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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte INDRA PRAKASH, AVETIK MARKOSYAN,
VENKATA SAI PRAKASH CHATURVEDULA, MARY CAMPBELL,
RAFAEL SAN MIGUEL, SIDDHARTHA PURKAYASTHA, and
MARQUITA JOHNSON

Appeal 2019-005610
Application 14/615,888
Technology Center 1700

Before KAREN M. HASTINGS, JAMES C. HOUSEL, and
BRIAN D. RANGE, *Administrative Patent Judges*.

RANGE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

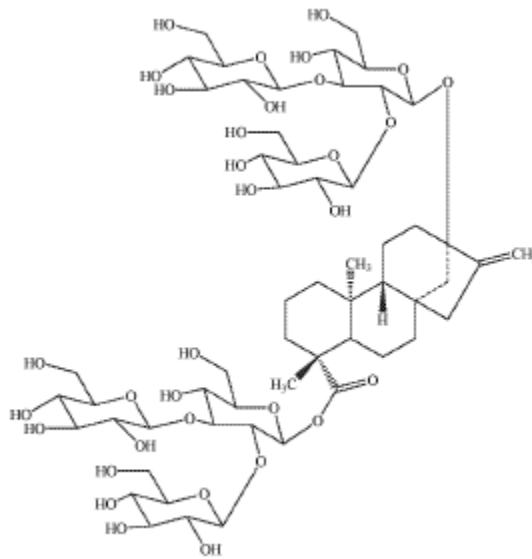
Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner’s decision to reject claims 25, 27, 29, 30, 40, 45–48, 59–62, and 64–66. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as The Coca-Cola Company and PureCircle Limited. Appeal Br. 3.

CLAIMED SUBJECT MATTER²

Appellant describes the invention as relating to sweetened compositions containing one or more steviol glycoside, such as Rebaudioside X (“Reb X”). Spec. 1:9–15. Claim 25 is illustrative, and we reproduce it below:

25. An enhanced water beverage comprising a sweetener composition comprising Reb X as the sole sweetener, wherein Reb X has the following formula:



and Reb X is present in a concentration from about 200 ppm to about 600 ppm.

Appeal Br. 24 (Claims App.). Claim 25 expresses the Reb X formula by using of a graphic depiction of the molecule.

² In this Decision, we refer to the Non-Final Office Action dated May 29, 2018 (“Non-Final Act.”), the Appeal Brief filed March 29, 2019 (“Appeal Br.”), the Examiner’s Answer dated May 17, 2019 (“Ans.”), and the Reply Brief filed July 17, 2019 (“Reply Br.”).

REFERENCES

The Examiner relies upon the prior art below in rejecting the claims on appeal:

<u>Name</u>	<u>Reference</u>	<u>Date</u>
Prakash et al. ("Prakash")	US 2007/0116823 A1	May 24, 2007
Morita et al. ("Morita")	WO 2010/038911 A1	April 8, 2010

REJECTIONS

The Examiner maintains the following rejections on appeal:

- A. Claims 25, 27, 29, 30, 40, 45–48, 59–62, and 64–66 on the ground of nonstatutory double patenting as being unpatentable over the claims of U.S. Patent No. 9,169,285. Ans. 3.
- B. Claims 25, 27, 29, 30, 40, 45–48, 59–62, and 64–66 under 35 U.S.C. § 103 as obvious over Morita in view of Prakash. *Id.*

OPINION

We review the appealed rejections for error based upon the issues identified by Appellant and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential), (cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (“[I]t has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections.”)). After considering the evidence presented in this Appeal and each of Appellant’s arguments, we are not persuaded that Appellant identifies reversible error. Thus, we affirm the

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Examiner's rejections for the reasons expressed in the Non-Final Office Action and the Answer. We add the following primarily for emphasis.

Rejection A, obviousness-type double patenting. Appellant does not dispute this rejection. We summarily affirm the rejection. *Ex parte Frye*, 94 USPQ2d at 1075.

Rejection B, obviousness. The Examiner rejects claims 25, 27, 29, 30, 40, 45–48, 59–62, and 64–66 under 35 U.S.C. § 103 as obvious over Morita in view of Prakash. Non-Final Act. 3. Appellant argues all claims as a group. *See* Appeal Br. 17–18. Therefore, consistent with the provisions of 37 C.F.R. § 41.37(c)(1)(iv) (2013), we limit our discussion to claim 25, and all other claims on appeal stand or fall together with claim 25.

The Examiner finds that Morita teaches the steviol glycoside “Rebaudioside M (i.e., Rebaudioside X”) as a “stevia sweetener” in a beverage. Non-Final Act. 4 (citing Morita). The Examiner finds that Morita does not teach Reb X as the sole sweetener of a beverage. *Id.* at 4.

