

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG DISPLAY CO., LTD.
Petitioner,

v.

PICTIVA DISPLAYS INTERNATIONAL LTD.,
Patent Owner.

Case No. IPR2024-001094
Patent No. 8,558,223

PATENT OWNER'S PRE-INSTITUTION SUR-REPLY

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TABLE OF CONTENTS

	<u>Page</u>
I. Ma Has Not Been Shown to Be Prior Art	1
II. Discretionary Denial under 314(a) is Justified.....	5

TABLE OF AUTHORITIES**Page(s)****Cases**

<i>Acceleration Bay, LLC v. Activision Blizzard Inc.</i> , 908 F.3d 765 (Fed. Cir. 2018)	1
<i>Blue Calypso LLC v. Groupon, Inc.</i> , 815 F.3d 1331 (Fed. Cir. 2016)	4
<i>In re Cronyn</i> , 890 F.2d 1158 (Fed. Cir. 1989)	1, 2, 3
<i>Elbit Sys. of Am., LLC v. Thales Visionix, Inc.</i> , 881 F.3d 1354 (Fed. Cir. 2018)	4
<i>First Solar, Inc. v. Rovshan Sade</i> , IPR2023-00827, Paper 13 (PTAB Nov. 16, 2023)	5
<i>In-Depth Geophysical, Inc. v. Conocophillips Co.</i> , IPR2019-00849, Paper 17 (PTAB, Mar. 30, 2020)	4
<i>In re Lister</i> , 583 F.3d 1307 (Fed. Cir. 2009)	1
<i>Microsoft Corp. v. Corel Software, LLC</i> , IPR2016-01083, Paper 14 (PTAB Dec. 1, 2016)	1
<i>Microsoft Corp. v. Throughputer, Inc.</i> , IPR2023-00852, Paper 18 (PTAB Nov. 9, 2023)	1
<i>NearMap US, Inc. v. Eagle View Techs. Inc.</i> , IPR2022-01009, Paper 28 (PTAB Dec. 14, 2023)	4
<i>Palo Alto Networks, Inc. v. Finjan, Inc.</i> , IPR2015-01979, Paper 62 (PTAB Mar. 15, 2017)	3
<i>Samsung Display Co., Ltd. v. Pictiva Displays Int'l Ltd.</i> , IPR2024-00855, Paper 12 (Nov. 19, 2024)	5
<i>Valtrus Innovations Limited v. SAP America, Inc.</i> , 2:24-cv-00021, Dkt. 84-1 (E.D. Tex. Nov. 14, 2024)	5

Page(s)

<i>VidStream LLC v. Twitter, Inc.</i> , 981 F.3d 1060 (Fed. Cir. 2020)	4
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<i>Voter Verified, Inc. v. Premier Election Sols., Inc.</i> , 745 F. Supp. 2d 1237 (M.D. Fl. Sept. 29, 2010)	3
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Statutes

35 U.S.C. § 314(a)	1
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Rules

Fed. R. Evid. 803(6)	3
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EXHIBIT LIST

Exhibit No.	Document Description
EX2001	Declaration of Professor Kirk Schanze
EX2002	K. Walzer et al., <i>Highly Efficient Organic Devices Based on Electrically Doped Transport Layers</i> , 107 Chem. Rev. 1233-71 (2007)
EX2003	Böjn Lüssem et al. <i>Doped Organic Transistors</i> , 116 Chem. Rev. 13714-51 (2016)
EX2004	F. Albert Cotton et al., <i>Multiple Bonds between Metal Atoms</i> , 3d ed., Spring Science and Business Media, Inc. (2005)
EX2005	Dan Wang et al., <i>Highly efficient green organic light-emitting diodes from single exciplex emission</i> , 92 App. Phys. Lett. 053304 (2008), downloaded from https://www.researchgate.net/publication/257949210_Highly_efficient_green_organic_light-emitting_diodes_from_single_exciplex_emission/download?tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6Il9kaXJlY3QiLCJwYWdlIjoieX2RpcmVjdCJ9fQ
EX2006	Q. Xin et al., <i>Emission mechanism in organic light-emitting devices comprising a europium complex as emitter and an electron transporting material as host</i> , 101 J. App. Phys. 044512 (2007)
EX2007	Hsian-Fan Chen et al., <i>1,3,5-Triazine derivatives as new electron transport-type host materials for highly efficient green phosphorescent OLEDs</i> , 19 J. Mater. Chem. 8112-8118 (2009), downloaded from https://www.researchgate.net/publication/228923869_1_3_5-Triazine_derivatives_as_new_electron_transport-type_host_materials_for_highly_efficient_green_phosphorescent_OLEDs
EX2008	F. Albert Cotton et al., <i>Synthesis and reactivity of a very strong reducing agent containing a quadruple bond: structures of $W_2(hpp)_4$ and $W_2(hpp)_4Cl_2 \cdot 4CH_2Cl_2$</i> , 6 Inorganic Chemistry Communications 121-126 (2003)
EX2009	F. Albert Cotton et al., <i>Closed Shell Molecules That Ionize More Readily Than Cesium</i> , 298 Science 1971-1974 (2002)

