

Patent No. 12,290,418

Petitioner's Response to Patent Owner's Brief on Discretionary Denial – Paper 10

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ASCENTCARE DENTAL PRODUCTS, INC.

Petitioner

v.

SOLMETEX, LLC

Patent Owner

Patent No. 12,290,418

Issue Date: May 6, 2025

Title: INTRAORAL DEVICE

Inter Partes Review No. IPR2025-01175

**PETITIONER'S RESPONSE TO PATENT OWNER'S BRIEF ON
DISCRETIONARY DENIAL**

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1001	U.S. Patent No. 12,290,418 (“the ’418 Patent”)
1002	Prosecution History of the ’418 Patent
1003	Expert Declaration of Dr. Brian P. Black
1004	<i>Curriculum Vitae</i> for Dr. Brian P. Black
1005	U.S. Patent No. 8,029,280 to Black (“Black”)
1006	Korean Patent No. 10-1082826 (“Park”)
1007	U.S. Patent No. 3,101,543 (“Baughan”)
1008	U.S. Patent No. 4,017,975 (“Johnson”)
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1011	Solmetex Infringement Contentions
1012	U.S. Patent Application No. 2003/0134253 (“Hirsch”)
1013	Korean Patent No. 10-0654392
1014	U.S. Patent No. 8,911,232
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1016	U.S. Patent No. 4,024,642
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1018	U.S. Patent No. 6,575,746
1019	U.S. Patent No. 9,532,858
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1021	Chinese Patent Application Publication No. 200420094338.X (“Zheng”)
1022	Prosecution History Excerpt from U.S. Patent No. 11,589,969
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Pursuant to the Interim Processes for PTAB Workload Memorandum (“Memo”) dated March 26, 2025, Petitioner Ascentcare Dental Products, Inc. (“Petitioner”) submits its reply brief to Patent Owner's Solmetex, LLC (“Patent Owner”) discretionary denial brief for Director review.

I. **INTRODUCTION**

For the reasons set forth below, the Board should not discretionarily deny the petition. To start, the petition presents a new, non-cumulative reference — Park — which is used to reject all challenged claims. Next, the Office materially erred in several ways. Additionally, the Petitioner's settled expectations favor institution. Finally, the *Fintiv* factors also favor institution.

II. **35 U.S.C. § 325(d)**

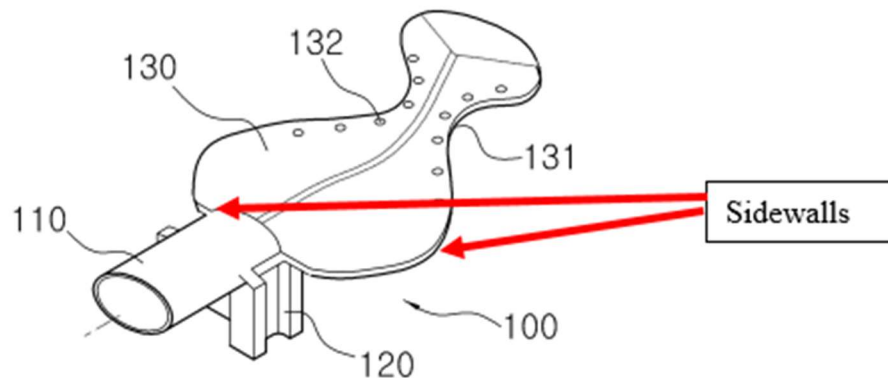
35 U.S.C. § 325(d) allows the Board to discretionarily deny a petition because the same or substantially the same prior art or arguments were previously presented to the Office. The Board uses a two-part framework to determine whether to exercise this discretion. *Advanced Bionics LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020) (Precedential). The Board has enumerated six factors to consider in exercising discretion pursuant to § 325(d). *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential as to § III.C.5, first paragraph). In view of this standard, the Board should institute IPR on all challenged claims.

