# United States Court of Appeals for the Federal Circuit

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**MYLAN PHARMACEUTICALS INC., BRECKENRIDGE PHARMACEUTICAL, INC., ALEMBIC PHARMACEUTICALS LTD.,**
*Appellants*

**v.**

**RESEARCH CORPORATION TECHNOLOGIES, INC.,**
*Appellee*

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2017-2088, 2017-2089, 2017-2091

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Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2016-00204, IPR2016-01101, IPR2016-01242, IPR2016-01245.

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Decided: February 1, 2019

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STEVEN WILLIAM PARMELEE, Wilson, Sonsini, Goodrich & Rosati, PC, Seattle, WA, argued for all appellants. Appellant Mylan Pharmaceuticals Inc. also represented by MICHAEL T. ROSATO, JAD ALLEN MILLS; ADEN M. ALLEN, NICOLE W. STAFFORD, Austin, TX.

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Before LOURIE, BRYSON, and WALLACH, *Circuit Judges.*

LOURIE, *Circuit Judge.*

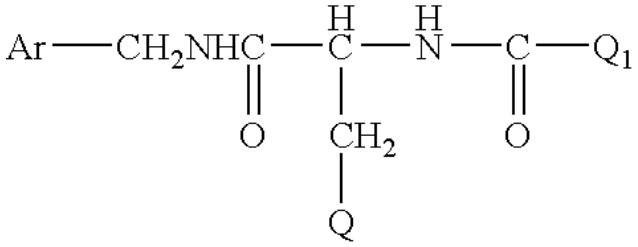
Mylan Pharmaceuticals Inc. ("Mylan"), Breckenridge Pharmaceutical, Inc. ("Breckenridge"), and Alembic Pharmaceuticals, Ltd. ("Alembic") (collectively, "Appellants") appeal from the final written decision of the U.S. Patent and Trademark Office Patent Trial and Appeal Board ("the Board") in an *inter partes* review concluding that claims 1–13 of U.S. Reissue Patent 38,551 ("the '551 patent") are not unpatentable. *See Argentum Pharm. LLC v. Research Corp. Techs.,* IPR 2016-00204, 2017 WL 1096590, at *1–2 (P.T.A.B. Mar. 22, 2017) ("*Decision*"). For the reasons detailed below, we affirm.

## BACKGROUND

Epilepsy is a neurological disorder that affects about one percent of the human population. It is characterized by two or more unprovoked seizures occurring more than 24 hours apart. Epilepsy can be associated with conditions affecting the structure of the brain, but, for the vast

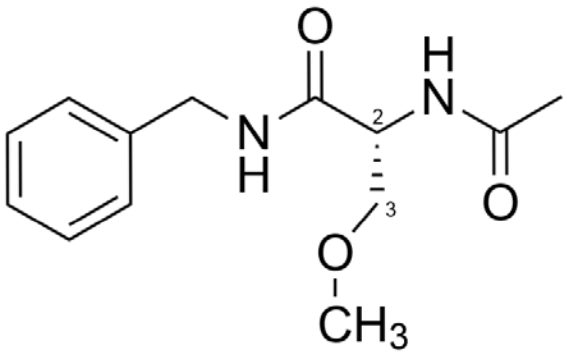
majority of affected individuals, no specific cause can be identified. While there is no known cure for epilepsy, treatment can include both drug therapy and surgery, and most patients are treated via long-term administration of anticonvulsant drugs to prevent seizures. The nature and severity of seizures varies considerably across the patient population, and treatment is typically tailored for each specific patient.

Research Corporation Technologies, Inc. ("RCT") owns the '551 patent, which discloses and claims enantiomeric compounds and pharmaceutical compositions useful in the treatment of epilepsy and other central nervous system ("CNS") disorders. Claim 1 recites:

> 1. A compound in the R configuration having the formula:
>
> 
>
> wherein
>
> Ar is phenyl which is unsubstituted or substituted with at least one halo group;
>
> Q is lower alkoxy, and
>
> $Q_1$ is methyl.

'551 patent col. 38 ll. 8–23.

At issue here are claims 8–13.[1] Claim 8 depends from claim 1 and recites "[t]he compound according to claim 1 which is (R)-N-benzyl-2-acetamido-3-methoxypropionamide," referred to in the patent as "BAMP" and referred to herein as lacosamide:




Claim 9 claims lacosamide in 90 percent or greater purity, claim 10, therapeutic compositions comprising the claimed compounds, and claims 11–13, use of the compounds for treating central nervous system disorders. *Id.* col. 38 ll. 39–51. Because arguments have not been made concerning the separate claims, we will consider them together, as did the Board.

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[1] Before the Board, Appellants challenged claims 1–13, but, since this appeal was taken, claims 1–7 have been voluntarily cancelled in a separate, *ex parte* reexamination proceeding. *See* Citation of Supplemental Authority, *Mylan Pharm. Inc. v. Research Corp. Techs.*, No. 2017-2088 (Fed. Cir. Apr. 23, 2018), ECF No. 73. Because there is no case or controversy regarding the finally cancelled claims, we rule only on the still-existing claims 8–13. *See Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 721 F.3d 1330, 1347 (Fed. Cir. 2013) (litigation became moot because of the cancellation of claims).

On November 23, 2015, Argentum Pharmaceuticals LLC ("Argentum") petitioned for *inter partes* review ("IPR") of the '551 patent. In its petition, Argentum challenged claims 1–13 on eight grounds. The Board only instituted on two grounds involving three references: (1) obviousness of claims 1–9 over Kohn 1991[2] and Silverman[3] and (2) obviousness of claims 10–13 over Kohn 1991, Silverman, and U.S. Patent 5,378,729 ("the '729 patent").[4] The instituted grounds appear in the petition as ground 3A and ground 3B.

In its argument, Argentum advanced a lead compound analysis. It relied on Kohn 1991 for disclosure of compound 3l, its proffered lead compound. Kohn 1991, authored by the named inventor of the '551 patent, Dr. Harold Kohn, discloses a series of functionalized amino acids ("FAAs") with anticonvulsant activity. Dr. Kohn observed that FAA racemates with N-benzylamide moieties and acetylated amino groups provided potent protection against seizures in mice. For his research presented in the 1991 paper, Dr. Kohn began with (R,S)-2-acetamido-*N*-benzyl-2-methylacetamide as a lead compound and replaced the α-methyl group, denoted in the structure below as "X," with functionalized nitrogen, oxygen, and sulfur substituents:

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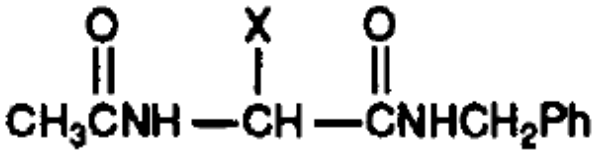
[2] Harold Kohn et al., *Preparation and Anticonvulsant Activity of a Series of Functionalized α-Heteroatom-Substituted Amino Acids*, 34 J. Medicinal Chemistry 2444 (1991); J.A. 2404–12.

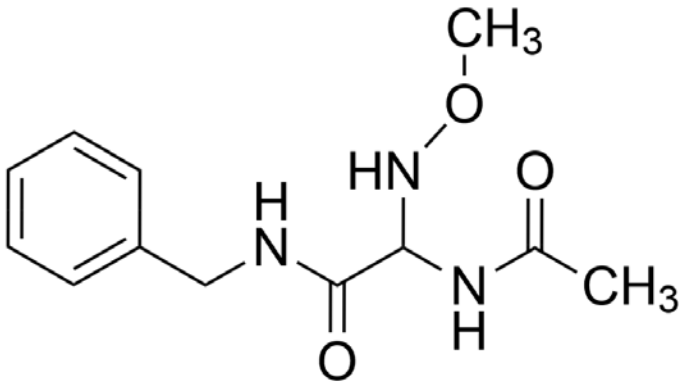
[3] Richard B. Silverman, *The Organic Chemistry of Drug Design and Drug Action* (1st ed. 1992); J.A. 2413–61.

[4] The application that led to the '551 patent was filed before March 16, 2013, and the pre-Leahy–Smith America Invents Act, Pub L. No. 112-29, 125 Stat. 284 (2011), version of § 103 applies.



Dr. Kohn then evaluated the potency of the compounds in mice, reporting for each the effective dosage for 50 percent of the tested population ("$ED_{50}$").

Based on the reported $ED_{50}$ values, Dr. Kohn concluded that "in the most potent analogues (2d, 3l, and 3n), a functionalized oxygen atom existed two atoms removed from the α-carbon atom." J.A. 2407. The most efficacious compound (*i.e.*, the compound with the lowest $ED_{50}$) was compound 3l. In compound 3l, $NH(OCH_3)$ is at the α-carbon position. J.A. 2405. Its structure is as follows:



To supply a motivation to modify compound 3l, Argentum relied on Silverman, a book chapter on drug discovery, design, and development. Silverman describes bioisosterism as a "lead modification approach . . . useful to attenuate toxicity or to modify . . . activity. " J.A. 2430. He specifically defines bioisosteres as "substituents or groups that have chemical or physical similarities, and which produce broadly similar biological properties." *Id.* As relevant here, Silverman explains that "classical

isosteres" are groups with the same number of valence electrons but potentially different atoms. Under the subheading "[b]ivalent atoms and groups," he lists the following compounds as classical isosteres: $–CH_2–$, –NH–, –O–, –S–, and –Se–. *Id.*

As a third reference, relevant only to the second instituted ground of review, Argentum cited the '729 patent, another patent issued to Dr. Kohn and assigned to RCT. The '729 patent is directed to a genus of FAAs with activity "useful in the treatment of epilepsy and other CNS disorders." '729 patent, Abstract. Specifically, a method of treating CNS disorders in animals with a racemate of N-benzyl 2-acetamido-3-methoxypropionamide ("racemic lacosamide") is recited in claim 132 of the '729 patent.

Based on Argentum's petition, the Board instituted review on (1) obviousness of claims 1–9 over Kohn 1991 and Silverman and (2) obviousness of claims 10–13 over Kohn 1991, Silverman, and the '729 patent. As for the first ground, the Board was "persuaded that [Argentum] sufficiently articulate[d] reasoning, with adequate rational underpinnings, as to why an ordinary artisan would have chosen derivative 3l from Kohn 1991 as a lead compound for the purposes of making compositions exhibiting anticonvulsant activity." J.A. 367. The Board noted that Kohn 1991 identified compound 3l as "the most potent derivative," and, based on the record at the time, it was not persuaded that "potential synthetic or stability issues" would have counseled against its selection as a lead compound. J.A. 367–68. The Board was also persuaded that "an ordinary artisan reading Silverman would have had reason to substitute the amino group (–NH–) in the X moiety of $NH(OCH_3)$ in derivative 3l from Kohn 1991 with a methylene group," "in an effort to attenuate toxicity, modify activity, or positively affect the metabolism of a compound." J.A. 368. That change would lead to lacosamide.

As for the second ground, the Board concluded that Argentum had adequately supported its contention that an ordinary artisan would have had reason to expect "that compounds falling within claim 132 of the '729 patent—such as racemic lacosamide and R-lacosamide—would be useful for treating CNS disorders, and would have a reasonable expectation of success in using them for this purpose." J.A. 372.

Three days after the Board instituted Argentum's petition, Mylan, Breckenridge, and Alembic each filed their own petitions for review with concurrent motions for joinder. Each party had been sued for infringement of the '551 patent in 2013, more than a year before the petitions were filed.[5] On October 24, 2016, the Board instituted on each petition and joined each proceeding with the Argentum IPR. In its decision permitting joinder, the Board noted that Mylan, Breckenridge, and Alembic "agree[d] to be limited to an 'understudy' role, and limited to evidence and arguments presented in the Argentum Petition in relation to instituted Grounds 3A–3B." J.A. 1463.

Five months later, the Board issued its final written decision, concluding that each challenged claim had not been shown to be unpatentable. Regarding ground one, Petitioners identified two reasons for modifying the methoxyamino moiety of compound 3l in Kohn 1991: (1) that the methoxyamino moiety was not a common moiety in compounds that result in commercial pharma-

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[5] *UCB, Inc. v. Mylan Pharm. Inc.*, No. 1:13-cv-01214-LPS (D. Del. Jul. 10, 2013); *UCB, Inc. v. Alembic Pharm. Ltd.*, No. 1:13-cv-01207-LPS (D. Del. Jul. 10, 2013); *UCB, Inc. v. Breckenridge Pharm., Inc.*, No. 1:13-cv-01211-LPS (D. Del. Jul. 10, 2013). We resolved the appeal of these cases in *UCB, Inc. v. Accord Healthcare, Inc.*, 890 F.3d 1313 (Fed. Cir. 2018), *cert. denied*, No. 18-441, 2018 WL 4899559 (U.S. Nov. 19, 2018).

ceutical compounds and (2) that the methoxyamino moiety may present synthetic and stability problems. According to Petitioners, a person of skill in the art would have been motivated to substitute the –NH– group in 3l for a –$CH_2$– group because it is a more common and acceptable moiety for pharmaceutically active compounds. Further, because Kohn 1991 disclosed a ten-fold higher activity for 3l, which has an R group of –NH($OCH_3$), over a compound with an R group of –$NH_2$, a person of skill in the art would have been motivated to substitute the –$CH_3$ group with –$CH_2OCH_3$.

Contrary to its views in the institution decision, the Board disagreed with Petitioners. It "assum[ed] *arguendo*, that an ordinary artisan would have selected compound 3l of Kohn 1991 as a lead compound" but found that converting the methoxyamino group would have been viewed as undesirable because the compounds in Kohn 1991 without a methoxyamino or nitrogen-containing moiety at the α-carbon had reduced activity. *Decision*, 2017 WL 1096590, at *8–9.

The Board also credited evidence suggesting that an ordinary artisan would have understood the methoxyamino moiety to confer significant activity to the compound and that substitution of nitrogen for carbon would have led to a significantly different conformation and biological activity. *Id.* at *10–11. While the Board "acknowledge[d] Silverman's teaching . . . that bioisosterism has been shown to be useful to attenuate toxicity in lead compounds," it found a lack of "specific evidence suggesting an ordinary artisan would have understood that modifying the methoxyamino group of Kohn 1991's compound 3l would have reduced that compound's toxicity." *Id.* at *12.

Although the Board did proceed to evaluate objective indicia of nonobviousness, it nonetheless concluded that even without objective evidence of nonobviousness Peti-

tioners failed to meet their burden to establish by a preponderance of the evidence that challenged claims 1–9 would have been obvious. *Id.* at *13.

Proceeding to the second ground relating to the dependent claims, the Board declined to consider Petitioners' arguments because they incorporated by reference a separate ground, Ground 1B, on which the Board did not institute review. Specifically, in Ground 1B, Petitioners advanced arguments based on a LeGall thesis, a reference not at issue in the proceeding as instituted. The Board found that the second ground was "based on a conclusory assertion referencing a distinct ground of unpatentability discussing a different combination of references." J.A. 129. Moreover, because it concluded that independent claim 1 would not have been obvious over Kohn 1991 and Silverman, the Board reasoned that it could not conclude that the more limited dependent claims 10–13, the only claims at issue in the second ground, would have been obvious.

Of the four petitioners, Mylan, Breckenridge and Alembic appealed. RCT challenges whether Appellants have standing to challenge the Board's decision. We have jurisdiction for this appeal under 28 U.S.C. § 1295(a)(4)(A) and 35 U.S.C. § 141(c). We review the Board's legal determinations *de novo*, *In re Elsner*, 381 F.3d 1125, 1127 (Fed. Cir. 2004), and its fact findings for substantial evidence, *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). A finding is supported by substantial evidence if a reasonable mind might accept the evidence as sufficient to support the finding. *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938).

## DISCUSSION

### I. STANDING

As a threshold matter, we first address whether Appellants have standing to make this appeal. RCT does not

assert that Appellants lack Article III standing. Appellee's Br. 20. However, RCT submits that each Appellant lacks standing because it does not fall within the zone of interests of 35 U.S.C. § 319. According to RCT, Appellants fall outside that zone because RCT brought an infringement action against each Appellant more than a year before it filed its IPR petition, and each Appellant's petition was therefore time-barred.

In its institution and joinder decision, the Board exercised its discretion to join each Appellant as a party to Argentum's IPR as permitted by 35 U.S.C. § 315(c). J.A. 670 ("[T]he later Petitioners are joined as parties . . . ."). RCT does not challenge the propriety of the Board's joinder decision. However, RCT argues that the "statutory scheme here . . . does not authorize Appellants to seek federal court review of the Board's [final written] decision." Appellee's Br. 18. Its argument is that the initial Petitioner, Argentum, would have lacked Article III standing to appeal the Board's decision, because "its IPR was limited to an agency matter." *Id.* at 18–19. The parties appear to agree that Argentum, who is not a party to this appeal, lacks standing. *See* Appellants' Br. 71; Appellee's Br. 20.

For their part, Appellants maintain that they have an express, statutory right to appeal under 35 U.S.C. § 319 because they were joined as petitioners to Argentum's IPR. Appellants' Br. 70–71. We agree.

We presume that a statutory cause of action extends only to litigants that "fall within the zone of interests protected by the law invoked." *Lexmark Int'l, Inc. v. Static Control Components, Inc.*, 572 U.S. 118, 129 (2014) (quoting *Allen v. Wright*, 468 U.S. 737, 751 (1984)). The zone of interests limitation "*always* applies and is never negated." *Id.* To determine whether an appellant falls within the zone of interests, we apply traditional principles of statutory interpretation, asking not "whether in

our judgment Congress *should* have authorized [the appeal], but whether Congress in fact did so." *Id.* at 128.

We begin our analysis on this point with the text of the statute. Section 315(c) provides for joinder as follows:

> If the Director institutes an inter partes review, the Director, in his or her discretion, may *join as a party* to that inter partes review any person who properly files a petition under section 311 that the Director, after receiving a preliminary response under section 313 or the expiration of the time for filing such a response, determines warrants the institution of an inter partes review under section 314.

(emphasis added). Section 315 thus contemplates the joining of petitioners as "parties." Section 319 then provides that "[a] party dissatisfied with the final written decision" of the Board "may appeal the decision pursuant to sections 141 through 144. *Any party* to the inter partes review shall have the right to be a party to the appeal." (emphasis added).

"It is a 'fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme.'" *Nielson v. Shinseki*, 607 F.3d 802, 807 (Fed. Cir. 2010) (quoting *Davis v. Michigan Dep't of Treasury*, 489 U.S. 803, 809 (1989)). Joined parties, as provided in § 315, may appeal pursuant to § 319. Accepting RCT's argument would require us to read the word "party" differently between § 315 and § 319, an argument for which RCT provides no support.

RCT also argues that, because Appellants' role before the Board was limited by agreement and prohibited presentation of evidence independent of Argentum, Appellants' participation should not be "transformed into a right to federal court review." Appellee's Br. 19–20. But

§ 315 provides the Board with discretion in joinder, and that discretion allows for the Board to place requirements and limitations on joined parties. RCT points to no support for the proposition that a party subject to such restrictions in its IPR should be considered to have less standing to appeal than a party under § 319. RCT argues that allowing Appellants' appeal "would constitute an end-run around the statutory time-limit for instituting IPR proceedings," *id.* at 19, but cites no provision in the text or legislative history supporting its reading.

Accordingly, we conclude that Appellants fall within the zone of interests of § 319 and are not barred from appellate review. We therefore proceed to the merits.

## II. MERITS

On the merits, Appellants challenge the Board's non-obviousness conclusion. Regarding claims 1–9, Appellants assert a lead compound analysis, proposing compound 3l in Kohn 1991 as the lead. In its final written decision, the Board did not resolve whether compound 3l was an appropriate lead compound. Instead, it accepted compound 3l as the lead and concluded that Petitioners did not meet their burden to establish a motivation to modify that compound. Because we agree with the Board that Appellants failed to meet their burden to establish a motivation to modify, we likewise need not resolve whether compound 3l would have been a suitable lead compound. Accordingly, for our analysis below, we assume, as the Board did, that compound 3l was an appropriate lead compound.

Obviousness is a question of law based on underlying factual findings. *In re Baxter Int'l, Inc.* 678 F.3d 1357, 1361 (Fed. Cir. 2012).

Appellants first argue that an ordinary artisan would have recognized the methoxyamino group in compound 3l to be uncommon and to have potential synthetic and

stability problems. According to Appellants, a person of skill in the art would then have been motivated to modify compound 3l by replacing the amine of its methoxyamino group with a methylene link to yield a more stable, synthetically accessible, pharmaceutically common and acceptable moiety.

In proposing this modification, Appellants rely on the principles of bioisosterism as recited in Silverman. Appellants submit that, of the "classical bioisosteres" in Silverman, only methylene would result in a more pharmaceutically common and acceptable compound and resolve the potential stability and synthesis concerns presented by the methoxyamino moiety. Appellants' Br. 23. Appellants maintain that Silverman would have motivated a person of skill in the art to replace the amine in the methoxyamino group with a methylene link and have a reasonable expectation of success having done so.

Appellants submit that their proposed modification was consistent with Kohn 1991, which detailed "'stringent steric and electronic requirements that exist for maximal anticonvulsant activity in this class of compounds,' including the size of the group on the α-carbon." *Id.* at 24 (quoting Kohn 1991, J.A. 2407). According to Appellants, their proposed replacement retained a small moiety at the α-carbon, which would have satisfied steric requirements and would have left the N-benzylamide moiety and acetylated amino group unchanged. Appellants also argue that, consistent with Kohn 1991, their proposed modification retained a functionalized oxygen atom two atoms removed from the α-carbon atom, which Kohn 1991 disclosed as associated with excellent potency.

Appellants further contend that their proposed modification to compound 3l would have been expected to have excellent potency. Specifically, Appellants point to Kohn 1991's teaching that a terminal methoxy group added to compound 3a resulted in compound 3l, which was ten

times more potent than compound 3a. Before the Board, Appellants' expert, Dr. Wang, testified that a person of skill in the art would have reasonably expected a similar ten-fold increase in activity from adding a terminal methoxy group to the methyl compound 2a, yielding a racemic mixture of lacosamide with a predicted $ED_{50}$ value of 7.6 mg/kg. According to Dr. Wang, this $ED_{50}$ value would have been comparable or better than commercially available reference compounds, including phenytoin, phenobarbital, and valproate.

Notably, Appellants' predicted potency for "racemic lacosamide" was less impressive than that of compound 3l. Appellants address that fact by stating that a person of skill in the art would have sacrificed some potency to achieve the superior stability of racemic lacosamide over compound 3l. Appellants maintain that a person of skill in the art would have had reason to modify 3l to address stability, synthetic simplicity, and pharmaceutical familiarity and acceptability, even if doing so would result in lower potency.

As a final point, Appellants argue that a person of skill in the art would have had reason to isolate the R enantiomer from its "racemic lacosamide" mixture because Kohn 1991 teaches that the "anticonvulsant activity resided primarily with the R stereoisomer." Appellants' Br. 32 (quoting Kohn 1991, J.A. 2404).

RCT counters that, while the record supports the idea that N–O bonds generally can be labile, the record lacks evidence that the N–O bond in compound 3l specifically is labile and would have motivated modification. According to RCT, such an argument would have been contrary to the teaching of Kohn 1991, which remarked that its disclosed compounds, including 3l, were stable. RCT also suggests that the record is devoid of evidence that the potential stability issues with the N–O bond would have outweighed other considerations, including potency and

neurotoxicity. Instead, RCT contends that the record supports that a person of skill in the art would consider *all* of a compound's properties together, as the Board did in its analysis.

RCT also argues that Appellants did not provide any evidence that "only methylene would result in a more pharmaceutically common and acceptable compound and resolve the potential stability and synthesis concerns presented by the methoxyamino moiety." Appellee's Br. 23. RCT submits that the $ED_{50}$ values for the methoxymethyl compound, racemic lacosamide, would not have been known, and Dr. Wang's prediction of an $ED_{50}$ was based only on impermissible hindsight. Similarly, Appellants' position before the Board was that a person of skill in the art would replace the NH group with $CH_2$, but RCT suggests that the FAA literature consistently showed that removing the amino in the α-carbon amino substituents reduced potency.

We agree with RCT that the Board's findings are supported by substantial evidence. Even if a person of skill in the art would have been motivated to modify compound 3l, the record evidence suggests that compounds without a methoxyamino or nitrogen-containing group at the α-carbon had reduced activity. For example, compound 3a in Kohn 1991, with an amine group at the α-carbon, reported an $ED_{50}$ of 65.1 mg/kg, whereas compound 2a, with a methyl group at that position, was less potent with an $ED_{50}$ of 76.5 mg/kg. J.A. 2405. Likewise, compounds 3a, 3b, and 3c, with $ED_{50}$ values of 65.1 mg/kg, 44.5 mg/kg, and 42.4 mg/kg, each have a nitrogen-containing moiety at the α-carbon. *Id.* These compounds were more potent than their oxygen-containing analogs, compounds 3r, 3s, and 3t, with $ED_{50}$ values of 80.1 mg/kg, 98.3 mg/kg, and 62.0 mg/kg, respectively. *Id.*

The evidence also suggests that replacing the methoxyamino in compound 3l would have yielded a different

conformation. Such a conformational change may have affected interaction with receptors and altered biological activity. J.A. 11113–14. Kohn 1991 itself explains that "stringent steric and electronic requirements exist for maximal anticonvulsant activity," J.A. 2404, which would counsel against modifying compound 3l in a way that would change its conformation significantly.

Appellants fault the Board for crediting the testimony of Dr. Roush, RCT's expert, regarding the three-dimensional structures of compound 3l and racemic lacosamide. The Board, however, provided a sufficient rationale for relying on Dr. Roush's testimony that the three-dimensional structures of compound 3l and racemic lacosamide would be "very different." *Decision*, 2017 WL 1096590, at *10. Specifically, the Board compared Dr. Roush's testimony to that of Dr. Heathcock, who agreed that a molecule's shape and potency may differ upon substitution of carbon for nitrogen. *Id.* at *10–11. The Board was well within its discretion to credit Dr. Roush's testimony. *See Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) ("[T]he Board was well within its discretion to give more credibility to [one expert's] testimony over [another expert's testimony] unless no reasonable trier of fact could have done so.").

The Board also was entitled to reject bioisosterism as a basis for a motivation to modify compound 3l. While Silverman does disclose that that bioisosterism may be useful to attenuate toxicity in a lead compound, the record does not indicate why bioisosterism would have been used to modify compound 3l in particular, which already had a high potency and low toxicity, and why methylene was a natural isostere of methoxyamino.

In light of the reductions in potency and the significant conformational changes that would have been expected, the Board's finding that a person of skill in the art would not have been motivated to modify the methoxy-

amino group in compound 3l was supported by substantial evidence.

Because we agree with the Board that Appellants failed to establish a motivation to modify compound 3l, we need not reach Appellants' arguments regarding objective indicia. Likewise, because we find that Appellants did not meet their burden to show that claims 1–9 would have been obvious over Kohn 1991 and Silverman, we conclude that the Board did not err in concluding that Appellants failed to meet their obviousness burden regarding claims 10–13, which depend therefrom. Dependent claims, with added limitations, are generally not obvious when their parent claims are not. *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1555 (Fed. Cir. 1983).

Aside from these factual issues, Appellants challenge aspects of the Board's legal analysis, contending that the Board improperly required them to prove that the proposed modification would increase or maintain potency and that the Board negated their proposed motivation argument without making a finding that the prior art taught away from the proposed modification. None of these arguments has merit. Appellants' arguments are merely an attack on factual findings under the guise of a challenge to the Board's legal analysis. As discussed above, the Board appropriately considered all the facts before making a final obviousness determination.

Having considered the record below, we conclude that the Board's obviousness conclusion was supported by substantial evidence.

Finally, at oral argument, Appellants requested in the alternative that the court remand this case in light of *SAS Institute, Inc. v. Iancu,* 138 S. Ct. 1348 (2018). Oral Arg. at 27:05–27:17, http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2017-2088.mp3. We decline to do so.

We have held that a party's request for *SAS* relief can be waived. *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1362–63 (Fed. Cir. 2018). In cases where a litigant lodges a prompt request for *SAS*-based relief, however, this court has found waiver inapplicable and remanded to the Board to consider noninstituted grounds. *See, e.g.*, *Adidas AG v. Nike, Inc.*, 894 F.3d 1256, 1258 (Fed. Cir. 2018); *Polaris Indus. Inc. v. Arctic Cat, Inc.*, 724 F. App'x 948, 950 (Fed. Cir. 2018) (per curiam); *South-Tek Sys., LLC v. Engineered Corrosion Sols., LLC*, No. 2017-2297, 2018 WL 4520013, at *5 (Fed. Cir. Sept. 20, 2018); *Baker Hughes Oilfield Operations, LLC v. Smith Int'l, Inc.*, No. 2018-1754, 2018 WL 4087705, at *2 (Fed. Cir. May 30, 2018).

Here, Appellants' request—made over 6 months after the *SAS* decision—was not prompt. To be sure, the Supreme Court's *SAS* decision issued after the briefing was complete in this case. But Appellants had opportunities to raise the *SAS* issue with the court before oral argument (*i.e.*, in a citation of supplemental authority as authorized by Fed. Cir. R. 28(j)) and chose not to do so. Indeed, Appellants could have raised their *SAS* argument even in their opening oral argument. Instead, they chose to raise it in their rebuttal argument—when RCT had no meaningful opportunity to respond. Given the circumstances in this case, we find that Appellants have waived their request for remand. *Cf. Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 800 (Fed. Cir. 1990) (stating that the court's "sound practice" of finding arguments absent from opening briefs to be waived "may as a matter of discretion not be adhered to where circumstances indicate that it would result in basically unfair procedure").

## CONCLUSION

In sum, we affirm the Board's conclusion that Appellants have failed to show that claims 8–13 would have been obvious at the time of the invention. We have con-

sidered RCT's remaining arguments and find them unpersuasive.

For the foregoing reasons, we affirm the decision of the Board.

**AFFIRMED**