Exhibit No.	Document Description
EX2010	Sebastian Scholz et al., <i>Self-doping and partial oxidation of metal-on-organic interfaces for organic semiconductor devices studied by chemical analysis techniques</i> , 104 J. Appl. Phys. 104502 (2008), downloaded from https://www.researchgate.net/publication/52002446_Self-doping_and_partial_oxidation_of_metal-on-organic_interfaces_for_organic_semiconductor_devices_studied_by_chemical_analysis_techniques
EX2011	Huan Wang et al., <i>Photophysical and Electronic Properties of Five PCBM-like C₆₀ Derivatives: Spectral and Quantum Chemical View</i> , 116 J. Phys. Chem. 255-62 (2012), downloaded from https://www.researchgate.net/publication/51842031_Photophysical_and_Electronic_Properties_of_Five_PCBM-like_C-60_Derivatives_Spectral_and_Quantum_Chemical_View
EX2012	Koopman's Theorem, downloaded from https://chem.libretexts.org/@go/page/64945
EX2013	M. Amati et al., <i>The Electron Affinity as the Highest Occupied Anion Orbital Energy with a Sufficiently Accurate Approximation of the Exact Kohn-Sham Potential</i> , 16 J. Chem. Theory Comput. 443-52 (2020), available from https://pubs.acs.org/doi/10.1021/acs.jctc.9b00981 .
EX2014	Shigeki Naka et al., <i>High electron mobility in bahophenanthroline</i> , 76 Appl. Phys. Lett. 197-199 (2000)
EX2015	Torben Menke, <i>Molecular Doping of Organic Semiconductors: A Conductivity and Seebeck Study</i> , Dissertation, Technische Universität Dresden (2013)
EX2016	Max L. Tietze et al., <i>Self-passivation of molecular n-type doping during air exposure using a highly efficient air-instable dopant</i> , 210 Physica Status Solidi 2188-2198 (2013), abstract only, available from https://onlinelibrary.wiley.com/doi/10.1002/pssa.201330049

Exhibit No.	Document Description
EX2017	Charles A. Crawford et al., <i>Reaction of 2,2'-Bipyridine (bpy) with Dirhodium Carboxylates: Mono-bpy Products with Variable Chelate Binding Modes and Insights into the Reaction Mechanism</i> , 32 Inorg. Chem. 3125-3133 (1993)
EX2018	Charles A. Crawford et al., <i>Reaction of Nitrogen Chelates with the $[Rh_2]^{4+}$ Core: Bis-Chelate Products and Demonstration of Reversible, Chelate-Based Reduction Process</i> , 36 Inorg. Chem., 2361-2371 (1997)
EX2019	C. W. Law et al., <i>Effective organic-based connection unit for stacked organic light-emitting devices</i> , 89 Appl. Phys. Lett. 133511 (2006), abstract only
EX2020	Dong-Seok Leem et al., <i>Rubidium-Carbonate-Doped 4,7-Diphenyl-1,10-phenanthroline Electron Transporting Layer for High-Efficiency p-i-n Organic Light Emitting Diodes</i> , 12(1) Electrochem. & Solid-State Lett. J8-J10 (2009), available from https://www.semanticscholar.org/paper/Rubidium-Carbonate-Doped-Electron-Transporting-for-Leem-Kim/5f64df92acfbbaa00c68c05bdd74f6ebbec78fa
EX2021	Yongzhen Chen et al., <i>n-Doping-induced efficient electron-injection for high efficiency inverted organic light-emitting diodes based on thermally activated delayed fluorescence emitter</i> , 5 J. Mater. Chem. C. 8400-8407 (2017), abstract only, available from https://pubs.rsc.org/en/content/articlelanding/2017/tc/c7tc02406a
EX2022	printout of https://www.sciencedirect.com/science/article/abs/pii/S0379677908001653 (Ma reference)
EX2023	Scopus Preview for references citing the Ma reference, available from https://www.scopus.com/results/citedbyresults.uri?sort=plf-f&cite=2-s2.0-57649228487&src=s&imp=t&sid=d32d5ac36b34f63475a939d79b8ad832&sot=cite&sdt=a&sl=0&origin=inward&editSaveSearch=&txGid=504fad81394a3927a1e740526430fa60

