

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RED DIAMOND, INC.,
Petitioner,

v.

SOUTHERN VISIONS, LLP,
Patent Owner.

IPR2019-01661
Patent 9,468,222 B2

Before CHRISTOPHER L. CRUMBLEY, JEFFREY W. ABRAHAM, and
CHRISTOPHER C. KENNEDY, *Administrative Patent Judges*.

CRUMBLEY, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Granting In Part Patent Owner's Revised Motion to Amend
35 U.S.C. § 318

I. INTRODUCTION

Red Diamond, Inc., filed a Petition for *inter partes* review of claims 1, 6, 12, 13, 19, and 23 of U.S. Patent No. 9,468,222 B2 (Ex. 1001, “the ’222 patent”). Paper 1 (“Pet.”). The owner of the ’222 patent, Southern Visions, LLP, did not file a Preliminary Response. On April 1, 2020, we instituted trial. Paper 6 (“Inst. Dec.”).

Following institution, Patent Owner did not file a Response. Instead, Patent Owner filed a Motion to Amend requesting that we cancel claims 1, 6, 12, 13, 19, and 23, unconditionally consider its Motion to Amend, and enter proposed substitute claims 25–30. Paper 8 (“MTA”) 1. Petitioner filed an opposition. Paper 12. Pursuant to Patent Owner’s request (MTA 1) we issued Preliminary Guidance, explaining that with respect to proposed substitute claims 25, 26, and 28–30, Patent Owner had not shown a reasonable likelihood that it satisfied the statutory and regulatory requirements associated with a motion to amend, and that Petitioner had demonstrated a reasonable likelihood that the proposed substitute claims were unpatentable. Paper 14 (“PG”) 3, 9.

Patent Owner subsequently filed a Revised Motion to Amend requesting “that the Board cancel original claims 1, 6, 12, 13, 19 & 23, unconditionally consider this Motion, and enter [proposed substitute] claims 31–36.” Paper 15 (Revised MTA) 1. Petitioner filed an Opposition to the Revised Motion to Amend (Paper 27 (“Opp.”)), Patent Owner filed a Reply (Paper 31), and Petitioner filed a Sur-reply (Paper 33).

We held an oral argument on January 29, 2021. A copy of the transcript of that argument was entered into the record. Paper 35 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6, and we issue this Final Written Decision under 35 U.S.C. § 318(a). For the reasons below, we grant Patent Owner’s Revised Motion to Amend with respect to Patent Owner’s request that we cancel original challenged claims 1, 6, 12, 13, 19, and 23, but we deny Patent Owner’s Revised Motion to Amend with respect to Patent Owner’s request that we enter proposed substitute claims 31–36.

A. RELATED MATTERS

The parties identify the following related district court matter: *Southern Visions, LLP v. Red Diamond, Inc.*, No. 2:18-cv-02039-RDP (N.D. Ala.). Pet. 7–8; Paper 4, 1. The parties also identify PGR2019-00045 involving related U.S. Patent No. 10,071,852, IPR2019-01662 involving related U.S. Patent No. 9,725,232, IPR2019-01671 involving U.S. Patent No. 9,468,330, and IPR2020-00001 involving related U.S. Patent No. 9,459,634. Pet. 8; Paper 4, 1. Additionally, Patent Owner identifies related U.S. Patent No. 10,093,480, U.S. Patent No. 10,130,209, and U.S. Application No. 16/166,862. Paper 4, 1.

B. THE ’222 PATENT

The ’222 patent, entitled “Tea Brewing and Sweetening Product and Process,” issued on October 18, 2016 from U.S. Application 13/867,526 (“the ’526 application”) and relates to products for brewing sweetened beverages such as tea. Ex. 1001 at codes (21), (45), (54), (57). The ’222 patent states that prior art methods of brewing sweetened beverages, which include manually adding sugar to a beverage after it brews, result in “a lack of consistency from one batch of tea to the next” because, for example, one “usually does not have a scale to weigh out” the sweetener, which results in

variation of Brix level¹ among batches. *Id.* at 1:11–37. The '222 patent aims “to provide an accurate and consistent way of brewing sweetened tea.” *Id.* at 2:19–20. To that end, the '222 patent discloses providing a sieve or filtering device “containing tea and sugar in a prescribed blended ratio for use in the brewing basket of a drip coffee machine to brew tea accurately and consistently.” *Id.* at 2:30–33.

The '222 patent explains that the sieve or filtering device is water permeable, and has a sieve size for retaining the tea and sugar particles. *Id.* at 2:49–52. The sieve can be placed in a brewing basket with hot water to steep the tea particles and sugar granules in hot water in the basket and extract tea and dissolve sugar in the water permeable sieve to produce a concentrated sweetened tea solution. *Id.* at 2:54–59.

The '222 patent attributes significance to the mesh size and particle size of the sweetener. For example, the patent discloses that “[p]referably . . . the size of the sugar granules is in the range of U.S. mesh sieve nos. 3–35.” *Id.* at 2:67–3:3. The '222 patent explains the relationship between mesh number and particle size of the sugar retained in the sieve, noting that the smaller the mesh number, the larger the granules of sugar are retained. *Id.* at 4:46–48. According to the '222 patent, “[i]t has been found . . . that an advantageous sieve size for the sugar of the present invention is that retained by US sieve numbers 3–35.” *Id.* at 4:49–52; *see also id.* at 6:46–48 (“One reason the sugar works in the present invention is the granular size (retained by U.S. mesh sieve 3–35).”). The use of larger granules of sugar allows the

¹ “One degree Brix is one gram of sucrose in 100 grams of solution Brewed sweetened tea has a typical Brix level of 10½ to 11.” Ex. 1001, 1:17–28.

sugar to dissolve easier and better, and allows the hot water to flow around the granules at the same time as the tea is being extracted out of the tea particles, reducing two steps into one. *Id.* at 5:15–18. The ’222 patent further indicates that “[t]he key is the heat. The heat in the brewing basket dissolves all the sugar.” *Id.* at 6:52–53.