The Examiner finds that Prakash teaches formulating beverages using individual steviol glycosides of high purity, at concentrations from 50 ppm to about 500 ppm. *Id.* The Examiner finds that Prakash teaches combinations of steviol glycosides in beverage formulations. *Id.* The Examiner determines that it would have been obvious to use the amounts taught in Prakash with Morita. *Id.* The Examiner determines that “Applicant is using a known sweetener for its art-recognized function to obtain no more than expected results. . . . Once the art has recognized a sweetener[,] the manipulation of amounts would be expected and would be considered, at most, optimization.” *Id.* at 4–5.

As Appellant states (Appeal Br. 11), the ultimate determination of obviousness is a question of law based on underlying factual findings

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including the factors enumerated by *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966): (1) the scope and content of the prior art; (2) and differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of non-obviousness such as, for example, unexpected results.

With respect to factors (1) and (2), Appellant argues that the references are different than the claimed invention because Morita discloses, at most, 6.7 ppm of Reb X in solution. Appeal Br. 14. Appellant further argues that Morita’s example beverages do not include Reb X. *Id.* at 15. Appellant argues that Prakash does not teach Reb X and that, when utilizing, for example, Reb A, Prakash adds a “sweet taste improving composition” to avoid an undesirable taste of Reb A alone. *Id.* at 15. These arguments, by themselves, are unpersuasive because they address the Morita and Prakash references individually rather than addressing the references’ combined teachings and the Examiner’s rationale for combining the references’ teachings. *See In re Keller*, 642 F.2d 413, 426 (CCPA 1981). We, however, consider these arguments concerning the scope of the art and differences between the art and the claims when making an overall obviousness determination below.

With respect to factor (3), Appellant argues that a person of ordinary skill in the art is a formulation chemist with an advanced degree in chemistry and is knowledgeable in the sweetener arts. Appeal Br. 15–16. The Examiner does not dispute this point. Appellant argues that the sweetener art is unpredictable. *Id.* at 16–17. Appellant does not, however, present evidence with respect to this point.

In view of factors (1) to (3), Appellant argues that a person of skill in the art would not have been motivated to reach a beverage using Reb X as a

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sole sweetener at 200 to 600 ppm. Appeal Br. 17–18. Appellant again emphasizes that Morita teaches, at most 6.7 ppm Reb X and that Morita’s examples use formulations that do not include Reb X in its beverages. *Id.* at 17. Appellant also emphasizes that Prakash’s beverages with 400 ppm or 500 ppm Reb A as a sole sweetener have high sweetness linger. *Id.* We consider this argument when balancing all *Graham* factors below.

With respect to factor (4), Appellant argues unexpected results. Appeal Br. 18–20; Reply Br. 5–10. A party asserting unexpected results as evidence of nonobviousness has the burden of proving that the results are unexpected. *In re Geisler*, 116 F.3d 1465, 1469–70 (Fed. Cir. 1997). The evidence of unexpected results also must also be reasonably commensurate with the scope of the claims. *In re Peterson*, 315 F.3d 1325, 1330–31 (Fed. Cir. 2003) (explaining that applicant may overcome a prima facie case of obviousness by showing unexpected results but the showing of unexpected results “must be commensurate in scope with the claims which the evidence is offered to support” (internal quotes and citation omitted)). “If an applicant demonstrates that an embodiment has an unexpected result and provides an adequate basis to support the conclusion that other embodiments falling within the claim will behave in the same manner, this will generally establish that the evidence is commensurate with scope of the claims.” *In re Huai-Hung Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011).

To support the existence of unexpected results, Appellant relies upon data from the March 29, 2018, Declaration of Dr. Indra Prakash (“Prakash Declaration”) and data from the Specification. *Id.* According to Dr. Prakash, the Prakash Declaration’s data shows “that the enhanced water beverage sweetened with 200 ppm Reb X had significantly greater Sweetness in

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Mouth and Overall Maximum Sweetness compared to the enhanced water beverage sweetened with 200 ppm Reb A.” Prakash Declaration ¶ 13.

According to Appellant, the Specification’s data shows at Examples 2 and 4 that the beverages with 500 ppm Reb X as a sole sweetener have less or no off-tastes as compared to Reb A-sweetened beverages. Appeal Br. 18–22; *see also* Spec. 123:11–17 (Example 2); 128:17–129:16 (Example 4).

Appellant argues that Example 9 shows that a 250 ppm Reb X beverage had less bitterness, less astringency, and less bitter lingering as compared to Reb A. Appeal Br. 19–20.

Appellant’s proffered evidence here adds little to the overall obviousness analysis for at least two reasons. First, we agree with the Examiner that the evidence is not reasonably commensurate in scope with claim 25. Ans. 5. In particular, claim 25 is open to any kind of beverage so long as the beverage has Reb X as a sole sweetener at 200 ppm to 600 ppm. Appellant has not established a basis for expecting that use of Reb X would benefit any enhanced water beverage, for example, both coffee and lemonade flavored beverages. Second, Appellant does not present evidence that the use of Reb X is unexpected. At best, Appellant establishes some superiority of Reb X over Reb A under some conditions and if certain taste qualities are preferred; superiority alone, however, is not sufficient to show that the result is unexpected. *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1371 (Fed. Cir. 2007) (“[A]ny superior property must be *unexpected* to be considered as evidence of non-obviousness.”).

