

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LAM RESEARCH CORP.,

Petitioner,

v.

INPRIA CORP.,

Patent Owner.

Case No. IPR2024-00033

Patent No. 9,823,564

**PETITIONER'S SUR-REPLY TO REPLY TO OPPOSITION TO
PATENT OWNER'S MOTION TO AMEND**

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LIST OF EXHIBITS

Exhibit	Description	Previously Submitted
1001	U.S. Patent No. 9,823,564 (“’564 patent”)	X
1002	Expert Declaration of Karey Holland, Ph.D. (“Holland Declaration”)	X
1003	U.S. Patent Publication No. 2011/0293888 (“’888 publication”)	X
1004	U.S. Application No. 12/850,867 Prosecution History (“’867 application PH”)	X
1005	U.S. Application No. 61/350,103 (“’103 provisional”)	X
1006	Declaration Sylvia Hall-Ellis, Ph.D. Regarding Authenticity and Public Availability (“Hall-Ellis Declaration”)	X
1007	’564 Patent Prosecution History (“’564 patent PH”)	X
1008	Stowers, Jason K. <i>Direct patterning of solution deposited metal oxides</i> . Oregon State University, 2008 (“Stowers 2008”)	X
1009	U.S. Patent No. 10,782,610 Prosecution History (“’610 patent PH”)	X
1010	Stowers, Jason, and Douglas A. Keszler. <i>High resolution, high sensitivity inorganic resists</i> . Microelectronic Engineering 86.4-6 (2009): 730-733 (“Stowers 2009”)	X
1011	Complaint for <i>Inpria Corp. v. Lam Research Corp.</i> , 1-22-cv-01359	X
1012	Jouve, A., et al. <i>Overcoming pattern collapse of ultra high resolution dense lines obtained with EUV resists</i> . Advances in Resist Technology and Processing XXII. Vol. 5753. SPIE, 2005 (“Jouve”)	X
1013	Stowers, Jason, Alan Telecky, and Andrew Grenville. <i>Imageable oxides: new solutions for resist</i> . EUVL Symposium. 2010, available at https://euvl_symposium.lbl.gov/pdf/2010/pres/RE-08.pdf	X

Exhibit	Description	Previously Submitted
1014	Telecky, Alan, et al. <i>Photopatternable inorganic hardmask</i> . Journal of Vacuum Science & Technology B 28.6 (2010): C6S19-C6S22 (“Telecky 2010”)	X
1015	Summons for <i>Inpria Corp. v. Lam Research Corp.</i> , 1-22-cv-01359	X
1016	Amador et al. <i>Patterning chemistry of HafSO_x resist</i> . Advances in Patterning Materials and Processes XXXI. Vol. 9051. SPIE, 2014	X
1017	Reserved	X
1018	Decker, Shawn R. <i>On the Properties and Characteristics of Solution Processed Hafnium Based Thin-Films from Aqueous Precursors</i> . Oregon State University, 2017	X
1019	Oleksak et al. <i>Evaluation of Thermal and Radiation Induced Chemistries of Metal Oxo–Hydroxo Clusters for Next-Generation Nanoscale Inorganic Resists</i> . ACS Applied Nano Materials 1.9 (2018): 4548-4556	X
1020	Reserved	X
1021	U.S. Patent No. 7,773,365	X
1022	Stowers et al. <i>Directly patterned inorganic hardmask for EUV lithography</i> . Extreme Ultraviolet (EUV) Lithography II. Vol. 7969. SPIE, 2011 (“Stowers 2011”)	X
1023	Reserved	X
1024	Trikeriotis et al. <i>Development of an inorganic photoresist for DUV, EUV, and electron beam imaging</i> . Advances in Resist Materials and Processing Technology XXVII. Vol. 7639. SPIE, 2010 (“Trikeriotis”) (Library Version)	X
1025	Matsuzawa et al. <i>Theoretical estimation of absorption coefficients of various polymers at 13nm</i> . Journal of Photopolymer Science and Technology 12.4 (1999): 571-576.	X
1026	Puurunen et al. <i>Hafnium oxide films by atomic layer deposition for high-κ gate dielectric applications: Analysis of the density of nanometer-thin films</i> . Applied Physics Letters 86.7 (2005).	X

Exhibit	Description	Previously Submitted
1027	Ober and Giannelis. <i>New oxide nanoparticle extreme-UV photoresists achieve high sensitivity</i> . SPIE Newsroom (2014): 2-4.	X
1028	<i>Curriculum Vitae</i> of Sylvia D. Hall-Ellis, Ph.D.	X
1029	<i>Curriculum Vitae</i> of Karey L. Holland, Ph.D.	X
1030	Anderson, Jeremy T., et al. <i>Solution-processed HafSOx and ZircSOx inorganic thin-film dielectrics and nanolaminates</i> . Advanced Functional Materials 17.13 (2007): 2117-2124 (“Anderson”)	X
1031	Trikeriotis et al. <i>Development of an inorganic photoresist for DUV, EUV, and electron beam imaging</i> . Advances in Resist Materials and Processing Technology XXVII. Vol. 7639. SPIE, 2010 (“Trikeriotis”) (Electronic Version)	X
1032	Deposition Transcript of Jason Stowers, Ph.D. (October 11, 2024)	X
1033	Deposition Transcript of Sanjay K. Banerjee, Ph.D. (September 27, 2024)	X
1034	Oleksak RP & Herman GS, <i>Characterization of High-Resolution HafSOx Inorganic Resists</i> . Proc. SPIE 9048, Extreme Ultraviolet (EUV) Lithography V, 90483H (2014).	X
1035	Trakhtenberg S et al., <i>Non-Catalytic Photo-Induced Immobilization Process In Polymer Films, in Physico-Chemical Phenomenia in Thin Films & At Solid Surfaces</i> (Trakhtenberg, L, Lin, S; Ilegbusi, eds. 2007)	X
1036	Krysak, Marie E., et al., <i>Investigation of Novel Inorganic Resist Material for EUV Lithography</i> . Proc. SPIE 9048, Extreme Ultraviolet (EUV) Lithography V, 904805 (2014) (“Krysak”)	X
1037	Brainard, Robert L, <i>Photoresists for EUV Lithography, in EUV Litogarphy</i> (Bakshi, V. Ed. 2018)	X
1038	International Application Publication No. WO2008/082448 (“Keszler”)	X

Exhibit	Description	Previously Submitted
1039	R. Chang & K Goldsby, <i>Chemistry</i> (11th ed. 2013) (excerpts).	X
1040	Expert Declaration of Karey Holland, Ph.D.	X
1041	Declaration of Heather Stewart	X
1042	Email from Brad Engelbert, Cataloging & Government Documents Manager of Oregon State University, to Risa L. Murphy, Morgan, Lewis & Bockius (August 13, 2024)	X
1043	Declaration of Patrick Franzen	X
1044	Fallica et al., <i>Absorption Coefficient of Metal-Containing Photoresists in the Extreme Ultraviolet</i> , J Micro/Nanolith. MEMS MOEMS 17(2), 023505 (2018)	X
1045	Reserved	X
1046	Kirchauer, Heinrich, <i>Photolithography Simulation</i> , Vienna University of Technology, 1998 (available at https://www.iue.tuwien.ac.at/phd/kirchauer/diss.html) (excerpt)	X
1047	Schnabel, Wolfram, <i>Polymers & Electromagnetic Radiation: Fundamentals & Practical Applications</i> (2014).	X

Patent Owner's (PO) Contingent Motion to Amend (Paper 20, "Mot.") must be denied. PO's substitute claims 13-23 fail to meet the requirements of § 112 and are unpatentable in view of the prior art. Petitioner, in its Opposition, thoroughly demonstrated these deficiencies with well-supported evidence, including Dr. Holland's expert declaration. In contrast, PO's Reply offers only unsupported attorney arguments without any expert testimony to counter Dr. Holland's analysis.

I. THE PROPOSED AMENDED CLAIMS FAIL SECTION 112

Petitioner's § 112 challenges relate to both the amended claim language and the original claim language. While the Board's Preliminary Guidance (PG) did "not address the patentability of the originally challenged claims," (PG at 3), the Federal Circuit has confirmed that the PTAB's review of *new and amended* claims necessarily includes ensuring compliance with other statutory requirements, including §112. *Samsung Electronics America, Inc. v. Prisia Engineering Corp.*, 948 F.3d 1342 (Fed. Cir. 2020); *Uniloc 2017 LLC v. Hulu, LLC*, 966 F.3d 1295 (Fed. Cir. 2020). In fact, the Federal Circuit has affirmed the Board's finding that new claims were unpatentable due to the language in the *original* claims. *See Uniloc 2017*, 966 F.3d 1295. Here, the amended claims run afoul of § 112.

A. The Claims Fail the Written Description Requirement

Radiation Sensitive Ligands: PO's argument is based on pure attorney argument supported by inapplicable law. First, PO suggests that Petitioner "baldly

argu[es]” the breadth of the claimed genus. Reply at 1. But, unlike PO’s expert, Petitioner’s expert Dr. Holland testified to the meaning of ligand and the breadth of the genus of ligands. EX1040, ¶146. Her testimony that the field is “unpredictable” and that “[t]here are practically an infinite number of potential ligands” in the genus stands un rebutted and is a basic fact that any POSA would know. EX1040, ¶144-6.

Second, PO cites to *Hynix Semiconductor Inc. v. Rambus Inc.*, 645 F.3d 1336, 1352 (Fed. Cir. 2011), for the proposition that a single species can describe a genus. Reply at 1-2. *Hynix* is entirely inapposite. In *Hynix*, the art was predictable—relating to a physical electronic “bus” structure—and “the supposed genus consists of only two species, a multiplexed and a non-multiplexed bus.” 645 F.3d at 1352. This stands in stark contrast to the genus here, which encompasses a notably larger number of potential species within an unpredictable field of art. EX1040 ¶¶ 145-146. These facts confirm the lack of written description here. *See Idenix Pharms. LLC v. Gilead Scis. Inc.*, 941 F.3d 1149, 1157-58 (Fed. Cir. 2019); *AbbVie Deutschland GmbH & Co., KG v. Janseen Biotech, Inc.*, 759 F.3d 1285, 1299 (Fed. Cir. 2014).

Finally, PO misrepresents the legal requirements by suggesting that the specification discloses multiple variations (and the chemical structure) of *peroxide* ligands. Reply at 1-2. But proposed claims 13-15 and 17-23 are not directed to “peroxide ligands,” they are directed to the broad genus of “ligands” generally. Mot. at 6-8. The specification’s disclosure of examples of peroxide ligands or the

chemical structure of that species, is simply not enough to sufficiently describe the entire genus of “ligands.” *AbbVie*, 759 F.3d at 1300 (finding no written description where the “disclosed species only abide[s] in a corner of the genus” because the patentee “has not described the genus sufficiently...[h]e only described a portion”).

Indeed, the Federal Circuit’s holding *Idenix* is dispositive. In *Idenix*, the Court explained that “written description of an invention involving *a chemical genus...requires a precise definition*, such as by structure, formula, [or] *chemical name* of the claimed subject matter sufficient to distinguish it” and held that the asserted claims were invalid because “the specification...provides no method of distinguishing effective from ineffective compounds for the compounds reaching beyond the formulas disclosed in the [asserted patent].” *Idenix*, 941 F. 3d at 1164 (internal quotations omitted). PO’s new claims suffer from the same fatal flaw—they include ligands far beyond the disclosed “peroxide ligands” and provide no guidance, either via representative species or structure-function correlation, that would allow a POSA to determine whether other ligands are “radiation sensitive.”

“Metal Ions” and “Coating Material”: PO’s response to these limitations is similarly deficient. Reply at 2-3. First PO argues that there is “no evidence” that “the combination of metal ions with certain ligands may affect their radiation sensitivity.” *Id.* But, again Petitioner’s expert, Dr. Holland opined that “a ligand that has radiation sensitivity as an independent molecule, or when used with one type of metal ion,

may not have the same radiation sensitivity when used with a different metal ion.” EX1040, ¶149. This evidence is un rebutted by PO’s expert. Instead, PO attempts to confuse the issue by pointing to Dr. Holland’s testimony that a specific ligand—peroxide—is radiation sensitive when combined with three different metals (hafnium, zirconium, or polytungstate). EX1040, ¶54. This says nothing about whether peroxide is radiation sensitive when combined with other metals or whether other ligands when combined with the hafnium, zirconium, or polytungstate will be radiation sensitive, and cannot resolve the unpredictability of practicing the full scope of claims that require metal ions with radiation sensitive ligands. *See, id.*

Regardless, the facts and law are clear: (1) the only examples of “metal ions with radiation sensitive ligands” in the specification are hafnium or zirconium ions with hydrogen peroxide ligands (EX1001, 21:12-23:41; EX1040 ¶150); (2) material coatings made from these two combinations are also the only examples of “coating materials” with chemical properties altered by radiation (EX1001, 21:12-23:41); and (3) disclosing limited species is insufficient to support broad genus claims, where the art is unpredictable, like here (*see* Section 1, *supra*).

B. The Claims Fail the Enablement Requirement

PO’s argument regarding enablement lacks both evidentiary and expert support, rendering it conclusory. Reply at 3. Significantly, both parties’ experts agree that determining radiation sensitivity would require extensive and iterative

testing. EX1040 ¶195-60 (citing EX1033, 159:13-160:12) And, Dr. Holland’s testimony that such testing “would be a lengthy and arduous process, and would qualify as undue experimentation” is unrebutted by PO’s expert. EX1040 ¶162. Case law is clear that broad genus claims in the unpredictable arts are not enabled when a POSA would be unable to “make and use other potential embodiments across the full scope of the claim.” *PPG Indus., Inc. v. Guardian Indus. Corp.*, 75 F.3d 1558, 1564 (Fed. Cir. 1996); *see Amgen Inc. v. Sanofi*, 598 U.S. 594, 614 (2023).

C. “About 25 nm” is Indefinite

In the PG, the Board “encourage[d] the parties to address this issue.” PG at 9. Petitioner’s expert, Dr. Holland, did just that—explaining why a POSA would be unable to determine the permitted variation that would fall within “about 25 nm.” EX1040 ¶163-168. Dr. Holland’s testimony remains unrebutted, highlighting PO’s failure to provide expert testimony on this critical issue that the Board encouraged the parties to address. Reply at 3-5. While the prosecution may provide some minimal guidance on the issue of thickness (*e.g.*, 5 nm is not “about” (*see* PG at 8, EX1007 at 508)), it does not provide sufficient guidance to determine what thicknesses *do* fall within the claim scope. EX1040 ¶163-168. As such, even though “about” can be definite in other patents, it is indefinite here because the intrinsic evidence fails to provide sufficient guidance to construe the allowed variation. *See Amgen, Inc. v. Chugai Pharm. Co., Ltd.*, 927 F.2d 1200, 1217–18 (Fed. Cir. 1991).

D. “Metal Ions” Is Indefinite

PO argues a claim construction of “metal ions” where “metal” means both a metal and a metalloid. Reply at 5. But this ignores that the only evidence of the plain and ordinary meaning of “metal” to a POSA. EX1040 ¶¶170-172. PO attempts to redefine “metal” in its briefs without any support from the specification or any expert testimony. Reply at 5. Attempting to rearrange the facts to fit its narrative, PO reclassifies “phosphorus” as a metalloid, despite the only evidence of record is that *a POSA would understand “phosphorus” to be a non-metal*, except in “rare instances.” EX1040 ¶¶173-175. Simply put, because the patent clearly includes other non-metals or metalloids without identifying the scope of which further non-metals or metalloids are included, the term “metal ions” is indefinite.

E. Claims 18 and 23: Indefinite Terms of Degree

PO’s argument that the “high absorption” and “effectively patterned” limitations are not indefinite rests on the misguided premise that Dr. Holland’s ability to opine on the prior art’s disclosure of these limitations somehow proves they are definite. Reply at 5-6. But even if a claim is indefinite, a POSA may still be able to opine on whether the prior art invalidates the claim. *See IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377 (Fed. Cir. 2005). For example, a POSA may know that a thickness of exactly 25 nm falls within the scope of “about 25 nm” even if “about 25 nm” is indefinite. Here, it is clear that “high absorption” and “effectively

patterned” are indefinite terms of degree that rely on subjective standards and provide no objective guidance for a POSA to evaluate the scope of the claim. *Versata Software, Inc. v. Zoho Corporation*, 213 F.Supp.3d 829 (W.D. Tex. 2016); *J.R. Simplot Co. v. McCain Foods USA, Inc.*, 713 F. Supp. 3d 904 (D. Idaho 2024) (finding “high electric field” indefinite because it lacked objective boundaries).

F. Claims 13-23 Are Improper as Mixed-Claim Types

PO’s only response to the *IPXL* mixed-claim type argument is to suggest that the “has been heated” limitation does not “claim activities performed by the user.” Reply at 6. This is nonsensical. The premise of a mixed-claim type is that the claim makes it “unclear whether infringement [] occurs when one creates a system...or whether infringement occurs when the user actually” uses the system to perform a method step. *IPXL*, 430 F.3d at 1384. This is exactly the problem here: apparatus claims include steps requiring “*exposure* of the coating material to...radiation” (claim 13) or that the apparatus “has been heated to temperatures from 45° C. to 150° C.” These steps indicate a mixed-claim type and render the claims indefinite.

II. STOWERS 2008 AND TRIKERIOTIS ARE PRIOR ART

PO’s claim that Stowers 2008 was not publicly available until October 2009 is contradicted by the record evidence. Reply at 7. First, there are two relevant Stowers 2008 publications: (i) the publication available from The Valley Library at the Oregon State University (OSU Publication), and (ii) the identical document

published by ProQuest (ProQuest Publication). EX1006, ¶¶46. The declarant from ProQuest provided two competing declarations as to the ProQuest Publication. EX1041; EX2013. And Dr. Stowers submitted a declaration stating that he recalls **requesting** an embargo on the OSU Publication. EX2008, ¶¶4-10. However, the only record evidence confirms that OSU Publication was publicly available by October 21, 2008. EX1006, ¶¶44-50. A qualified expert reviewed the information and concluded that Stowers 2008 was publicly available by October 21, 2008 (regardless of whether Dr. Stowers **requested** an embargo)—and this testimony is unrebutted. *Id.* Petitioner has met the preponderance of the evidence standard required to establish a printed publication, as Petitioner has shown that the OSU Publication was “disseminated or otherwise made available” before the critical date. *Nobel Biocare Servs. AG v. Intradent USA, Inc.*, 903 F.3d 1365, 1375 (Fed. Cir. 2018).

PO’s challenge to the availability of Trikeriotis also conflates two identical versions—the print and electronic version. Reply at 7. While the print version “was received at the SPIE from the printer on May 3, 2010” and “was publicly available on or shortly after September 21, 2010,” it is undisputed that ***the identical electronic version was publicly available by March 25, 2010.*** EX1006, ¶¶59-66.

III. THE CLAIMS ARE UNPATENTABLE OVER STOWERS 2008

Both PO and the Board (in the PG) appear to misinterpret Petitioner’s arguments with respect to Stowers 2008. With respect to the “about 25 nm” thickness

limitation, Stowers 2008 expressly (not inherently) anticipates and/or renders obvious the limitation. Opp. at 14-16. First, Stowers discloses films “from 2 to 500 nm.” EX1008, 18. PO argues that this disclosure relates to “high-k dielectric” materials—not photoresist films. Reply at 7-8. But this is inconsistent with a plain reading of Stowers 2008. Stowers 2008 describes “[w]ork in direct patterning” that was “based on” a material “initially designed as a high-k dielectric.” EX1008, 18. But the films that Stowers 2008 discusses “being deposited . . . in thickness from 2 to 500 nm” are the “direct patterning” films that are the subject of Stowers 2008—not the high-k dielectric precursors. *Id.* Given that Stowers 2008 discloses thicknesses from 2 to 500 nm and also expressly discloses 30 nm (EX1040, ¶¶130-132; EX1012, 8), a POSA would understand that “about 25 nm” is an acceptable choice within that larger range. *Warner Chilcott Co., LLC v. Teva Pharmaceuticals USA, Inc.*, 89 F.Supp.3d 641, 654 (D.N.J. 2015) (finding a claim directed to 100 mg anticipated by a range of 20 to 175 mg). Further, given that PO has identified no unexpected results for “about 25 nm” as opposed to a different thickness, Stowers 2008 renders the limitation obvious. *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003) (“encompassing ranges shifts the burden to the applicant”). In addition, given Stowers 2008’s disclosure of 30 nm (EX1040, ¶¶130-132; EX1012, 8), it would have been obvious to reduce the thickness disclosed in Stowers 2008 to 25 nm to reduce pattern collapse. EX1040, ¶¶130-132. PO ignores Dr. Holland explanation for why

a POSA would be motivated to reduce thickness to reduce pattern collapse and provides no rebuttal testimony. Reply at 8.

Second, with respect to the ligand ratio, Stowers 2008 renders the limitation obvious (and Petitioner does not rely on any inherency argument). Opp. at 15-16. Specifically, Stowers 2008 itself identified the amount of peroxide as a results-effective variable because it disclosed that the addition of peroxide concentration added radiation sensitivity. EX1040, ¶136; *In re Applied Materials, Inc.*, 692 F.3d 1289, 1297 (Fed. Cir. 2012). Thus, it would have been obvious to optimize the peroxide concentration. EX1040, ¶136. The citation to a later Stowers publication showing that he did, in fact, optimize the concentration simply shows the motivation to do so. *Forest Labs., LLC v. Sigmapharm Labs., LLC*, 918 F.3d 928 (Fed. Cir. 2019) (finding that post-priority evidence can show a motivation to combine).

IV. THE CLAIMS ARE UNPATENTABLE OVER TRIKERIOTIS

PO and the Board also appear to misinterpret Petitioner's arguments related to Trikeriotis. Trikeriotis renders the "about 25 nm" limitation obvious—it does not anticipate it (either expressly or inherently). Trikeriotis discloses that "film thicknesses ranging from 30 nm to 200 nm can be easily achieved." EX1024, 18. It then provides an express motivation to attempt even thinner films: "[t]he trend of ever decreasing feature sizes...is paralleled by the **need to reduce resist thickness** to prevent pattern collapse." EX1024, 15. While Trikeriotis believed that current

needs could be solved by using films from 30 nm thick, the unrebutted testimony from Dr. Holland confirms that a POSA would be motivated to prepare for *future* feature size needs by reducing thickness to “about 25 nm.” EX1040, ¶¶133-134. And PO’s expert agrees that altering thickness was easily achievable without “extensive experimentation.” EX1033, 75:5-11. Thus, Trikeriotis renders the claims obvious.

V. THE CLAIMS ARE UNPATENTABLE OVER KESZLER

PO argues that the Petitioner has applied a “mix-and-match” analysis that is inappropriate for anticipation. Reply at 10-12. This argument mischaracterizes the analysis. Instead, Petitioner has analyzed the express teachings of Keszler and used the details of the examples to fully comprehend those teachings. Indeed, the general subject matter of Keszler is the creation of HafSO_x and ZircSO_x films. *See* EX1038 at 1, 4:17-32. Keszler specifically teaches that these films can be deposited in a single layer on a substrate and then patterned. EX1038 at 8:1-12. But the general disclosure of Keszler does not provide the specific details regarding the process used to make or pattern those films—those details are provided by the examples. Specifically, Example 4 expressly teaches how to make a *single layer* of a HafSO_x or ZircSO_x film of 25 nm in thickness. *See* EX1038 at 40:8-20 (expressly disclosing the precursors, concentrations, and temperatures for making a single layer film and then explaining that the process could be repeated). Example 7 teaches how to pattern a single layer film having similar thicknesses (*e.g.*, about 30 nm) as the films

in Example 4. EX1038 at 44:8-21. As such, Petitioner has not attempted to combine separate embodiments in Keszler to “cobble together” various embodiments. *See* Reply at 10. Instead, a review of the general teachings of Keszler in light of the details provided in the working examples show that Keszler anticipates each and every limitation of the proposed substitute claims with the exception of Claim 19.

For Claim 19, the analysis is straightforward—Keszler teaches that the peroxide content of the HafSO_x and ZircSO_x films allows the films to act as photoresists. EX1038, 28:9-12 (inclusion of peroxide provides a “new lithographic patterning method.”); EX1040, ¶126. The peroxide content of the films is therefore a result-effective variable that a POSA would know to modify to optimize the film. EX1040, ¶¶135-138. As such, Claim 19 is obvious in view of Keszler.

Both the Board (PG at 15) and PO (Reply at 11) argue that Petitioner has not shown that the Keszler films match those from the ’564 patent. But the only record evidence is from Dr. Holland, who explained that the Keszler films are identical in all material aspects to those from the patent. EX1040, ¶¶97-100. Dr. Holland’s un rebutted testimony supporting inherency should be adopted.

VI. CONCLUSION

In light of the un rebutted expert testimony, the deficiencies in PO’s arguments, and the overwhelming evidence, the Board should deny PO’s Motion.

Dated: January 16, 2025 /s/ Dion M. Bregman
Dion M. Bregman, Reg. No. 45,645

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e)(4), it is hereby certified that on January 16, 2025 an electronic copy of this SUR-REPLY TO REPLY TO PETITIONER’S OPPOSITION TO PATENT OWNER’S MOTION TO AMEND was served via email to Patent Owner’s counsel of record in this proceeding:

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Dated: January 16, 2025 /s/ / Dion M. Bregman
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