A. ***Advanced Bionics Framework Part 1***

1. **Park is a new, non-cumulative reference**

Park was not previously considered, but Patent Owner argues that Park is substantially cumulative of Hirsch and Black. Paper 7, p. 1. However, Park cannot be substantially the same as Black and Hirsch because Park teaches features that Patent Owner argued were missing from Black and Hirsch.

To begin, none of the prior art references cited during prosecution or in any IDS shows a four-sided dental isolation mouthpiece, which Park teaches. EX1006, FIG. 2; EX1003, ¶ 192.



In its brief, Patent Owner argues that Park is cumulative of Hirsch because Hirsch discloses sidewalls. Paper 7, pp. 11-13. However, Patent Owner repeatedly throughout the prosecution history argued that Hirsch does **not** disclose sidewalls. EX1032, pp. 4-5. Patent Owner later argued again that Hirsch does not teach the claimed sidewalls, stating that Hirsch “fails to teach any defined walls spanning

across set distances as does the claimed superior and inferior [side]walls.” EX1032, pp. 13-15.

Similarly, Patent Owner spent years telling the Office that Black does **not** teach sidewalls. For example:

On the contrary, paragraph 82 of *Black* indicates that there is no side wall. In particular, *Black* teaches that “top edge 40c of the proximal flap may be formed by the respective top edges of the posterior layer 48a and the anterior layer 48b,” indicating that the edges are connected directly rather than via a distinct ‘side wall,’ as claimed. *Black* therefore fails to teach any ‘side wall’ (with perforations) that connects the anterior wall edge to the posterior wall edge.

EX1032, pp. 1, 9-10. Park cannot be cumulative of Hirsch and Black because Park teaches the sidewalls that Patent Owner argued Hirsch and Black do not teach. In other words, Park cures the alleged discrepancies of Hirsch and Black, rendering Park particularly relevant now. Patent Owner's representations to the Office now *directly contradict* its representations to the Office during prosecution.

2. **Baughan is a new, non-cumulative reference**

Baughan is also a new reference. While there is some discussion of Baughan in the file history of the related '969 Patent, Patent Owner notably did not cite Baughan in an IDS in the prosecution history of the '418 Patent, and the record is unclear how the Examiner was using Baughan. EX1032, pp. 18-20.

Patent Owner argues that Baughan is cumulative of Krouzian and Rogers. However, Krouzian never teaches that the bars 24 are used for anti-collapse, nor does Rogers teach that the lugs 18/19 perform anti-collapse. EX2004, 4:3-14; EX2003, 2:33-62. Thus, while Krouzian and Baughan may be directed to the same type of device, the teachings relied upon are not cumulative.

3. **Zheng is a new, non-cumulative reference**

Zheng is a new reference that shows a cheek retractor exactly like Petitioner's product, which is being accused of infringing the '329 Patent. EX1003, ¶ 34. This reference is highly relevant as it shows supposedly allowable subject matter. EX1024, pp. 9, 43.

B. ***Advanced Bionics Part 2***

Since Part 1 of *Advanced Bionics* is not satisfied for the reasons discussed above, the Board need not continue to Part 2. *Advanced Bionics*, 8. However, if the Board reaches Part 2, discretionary denial is inappropriate because the examination involved material errors, discussed below.

1. **Hirsch**

In the parent application, the Examiner thoroughly rejected all independent claims in view of Hirsch. EX1024, pp. 12-42. The Examiner noted that claim 41, having claims directed to the cheek retractor, was allowable, and Patent Owner

added these limitations to most of the independent claims to obtain an allowance.¹

EX1024, pp. 47-57. The Examiner allowed the application after Patent Owner amended most of the independent claims to include the supposedly allowable subject matter of claim 41 and made note of the reason why the claims were allowed. EX1024, pp. 67-68.

Only claim 11 of the '418 Patent includes this supposedly allowable subject matter regarding the composition of the cheek retractor. *Compare* EX1001, claim 11 *with* '329 Patent, claim 1 (see EX1024, pp. 47). Thus, to the extent that the Examiner relied upon previous allowable subject matter findings to allow child claims in the '418 Patent, those findings only apply to independent claim 11. It would have been error to allow claims 1 and 20 with claim 11 if this allowable subject matter was the reason for allowance.

In fact, claims 1 and 20 of the '418 Patent are both *broader* than the claims examined during prosecution of the parent '329 Patent. *Compare* EX1001, claims 1 and 20 *with e.g.* EX1024, pp. 4-5 and 7-8. During prosecution of the '329 Patent, the Examiner found these *narrower* claims obvious in view of Hirsch alone (using two embodiments of Hirsch). EX1024, pp. 21-42. In fact, the Examiner found claim 1

¹ With the exception of new claim 43. EX1024, p. 57. Patent Owner misrepresented that *all independent claims* included the supposedly allowable subject matter of claim 41. EX1024, p. 59. However, that statement was false because claims 43 lacked the subject matter included in allowed claim 41.

anticipated by Hirsch, and original claim 1 of the '329 Patent is extremely similar in scope to claim 20 of the '418 Patent. EX1024, pp. 15-20.

Patent Owner did not overcome Hirsch through argument during prosecution of the '329 Patent. Patent Owner never suggested the Examiner erred in his application of Hirsch to the claims of the '329 Patent. Instead, Patent Owner merely accepted the supposedly allowable subject matter of claim 41. EX1024, pp. 15-16. And yet, no claim of the '418 Patent was rejected in view of Hirsch.

There is no explanation, other than error, why the broader claims of the '418 Patent were found allowable while the narrower claims of the '329 Patent were anticipated by Hirsch or rendered obvious by Hirsch's two embodiments. Notably, the claims of the '418 Patent never faced a single prior art reference. EX1002, pp. 111-116. The Examiner should have applied Hirsch to the claims of the '418 Patent in the same way as he applied them in the '329 Patent, and it was error to not apply Hirsch to any version of the claims presented during prosecution of the '418 Patent.

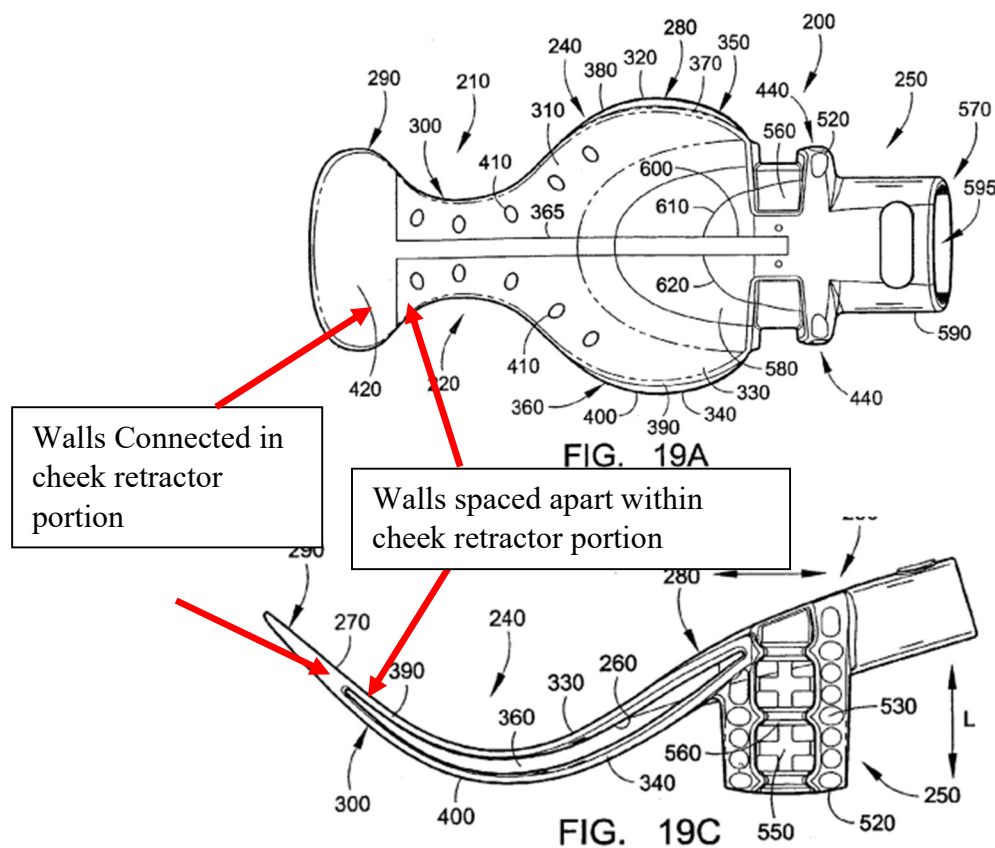
2. **Cheek Retractor**

To the extent claim 11 is allowable for the same reasons as articulated by the Examiner during prosecution of the '329 Patent, it was error to find the subject matter of claim 41 to include allowable subject matter. EX1024, pp. 43, 67-68.

The Examiner relied upon Hirsch in the only office action that included prior art rejections. EX1024, pp. 15-42. However, after extensively applying Hirsch to the

claim language, the Examiner noted that claim 41 included allowable subject matter.

Id. at 43. Claim 41 recited “wherein the first wall and the second wall of the main body portion that transition into the cheek-retractor portion are spaced apart from each other for a distance within the cheek-retractor portion before being connected to each other in the cheek-retractor portion”. However, Hirsch teaches exactly this concept.



EX1011, FIG. 19A, 19C.

Additionally, Zheng teaches *exactly* what Patent Owner points to in Petitioner's product as allegedly infringing. EX1003, ¶ 34. By arguing that Zheng is

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cumulative with Hirsch *and* accusing Petitioner's product of infringement, Patent Owner necessarily admits that Hirsch or Zheng teaches this limitation and admits the Examiner erred in finding this subject matter allowable.

3. **Black**

The Examiner erred failing to apply Black in any Office Action. Only claim 20 of the '418 Patent specifies that the bridge structure is *unattached* to the anterior wall, which means Black should have been applied in the same way it was previously applied to parent applications to claims 1 and 11. *E.g.* EX1015, pp. 51-52. Moreover, as demonstrated in the Petition, Black teaches the supposedly allowable "cheek retractor" subject matter in claim 11 of the '418 Patent. EX1003, ¶¶ 129-129.

4. **"Third Wall"**

In addition, the Office erred by not rejecting the claims for lacking the essential element for the same reasons identified by the Examiner of the parent applications. EX1025, pp. 16-17, 3-4. The claim language in the '418 Patent matches almost identically the claim language in the parent application that was rejected as omitting essential elements. *Compare* EX1001, claim 1; EX1025, p. 9. As such, the Examiner erred in not issuing an omitted essential elements rejection.

III. **SETTLED EXPECTATIONS**

The settled expectations of the parties uniquely warrant *institution* of the IPR in this circumstance. Patent Owner, for over eight years² and through multiple applications, pursued protection for a dental isolation mouthpiece with enclosing sidewalls connecting an inferior edge of an anterior wall to the inferior edge of a posterior wall and/or a superior edge of an anterior wall to the superior edge of a posterior wall, as clearly shown in FIG. 1A (and all other figures in the '418 specification). EX1014, claim 1.

After more than 6 years of Patent Owner exclusively claiming a *sidewalled* mouthpiece, both in issued patents and during prosecution, Petitioner developed and launched its own non-infringing, *open-sided* mouthpiece. Petitioner's product is similar to Hirsch, a reference which Patent Owner argued was different than its disclosed mouthpiece. As such, Petitioner understood Patent Owner's mouthpiece to be limited to a sidewalled mouthpiece. Based on this understanding, Petitioner spent significant sums on engineering costs, creating molds, and testing products that specifically lacked enclosing sidewalls. Petitioner relied upon and had a settled

² Longer than the critical six year timeframe identified by the Director in multiple opinions. *Amgen, Inc. v. Bristol-Myers Squibb Co.*, IPR2025-00601, Paper 9 at 2-3 (July 24, 2025).

expectation that a mouthpiece without sidewalls could not infringe or be accused of infringing any patent in the same family as the '232 Patent.³

Shortly after Petitioner launched its product, Patent Owner conspicuously and dramatically shifted its claim language to remove the sidewall limitation entirely. The '418 Patent, and all of its associated applications, no longer recite "sidewalls." Rather, it recites a "third wall," which, according to Patent Owner, can be any structure that connects anterior and posterior walls, including even *central spine* (something Patent Owner disclaimed during prosecution). EX1032, p. 12. Petitioner, in developing its own product, relied on Patent Owner's patents only reciting mouthpieces with enclosing sidewalls. Thus, Petitioner had settled expectations that, in 2020, an open-sided mouthpiece with a central spine was not within the language of Patent Owner's disclosure. As such, Petitioner's settled expectations uniquely favor institution in this circumstance where a Patent Owner is improperly attempting to expand claim language long, long after the original disclosure.⁴

³ Notably, Patent Owner has not accused Petitioner of infringing any claim that uses the word "sidewall"

⁴ Although not an issue for IPR, this claim scope sought by Patent Owner is also unsupported by the specification, which may further favor institution should the Director choose to consider whether the specification supports the claim language, as interpreted by Patent Owner, purely for the purposes of discretion, but not for validity. 35 U.S.C. § 311(b).

IV. **THE *FINTIV* FACTORS COUNSEL AGAINST EXERCISING DISCRETION TO DENY**

The Board considers six factors to determine whether to deny institution based on one or more parallel proceedings. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5-6 (PTAB Mar. 20, 2020) (Precedential). Weighing the *Fintiv* factors holistically, the Board should decline to exercise its discretion to deny institution.

A. **Factor 1 - Stay**

On September 3, 2025, the District Court denied Petitioner's Motion to Stay filed on July 11, 2025. The Court ruled that a stay could not be granted "at this time" leaving the door open for granting another stay motion should the PTAB institute IPR. EX1031, p. 6. The factor is either neutral or weighs against institution.

B. **Factor 2 – Trial Date**

This factor weighs heavily against discretionary denial because the Parallel Litigation is at a very early stage. In particular, the District Court has not set a trial date. EX2007. As such, there can be no comparison, other than mere speculation, between the IPR conclusion and the parallel litigation's trial date, which Factor 2 specifically notices. Thus, Factor 2 strongly favors institution.

The Board would need to issue its final written decision by January 8, 2027. 35 U.S.C. § 316(a)(11). Patent Owner filed its initial complaint in the Parallel Litigation on September 16, 2024. As Patent Owner points out in its Brief on Discretionary

Denial, the median time to trial in the Western District of Michigan in patent cases is 48 months. Paper 7, p. 19. Thus, by Patent Owner's own admission, the Board's final written decision will likely issue well before any trial date.

Patent Owner points to the Schedule set in the Parallel Litigation — specifically, the January 2026 fact discovery cutoff — to show that trial will *likely* occur before the Board's final written decision deadline on January 8, 2027. However, the judge in the Parallel Litigation, Judge Jonker, has admitted that the Schedule is “a little ambitious given the scope of the case.” EX1028, p. 30:12-16. It is extremely likely that the dates in the Schedule will be pushed back and that any trial date, even if it occurs sooner than the 4-year median time to trial, will be after the Board's final written decision deadline. Indeed, Petitioner fully expects Patent Owner to adjust the schedule should it successfully obtain discretionary denial. Patent Owner has opposed any schedule changes so far to preserve its § 314 discretion arguments.

This factor therefore weighs heavily against discretionary denial.

C. Factor 3 – Investment in Parallel Proceeding

This factor weighs heavily against discretionary denial because the Parallel Litigation is at a very early stage. As of the filing of this brief, the parties have only exchanged proposed claim constructions and have not yet conducted a *Markman* hearing or completed fact discovery. No depositions have occurred.

D. Factor 4 – Overlap of Issues

On August 20, 2025, Petitioner filed a *Sotera* stipulation with the District Court stating that if IPR is instituted, it will not pursue in the District Court Litigation any ground raised or that could have been reasonably raised in an IPR. EX1029. This factor weighs heavily in favor of institution. *See Sotera Wireless, Inc. v. Masimo Corporation* (§ II.A), IPR2020-01019, Paper 12 (December 1, 2020).

E. Factor 5 – Same Parties

Although Petitioner and Patent Owner are the same parties in both proceedings, the Board nevertheless repeatedly declines to exercise its discretion to deny institution despite this factor. *See e.g., VMWare, Inc.*, Paper 13 at 20-21; *Samsung Electronics Co., Ltd. V. Dynamics, Inc.*, IPR2020-00502, Paper 34 at 13-14 (PTAB August 12, 2020). As such, this factor is neutral.

F. Factor 6 - Merits

This factor heavily favors institution. First, as discussed in the Petition, the merits are exceptionally strong in this case. Under Patent Owner's implied claim construction, the prior art clearly teaches every limitation of every challenged claim in the '418 Patent. The Petition asserts a prior art reference that shows what the prior art supposedly lacked, according to Patent Owner itself.

Further still, despite the Examiner finding that a wall connecting the inferior edge of the anterior wall to the inferior edge of the posterior wall and/or the superior edge of the anterior wall to the superior edge of the posterior wall was an *essential*

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element (EX1025, pp. 3-4, 16-17), Patent Owner now asserts that parties can infringe the '418 Patent using an integral bite block or even a central spine. The Examiner even clarified that he understands an edge to mean either the inferior or superior side, and Patent Owner conceded to this understanding. EX1026. Yet, now granted a patent, Patent Owner asserts its patent in a way that directly defies the patent scope the Examiner allowed and clearly articulated. *Id.*; EX1011, p. 7. Patent owners who tell the Office one thing to get a patent and then assert the patent against the public in a directly contradictory manner do the public a disservice. The Office has an interest in protecting the public from patent owners asserting more than they received from the Office.

Patent Owner also proposes a construction that is illogical to save validity. Patent Owner argues that the claim language reciting one or more crests and one or more troughs necessarily means that the claimed wave shape has some curvature, thereby reading out square waves. EX1030, ¶ 37. However, this claim language only specifies the *number* of crest and troughs not some unspecified curved shape. Patent Owner's primary arguments for validity rely on this clearly incorrect construction, proving the strength of Petitioner's arguments because Petitioner's arguments do not rely on an illogical claim construction.

In summary, when weighing all the factors together, only one factor (the current lack of a stay) weighs against institution. When weighing the factors together, the factors strongly weigh in Petitioner's favor.

V. **ADDITIONAL CONSIDERATIONS**

Patent Owner attempts to argue that Dr. Black is not a PHOSITA using an intentional misquotation of Petitioner's proposed PHOSITA definition. Patent Owner is aware of Dr. Black's definition of PHOSITA, which is "a person having at least a degree in mechanical engineering or **dentistry**, with at least 2 years' experience designing dental isolation mouthpieces." EX1003, ¶ 51. His full definition was included in his declaration and is known to Patent Owner. Moreover, it is a strange argument to suggest that Dr. Black, one of the few and foremost inventors in this narrow field, is not a PHOSITA. Clearly, his contributions to the field more than make up for any lack of a mechanical engineering degree. The Board should disregard this baseless argument entirely.

Additionally, Patent Owner argues that Dr. Black's testimony should be given little, if any, weight because Dr. Black's testimony is subjective. That statement is flatly incorrect. The testimony identified is Dr. Black explaining a patent *he wrote*. Dr. Black's testimony is a sworn testimony regarding his own perceptions when writing his patent and should be treated as evidence.

VI. **CONCLUSION**

The Board should reject Patent Owner's request for discretionary denial and institute an *inter partes* review of the '418 Patent for all of the above reasons.

Respectfully submitted,

Dated: October 6, 2025

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CERTIFICATE OF SERVICE

I hereby certify that on this the October 6, 2025, the foregoing Response to Patent Owner's Brief on Discretionary Denial and all exhibits and other documents filed together with the Petition were served via email to the attorneys of record for the '418 Patent at the following address:

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