After balancing all facts relating to the underlying *Graham* factors, Appellant’s arguments do not identify error in the Examiner’s obviousness conclusion. Morita teaches that Reb X is useful as a sweetener. Non-Final Act. 4. Morita describes its invention as “Steviol Glycoside of the formula I

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to X” (Morita ¶ 10), and Appellant and the Examiner agree that formula VIII corresponds to Reb X. Non-Final Act. 4; Appeal Br. 13–14. Morita states that its steviol glycosides “have structures in which more glucoses are added than ST or RA and therefore provide a Stevia sweetener having an excellent strong taste.” Morita ¶ 5. The preponderance of the evidence, thus, supports the Examiner’s finding that the only distinction between Morita and claim 25 is use of Reb X as a sole sweetener in a beverage at 200 to 600 ppm. Non-Final Act. 4.

Prakash does not address Reb X in particular, but it does teach use of other steviol glycosides (steviol glycosides which are among those also taught by Morita) for use as a sweetener in a ppm range that overlaps 200 to 600 ppm. Non-Final Act. 4–5; Prakash ¶ 886 (teaching rebaudioside A from 100 ppm to 3,000 ppm). Prakash teaches use of its sweetener in a beverage. Prakash ¶¶ 41, 884–885. Prakash further teaches that a person of ordinary skill in the art “can readily discern the appropriate amount of sweetener to put in a sweetened composition.” *Id.* at ¶ 885. Based on the teachings of Morita and Prakash, the preponderance of the evidence supports the Examiner’s position that use and manipulation of a known steviol glycoside is conventional in the art and that adjustment of a sweetener composition is known in the art. Ans. 5.

As Appellant argues (Appeal Br. 15; Reply Br. 2–5), Prakash teaches use of a “sweet taste improving composition” alongside the steviol glycoside in at least some embodiments. Prakash Abstract, ¶ 80. Prakash teaches, for example, embodiments comprising “at least one natural and/or synthetic high-potency sweetener, at least one sweet-taste improving composition, and at least one functional ingredient [i.e., a hydration product].” *Id.* ¶ 19. The preponderance of the evidence, however, does not establish that all of

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Prakash’s “sweet taste improving compositions” are sweeteners within the scope of claim 25. Rather, the sweet taste improving composition can be, for example, “polyols, amino acids and their corresponding salts, polyamino acids and their corresponding salts.” *Id.* Thus, Prakash teaches embodiments where no additional sweetener must necessarily be included with the steviol glycoside. Prakash ¶ 80; *see also In re Lamberti*, 545 F.2d 747, 750 (CCPA 1976) (“all disclosures of the prior art, including unpreferred embodiments, must be considered”).

Appellant also argues that the Examiner applies an incorrect claim construction because claim 25 requires that Reb X is “the sole sweetener.” Reply Br. 3. But even if Appellant is correct in this regard, Prakash, as we explain above, suggests that a steviol glycoside could be a sole sweetener (where included “sweet taste improving compositions” are not necessarily a sweetener). Prakash ¶ 80. This argument, therefore, does not identify harmful error.

Appellant further argues that Morita suggests that Reb X negatively impacts beverage taste. Appeal Br. 17; Reply Br. 4. In particular, Appellant relies on Morita’s Example 6, Table 10 to argue “Morita indicates that the RA-B Crystals, which contain no Reb X, had better sensory properties in five of six categories than RA-B extract[] which contained some level of Reb X.” Appeal Br. 17. But Morita Table 10 also indicates, for example, that RA-C crystals—which include Reb X—have good properties. Morita ¶ 37; *see also* Morita ¶ 29 (indicating that Crystals RA-C comprise, among other things, composition VIII where VIII is Reb X). Moreover, Table 10 indicates that taste may be measured in many different ways: sweetness quality, taste remaining in the mouth, astringency, delicate taste, refreshing feeling, and sweetness running out. Each of these measurements involves

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some subjectivity. A person of skill in the art would recognize that different sweeteners may present different advantages and disadvantages; the existence of potential disadvantages, however, does not negate obviousness. *Cf. Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (“a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine”). On balance, each of the formulations of Morita Table 10 comprise a wide variety of components such that a person of skill in the art would not be dissuaded from pursuing any particular component as a sweetener (including Reb X) based on the data.

Because Appellant’s arguments do not identify harmful error, we sustain the Examiner’s rejection.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
25, 27, 29, 30, 40, 45–48, 59–62, 64–66	nonstatutory double patenting	U.S. Patent No. 9,169,285	25, 27, 29, 30, 40, 45–48, 59–62, 64–66	
25, 27, 29, 30, 40, 45–48, 59–62, 64–66	103	Morita, Prakash	25, 27, 29, 30, 40, 45–48, 59–62, 64–66	
Overall Outcome			25, 27, 29, 30, 40, 45–48, 59–62, 64–66	

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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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED