularly probative, evidence of unexpected results must establish that there is a difference between the results obtained and those of the closest prior art, and that the difference would not have been expected by one of ordinary skill in the art at the time of the invention.” *Bristol-Myers Squibb Co. v. Teva Pharms. USA, Inc.*, 752 F.3d 967, 977 (Fed. Cir. 2014). *See also In re Baxter Travenol Labs.*, 952 F.2d 388, 392 (Fed. Cir. 1991) (“[W]hen unexpected results are used as evidence of nonobviousness, the results must be shown to be unexpected compared with the closest prior art.”).

Appellant has not shown that the claimed composition achieves unexpectedly superior results when compared to the closest prior art, and therefore has not presented evidence that, when weighed against the

evidence of obviousness, shows that the claimed composition would have been nonobvious.

We affirm the rejection of claim 1 under 35 U.S.C. § 103 based on Schmolka, Nabi, and Shine. Claims 24–27, 29, 31, 35–37, 41, 46, and 47 were not argued separately and therefore fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

Regarding claim 43, Appellant argues that it differs from claim 1 with respect to the concentrations of the components, and the Examiner “offers no explanation of any reason why the combined teachings of Schmolka, Nabi and Shine would have led one skilled in the art to the composition of claim 43.” Appeal Br. 21. Appellant also argues that “[c]laim 33 distinguishes Schmolka, Nabi and Shine on the same basis as claim 1, from which it depends, and on the further basis of the particular concentration of grapefruit seed extract which claim 33 specifically prescribes.” *Id.* at 22.

This argument is unpersuasive because the Examiner specifically addressed the limitations of claims 33 and 43. Ans. 6. Specifically, the Examiner found that the cited references disclose amounts of the recited components that “lie within or overlap the claimed ranges.” *Id.* Appellant has not pointed to any flaw in the Examiner’s fact-finding.

In summary, we affirm the rejection of claims 1, 24–27, 29, 31, 33, 35–37, 41, 43, 46, and 47 under 35 U.S.C. § 103 based on Schmolka, Nabi, and Shine.

III

The Examiner has rejected claims 38 and 39 as obvious based on Schmolka, Nabi, Shine, and Mongiat. Claims 38 and 39 are directed to the

composition of claim 1, further comprising 5–15 wt% of either polyglyceryl-10 decaoleate (claim 38) or polyglyceryl-10 pentaoleate (claim 39).

The Examiner finds that “Schmolka discloses 5 wt. % thickening agents,” but not the specific compounds of claims 38 and 39. Ans. 7. “However, Mongiat discloses polyglyceryl-10 decaoleate and polyglyceryl-10 pentaoleate as thickening agents in cosmetics, . . . where cosmetic end formulations include products for oral and dental hygiene (e.g. mouthwashes).” *Id.* The Examiner concludes that it would have been obvious “to have included polyglyceryl-10 decaoleate and polyglyceryl-10 pentaoleate within Schmolka’s composition as thickening agents, . . . based on their recognized suitability for intended usage as thickening agents, as taught by Mongiat.” *Id.*

We agree with the Examiner’s fact-finding and conclusion. Schmolka discloses that its invention includes gelled dentifrice compositions comprising the same flavoring agents as its mouthwash, along with up to 5 wt% of a gelling or thickening agent. Schmolka 5:4–25.

Mongiat discloses cosmetic preparations. Mongiat ¶ 2. Mongiat discloses that glyceryl esters are used in cosmetics as thickening agents. *Id.* ¶ 122. Examples of such glyceryl esters include polyglyceryl-10 decaoleate and polyglyceryl-10 pentaoleate. *Id.* ¶ 123. Mongiat discloses that suitable cosmetic end formulations include “products for oral and dental hygiene” such as toothpastes and mouthwashes. *Id.* ¶¶ 172, 189.

Based on these teachings, it would have been obvious to use polyglyceryl-10 decaoleate or polyglyceryl-10 pentaoleate as a thickener in Schmolka’s gelled dentifrice composition, because Mongiat discloses that

these compounds are used as thickeners in cosmetic formulations, and such cosmetic formulations include toothpaste.

Appellant argues that “Mongiat is generically directed to nanodispersions to protect water-soluble ingredients in cosmetic end formulations. The reference offers an endless list of cosmetic formulations, . . . most of which have no connection with oral hygiene.” Appeal Br. 31. Appellant argues that polyglyceryl-10 decaoleate and polyglyceryl-10 pentaoleate are “buried in an unending list . . . of glyceryl esters that are described as useful ‘emollients, lubricants, vehicles, and thickening agents,’ but specifically not for any mouthwash product.” *Id.* at 32.

These arguments are unpersuasive, because Mongiat discloses that polyglyceryl-10 decaoleate and polyglyceryl-10 pentaoleate are conventionally used as thickeners, among other things, in cosmetic compositions, which include toothpaste and mouthwash. The fact that they might also have been recognized as useful in other types of cosmetic compositions does not make them less suitable for oral compositions. Appellant has pointed to no evidence of record that a skilled artisan would not have recognized these components as suitable for use in Schmolka’s oral care compositions.

We therefore affirm the rejection of claims 38 and 39 under 35 U.S.C. § 103 based on Schmolka, Nabi, Shine, and Mongiat.

IV

The Examiner has rejected claim 40 as obvious based on Schmolka, Nabi, Shine, and Winston. Claim 40 is directed to the composition of claim 1, further comprising 5–20 wt% PEG 3350.

The Examiner finds that “Winston teaches a dentifrice comprising polyethylene glycol as a thickener, where the polyethylene glycol has a molecular weight above 900” and concludes that it would have been obvious to use PEG 3350 as a thickener in Schmolka’s composition, “based on its recognized suitability for its intended use as a thickening agent, as taught by Winston.” Ans. 8.

We agree with the Examiner’s fact-finding and conclusion. We also note that Winston describes suitable thickeners as “includ[ing] the solid polyethylene glycols having molecular weights above 900, e.g., those sold as Carbowax 900, 1000, 1450, 3350, 4600, or 8000.” Winston 4:15–18 (emphasis added). Thus, Winston expressly suggests polyethylene glycol with a molecular weight of 3350—i.e., PEG 3350—as a thickener for dentifrice compositions.

Appellant argues that “Winston suggests only the presence of a polyethylene glycol having a molecular weight greater than 900. Such is an infinite range that fails to suggest any species having a molecular weight of 3,350.” Appeal Br. 33. This argument is unpersuasive because, as discussed above, Winston expressly suggests using PEG 3350 as a thickener in dentifrice compositions.

We therefore affirm the rejection of claim 40 under 35 U.S.C. § 103 based on Schmolka, Nabi, Shine, and Winston.

V

The Examiner has rejected claims 42 and 44 as obvious based on Schmolka, Nabi, Shine, and Causton. The Examiner finds that “Schmolka does not disclose polyacrylic acid, as recited in claims 42 and 44,” but

“Causton discloses mouth rinses comprising polyacrylic acid as a gelling agent.” Ans. 8. The Examiner concludes that, “[s]ince Schmolka discloses mouthwashes with gelling agents generally, it would have been obvious to one of ordinary skill in the art to have included polyacrylic acid within Schmolka’s composition as a gelling agent.” *Id.* at 8–9.

We agree with, and adopt, the Examiner fact-finding and conclusion.

Appellant argues that “claims 42 and 44 distinguish the cited prior art on the same grounds as claim 1, from which they depend.” Appeal Br. 33.

This argument is unpersuasive for the reasons discussed above.

We therefore affirm the rejection of claim 42 under 35 U.S.C. § 103 based on Schmolka, Nabi, Shine, and Causton. Claim 44 falls with claim 42. 37 C.F.R. § 41.37(c)(1)(iv).

VI

The Examiner has rejected claim 45 as obvious based on Schmolka, Nabi, Shine, Causton, and Thiele. Claim 45, through its dependence on claim 42, is directed to the composition of claim 1, further comprising a gelling agent such as polyacrylic acid and 0.2–1.0 wt% triethanolamine.

The Examiner concludes, as discussed above, that it would have been obvious to include polyacrylic acid in Schmolka’s composition, based on Causton. The Examiner finds that “Schmolka teaches dentifrices (abstract) comprising 1% of thickening agents” and “Thiele teaches dentifrices comprising triethanolamine [sic] as a thickening agent.” Ans. 9. The Examiner concludes that “it would have been obvious to one of ordinary skill in the art to have included triethanolamine within Schmolka’s composition as a thickening agent, as taught by Thiele.” *Id.*

We agree with, and adopt, the Examiner fact-finding and conclusion.

Appellant argues that “triethanolamine appears only in a very lengthy list of thickening agents. . . . There is no teaching in the art that would have induced a person of ordinary skill to pluck triethanolamine from this lengthy list for combination with the several components of the composition of claim 1.” Appeal Br. 34.

This argument is unpersuasive. Thiele discloses that triethanolamine is a suitable thickener for use in dentifrices; the fact that other thickeners are also useful in dentifrices does not make the choice of triethanolamine any less obvious. *See Merck & Co. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989).

Appellant also argues that

Causton describes a composition in which the active materials are typically bactericides, anti-inflammatories, remineralising solutions, fluorides, desensitisers, antifungal agents, salivary gland stimulators, deodorants and antibiotics. None of these are related to any of the components called for in Applicant’s claims. Clearly, Causton could be identified only by working backwards from Applicant’s composition.

Appeal Br. 34.

This argument is also unpersuasive. First, Causton discloses a mouthrinse, which is in the same field of endeavor as the other references cited by the Examiner, and therefore it is analogous art. Second, Shine discloses that extracts such as grape seed extract and grapefruit seed extract “contribute to healing of inflammation in the oral cavity, promote healthy gum tissue, as well as inhibit the growth of bacteria.” Shine 4:35–37. These activities are the same as those of the “bactericides, anti-inflammatories” that Appellant cites as the active materials in Causton’s composition.

We therefore affirm the rejection of claim 45 under 35 U.S.C. § 103 based on Schmolka, Nabi, Shine, Causton, and Thiele.

VII

The Examiner has rejected claim 48 as obvious based on Schmolka, Nabi, Shine, and Giacini. Claim 48 is directed to the composition of claim 1, with specific amounts of each of the recited components, including 35 wt% ethyl alcohol.

The Examiner finds that “[r]egarding, the amount of ethanol, Schmolka disclosed 25 %, and did not recite 35 %, as instantly claimed. However, Giacini teaches . . . that this ingredient is useful at 5 to 50 %, an amount that overlaps the amount instantly recited.” Ans. 10. The Examiner also finds that different amounts of ethanol are “recognized to have different effects (greater or less concentration of the mouthwash, as taught by Giacini at the abstract)” and thus the concentration of ethanol was a recognized result-effective variable that would have been obvious to optimize within Giacini’s range. *Id.*

We agree with, and adopt, the Examiner fact-finding and conclusion.

Appellant argues that “claim 48 is patentable on the same basis as claim 1 from which it depends.” Appeal Br. 35.

This argument is unpersuasive for the reasons discussed above.

We therefore affirm the rejection of claim 48 under 35 U.S.C. § 103 based on Schmolka, Nabi, Shine, and Giacini.

CONCLUSION

In summary:

Claims Rejected	Basis	Affirmed	Reversed
1, 24–27, 29, 31, 33, 35–45, 48	§ 101		1, 24–27, 29, 31, 33, 35–45, 48
1, 24–27, 29, 31, 33, 35–37, 41, 43, 46, 47	§ 103 Schmolka, Nabi, Shine	1, 24–27, 29, 31, 33, 35–37, 41, 43, 46, 47	
38, 39	§ 103 Schmolka, Nabi, Shine, and Mongiat	38, 39	
40	§ 103 Schmolka, Nabi, Shine, Winston	40	
42, 44	§ 103 Schmolka, Nabi, Shine, Causton	42, 44	
45	§ 103 Schmolka, Nabi, Shine, Causton, Thiele	45	
48	§ 103 Schmolka, Nabi, Shine, Giacin	48	
Overall Outcome		1, 24–27, 29, 31, 33, 35–48	

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED