

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PADAGIS US LLC
Petitioner,

v.

NEURELIS, INC.
Patent Owner.

Case No. IPR2025-00466
Patent 11,793,786

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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1001	U.S. Patent No. 11,793,786, Administration Of Benzodiazepine Compositions, filed April 12, 2021 (“’786 Patent”)
1002	File History for 11,793,786 Patent, Ser. No. 17/228,514 (“’786 FH”)
1003	U.S. Patent No. 11,241,414, Administration of Benzodiazepine Compositions, filed May 27, 2021 (“’414 Patent”)
1004	File History for 11,241,414, Ser. No. 17/332,800 (“’414 FH”)
1005	Non-Provisional Patent Application Serial No. 15/955,397, filed April 17, 2018 (“’397 Application”)
1006	File History for Non-Provisional Patent Application Serial No. 15/955,397, filed April 17, 2018 (“’397 FH”)
1007	File History for Non-Provisional Patent Application Serial No. 12/413,439, filed March 27, 2009 (“’439 FH”) Part 1: Pages 1-400 Part 2: Pages 401-800 Part 3: Pages 801-1200 Part 4: Pages 1201-1600 Part 5: Pages 1601-2000 Part 6: Pages 2001-2400 Part 7: Pages 2401-2800 Part 8: Pages 2801-3200 Part 9: Pages 3201-3488
1008	Provisional Patent Application No. 61/040,558, filed March 28, 2008 (“’558 Provisional”)
1009	Gwozdz et al., WO 2009/120933, Pharmaceutical Solutions And Method For Solubilizing Therapeutic Agents, published October 1, 2009, International Filing Date March 27, 2009 (PCT/US2009/038518) (“Gwozdz”)
1010	Meezan et al., U.S. Patent Application Publication No. US 2006/0046962, Absorption Enhancers for Drug Administration, Serial No. 11/127,786, published March 2, 2006 (“Meezan”)
1011	Ritschel, Handbook of Basic Pharmacokinetics, Chapter 36 (Bioavailability and Bioequivalence), Drug Intelligence Publications, Illinois, 1992 (“Ritschel”)
1012	Osborne et al., Skin Penetration Enhancers Cited in the Technical Literature, Pharmaceutical Technology, November 1997 (“Osborne”)

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1013	Lindhardt et al., Electroencephalographic effects and serum concentrations after intranasal and intravenous administration of diazepam to healthy volunteers, Blackwell Science Ltd Br J Clin Pharmacol, 52, 521-527, 2001 (“Lindhardt”)
1014	Illum L, Nasal drug delivery-possibilities, problems and solutions, Journal of Controlled Release 87 (2003) 187198 (“Illum I”)
1015	Ivaturi et al., Pharmacokinetics and tolerability of intranasal diazepam and midazolam in healthy adult volunteers, Acta Neurol Scand. 2009 Nov;120(5):353-7. doi: 10.1111/j.1600-0404.2009.01170.x. Epub 2009 May 14 (“Ivaturi”)
1016	Rowe et al., editors, Handbook of Pharmaceutical Excipients, Fourth Edition (2003), Monographs for “Alcohol” (i.e., ethanol), “Alpha Tocopherol”, “Benzyl Alcohol”, “Glycerin”, “Olive Oil”, “Polyethylene Glycol”, “Propylene Glycol”, “Sesame Oil”, and “Triacetin”, American Pharmaceutical Association, Washington DC (“Rowe”)
1017	PDR 54th Edition 2000, DIASTAT® (diazepam rectal gel); MIACALCIN® (Calcitonin Nasal Spray); VALIUM® (diazepam injection), Physicians’ Desk Reference (“PDR”)
1018	Knoester PD, Jonker DM, Van Der Hoeven RT, et al. Pharmacokinetics and pharmacodynamics of midazolam administered as a concentrated intranasal spray. A study in healthy volunteers. Br J Clin Pharmacol. 2002; 53: 501-507 (“Knoester”)
1019	Florida Regional Common EMS Protocols Field Guide, Jones and Barlett Publishers, MA (2005) (“EMS”)
1020	Valium® Tablet Label, Roche, January 2008 (“Valium label”)
1021	Wolfe T, Macfarlane T. Intranasal midazolam therapy for pediatric status epilepticus. Am J Emerg Med 2006; 24:43-346 (“Wolfe”)
1022	Holsti M, Sill B, Firth S, et al., Prehospital intranasal midazolam for the treatment of pediatric seizures. Ped Emerg Care 2007; 23: 148- 153 (“Holsti”)
1023	Greenblatt D, Gan L, Harmatz, et al. Pharmacokinetics and pharmacodynamics of single-dose triazolam: EEG compared with digital symbol substitution test. Br J Clin Pharmacol 2005; 60: 244- 248 (“Greenblatt”)

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1026	SIGMA Chemical Company Catalog (1988) ("Sigma Catalog")
1027	Wermeling DP, et al., Intranasal Delivery of Antiepileptic Medications for Treatment of Seizures, <i>Neurotherapeutics: The Journal of the American Society for Experimental Neurotherapeutics</i> , Vol. 6, 352-353, April 2009 ("Wermeling I")
1028	Hardman, et al., Editors, Goodman & Gilman's, <i>The Pharmacological Basis of Therapeutics</i> , 10th Edition (2001) ("Goodman & Gilman")
1029	Loftsson T, Gudmundsdottir H, Sigurjonsdittur JF, et al. Cyclodextrin solubilization of benzodiazepines: formulation of midazolam nasal spray. <i>Int J Pharm</i> 2001; 212:29-40 ("Loftsson")
1030	Gudmundsdottir H, Sigurjonsdottir JF, Masson M, et al. Intranasal administration of midazolam in a cyclodextrin based formulation: bioavailability and clinical evaluation in humans. <i>Pharmazie</i> 2001; 56: 963-966 ("Gudmundsdottir")
1031	Dale O., Nilsen T., Loftsson T. Intranasal midazolam: a comparison of two delivery devices in human volunteers. <i>J Pharmacy Pharmacol</i> 2006; 58: 1311-1318 ("Dale")
1032	Burstein AH, Modica R, Hatton M, et al. Pharmacokinetics and pharmacodynamics of midazolam after intranasal administration. <i>J Clin Pharmacol</i> 1997; 37: 711-718 ("Burstein")
1033	Wermeling, D, Record K, Kelly T, et al., Pharmacokinetics and pharmacodynamics of a new intranasal midazolam formulation in healthy volunteers. <i>Anesth Analg</i> 2006; 103:344-349 ("Wermeling II")
1034	Schols-Hendriks MWG, Lohman JJHM, Janknegt R, et al. Absorption of clonazepam after intranasal and buccal administration. <i>Br J Clin Pharmacol</i> , 1995; 39: 449-451 ("Schols-Hendricks")

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1035	Lau SWJ, Slattery JT. Intl J Pharmaceutics. Absorption of diazepam and lorazepam following intranasal administration. Int J Pharmaceutics 1989; 54: 171-174 (“Lau”)
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1037	Budavari, et al., Editors, The Merck Index, 12th Edition (1996) (“Merck Index”)
1038	USP 26/NF 21 2003, The Official Compendia of Standards, Ethanol, Copyright 2002 (“USP 26/ NF 21”)
1039	U.S. App. No. 12/413,439, filed March 27, 2009 (“‘439 Application”)
1040	Final Written Decision issued in IPR 2019-00451 filed against U.S. Written Decision”)
1041	Lowenstein DH, Alldredge BK. Status epilepticus, N Eng J Med 1998; 338:970-976 (“Lowenstein I”)
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1043	Wang HC, Chang WN, Chang HW, et al., Factors predictive of outcome in posttraumatic seizures. J Trauma 2008; 64: 883-888 (“Wang”)
1044	Stavem K, Bjornaes H, Langmoen IA. Long-term seizures and quality of life after epilepsy surgery compared with matched controls. Neurosurgery 2008; 62: 326-334 (“Stavem”)
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1047	Pang T, Hirsch L, Treatment of convulsive and nonconvulsive status epilepticus, Cur Treat Options Neurol 2005; 7:247-259 (“Pang”)

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1051	Prasad K, Krishnan P, Al-Roomi K, et al., Anticonvulsant therapy for status epilepticus, Br J Clin Pharmacol 2007; 63:640-647 (“Prasad”)
1052	Illum L., Nasal Clearance in Health and Disease, J Aerosol Med 2006; 19:92-99 (“Illum II”)
1053	Constantino HR, Illum L, Brandt G et al., Intranasal delivery: Physicochemical and therapeutic aspects, Intl J Pharmaceutics 2007; 337:1-24 (“Constantino”)
1054	Rudy AC, Coda BA, Archer SM, et al., A multiple dose phase I study of intranasal hydromorphone hydrochloride in healthy volunteers, Anesth Analg 2004; 99:1379-1386 (“Rudy”)
1055	Mittal P, Manohar R, Rawat A, Comparative study of intranasal midazolam and intravenous diazepam sedation for procedures and seizures, Ind J Pediatrics 2006; 73:975-78 (“Mittal”)
1056	Mahmoudian T, Zadeh M, Comparison of intranasal midazolam with intravenous diazepam for treating acute seizures in children, Epilepsy and Behavior 2004; 5:253-255 (“Mahmoudian”)
1057	Lahat E, Goldman M, Barr J, et al., Comparison of intranasal midazolam with intravenous diazepam in treating febrile seizures in children: prospective randomized study, BMJ 2000; 321:83-87 (“Lahat”)
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1059	Ahsan F. et al., Effects of the permeability enhancers, tetradecylmaltoside and dimethyl- β -cyclodextrin, on insulin

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1060	U.S. Patent No. 5,661,130 to Meezan and Pillion (“Meezan II”)
1061	U.S. Patent No. 6,610,271 to Wermeling (“Wermeling IV”)
1062	Declaration of Dr. Maureen Donovan, Ph.D.
1063	Complaint filed in Neurelis, Inc. v. Padagis LLC et al., Civil Action No. 1:24-cv-11637 (D. Mass) (complaint filed on June 25, 2024).
1064	U.S. Provisional Patent App. No. 61/040,281 (“’281 Provisional”)
1065	U.S. Publication No. 2008/0279784 to Cartt et al. (“Cartt”)
1066	USP 23/NF 18 1995, The Official Compendia of Standards, Vitamin E, Copyright 1994 (“USP 23/NF 18”)
1067	U.S. Provisional Patent App. No. 60/916,550 (“’550 Provisional”)
1068	Neurelis, Inc. v. Aquestive Therapeutics, Inc., No. 2021-1038, (Fed. Cir. Oct. 7, 2021)
1069	Chart comparing claims 1-27 of the ’786 Patent to claims 1-36 of the ’876 Patent
1070	Declaration of Chad Landmon in Support of Being a Provisionally Recognized PTAB Attorney
1071	US Patent No. 9,763,876 to Cartt (“’876 Patent”)
1072	Expert Declaration of Professor Sveinbjorn Gizurarson in Support of Patent Owner’s Response to Petition for <i>Inter Partes</i> Review of U.S. Patent No. 9,763,876
1073	Lim et al., <i>Physiological Factors Affecting Nasal Drug Delivery</i> , in ENHANCEMENT IN DRUG DELIVERY (Elka Touitou & Brian W. Barry, 2007)
1074	US Patent No. 6,962,691 to Lulla
1075	File History for Non-Provisional Patent Application Serial No. 11/127,786, Response to Office Action and Amendments filed August 13, 2007
1076	File History for Non-Provisional Patent Application Serial No. 13/371,274, Declaration of Dr. Edward T. Maggio filed September 19, 2013

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1078	Supplemental Declaration of Dr. Maureen Donovan
1079	Panico et al., A GUIDE TO IUPAC NOMENCLATURE OF ORGANIC COMPOUNDS, Recommendations (1993) (“IUPAC”)
1080	US Patent No. 8,278,292 to Brown (“’292 Patent”)
1081	Appellant Neurelis Inc.’s Opening Brief, <i>Neurelis, Inc. v. Aquestive Therapeutics, Inc.</i> , No. 2021-1038 (Fed. Cir. Feb. 2, 2021).
1082	Appellant Neurelis Inc.’s Reply Brief, <i>Neurelis, Inc. v. Aquestive Therapeutics, Inc.</i> , No. 2021-1038 (Fed. Cir. Feb. 2, 2021).
1083	Stipulation Regarding Claim Construction, <i>Neurelis, Inc. v. Padagis LLC et al.</i> , 1-24-cv-00562 (D.Del. May 8, 2024).
1084	USPTO Assignment Record of US Pub. No. 2008/0279784 to Cartt
1085	USPTO Assignment Record of the ’786 Patent
1086	USPTO Assignment Record of U.S. Patent Application 12/413,439
1087	Federal Register Volume 61, Number 27, Pages 4822-23 (February 8, 1996)
1088	US Patent No. 6,383,513 to Watts
1089	USPTO Assignment Document for U.S. Patent Application 12/413,439 Recorded on June 30, 2009 at Reel/Frame 022897/0583

I. INTRODUCTION

Patent Owner's response (POR) does not meaningfully distinguish this proceeding from the issues already litigated—and lost—in IPR2019-00451. Those issues were fully aired before and cannot be repackaged here to avoid the same result.

Further the challenged claims of the '786 patent are not entitled to the March 28, 2008 filing date of the '558 provisional because that application does not provide adequate written-description support for "n-dodecyl- β -D-maltoside." The provisional does not specifically identify, describe, or provide the necessary blaze marks to the claimed species. Nor can Patent Owner cure that deficiency through incorporation by reference.

Finally, Patent Owner's effort to disqualify Gwozdz under 35 U.S.C. §103(c)(2) fails as a matter of law and fact. As explained below, the relevant applications were separately owned, and the necessary JRA disclosure was not made in the issued patent. Gwozdz therefore is not excluded prior art. For all of these reasons, and others discussed below, the Board should reject Patent Owner's recycled arguments and find the challenged claims unpatentable.

II. REPLY ARGUMENTS

A. Collateral Estoppel Precludes Patent Owner From Disputing the '786 Patent Priority Date or Obviousness Over the Cited Prior Art

Patent Owner disputes that the prior art renders the claims obvious notwithstanding the Board's contrary findings in IPR2019-00451 (the '451 IPR), which the Federal Circuit affirmed. *See* EX1040; EX1068. Collateral estoppel applies across different patents and claims if the differences “do not materially alter” the question of unpatentability. *Finjan LLC v. SonicWall, Inc.*, 84 F.4th 963, 969 (Fed. Cir. 2023). There is no reason why a claim to a solution, rather than a method of administering that solution, creates a “materially different” patentability question.

Patent Owner argues the claims are materially different because the '786 patent recites “n-dodecyl beta-D-maltoside”, whereas the '876 patent recites “dodecyl maltoside” (DDM). POR, 70-71; *see* Pet., 2 (claim comparison). But as explained below in Section II(F)(1), there is no material difference to a POSA in the patentability between claims to n-dodecyl beta-D-maltoside and DDM in view of the cited prior art. Collateral estoppel therefore applies to the '786 patent's priority date and obviousness over the asserted prior art.

Patent Owner also asserts that “the Board in the '451 IPR only addressed claims reciting ‘alkyl glycoside.’” POR, 76. Not so. The Board expressly addressed claims 26-28 and 30-33 reciting DDM and found them obvious in the '451 IPR:

Claim 26 depends from claim 25 and specifies that the alkyl glycoside is dodecyl maltoside...Petitioner also presents evidence that “Meezan ’962 teaches that 0.25% is a preferred amount of alkyl glycoside,” “dodecyl maltoside is a specifically preferred alkyl glycoside,” and “0.25% dodecyl maltoside is also specifically disclosed.” *Id.* (citing Ex. 1011 ¶¶ 56, 61, 150, 151, 158, 167, Table I, Fig. 1; Ex. 1041 ¶¶ 365–367)...In view of the above and the evidence of record, we determine that Petitioner has shown, by a preponderance of the evidence, that the combination of Gwozdz and Meezan ’962 teaches or suggests each and every limitation of claims 2–16 and 24–36.

Ex. 1040, 33-35 (emphasis added)¹ and 37-47 (discussing motivation to combine); *see also* Ex. 1071 at 64:54-65:17 (’876 Patent claims 26-28 and 30-33 recite DDM). Patent Owner extensively litigated priority and obviousness for claims reciting DDM in the ’451 IPR.

Most telling, in its unsuccessful appeal from the ’451 IPR, Patent Owner expressly raised both issues:

- “2: Did the Board prejudicially err in misconstruing ’876 patent claims 26-28 and 30-33 as requiring generic ‘alkyl glycoside’ rather than the claimed ‘dodecyl maltoside’, and then denying these claims priority to the ’558 provisional application” and

¹ Emphasis always added unless otherwise noted.

- “3. Did the Board prejudicially err in holding all ’876 patent claims obvious”

EX1081, 1; *see also id.* at 40-51 (addressing motivation to combine prior art under issue 3). Indeed, Patent Owner expressly argued on appeal that “Gwozdz are [sic] not available as prior art for at least claims 26-28 and 30-33, because Neurelis is entitled to the ’558 provisional application’s priority date for dodecyl maltoside.” *Id.* at 40.

Patent Owner cites an appellee waiver argument to suggest this issue was not litigated in the ’451 IPR, but Patent Owner’s own Federal Circuit briefing shows the opposite. Patent Owner told the Federal Circuit it had raised “express arguments” in the ’451 IPR and “in no way ‘concede[d]’ the separate patentability of dependent dodecyl maltoside claims 26-28 and 30-33” there. EX1082, 7-8. The ’451 IPR record confirms that point. *See* EX2076, 10-12 (applying its priority argument to all claims, including claims 26-28 and 30-33) and 23-38 (applying its motivation argument to all claims, including claims 26-28 and 30-33).

Having told the Federal Circuit it litigated the DDM limitation in claims 26-28 and 30-33, Patent Owner cannot disown that admission here. The issues of whether the ’786 claims reciting DDM have priority and whether a POSA would have been motivated to combine the prior art for claims reciting DDM were litigated and resolved in the ’451 IPR and affirmed by the Federal Circuit. While Patent

Owner argues the “issue” for collateral estoppel is limited to the specific arguments Patent Owner actually raised, they provide no case law to support that notion. Indeed, the very purpose of collateral estoppel is to prevent a new argument on an already litigated and decided issue. Unlike the *Purdue* case cited by Patent Owner, there was no waiver of these issues...at most Patent Owner believes it now has a better argument on why it should prevail on these previously litigated issues. POR, 72 (citing *Purdue Pharma L.P. v. Iancu*, 767 F. App’x 918, 922 (Fed. Cir. 2019).

Even if “n-dodecyl-beta-maltoside” were narrower than “dodecyl maltoside” this difference is not material in view of Meezan’s disclosure of “dodecyl-β-D-maltoside” that the Board agreed. EX1010 ¶[0156]; EX1040, 34. The Federal Circuit has applied collateral estoppel in similar circumstances where narrowing language in unadjudicated claims does not materially alter the invalidity analysis. *Ohio Willow Wood Co. v. Alps South, LLC*, 735 F.3d 1333, 1342–43 (Fed. Cir. 2013); *Soverain Software LLC v. Victoria's Secret Direct Brand Mgmt., LLC*, 778 F.3d 1311, 1319 (Fed. Cir. 2015).

B. Level of Ordinary Skill in the Art

Patent Owner offers a different definition of a person of ordinary skill in the art (“POSA”) (POR, 8; EX2074 ¶¶60-62) but never argues that Petitioner’s definition is wrong. Petitioner’s definition is identical to the one the PTAB adopted in the ’451 IPR and should be adopted here for consistency.

Dr. Maureen Donovan qualifies as a POSA under either definition, and the claims would be obvious under either one. Patent Owner does not argue otherwise.

C. There is No Inconsistency in Claim Construction Between This IPR and the Litigation

Petitioner has withdrawn its District Court claim construction positions to align with this IPR, consistent with the Director’s recent precedential and informative decisions. *See* EX1083, 2-3 (Petitioner’s Stipulation filed in District Court); *Revvo Techs., Inc. v. Cerebrum Sensor Techs., Inc.*, IPR2025-00632, Paper 20 (Nov. 3, 2025) (precedential); *Tesla, Inc. v. Intellectual Ventures II LLC*, IPR2025-00340, Paper 18 (Nov. 5, 2025) (informative). Petitioner therefore is not “advancing different positions in the two forums.” *Revvo Techs.*, 5.

In the litigation, Petitioner agreed to Patent Owner’s proposed construction—“no construction necessary; the scope of ‘consisting of’ is established by law,” which is consistent with the construction proposed in the Petition. EX1083, 1 and 3. The Board noted that same consistency in the Institution Decision, stating that Petitioner “suggests the transitional phrase ‘consisting of’ means the claimed pharmaceutical solutions include only those components recited in the claims . . . [s]uch interpretation tracks the conventional meaning of the ‘consisting of’ transitional phrase in claim drafting.” Paper 13, 10, fn9.

D. Gwozdz is Prior Art Under 35 U.S.C. §102(e)

1. There is a Different Inventive Entity Between Gwozdz and the '786 Patent, which is Prima Facie Evidence that Gwozdz is “By Another”

Patent Owner asserts that Petitioner has failed to establish that Gwozdz meets the “by another” requirement of Section 102(e). POR, 19. Under pre-AIA 35 U.S.C. §102(e), a reference is prima facie “by another” whenever the inventive entities are not identical; overlap in inventors does not matter, and a difference of even one inventor is enough. *Merck Serono S.A. v. Hopewell Pharma Ventures, Inc.*, 159 F.4th 10, 22 (Fed. Cir. 2025). The '786 patent recites Cartt, Medeiros, Gwozdz, Loxley, Mitchnick, Hale, and Maggio as inventors (EX1001) while Gwozdz recites only Gwozdz, Loxley, and Mitchnick as inventors. (EX1009). That difference is enough, and Gwozdz is “by another” under the provisions of Section 102(e).

2. The '786 Patent Claims Do Not Have Priority to the March 28, 2008 Provisional
 - (i) Patent Owner is Not Entitled to Incorporate the Sigma Catalog to Support “*n-dodecyl beta-D-maltoside*”

Patent Owner argues that provisionals do not require claims, so whether incorporated material is essential is irrelevant. POR, 22. But the '558 provisional includes claims, and claim 17 states that the composition can further comprise “enhancers.” EX1008, cl.38.

Patent Owner relies on MPEP §608.01(p)(1)(B) and Ex Parte Nebrigic to argue that, when a parent application incorporates essential material by reference, “all of the subject matter in [that] reference is present in the parent application.” POR, 23. However, neither MPEP §608.01(p)(1)(B) nor Nebrigic stands for the universal proposition that once a parent incorporates essential material by reference, all subject matter in the referenced document is “present in the parent” for every purpose. They merely stand for a priority-chain rule: the earlier application may still provide continuity of disclosure for §119/§120 benefit, notwithstanding the ordinary incorporation restrictions that apply to the text of applications issuing as patents.

(ii) The '558 Provisional Does Not Provide Support for “n-dodecyl-B-D-maltoside”

Even if the Sigma Catalog can be incorporated in relation to essential material for the '786 patent claims, the '558 provisional still lacks adequate support and “blaze marks” for “n-dodecyl beta-D-maltoside.” Patent Owner says this is not a “blaze marks” case because the '558 provisional allegedly discloses n-dodecyl beta-D-maltoside “verbatim” through incorporation of the Sigma Catalog. POR 24. But incorporation by reference does not transplant every statement in the referenced document into the specification for every purpose. The Federal Circuit requires particularity as to what is being incorporated. *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282–83 (Fed. Cir. 2000). Nor does broad incorporation automatically import every embodiment, definition, or technical feature “verbatim,”

as if the drafter had copied the entire document into the specification. *Paice LLC v. Ford Motor Co.*, 881 F.3d 894, 909–10 (Fed. Cir. 2018).

The '558 provisional refers only to the Sigma Catalog's "biological detergents." EX1008, ¶152. The Catalog says a "wide range" of detergents may be used and includes about 150 biologic detergents. EX1062, ¶51; EX1026, 19 EX1040, 19. That broad reference is not specific enough to identify the nonionic subclass, much less n-dodecyl beta-D-maltoside, among those 100+ options. Without that required particularity, any incorporation of the Sigma Catalog does not amount to a verbatim disclosure of "n-dodecyl beta-D-maltoside."

Later U.S. App. No. 12/413,439 ("'439 application"), the first non-provisional application filed from the '558 provisional confirms that gap. Although the '558 provisional did not specifically disclose all the biologic detergents in the Sigma Catalog, the '439 application adds detailed discussion of "alkyl glycosides," "dodecyl... β -D-maltoside" (which, as discussed *infra* Section II(F)(1), is known to be the same as "n-dodecyl beta-D-maltoside"), and other species, while retaining the Sigma Catalog reference. See, e.g., EX1039 ¶¶18, 44-47, 56, 136. Patent Owner added that discussion to supply disclosure missing from the '558 provisional.

Because the '558 provisional particularly references only the broad genus of "biologic detergents," this is a classic "blaze marks" case. The question is whether the provisional provides sufficient "blaze marks" to direct a POSA to n-dodecyl- β -

D-maltoside from the “forest” of enhancer disclosures. *Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1326-27 (Fed. Cir. 2000). It does not. The Federal Circuit rejects priority where an earlier application offers “a laundry list disclosure” of many possibilities that are “so long, and so interwoven” that the relevant species cannot be discerned. *Regents of the Univ. of Minn. v. Gilead Sciences, Inc.*, 61 F.4th 1350, 1357 (Fed. Cir. 2023). “These blaze marks must be clear,” and it is not sufficient if the priority application does not direct one to the proposed tree amongst the forest, and does not teach the point at which one should leave the trail to find it. *Id.*, 1357-58. Here, the 150 biologic detergents, combined with the more than 15 classes of potential enhancers disclosed in paragraphs [150]-[152], present exactly that sort of “laundry list disclosure,” rejected by the Federal Circuit, and the ’558 provisional has given no guidance that would lead a POSA from the “biologic detergents” disclosed in the specification to the class of nonionic surfactants, let alone the specific “tree” of n-dodecyl- β -D-maltoside. See, e.g., Ex. 1062 at ¶¶42-54; EX1076, ¶¶26-30.

That conclusion is consistent with the PTAB’s prior determination in IPR2019-00451 that the ’876 patent claims reciting “alkyl maltosides” and “dodecyl maltoside” were not entitled to priority to the ’558 provisional application. EX1040, 19(“We do not find that the ’558 provisional’s incorporation by reference...[of] 12

alkyl glycoside in a list of about 150 biologic detergents, is sufficient to provide written description support for the claims.”).

Dr. Brown says the '558 provisional provides support. See, e.g., Ex. 2074, ¶¶137-38, 190-195. But he agreed that the '558 provisional application does not itself refer to alkyl maltosides generally or even specifically to dodecyl maltoside or n-dodecyl- β -D-maltoside. EX1077, 53:5-17.

Patent Owner argues that *Fujikawa v. Wattanasin*, 93 F.3d 1559 (Fed. Cir. 1996) and Purdue Pharma are irrelevant because the '558 provisional allegedly provides “verbatim” support for “n-dodecyl- β -D-maltoside” by incorporating the Sigma Catalog. POR 26-29. But, the '558 provisional’s reference to the Sigma Catalog’s “biologic detergents” is not specific enough to verbatim incorporate each of the 150+ detergents. At most, the provisional discloses the “biologic detergents” genus, so Patent Owner’s distinction fails.

3. *Whether Gwozdz-Provisional Explicitly Supports Inclusion of a “Penetration Enhancer” is Irrelevant*

Patent Owner argues Gwozdz’s reference to “penetration enhancers” is not prior art under §102(e). POR, 29-32.

While Petitioner disagrees for the reasons stated in the Petition, the motivation to combine Gwozdz and Meezan exists whether or not Gwozdz itself discloses a “penetration enhancer” as discussed *infra* Section II(F)(3)-(4). .

4. *Gwozdz and Cartt Qualify as Prior Art Under §311(b)*

Patent Owner acknowledges that patent applications qualify as prior art under 35 U.S.C. §311(b) under *Lynk Labs, Inc. v. Samsung Elecs. Co.*, 125 F.4th 1120, but notes only that *Lynk* sought *certiorari* to preserve the issue. POR, 31 n.5. Petitioner agrees that Gwozdz and Cartt are prior art and notes that *certiorari* was denied on March 9, 2026.

E. **Gwozdz is Not Excluded as Prior Art Under 35 U.S.C. §103(c)(2)**

The safe harbor of §103(c)(2) requires disclosure of the parties to the joint research agreement (“JRA”). POR, 31-32. Per the Board’s March 20, 2026 Decision (Paper 39, 15), the Board denied Patent Owner’s rehearing request seeking leave to petition for a certificate of correction (“CoC”) to add the JRA to the ’786 Patent. So Patent Owner’s argument is moot.

Even if a CoC were entered to reflect the JRA between Questcor and Particle Sciences, Inc. (“PSI”), Gwozdz still would not be disqualified. Section 103(c) excludes prior art only when, “at the time the claimed invention was made,” both the subject matter and the claimed invention were owned by or obligated to the same person. 35 U.S.C. §103(c)(1). Patent Owner admits that the ’558 Provisional was “owned by Questcor,” while the provisional for Gwozdz was “owned by PSI,” which are not the same person under the statute. POR, 37 (citing EX2040).

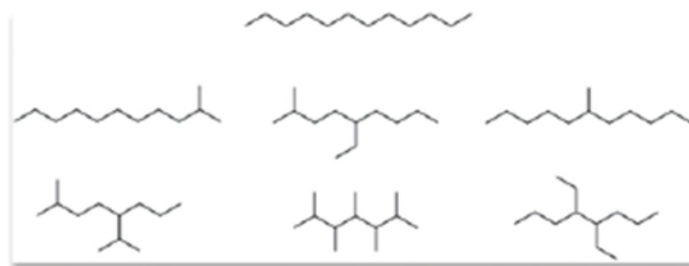
F. The Challenged Claims are Obvious Over Gwozdz in view of Meezan, Cartt, and/or USP

1. “n-dodecyl-beta-D-maltoside” is Disclosed by Meezan

Patent Owner and Dr. Brown argue that Meezan does not teach the claimed “n-dodecyl beta-D-maltoside” because Meezan discloses “dodecyl beta-D-maltoside” without the “n-” designation and that disclosure supposedly covers more than 355 isomeric species. POR, 39-42. That is wrong.

As Dr. Donovan explains, the “n-” prefix is unnecessary to understand that Meezan’s dodecyl beta-D-maltoside includes a straight-chain dodecane, not a branched isomer. The absence of the “n-” prefix on an alkane is understood to denote an unbranched compound. EX1078, ¶¶14-22, 40-42. That is consistent with the Streitwieser textbook on which Dr. Brown relies. Id., ¶¶15-16 (Table 3.2 illustrating that “dodecane” without the “n-” prefix denotes the straight-chain $\text{CH}_3(\text{CH}_2)_{10}\text{CH}_3$ formula). It is also consistent with IUPAC nomenclature, which governs chemical names. Id., ¶¶17-21. Under IUPAC, branched compounds must be labeled with the appropriate prefix; straight chain alkanes need no prefix, including no “n-” prefix. Id., ¶¶17-18. Dr. Brown agrees that IUPAC “promulgates formal rules for naming chemical compounds” (EX2074, ¶80, n. 19), yet ignores those rules. Id., ¶22.

Dr. Brown argues that dodecane can have 355 isomeric structures and illustrates a “handful” of them below.



EX2074, ¶72. According to Dr. Brown, “*n*-dodecane is the linear isomer depicted at the top of this figure, but dodecane can adopt 354 other isomeric forms, only a few of which are depicted above. *Id.* Other than *n*-dodecane, every other isomer of dodecane is branched in one or more locations.” *Id.* But Dr. Donovan correctly points out that, under the IUPAC rules, *only one* structure in Dr. Brown’s figure is actually named “dodecane.” EX1078, ¶19.

To illustrate, the following example from Dr. Brown’s figure above makes the point:



EX2074, ¶72; EX1078, ¶20 (annotations added). Under IUPAC nomenclature, the longest single carbon chain in Dr. Brown’s compound is 11 carbons long. *Id.* It therefore would be named “undecane,” based on the 11-carbon chain, not “dodecane.” *Id.* The branch at carbon 2 would be identified by the prefix “methyl,” making the compound 2-methylundecane. *Id.*

Thus, simply having 12 carbon atoms does not mean they are all named “dodecane” as Dr. Brown opines. *Id.*, ¶¶21, 23. A “dodecyl” moiety without the “n-” prefix refers to a straight chain alkane with 12 carbon atoms. *Id.* By contrast, a branched 12-carbon alkane would carry a prefix identifying the branch and would not include the base “dodecane” or “dodecyl.” *Id.*, ¶¶21, 43-48.

The ’786 patent itself confirms this understanding. *Id.*, ¶22. The specification never uses “n-dodecyl- β -D-maltoside,” but it repeatedly uses “dodecyl maltoside” and “dodecyl... β -D-maltoside.” *See, e.g.*, EX1001, 31:17-25. EX1076, ¶22. When amending the claims to add “n-dodecyl- β -D-maltoside,” Patent Owner stated that the amendment was “fully supported by the specification as filed.” EX1002, 179. Patent Owner’s own filing therefore confirms Dr. Donovan’s position that “dodecyl maltoside” was understood to mean n-dodecyl- β -D-maltoside. EX1062, ¶151; EX1076, ¶22.

Edward Maggio, inventor of the ’786 patent, agrees. In another patent application declaration, he stated that “dodecyl- β -D-maltoside” was a reference to “n-dodecyl- β -D-maltoside.” EX1076, 2 (“dodecyl- β -D-maltoside (*also referred to as* n-dodecyl- β -D-maltoside”); EX1078, ¶¶49-50.

Dr. Brown further argues that saccharides and glycosides can have both alpha and beta anomers, increasing the number of potential variants. EX2074 at ¶¶74-80.

But that point is irrelevant because Meezan discloses dodecyl- β -D-maltoside. EX1078, ¶¶24-25, 43.

2. *Gwozdz and Meezan Disclose the “Consisting Of” Limitation*

Patent Owner asserts that under Petitioner’s supposed claim-construction position in the litigation, “consisting of” requires a “zero-impurity” formulation. POR, 42-44. But as discussed supra Section II(C), and to remove any doubt, Petitioner has withdrawn its District Court claim construction position for “consisting of.” EX1083, 1-3.

Petitioner has always applied the plain meaning of “consisting of” to the prior art, noting that “Gwozdz and Meezan render obvious a pharmaceutical solution for nasal administration ‘consisting of’ (i.e., **containing only**) the claimed benzodiazepine drug, one or more natural or synthetic tocopherols or tocotrienols, ethanol, benzyl alcohol, and an alkyl glycoside.” Pet., 36; EX1062, ¶131; EX1078, ¶¶31-33. As Petitioner explained, “consisting of” limits the formulation to the ingredients recited in the claim, consistent with settled law. *See, e.g., Multilayer Stretch Cling Film Holdings, Inc. v. Berry Plastics Corp.*, 831 F.3d 1350, 1358 (Fed. Cir. 2016); *AFG Indus., Inc. v. Cardinal IG Co.*, 239 F.3d 1239, 1245 (Fed. Cir. 2001). The Board agreed, noting in its Institution Decision that Petitioner’s interpretation “tracks the conventional meaning of the ‘consisting of’ transition phrase.” Paper 13, 7 n.5.

And in the '451 IPR, which used the same “consisting of” transition phrase, the Board determined that “no terms of the '876 patent require express construction for purposes of this Decision.” EX1040, 12-13.

Gwozdz discloses the claimed “ethanol” requirement. Pet., 31, 43-45; EX1009, 4:17-21, 6:16-19, 7:8-11, 7:20-27; EX1062, ¶144-145. The Board reached the same conclusion in IPR2019-00451, finding that Gwozdz teaches the “ethanol” component of the '876 patent, which is identical to the term recited in the '786 claims. EX1040, 26-27.

Even if “consisting of” requires a “zero-impurity” formulation, Gwozdz still discloses it. A reference qualifies as prior art for all it teaches. *Beckman Instruments, Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551 (Fed. Cir. 1989). Gwozdz expressly states that the ethanol is desirably 90-100% ethanol. EX1009, 6:28-29. Ethanol at “100%” contains no additional components and thus satisfies even Patent Owner’s “zero-impurity” interpretation.

Patent Owner further argues that Gwozdz’s disclosure of “penetration enhancer” supplies the motivation to combine with Meezan and that, because that discussion appears in a section on injectable formulations that may contain water, the Gwozdz formulation must also contain water. POR, 42-44. But Gwozdz never states that water is required. To the contrary, it expressly says that formulations

suitable for parenteral (i.e., injection) administration can be aqueous or **non-aqueous**. EX1009, 11:17-18.

Similarly, Patent Owner asserts that Meezan's examples include peptides dissolved in water, apparently implying that water is required in the formulation. POR 44. As discussed *infra* Section F(3)(iv), however, Meezan expressly states that its alkyl glycosides may be used in either aqueous or non-aqueous systems.

3. *A Motivation to Combine Gwozdz and Meezan Existed*

On motivation to combine, Patent Owner largely repeats arguments the Board rejected in the '451 IPR. EX1040, 37-54. The Board should do the same here.

(i) Petitioner's Position is Based on Known Problems, not Hindsight, and Motivation Existed to Modify Gwozdz with Meezan

Patent Owner argues that Petitioner improperly borrowed the "problem" from the '786 patent and then used hindsight to improve an already successful Gwozdz formulation. POR, 45-49. "Admissions in the specification regarding the prior art are binding on the patentee for purposes of a later inquiry into obviousness." *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342 (Fed. Cir. 2007). The '786 Patent admits in its background that prior art benzodiazepine formulations had limited use because of solubility challenges. Pet., 27-28; EX1001, 1:47-2:13. That admission is binding and relevant to the obviousness inquiry.

Patent Owner also argues that Gwozdz solved the solubility and bioavailability issues associated with diazepam, leaving no reason to modify the formulation further. POR 45-49. But Gwozdz teaches that its pharmaceutical solutions may incorporate additional pharmaceutically acceptable additives. Pet., 27-29; EX1009, 10:9-16; EX1062, ¶104. A POSA developing pharmaceutical dosage forms would still seek better solubility, stability, and bioavailability. *See Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1364–67 (Fed. Cir. 2007). So even if Gwozdz improved solubility, a POSA still would have been motivated to enhance absorption and bioavailability, including by adding an absorption enhancer. Pet., 29-30; EX1062, ¶104. Meezan provides exactly that teaching.

Patent Owner made the same argument in IPR2019-00451, and the Board rejected it, finding a motivation to modify Gwozdz with Meezan. EX2076, 28-30; EX1040, 40-44. *See also* EX1078, ¶¶34-39.

(ii) Interactions Between Excipients Do Not Negate Motivation

Patent Owner asserts that there was no motivation to combine Gwozdz and Meezan because the antimicrobial activity of Gwozdz's benzyl alcohol and ethanol would be reduced in the presence of a nonionic surfactant like dodecyl maltoside. POR 49-51. That would not deter a POSA. EX1078, ¶54-57.

Intranasal formulations in final packaging contain virtually no bacteria. *Id.*, ¶55-56. Thus, for one-time use products like (like diazepam nasal spray for

emergency seizures), whether or not the antimicrobial properties of ethanol and benzyl alcohol are decreased or inactivated would not be seen as a limitation. *Id.*

Even if a diazepam nasal spray formulation were intended to be used more than once, a POSA would not expect that the very low concentrations of dodecyl- β -D-maltoside disclosed by Meezan inactivate the antimicrobial properties of the relatively high concentrations of the combination of ethanol and benzyl alcohol. *Id.*, ¶¶55-57.

Patent Owner made this same argument in IPR2019-00451, and the Board rejected it there as well. EX1040, ¶¶48-49.

Patent Owner also appears to argue that, because tocopherols were known to be unstable and sensitive to degradation, a POSA would use caution in modifying Gwozdz's tocopherol-containing formulation. POR 56-57. But Gwozdz itself teaches formulations containing one or more tocopherols and one or more alcohols, and it further teaches that additional pharmaceutically acceptable additives may be added. EX1009, 4:13-17; 10:9-16.

(iii) The Absence of “Penetration Enhancer” in Gwozdz Does Not Defeat the Motivation to Combine

Patent Owner asserts that (1) the disclosure of “penetration enhancer” in Gwozdz is the sole basis for the motivation to combine and (2) the remaining

disclosure of “other pharmaceutically acceptable additives” is insufficient. POR, 52-53. Neither contention is correct.

Even assuming, *arguendo*, that Gwozdz’s “penetration enhancers” language lacks provisional support under Section 102(e), that does not defeat motivation to combine. A POSA still had ample reason to combine Gwozdz and Meezan based on: (1) the known water solubility issues associated with diazepam, which limited delivery of sufficient drug to the desired tissue (Pet., 27-29; EX1062 ¶¶101-102; 104); (2) Meezan’s teaching that alkyl glycosides increase bioavailability for nasal administration (Pet. 29, 30-32; EX1062, ¶¶89-94, 109-115); and (3) Meezan’s teaching that its alkyl glycosides are compatible with non-aqueous solvent systems such as those disclosed in Gwozdz (Pet., 31-33; EX1062, ¶¶113-1150). None of those rationales depends on Gwozdz’s discussion of “penetration enhancers.” EX1078, ¶¶34-35. The Board agreed in its Institution Decision. Paper 13, 36;

Patent Owner also ignores the full scope of Gwozdz’s disclosure. Gwozdz states that the pharmaceutical compositions may contain “other pharmaceutically acceptable additives,” including “*wetting* or other biocompatible *materials*,” to improve efficacy. Pet. 27-29; EX1009, 10:9-16; EX1062, ¶87; 104. That “wetting...material” language appears expressly in the Gwozdz-Provisional. See POR 30; EX1078 ¶36. Additionally, Meezan states that its absorption enhancers are surfactants and that “[t]he term ‘surfactant’ is any surface active agent that modifies

interfacial tension of water...Broadly, the group includes soaps, detergents, emulsifiers, dispersing and **wetting agents**, and several groups of antiseptics.” EX1010, ¶0053. Gwozdz’s disclosure of a “wetting material” therefore further supports combining Gwozdz and Meezan as set out in the Petition. Pet., 27-30, EX1062, ¶104.

Patent Owner next argues that a POSA would be dissuaded because the “other pharmaceutically acceptable additives” language appears in a section of Gwozdz discussing injectable solutions, which may include saline or water. POR 52-53. But, as noted *supra* Section II(F)(2), Gwozdz never states that water is required and expressly clarifies that formulations suitable for parenteral (i.e., injection) administration can be aqueous or **non-aqueous**. EX1009, 11:17-18. So that disclosure is not limited to water-containing formulations.

Patent Owner also argues that Gwozdz’s discussion of “other pharmaceutically acceptable additives” is not specific to nasal formulations. POR, 52-53. But a reference may be relied on for all that it would have reasonably suggested to a POSA. *Beckman*, 892 F.2d at 1551. Gwozdz discloses that “[the] pharmaceutical compositions of the present invention can be administered by any of the following nonlimiting exemplary routes,” including intranasal administration. EX1009, 9:2-9. So even if Gwozdz discusses “pharmaceutically acceptable

additives” in the injectable section, a POSA would understand that disclosure as part of Gwozdz’s overall teaching, including intranasal administration.

(iv) Meezan is Not Limited to Large Molecule Drugs and Motivation Existed to Combine Meezan with Tocopherol/Alcohol Carriers

Patent Owner asserts that Meezan is directed only to large molecules and does not teach compatibility with tocopherols or tocopherol/alcohol carriers. POR 54-57. Meezan’s text refutes both points.

Meezan expressly teaches that alkyl glycosides increase bioavailability of small molecules below 1.5 kDaltons. EX1010, ¶130. Diazepam, with a molecular weight of 284.74, falls well within that range. Pet. 33; EX1062, ¶112. Meezan also states that its alkyl glycosides can be used with small organic molecules (EX1010, ¶0130) and anti-seizure agents (EX1010, ¶0052), which encompasses benzodiazepines. EX1062, ¶104-105. And Meezan teaches that those alkyl glycosides increase absorption of a low molecular weight compound through, among other routes, nasal delivery, including for “a small organic molecule.” EX1010, ¶0008.

Further, Meezan’s alkyl glycosides may be used in either aqueous or non-aqueous systems, noting “[a] ‘pharmaceutically acceptable carrier’ is an aqueous or *non-aqueous* agent, for example *alcoholic or oleaginous*,” and can be selected from “benzyl alcohol.” EX1010, ¶74. Meezan thus allows alkyl glycosides in “non-

aqueous” carriers, including mixtures of alcohols such as benzyl alcohol and oleaginous components. That encompasses the Gwozdz carrier containing tocopherol, ethanol, and benzyl alcohol. A POSA therefore was motivated to use Meezan’s alkyl glycosides in non-aqueous carriers containing tocopherols and alcohols.

Patent Owner made this same argument in IPR2019-00451, and the Board rejected it, finding that Meezan was not limited to water soluble drugs or aqueous carriers. EX1040, 45-47. The Board should do the same here.

4. A POSA Was Motivated to Utilize Dodecyl Maltoside

Patent Owner argues that, even if Gwozdz and Meezan were combined, a POSA still would not have been motivated to use dodecyl maltoside. POR 58-63. Meezan’s disclosure of only a few preferred alkyl glycosides defeats that argument.

Meezan identifies three preferred alkyl glycosides: dodecyl maltoside (DDM), tridecyl maltoside, and tetradecyl maltoside (TDM). EX1010, ¶0157. Its examples then focus on only two of them: DDM and TDM. *Id.*, ¶¶0146-0172.

A POSA need not be steered to only the single “most preferred” option. Where the art discloses a small set of known alternatives, one option’s being preferred, optimal, or even somewhat better does not teach away from the others or eliminate motivation to use them. *See In re Fulton*, 391 F.3d 1195, 1200–01 (Fed. Cir. 2004). Meezan does not suggest that DDM is disfavored. To the contrary, it identifies DDM

as one of the preferred “more effective” alkyl glycosides. With only two preferred exemplary alkyl glycosides—TDM and DDM—a POSA would have been motivated to use DDM. EX1062 ¶¶93-94; EX1078, ¶¶51-53.

Patent Owner argues that DDM was ineffective, but that mischaracterizes the evidence. Testing of DDM at concentrations of 0.25%, 0.375%, and 0.5% all demonstrated a dramatic improvement in efficacy. EX1078, ¶¶51-52. A POSA therefore would have been motivated to use DDM at concentrations of 0.25%-0.5%. *Id.*, ¶53

III. REPLY TO GROUND 2

Patent Owner does not dispute that Cartt is prior art under at least 35 U.S.C. § 102(e), but argues that it is excluded under 35 U.S.C. §103(c)(1). POR, 63-64.

First, Cartt is also prior art under 35 U.S.C. § 102(a) if, as the Petition explains, the '786 Patent is entitled only to a March 27, 2009 priority date. Pet., 12-13. Cartt was published on Nov. 13, 2008 and is “by another” despite a partial overlap in inventorship. *Merck.*, 159 F.4th at 22. Section 103(c)(1) cannot be used to overcome a §102(a) prior art reference.

Even if Cartt were prior art only under 35 U.S.C. § 102(e), §103(c)(1) still would not apply because Cartt and the '786 Patent were not “owned by the same person or subject to an obligation of assignment to the same person” when the claimed invention was made as evidenced by the public assignment records. *See*

EX1084; EX1085; EX1086 (USPTO assignment records respectively for Cartt, the '786 Patent, and the '786 parent application 12/413,439). For example, when application 12/413,49 was filed on March 27, 2009, there appears to have been no contemporaneous assignment of the seven inventors' rights, followed months later by an assignment of some (but not all) of the inventors to Hale Biopharma Ventures, LLC in June 2009. EX1086 and EX1089. These seven inventors, or some combination of them and Hale Biopharma Ventures LLC, are not "same person" that was the owner/assignee of Cartt at the time the invention was made. Patent Owner's conclusory attorney argument that Cartt and the '768 Patent were both "owned by and assigned to Questcor or its successors in interest" is not based on evidence and does not explain how all of the various entities involved (individual inventors, Questcor, Hale Biopharma Ventures, etc.) are the "same person." POR, 63-64.

Additionally, while Meezan is not expressly directed to benzodiazepine nasal formulations, Gwozdz and Cartt are. Cartt discloses nasal formulations for administering benzodiazepines, including diazepam. EX1065, ¶[0028]. As discussed, a motivation existed to combine Gwozdz and Meezan to develop an intranasal benzodiazepine formulation (and the Board agreed) (*supra* Section II(F)(3)), and Cartt's teachings related to related intranasal benzodiazepines, are highly relevant. To the extent Patent Owner is arguing Cartt is limited to "suspensions," this is clearly false, as Cartt expressly describes nasal aerosols where

the drug is contained within a “liquid solution.” EX1065, ¶[0141]. Thus, a POSA was motivated to combine Gwozdz, Meezan, and Cartt. EX1062, ¶120.

IV. REPLY TO GROUND 3

USP23/NF18 was publicly available before the '786 Patent because it was foundational compendium widely disseminated to, and relied on by, POSAs in 1995, including personally accessed by Dr. Donovan. EX1078, 58-59 The FDA removed any doubt in a 1996 Final Rule published in the Federal Register, confirming that “USP 23/N.F. 18 became official on January 1, 1995.... The agency is also amending Secs. 331.10(a) and 331.80(a)(1) to refer to USP 23/N.F. 18.” EX1087, 4823. A patent issued in 2002 also refers to the 1995 Vitamin E monogram of USP23/NF18, further confirming that it was publicly available before the '786 Patent. EX1088, 3:22-34.

V. CONCLUSION

Claims 1-27 of the '786 patent are not patentable for the reasons in the Petition and this Reply.

Dated March 31, 2026

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CERTIFICATION OF WORD COUNT

Petitioner certifies that the word count in this Reply, including all footnotes, is 5,592 words as counted by the word-processing program (Microsoft Word for Office 365) used to generate this Reply, where such word count excludes the table of contents, mandatory notices, certificate of service, list of exhibits, and this certificate of word count. This Reply is in compliance with the 5,600 word limit set forth in 37 C.F.R. § 42.24(c)(1).

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e)(4)(i) *et seq.* and 42.105(b), the undersigned certifies that a complete copy of the forgoing document and all associated exhibits are being served via electronic mail on March 31, 2026 upon the following:

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