C. LEVEL OF ORDINARY SKILL IN THE ART

In the Institution Decision, we determined that a person of ordinary skill in the art “would have had sufficient experience and/or education in the food industry to possess an understanding of (1) sugar particle size as it pertains to brewed beverages, (2) sugar particle size screening, and (3) the storage and use of sugar in commercial settings.” Inst. Dec. 7. We observed that this level of ordinary skill is consistent with the level of ordinary skill that we adopted in a related case that involves similar subject matter. *See Red Diamond, Inc. v. Southern Visions, LLP*, PGR2019-00045, Paper 9 at 6–8 (PTAB Oct. 15, 2019). We also asked the parties to expressly discuss the level of ordinary skill in the art in the remaining briefing if either party disagreed with our determination. Inst. Dec. 8.

For purposes of this Final Written Decision, we maintain our determination from the Institution Decision because neither party disputes the level of ordinary skill identified in the Institution Decision (*see* Revised MTA 13–14), and because we continue to find that the stated level of ordinary skill is consistent with the record.

II. MOTION TO AMEND

A. ORIGINAL CHALLENGED CLAIMS

As noted above, Patent Owner requests that we “unconditionally consider” the Revised Motion to Amend and cancel original claims 1, 6, 12, 13, 19, and 23. Revised MTA 1. Because Patent Owner has not indicated that our consideration of the Revised Motion to Amend is contingent on a determination that original challenged claims 1, 6, 12, 13, 19, and 23 are unpatentable, we grant Patent Owner’s request to cancel original challenged claims 1, 6, 12, 13, 19, and 23. *See Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15 at 3 (PTAB Feb. 25, 2019) (precedential) (“*Lectrosonics*”) (“A request to cancel claims will not be regarded as contingent.”). The remaining issue before us is whether to grant the Revised Motion to Amend as to proposed substitute claims 31–36.

B. APPLICABLE LAW

In reviewing a motion to amend, we consider whether the motion meets the statutory and regulatory requirements set forth in 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121. *See Lectrosonics* at 4. That is, the patent owner must demonstrate the following: (1) the amendment proposes a reasonable number of substitute claims; (2) the amendment responds to a ground of unpatentability involved in the trial; (3) the amendment does not seek to enlarge the scope of the claims of the patent or introduce new subject matter; and (4) the proposed claims are supported in the original disclosure

of the patent. *See* 35 U.S.C. § 316(d) (2018); 37 C.F.R. § 42.121 (2019); *see also Lectrosonics* at 4–8.

We also consider unpatentability. In that regard, a patent owner “does not bear the burden of persuasion to demonstrate the patentability of [the proposed] substitute claims.” *Lectrosonics* at 4 (citing *Aqua Prods., Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017); *Bosch Auto. Serv. Sols. LLC v. Iancu*, 878 F.3d 1027 (Fed. Cir. 2017)). “Rather, as a result of the current state of the law and [U.S. Patent and Trademark Office] rules and guidance, the burden of persuasion ordinarily will lie with the petitioner to show that any proposed substitute claims are unpatentable by a preponderance of the evidence.” *Lectrosonics* at 4.

C. PROPOSED SUBSTITUTE CLAIMS

Patent owner moves to replace original claims 1, 6, 12, 13, 19, and 23 with proposed substitute claims 31–36, respectively. The proposed substitute claims, with underlining indicating language added to, and strikethrough indicating language removed from, the original claims, are reproduced below. *See* Revised MTA, Appendix A (Listing of Proposed Substitute Claims).

31. A sweet tea brewing product for brewing and sweetening tea in a brewing basket of a commercial tea making machine comprising:

at least one water permeable mesh pouch for placement in said brewing basket during brewing;

tea particles and sugar granules contained in said at least one mesh pouch;

wherein the size of said sugar granules is in the range of U.S. mesh sieve nos. 3-35;

wherein said at least one water permeable mesh pouch contains between 1.746 pounds and about 3 pounds of said sugar granules;

said mesh pouch having mesh openings being generally smaller than the size of said sugar granules and said tea particles for retention of said granules and particles; and said tea particles and sugar granules being brewed and dissolved in said brewing basket during steeping of said tea particles and sugar granules in hot water to produce a concentrated sweet tea solution delivered from said basket.

~~32. The product of claim 2~~ A sweet tea brewing product for brewing and sweetening tea in a brewing basket of a commercial tea making machine comprising:

at least one water permeable mesh pouch for placement in said brewing basket during brewing;

tea particles and sugar granules contained in said at least one mesh pouch;

wherein said at least one water permeable mesh pouch contains tea particles and sugar granules in a prescribed blend ratio;

wherein the size of said sugar granules is in the range of U.S. mesh sieve nos. 3-35;

wherein said at least one water permeable mesh pouch contains between four cups and about 3 pounds of said sugar granules;

said mesh pouch having mesh openings being generally smaller than the size of said sugar granules and said tea particles for retention of said granules and particles; and said tea particles and sugar granules being brewed and dissolved in said brewing basket during steeping of said tea particles and sugar granules in hot water to produce a concentrated sweet tea solution delivered from said basket.

33. The product of claim 631 wherein said at least one water permeable pouch contains tea particles and sugar granules in a prescribed blend ratio, the blend ratio of tea to sugar is in the range of 1:5 to 1:25, and

said at least one water permeable mesh pouch contains about 3 pounds of said sugar granules.

34. A tea brewing system for brewing sweetened tea comprising:

a commercial tea brewing machine having a removable brewing basket and a tea brewing urn with at least a 3 gallon capacity;

a source of tea particles for placement into said brewing basket during brewing; and

a source of sugar granules for placement into said brewing basket during brewing wherein the size of said sugar granules is in the range of U.S. mesh sieve nos. 3-35;

at least one water permeable mesh pouch containing said source of tea particles, and said source of sugar granules in a desired blend ratio;

a cold water pipe for dispensing water into said tea brewing urn during brewing; and

a hot water dispenser for dispensing hot water into said brewing basket to steep said tea particles and sugar granules in hot water in the basket and extract tea and dissolve sugar to produce a concentrated sweetened tea solution;

wherein said commercial tea brewing machine is capable of producing said sweetened tea having at least about 10.5 Brix when said at least one water permeable pouch contains one pound of said sugar granules for each gallon of said sweetened tea; whereby said concentrated sweetened tea solution enters ~~the~~ said tea brewing urn to mix with said water from said water pipe to provide accurate and consistent sweetened tea.

35. The system of claim ~~43~~34 wherein said blend ratio is in the ratio of about 1:5 to 1:25,

wherein said commercial tea brewing machine is capable of producing said sweetened tea having between about 10.5-11 degrees Brix.

36. A method for brewing sweetened teas comprising:

providing a commercial tea brewing machine having an urn having a capacity of at least 3 gallons, a brewing basket carried above the urn, a hot water dispenser for delivering hot water into said brewing basket, and a cold water dispenser for delivering cold water into said urn while brewing tea;

placing a mesh pouch containing a prescribed blend of tea particles and sugar into said brewing basket;

wherein the size of the granules of said sugar is in the range of U.S. mesh sieve nos. 3-35;

producing a flow of concentrated sweetened tea solution out of said brewing basket by dispensing said hot water into said brewing basket containing said mesh pouch and steeping the tea particles and sugar in said brewing basket; and

dispensing cold water into said tea urn simultaneously with the flow of concentrated sweetened tea solution into the urn, wherein said dispensing step further comprises mixing said cold water and said concentrated tea solution to produce sweetened tea;

wherein said mesh pouch contains no more than one pound of said sugar per gallon of said sweetened tea and said sweetened tea has a dissolved sucrose percentage by weight between about 10.5 degrees Brix and complete dissolution of said one pound of said sugar per gallon; whereby the sugar is more completely and consistently dissolved in contrast to the sugar being dissolved in the tea solution in the urn.

D. STATUTORY AND REGULATORY REQUIREMENTS FOR A MOTION
TO AMEND

Petitioner contends the proposed substitute claims fail to meet the statutory and regulatory requirements set forth in 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121. Opp. 1. Among other things, Petitioner argues proposed substitute claims 31–36 introduce new matter in violation of 35 U.S.C. § 316(d)(3). Opp. 1; *see* 37 C.F.R. § 42.121(a)(2)(ii).

“[T]he Board requires that a motion to amend set forth written description support in the originally filed disclosure of the subject patent for each proposed substitute claim, and also set forth support in an earlier filed disclosure for each claim for which benefit of the filing date of the earlier filed disclosure is sought.” *Lectrosonics* at 7 (citing 37 C.F.R. §§ 42.121(b)(1) and (2)).

In their briefing, the parties group the proposed substitute claims into two sets: the first, claims 31–33, contain newly-added limitations directed to the amount of sugar to be used in the claimed sweet tea brewing product; the second, claims 34–36, contain newly-added limitations directed to the Brix level of the tea that the claimed machine is capable of producing (or that the claimed method produces, in the case of claim 36). We will follow the parties’ grouping of the claims in our analysis below.

1. Proposed Substitute Claims 31–33

Proposed substitute claim 31 specifies that the water permeable mesh pouch of the claimed sweet tea brewing product “contains between 1.746 pounds and about 3 pounds of said sugar granules.” Revised MTA, Appendix A at 1. Proposed substitute claim 32 is similar in structure to

claim 31, but requires “between four cups² and about 3 pounds of said sugar granules.” *Id.* at 2. Finally, proposed substitute claim 33 depends from claim 31 and further narrows the amount of sugar to “about 3 pounds.” *Id.*

Patent Owner refers to these new limitations of proposed substitute claims 31–33 as the “sugar weight limitation” and cites paragraphs 2, 3, 10, 28, 29, 32, and Figure 1A of the ’526 application (Ex. 2025) for written description support. Revised MTA 2–3. In particular, Patent Owner contends the application discloses that the “industry standard” would have been to use three pounds of sugar in a typical three gallon industrial brewing machine. *Id.* at 3 (citing Ex. 2025 ¶¶ 2–3). But, according to Patent Owner, the application also describes using four cups of sugar. *Id.* Patent Owner contends that these disclosures provide “blaze marks” for the endpoints of the claimed ranges, specifically 3 pounds, 4 cups, and 1.746 pounds of sugar, and also provides support for amounts between the endpoints because the application notes that the amount of sugar added to an urn typically “varies.” *Id.*

Petitioner argues that the claimed amounts of sugar have “no support” in the disclosure of the application, because the passage that Patent Owner relies on is a description in the background that the patent considers a “problematic prior art practice, not any feature of the alleged invention.” Opp. 5. Specifically, Petitioner notes that Patent Owner relies on the following passage:

² Patent Owner presents uncontested evidence that four cups of sugar weighs about 1.746 pounds (Revised MTA 3; Ex. 2079, Exhibit A at 1 (Miller declaration with conversion chart)), meaning that the ranges of sugar claimed in proposed substitute claims 31 and 32 are virtually identical. The parties do not distinguish between the claimed ranges in any way.

Most of the time the people making the sweet tea are the wait staff, and this is a job that is inconvenient to them. The first waitress may like tea really sweet so she adds several cups of sugar when making the tea. A second waitress coming in later in the day, does not like her tea too sweet, so she just puts less cups in the tea. A third waitress likes to talk, so she puts in 4 cups of sugar, gets to talking, and puts 1 more cup of sugar in. So there is no consistency regarding the amount of sugar being put in the urn. In addition, there is an amount of sugar that is not dissolved located in the bottom of the urn that is not considered.

Ex. 2025 ¶ 2.

Petitioner observes that the passage describes an “undesirable practice that leads to a lack of consistency,” which under Federal Circuit precedent cannot provide adequate written description support. Opp. 5–6 (citing *Bamberg v. Dalvey*, 815 F.3d 793, 798 (Fed. Cir. 2016); *Tronzo v. Biomet*, 156 F.3d 1154, 1159 (Fed. Cir. 1998)). And furthermore, Petitioner notes that, if the disclosure provides any support for an amount of sugar at all, it is for five cups of sugar in the urn, not four. Opp. 5–6. Thus, Petitioner contends that the lower endpoint of the ranges in proposed substitute claims 31 and 32 lacks written description support in the ’526 application.

Petitioner also challenges the written description support for three pounds of sugar, the upper end of the ranges in proposed substitute claims 31 and 32 and the specified amount in proposed substitute claim 33. Again, Petitioner notes that the ’526 application only discusses using three pounds of sugar in the context of the prior art, and in a commercial tea brewing machine that “typically holds *at least* 3 gallons.” Opp. 6 (citing Ex. 1001, 1:10–40). Petitioner contends that even if the inventors of the ’222 patent contemplated using three pounds of sugar in their invention, or even if it would have been obvious to do so, that is insufficient to satisfy the written

description requirement because they did not disclose doing so, leaving one to speculate as to the amount of sugar that is appropriate in the disclosed brewing process. Opp. 6–7.

Patent Owner responds that Petitioner’s arguments fail to consider the disclosure of the ’526 application as a whole. Reply 1. Though Patent Owner acknowledges that the application discloses “that four cups of sugar, five cups of sugar, and . . . one pound of sugar per gallon (about 3 lbs. in a 3 gal. batch) can be used to sweeten iced tea” in reference to the prior art, “the statements also are probative of the problem to be solved and the prior method that the disclosed inventions *replaced*.” *Id.* In other words, Patent Owner argues that if the person of ordinary skill in the art would have understood that the disclosed amounts of sugar could be used in the prior art brewing process, those amounts could also be used in the inventive process that replaced the prior art. *Id.* at 1–2. In addition, the ’526 application discloses that the sugar amounts can be varied, further suggesting that a range of sugar amounts is appropriate. *Id.* at 2. And Patent Owner cites *Streck, Inc. v. Research & Diagnostic Sys., Inc.*, 665 F.3d 1269, 1287 (Fed. Cir. 2012) as holding that the written description analysis includes consideration of the prior art.

In our Preliminary Guidance, we found a reasonable likelihood that previously-proposed substitute claim 27, which specified that the mesh pouch contained three pounds of sugar, was adequately supported by the written description of the ’526 application. PG 8. We noted the application’s disclosure of using three pounds of sugar for three gallons of tea, and indicated that Patent Owner had demonstrated a reasonable likelihood of written description support for a pouch containing three pounds

of sugar. *Id.* We found other amounts of sugar, for example a range of 1.5 to 3 pounds of sugar, to likely lack adequate support. *Id.* at 7.

By its own description, the Preliminary Guidance “indicat[ed] our initial, preliminary, and non-binding views on whether Patent Owner has shown a reasonable likelihood that it has satisfied the statutory and regulatory requirements associated with filing a motion to amend.” *Id.* at 2. Following more extensive briefing by the parties, and having reviewed the now-complete record, we have reevaluated the question of whether a claim reciting the use of 3 pounds of sugar in a mesh pouch is adequately supported by the written description of the ’526 application. We find that it is not, for the reasons discussed below. We also find the other weights of sugar recited in the proposed substitute claims, including the lower endpoint of 1.746 pounds (4 cups), lacking in written description support.

The test for sufficiency of written description is whether the disclosure “clearly allow[s] persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (quoting *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1562–63 (Fed. Cir. 1991)). The disclosure must “reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Id.* It is well established, however, that to provide written description support the original disclosure “must do more than merely disclose that which would render the claimed invention obvious.” *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1377 (Fed. Cir. 2009); *Ariad*, 598 F.3d at 1352 (“[A] description that merely renders the invention obvious does not satisfy the [written description] requirement.”).

As noted above, Patent Owner acknowledges that to the extent the '526 application discloses 3 pounds or 1.746 pounds (4 cups) of sugar, they are disclosed in the background section of the narrative that discusses prior art brewing processes. Reply 1. But Patent Owner argues that this disclosure of prior art processes must necessarily inform the new matter inquiry, because it shows that a person of ordinary skill in the art was aware of brewing in a commercial brewing machine using those amounts of sugar. *Id.* at 1–2. And, according to Patent Owner, a person of ordinary skill in the art would have known those amounts of sugar would also be applicable to the brewing product of the invention, which is designed to also be used in a commercial brewing machine. *Id.*

While in some cases it can be appropriate to rely on the discussion of prior art in a patent application to inform the written description inquiry—for example, to provide evidence of background information that the person of ordinary skill would have applied to understand the invention—two specific features of the disclosure of the '526 application that Patent Owner has identified make such reliance inappropriate here. First, as Petitioner correctly notes, the relevant disclosure in the '526 application is not of a prior art process that the claimed invention builds upon; rather, the application clearly disparages the prior art brewing process and proposes the invention's pre-measured brewing pouches as a replacement. *See* Ex. 2025 ¶ 2 (“The problem is restaurants usually do not have a scale to weigh out one pound of sugar per gallon of tea so the Brix level varies from one urn of tea to the next. . . . [T]here is no consistency regarding the amount of sugar being put in the urn.”). By contrast, the pouches of the invention “provide an accurate and consistent way of brewing tea” (*id.* ¶ 5), and “[t]he Brix of

the solution is consistent since the same blend of tea particles and sugar granules is known.” *Id.* ¶ 24. The addition of four or five cups of sugar to a batch of tea is described as a result of *undesired* variability that the patent seeks to avoid, not an example of how the amount of sugar used in the invention may vary. *See Bamberg*, 815 F.3d at 798 (“We are not persuaded by the assertion that one skilled in the art would understand that an inventor possesses something that it deems undesirable.”).

Second, and more importantly, the ’526 application describes the brewing process using the pouches of the invention as functionally different than the prior art process that Patent Owner attempts to rely on for written description support. In the prior art process, hot water is used to brew tea in the brewing basket of the machine, which results in a concentrated tea solution that is then passed to the urn where it is mixed with cold water to make tea. Ex. 2025 ¶ 3. According to the application, this means that “when the sugar is added, the temperature of the tea is much cooler,” resulting in the sugar not dissolving completely. *Id.* (“If 3 lbs. of sugar is poured into the urn with 3 gallons of tea, some of the sugar goes to the bottom without dissolving. It would take longer, more time than the tea itself lasts, before enough sugar is dissolved to reach a Brix value of 11.”).

The ’526 application highlights this difference:

It is important to note that in the previous methods of brewing tea, sugar is added to the urn after the urn is filled with the tea solution dispensed into the urn at the same time as the cold water is dispensed into the urn. Sugar used to sweeten the tea is thus dissolved in a cool tea solution, reducing its ability to be dissolved. Typically a portion [] of sugar accumulates in the bottom of the urn so that more sugar is dispensed in the first glasses of tea than in the latter.

Id. ¶ 23.

By contrast, the '526 application emphasizes that the claimed invention permits complete dissolution of sugar, because the sugar is present in the brewing basket itself when the water is hottest. *Id.* ¶ 24 (“Because the sugar is steeped in hot water, almost all the sugar is dissolved and much more than when sugar is added to the tea solution after brewing in the urn.”), ¶ 29 (“The heat dissolves the sugar more completely in the sweetened concentrated tea solution in the basket.”). The inventors focused on this distinction throughout the application, concluding that “[t]he key is the heat. The heat in the brewing basket dissolves *all the sugar*.” *Id.* ¶ 31 (emphasis added).

A person of ordinary skill in the art at the time of the invention would have understood that sweetness, as measured by Brix level, is dependent on the amount of sugar dissolved in solution. Ex. 1001, 1:17–28 (“One degree Brix is one gram of sucrose in 100 grams of solution.”); *see also* Ex. 2025 ¶ 2. And, by extension, the total amount of sugar required to reach a certain amount dissolved in solution is directly dependent on how completely the added sugar dissolves. In other words, the addition of a certain amount of sugar may be necessary in order to achieve a particular Brix level when the sugar partially dissolves, but that same amount of added sugar will be excessive if there is complete dissolution. Although the '526 application describes using one pound of sugar per gallon of tea as the “industry standard,” as well as an example of a waitress using four or five cups of sugar to make tea, those are in the context of the prior art process wherein sugar is added to the cooled, brewed tea in the urn, resulting in incomplete dissolution. Patent Owner has directed us to no indication in the application that suggests the same amount of sugar would be appropriate in the brewing

process using the claimed invention, which the application acknowledges would result in complete dissolution of the sugar.

Though Patent Owner contends that the amounts used in the prior art two-step method are probative of the amounts to be used in the replacement single-step method of the invention (Reply 1–2 (citing Ex. 2025 ¶ 31)), the ’526 application repeatedly emphasizes that the invention is more than a simple substitution of one step for two, with everything else remaining the same. Rather, the increased heat of the water in the replacement one-step method alters the dissolution rate of the sugar, calling into question whether the amounts of sugar used in the prior art methods would have been used in the invention’s mesh pouches. In other words, the person of skill in the art would have predicted from the disclosure in the ’526 application that the claimed invention could achieve sweet tea using *less* sugar than the “industry standard” used in the prior art, not the same amount of three pounds of sugar per three gallon commercial brewing machine.

Contrary to Patent Owner’s suggestion, the ’526 application does not provide any “blaze marks” that would have guided a person of ordinary skill in the art to the amount of sugar that is appropriate to use in the claimed invention, much less suggest what amounts of sugar the applicants possessed at the time the application was filed. At best, the “industry standard” may have suggested a starting point from which the person of ordinary skill could have experimented and derived the appropriate amount of sugar to use with the claimed invention. But the fact that the original disclosure may have rendered the claimed weight ranges obvious is not adequate to show written description support. *See Ariad*, 598 F.3d at 1352. Patent Owner has not directed us to any disclosure in the ’526 application that provides the amount

of sugar that the inventors believed appropriate to use in the claimed invention; we, therefore, cannot conclude on the record before us that Patent Owner has established that a person of ordinary skill in the art would have understood the inventors to have been in possession of the inventions as claimed in proposed substitute claims 31–33 at the time the application was filed.

In view of the foregoing, we find that the sugar weight limitations in proposed substitute claims 31–33 constitute new matter. Because each of proposed substitute claims 31–33 introduces new matter, we must deny Patent Owner’s Revised Motion to Amend with respect to Patent Owner’s request that we enter claims 31–33 as substitutes for cancelled claims 1, 6, and 12. *See* 35 U.S.C. § 316(d)(3) (2018); 37 C.F.R. § 42.121(a)(2)(ii).

2. Proposed Substitute Claims 34–36

Proposed substitute claim 34 includes the following new limitation:

wherein said commercial tea brewing machine is capable of producing said sweetened tea having at least about 10.5 Brix when said at least one water permeable pouch contains one pound of said sugar granules for each gallon of said sweetened tea.

Revised MTA, Appendix A at 3. Proposed substitute claim 35 depends from claim 34, and further specifies that the machine is capable of producing tea having a Brix level of 10.5–11. *Id.* Proposed substitute claim 36 contains a similar limitation, requiring that the method produce tea with a dissolved sucrose percentage between about 10.5 Brix and complete dissolution of one pound of sugar per gallon. *Id.* at 4.

Patent Owner refers to these new limitations of proposed substitute claims 34–36 as the “functional limitation” and cites paragraphs 2, 3, 5–10,

23, 24, 27, 28, and 31 of the '526 application (Ex. 2025) for written description support. Revised MTA 2. In particular, Patent Owner contends the application discloses the following:

- (1) placing a mesh bag containing tea and large sugar in a basket of a commercial iced tea brewing (ITB) machine, starting the brewing cycle, and producing sweet tea in the machine's urn (Revised MTA 5 (citing Ex. 2025 ¶¶ 2, 3, 9, 10, 24, 25, 27, 31, cl. 1));
- (2) commercial ITB machines have urns capable of holding at least three gallons of tea (Revised MTA 6 (citing Ex. 2025 ¶ 3));
- (3) sweet tea is "typically" at least 10.5 degrees Brix (Revised MTA 6 (citing Ex. 2025 ¶ 2));
- (4) tea is typically sweetened with one pound of sugar per gallon of liquid (Revised MTA 6 (citing Ex. 2025 ¶¶ 2, 3));
- (5) the U.S. mesh nos. 3–35 range is a preferred range (Revised MTA 7 (citing Ex. 2025 ¶ 10));
- (6) "[t]he larger sugar granules allow the water to flow around it" (Revised MTA 8 (quoting Ex. 2025 ¶ 31));
- (7) "[a] concentrated sweetened tea solution flows out of the brewing basket into the urn . . . for consistently brewing sweet tea" (Revised MTA 8 (quoting Ex. 2025 ¶ 31; referring to this statement as the "*functional* result"));
- (8) "[o]ne degree Brix is one gram of sucrose in 100 grams of solution" (Revised MTA 7 (citing Ex. 2025 ¶ 2)); and
- (9) "[s]ugar refiners run sugar through a series of sieves rated with a US mesh number" (Revised MTA 7 (citing Ex. 2025 ¶ 25)).

In addition to these disclosures, Patent Owner argues that a person of ordinary skill in the art "would be aware of commercially available sugar

around mesh [sizes] 3–35,” and “would be able to select from commercially available ‘large’ sugars around mesh [size] 3-35 to achieve the claimed functions.” Revised MTA 7 (citing *Falko-Gunter Falkner v. Inglis*, 448 F.3d 1357, 1364 (Fed. Cir. 2006)). Patent Owner further argues that the ’526 application “guides creation of a working product” because a person of ordinary skill in the art knows how to determine the size of sugar and knows how to measure Brix. Revised MTA 7–8 (citing *Ex parte Johnson*, Appeal No. 2009-06686, 10 (PTAB Dec. 30, 2009)). Patent Owner also contends that a person of ordinary skill in the art reviewing the ’526 application “understands that the *structure* of larger sugar (increased granule size or more large granules), results in the *function* of producing sweet iced tea.” Revised MTA 8.

Petitioner argues that the only discussion of Brix levels in the ’526 application is in the context of prior art, where sweetener is added after brewing. Opp. 8. According to Petitioner, “there is no mention in the disclosure of any Brix levels achievable by using a blend of tea and sugar of any size distribution in the claimed invention,” and “Brix level . . . is never described as a feature or even a goal to be met.” *Id.*

Petitioner contends that the language “capable of producing a Brix level of at least 10.5 degrees Brix” is a “purely functional recital of a broad genus without giving any supporting structure in the specification of how to accomplish that function.” *Id.* at 9 (citing *Ariad*, 598 F.3d at 1349).

Petitioner asserts that “Patent Owner is attempting to claim a genus of any brewing system that uses sugar in the range of U.S. mesh sieve nos. 3 to 35 that is ‘capable of’ producing the claimed Brix value,” but does not disclose a single species that satisfies the requirement. *Id.* at 10. Petitioner argues

there is no written description support for such broad claims. *Id.* Petitioner also argues that testing conducted by Patent Owner’s declarant, Mr. Ebersole, shows the claimed minimum of 10.5 degrees Brix is not necessarily present when sweet tea is made with a product including one or more sugar particles in the range of U.S. mesh sieve nos. 3–35, as claimed. *Id.* at 9 (citing Ex. 2076 at Exhibit C, 20–29 (Table 3) (Ebersole declaration)).

In reply, Patent Owner argues that the ’526 application provides written description support for the recited Brix value because the application “provides a typical [Brix] range for ‘sweet tea’” and then “goes on to teach and claim that the disclosed invention produces ‘sweet tea.’” Reply 3. Patent Owner also argues that the claimed genus is narrow due to the amount of sugar and liquid recited in the claims. *Id.* In particular, Patent Owner contends that proposed substitute claims 34–36 recite a range between 10.5 and 13 Brix – as 13 is “the empirically observed maximum Brix (at 1 lb. of sugar per gal.)” Reply 4 (citing Ex. 2076 ¶ 72). Patent Owner contends this entire range is supported without specific examples because a person of ordinary skill in the art “knows about . . . and ‘would have been readily able to choose’ working large granule sugar.” Reply 4 (citing *Falko-Gunter*, 448 F.3d at 1366). Patent Owner argues that reciting “sugar in the 3–35 range” provides structure for achieving the claimed result, and, therefore, “Patent Owner does not claim *any way* of producing the claimed result – only those ways that use sugar in the 3-35 range.” Reply 4.

After considering the parties’ arguments and evidence, we find that the aforementioned “functional limitation” constitutes new matter and

warrants denial of the Revised Motion to Amend with respect to entry of proposed substitute claims 34–36.

Proposed substitute claims 34–36 require a product, having sugar particles of a size in the range of U.S. mesh sieve nos. 3–35, that is capable of brewing a sweetened tea beverage having a Brix value of at least 10.5 degrees using a ratio of one pound of sugar per gallon of water. Revised MTA, Appendix A at 3–4. Patent Owner contends the requirement of a Brix value of at least 10.5 degrees is adequately supported because the application discloses that sweet tea “typically” has a Brix value of 10.5–11, and the claimed products produce sweet tea. Revised MTA 5–6. The discussion of the typical Brix of sweetened tea appears in a paragraph under the heading “Background of the Invention,” and refers to the Brix value of tea made using the conventional tea brewing method involving steeping tea in the brewing basket of a commercial tea brewing machine, passing the concentrated tea solution into the urn, adding cold water to the urn to mix with the concentrated solution, and then adding sugar to the tea. Ex. 2025 ¶¶ 2–3.

Distinguishing its invention over conventional tea brewing procedures, Patent Owner contends the disclosed invention produces “sweet tea” having a Brix value of at least 10.5 degrees by providing sugar in the brewing basket with the tea, instead of adding sugar to the urn. Revised MTA 5–6 (citing Ex. 2025 ¶¶ 2, 3, 9, 10, 24, 25, 27, 31, cl. 1). It is undisputed, however, that the ’526 application does not provide any examples of producing a tea having the required Brix value by adding sugar particles in the claimed size range to the tea in the brewing basket of a

commercial ITB machine. *See* Revised MTA 4–6; Opp. 8–9; Reply 4; Sur-reply 5–6.

Notably, testing by Patent Owner’s Declarant, Mr. Ebersole, shows the claimed minimum Brix value of 10.5 degrees is not necessarily achieved simply by combining sugar, having particles of a size in the range of U.S. mesh sieve nos. 3–35, with tea in the brewing basket. Ex. 2076 at Exhibit C, 20–29 (Table 3). Rather, Mr. Ebersole’s testing shows that only certain sugar sizes produced tea having a Brix value of at least 10.5 degrees. *Id.*; *see also* Sur-reply 5–6. These specific sizes are not identified or otherwise disclosed in the ’526 application. *See* Sur-reply 5–6.

Additionally, Mr. Adam Stewart, one of the named inventors listed on the ’222 patent, testified that “a Brix of at least 8.0 qualifies as ‘sweet tea.’” Ex. 2028 ¶ 69. This evidence undermines Patent Owner’s contention that that the inventors possessed the claimed subject matter – a product capable of producing a sweetened tea beverage with a Brix value of *at least 10.5 degrees* – based on the disclosure that the claimed invention produces sweet tea. Instead, the evidence suggests Patent Owner disclosed the “desired result of matching the prior art” in the ’526 application, but did not “reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad*, 598 F.3d at 1351.

We disagree with Patent Owner’s argument that “even with functional claims, the ultimate question is whether a [person of ordinary skill in the art] ‘could derive the claim[s] . . . from the parent’s disclosure.’” Revised MTA 4–5 (quoting *Union Oil Co. v. A. Richfield Co.*, 208 F.3d 989, 1001 (Fed. Cir. 2000)). Patent Owner relies on a truncated quote from *Union Oil*,

making the holding appear to have broader applicability than it does when considered in its entirety. The sentence in *Union Oil* Patent Owner quotes appears in the portion of the decision discussing written description in the context of whether the narrow range disclosed in a claim must correspond exactly to those disclosed in the parent application. *See* 208 F.3d at 1001. Answering that question, the Federal Circuit stated that “the issue is whether one of skill in the art could derive the ***claimed ranges*** from the parent’s disclosure.” *Id.* (emphasis added). The Federal Circuit also compared the facts in *Union Oil* to those in *Ralston Purina Co. v. Far-Mar-Co, Inc.*, 772 F.2d 1570, 1575 (Fed. Cir. 1985), another case involving claims directed to “ranges and combinations.” *Union Oil*, 208 F.3d at 1001. We discern nothing in *Union Oil* or in *Ralston Purina* indicating that the claims involved functional limitations, and note the Federal Circuit’s statement that “[b]ecause of the fact-sensitive nature of the written description inquiry, this court has often warned against misapplication of precedents in this area.” *Id.* (citing *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1562 (Fed. Cir. 1991)).

Patent Owner also argues that “[w]ritten description may be found by combining patent disclosures with known art, with a disclosed function structure relationship, or with the ability to derive working results based on known testing procedures.” Revised MTA 5 (citing *Falko-Gunter*, 448 F.3d at 1366; *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 964 (Fed. Cir. 2002); *Johnson*, Appeal No. 2009-06686, at 10–11; *Ex parte Adler*, Appeal No. 2006-00157 (PTAB Mar. 23, 2006)). Patent Owner argues the facts in the present proceeding are similar to those in *Falko-Gunter* because a person of ordinary skill in the art would have been aware of “commercially

available sugar around mesh 3–35,” and would have been able to select from these sugars to achieve the claimed function. Revised MTA 5–7.

We disagree that the facts here are analogous to those in *Falko-Gunter*. The claim in *Falko-Gunter* recited “[a] vaccine comprising . . . a defective poxvirus that lacks a function imparted by an essential region of its parental poxvirus” *Falko-Gunter*, 559 F.3d at 1360. The Federal Circuit held the claim was adequately supported because the specification of the patent at issue disclosed that the invention could be used with any virus where essential genes can be identified and there was evidence in the record (in the form of published articles) that essential genes in poxvirus were known in the art. *Id.* at 1365–66. Thus in *Falko-Gunter*, the Federal Circuit relied on a discussion in the specification of the narrowing feature tied to the “functional” aspect of the claims, and knowledge in the art of this narrowing feature. *Id.* Here, unlike the situation in *Falko-Gunter*, Patent Owner has not directed us to discussion of the narrowing feature (the specific size of the sugar particles within U.S. mesh sieve nos. 3–35 capable of achieving the recited Brix value) of the functional limitation in the ’526 application. Nor is there any indication that the narrowing feature tied to the functional limitation was known in the art. To the contrary, Patent Owner contends the use of larger sugar to achieve the claimed invention was an unexpected result. Revised MTA 22–24.

Patent Owner’s reliance on *Johnson* is also unavailing. Revised MTA 7–8. The disputed claim in *Johnson* recited a composition with four components and a pH greater than about 7. *Johnson*, Appeal No. 2009-06686, at 2. The specification of the patent in *Johnson* included examples having all of the recited components, but did not disclose the pH of the

exemplary compositions. *Id.* at 4–5. The specification did, however, indicate that pH adjusting agents could be used to achieve the claimed pH, and “provide[d] guidance as to what components could be incorporated into the composition to achieve the claimed” pH value. *Id.* at 11. Based on these disclosures, the Board determined the written description requirement was satisfied. *Id.* In particular, the Board concluded the specification not only described how a person of ordinary skill in the art could determine whether the claimed properties were met, but also that it “provided guidance as to what components could be incorporated into the composition to achieve the claimed properties.” *Id.*

Drawing a comparison to *Johnson*, Patent Owner contends that the written description requirement is met because the ’526 application “guides creation of a working product . . . and how to test.” Revised MTA 7–8. *Johnson*, however, is distinguishable because there was specific guidance in the specification regarding what agents could be used to achieve the claimed pH value. *Johnson*, Appeal No. 2009-06686, at 4–5. Here, there is no guidance regarding what specific sugar particles within the range of U.S. mesh sieve nos. 3–35 can be used to achieve the claimed Brix value. Thus, the fact that a person can measure particle size and Brix alone is not enough for written description support of the claimed functional limitations. Furthermore, *Johnson* is a routine decision by another panel of the Board, is not precedential, and we are not bound by it.

Patent Owner also points to the disclosure of the functional result in the specification, namely “[a] concentrated sweetened tea solution flows out of the brewing basket into the urn . . . for consistently brewing sweet tea,” arguing that “written description may be satisfied through the disclosure of

function and minimal structure.” Revised MTA 8 (quoting MPEP § 2163 (II)(A)(3)(a) (9th ed. rev. 10.2019 June 2020); *Enzo*, 323 F.3d at 964). In *Enzo*, the Court stated that the written description requirement may be met if the functional characteristic recited in the claim was “coupled with a disclosed correlation between that function and a structure that is sufficiently known or disclosed.” *Enzo*, 323 F.3d at 964 (emphasis omitted). Here, the functional characteristic recited in the claim is producing sweet tea having a Brix of at least 10.5 degrees. Patent Owner has not directed us to “a disclosed correlation between that function and a structure that is sufficiently known or disclosed.” *Id.* Instead, Patent Owner has simply directed us to a very general function, producing “sweet tea” (which includes tea as low as 8 degrees Brix), and a correlation between producing sweet tea and the use of larger sugar in general. We thus disagree that a person of ordinary skill in the art “reviewing the [application], understands that the *structure* of larger sugar (increased granule size or more large granules), results in the *function* of producing sweet iced tea.” Revised MTA 8.

We recognize, as Patent Owner points out, that working examples are not always required to satisfy the written description requirement. Revised MTA 5; *Ariad*, 598 F. 3d at 1351; *Falko-Gunter*, 448 F.3d at 1366. We also recognize that “[i]n making his claim the inventor is at liberty to choose his own form of expression” *Cont’l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 419 (1908). Here, Patent Owner chose to use functional language in proposed substitute claims 34–36. Addressing functional claim language, the Federal Circuit in *Ariad* stated:

a generic claim may define the boundaries of a vast genus of chemical compounds, and yet the question may still remain whether the specification, including original claim language,

demonstrates that the applicant has invented species sufficient to support a claim to a genus. The problem is especially acute with genus claims that use functional language to define the boundaries of a claimed genus. In such a case, the functional claim may simply claim a desired result, and may do so without describing species that achieve that result. But the specification must demonstrate that the applicant has made a generic invention that achieves the claimed result and do so by showing that the applicant has invented species sufficient to support a claim to the functionally-defined genus.

Ariad, 598 F. 3d at 1349.

Structurally, Patent Owner has claimed a broad genus of brewing products – any product that includes sugar having particles in the 3–35 mesh range. Patent Owner attempts to further distinguish the genus by including the functional limitation of requiring the product to be capable of producing a tea with a Brix level of at least 10.5 degrees. Patent Owner does not dispute that there are products falling within the structural limitations that do not satisfy the functional limitations. Indeed, there is undisputed testing evidence on the record demonstrating that the entire range of recited structures does not perform the recited function. *See* Ex. 2076 at Exhibit C, 20–29 (Table 3); Revised MTA 9 (Patent Owner arguing the claims only cover products that include particles within the claimed range that perform the recited function).

Here, we discern no evidence on this record of “a representative number of species falling within the scope of the genus or structural features common to the members of the genus so that one of skill in the art can ‘visualize or recognize’ the members of the genus.” *Ariad*, 598 F.3d at 1350. Nor do we discern “a precise definition, such as by structure, formula, chemical name, physical properties, or other properties, of species falling

within the genus sufficient to distinguish the genus from other materials” in the disclosures, or evidence that “the art has established a correlation between structure and function.” *Id.* Instead, we view Patent Owner’s proposed substitute claims to involve “merely drawing a fence around the outer limits of a purported genus,” which “is not an adequate substitute for describing a variety of materials constituting the genus and showing that one has invented a genus and not just a species.” *Id.*

We recognize that the subject matter here is different from, and less complex than, the chemical and biochemical subject matter in *Ariad*. Nevertheless, the written description requirement still requires sufficient description to convey to one of skill in the relevant art that the inventors “had possession of the claimed invention” and “showing that the applicant has invented species sufficient to support a claim to the functionally-defined genus.” *Id.* at 1351, 1356. Thus, we consider the difference in technology in determining “the level of detail required to satisfy the written description requirement,” but do not consider the difference in technology to eliminate entirely the need for some disclosure in the specification indicating possession of the claimed invention. *Id.* at 1351.

Patent Owner has not directed us to any portion of the ’526 application showing actual Brix levels achieved by the inventors. Based on the inventor’s own admission, sweetened tea can have Brix levels as low as 8 degrees. Ex. 2028 ¶ 69. Additionally, undisputed test data shows that not all sugar having particles within the claimed size range of U.S. mesh sieve nos. 3–35 is capable of providing a tea having a Brix of at least 10.5 degrees. Ex. 2076 at Exhibit C, 20–29 (Table 3). In view of the lack of disclosure of the structural features (i.e., sugar granule particle size)

of products capable of producing tea having a Brix of at least 10.5 degrees when included in the brewing basket, we do not discern evidence demonstrating a person of ordinary skill in the art would have understood that the inventors had possession of a brewing product meeting the structural limitations that provided a sweetened tea having a Brix of at least 10.5 degrees as claimed.

In view of the foregoing, we find that the functional limitation in proposed substitute claims 34–36 constitutes new matter. Because each of proposed substitute claims 34–36 introduces new matter, we must deny Patent Owner’s Revised Motion to Amend with respect to Patent Owner’s request that we enter claims 34–36 as substitutes for cancelled claims 13, 19, and 23. *See* 35 U.S.C. § 316(d)(3); 37 C.F.R. § 42.121(a)(2)(ii).

III. CONCLUSION

Patent Owner’s request to cancel original claims 1, 6, 12, 13, 19, and 23 is *granted*. Patent Owner’s request to enter proposed substitute claims 31–36 is *denied*.

The table below summarizes our conclusions as to Patent Owner’s Revised Motion to Amend the claims:

Motion to Amend Outcome	Claim(s)
Original Claims Cancelled by Amendment	1, 6, 12, 13, 19, 23
Substitute Claims Proposed in the Amendment	31–36
Substitute Claims: Motion to Amend Granted	
Substitute Claims: Motion to Amend Denied	31–36
Substitute Claims: Not Reached	

IV. ORDER

It is hereby:

ORDERED that Patent Owner's Revised Motion to Amend is *granted* with respect to Patent Owner's request to cancel claims 1, 6, 12, 13, 19, and 23 of the '222 patent;

FURTHER ORDERED that Patent Owner's Revised Motion to Amend is *denied* with respect to Patent Owner's request to enter proposed substitute claims 31–36; and

FURTHER ORDERED that parties to this proceeding seeking judicial review of our decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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Patent 9,468,222 B2

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