Exhibit No.	Document Description
EX2024	Omitted
EX2025	Omitted
EX2026	Certified Translation of DE 10 2008 049 286.8
EX2027	Certified Translation of DE 10 2008 056 391.9
EX2028	Shinji Toyota et al., <i>Synthesis, Spectroscopic Properties, and Cu(I) Complexes of All Possible Symmetric Bi-1,10-Phenanthroline</i> , 65(3) <i>Heterocycles</i> 551-562 (2005), available from http://triggered.edina.clockss.org/ServeContent?url=http%3A%2F%2Fwww.heterocycles.jp%2Fclockss%2Fdownloads%2FPDF%2F01540%2F65%2F3]
EX2029	Tracy J. Terry & T. Daniel P. Stack, <i>Covalent Heterogenization of a Discrete Mn(II) Bis-Phen Complex by a Metal-Template/Metal-Exchange Method: An Epoxidation Catalyst with Enhanced Reactivity</i> , 130(14) <i>J. Am. Chem. Soc.</i> (2008), abstract only, downloaded from https://pubs.acs.org/doi/10.1021/ja0742030
EX2030	Mudasir et al., <i>DNA Binding of Iron(II)-Phenanthroline Complexes: Effect of Methyl Substitution on Thermodynamic Parameters</i> , 77(3-4) 63b <i>Z. Naturforsch.</i> 37-46 (2008), downloaded from http://www.znaturforsch.com/ab/v63b/63b0037.pdf
EX2031	Mudasir et al., <i>Iron(II) and nickel(II) mixed-ligand complexes containing 1,10-phenanthroline and 4,7-diphenyl-1,10-phenanthroline</i> , 24 <i>Transition Met. Chem.</i> 210-217 (1999)
EX2032	Johannes Karges et al., <i>Rationally Designed Long-Wavelength Absorbing Ru(II) Polypyridyl Complexes as Photosensitizers for Photodynamic Therapy</i> , 142(14) <i>J. Am. Chem. Soc.</i> 6578-6587 (2020), downloaded from https://insu.hal.science/insu-02892038v1
EX2033	Federal Court Management Statistics for U.S. District Courts, available from https://www.uscourts.gov/statistics/table/na/federal-courtmanagement-statistics/2024/06/30-1

Exhibit No.	Document Description
EX2034	Samsung Invalidity Contentions in <i>Pictiva Displays Int'l Ltd. v. Samsung Electronics Co. Ltd., et al.</i> , Case No. 2:23-cv-000495 (E.D. Tex. Jun. 11, 2024)
EX2035	Amira K. Hajri et al., <i>Synthesis and photophysical properties of new reactive fluorophenanthrenes</i> , 23(4-5) Comptes Rendus Chimie 315-327 (2020), downloaded from https://comptes-rendus.academie-sciences.fr/chimie/articles/10.5802/crchim.29/
EX2036	R. J. Holmes et al., <i>Efficient, deep-blue organic electrophosphorescence by guest charge trapping</i> , 83 Appl. Phys. Lett. 3818-3820 (2003)
EX2037	Yu-Xiao Lin et al., <i>Connecting the irreversible capacity loss in Li-ion batteries with the electronic insulating properties of solid electrolyte interphase (SEI) components</i> , 309 J. Power Source 221-230 (2016)
EX2038	Paul A. Anderson, <i>the Work Function of Lithium</i> , 75 Phys. Rev. 1205 (1949), abstract only

I. Ma Has Not Been Shown to Be Prior Art

As a preliminary matter, Pictiva does dispute that Ma renders claims 1, 3, 4, 6, 9 and 10 obvious. *Contra* Reply 1. But the Board need not reach the merits, because Petitioner wholly fails to demonstrate Ma qualifies as prior art. As is well established, an IPR cannot be instituted unless “the information presented *in the petition*” shows a reasonable likelihood of prevailing. *Microsoft Corp. v. Throughputer, Inc.*, IPR2023-00852, Paper 18 at 17-18 (PTAB Nov. 9, 2023); 35 U.S.C. § 314(a). It is therefore “fundamental” for Petitioner to establish Ma’s status as a prior art printed publication. *Microsoft Corp. v. Corel Software, LLC*, IPR2016-01083, Paper 14 at 13, n.5 (PTAB Dec. 1, 2016). Yet, the Petition presents no such evidence and the new Garland declaration fails to remedy that fatal flaw.

Just like a thesis housed in a traditional library is not prior art when its index card was filed only alphabetically by author name and therefore was not sufficiently searchable (*see, e.g., In re Cronyn*, 890 F.2d 1158 (Fed. Cir. 1989)), an article in Elsevier’s digital library would not be prior art unless it was “sufficiently accessible to the public interested in the art” as of the critical date. *In re Lister*, 583 F.3d 1307, 1311 (Fed. Cir. 2009); *see also Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 773 (Fed. Cir. 2018) (“[P]ublic accessibility requires more than technical accessibility.”)(cleaned up).

No evidence has been supplied on the requisite public accessibility. *See* Reply

1-4; EX1018 *generally*. Ms. Garland does not aver that Exhibit A to her declaration, downloaded “on or about November 8, 2024,” is what existed on August 29, 2008. *See, e.g.*, EX1018, ¶¶9-11. Nor does she provide any information on Elsevier’s practice in 2008-2009 on indexing or cataloging, what “available online” meant in 2008-2009, how readers learnt of new articles then, or how the purported volume of *Synthetic Metals* was disseminated.

The declaration merely confirms what is not in dispute: that Ma is now available from Elsevier’s web site. It does not claim that a skilled artisan interested in the article could have located it by exercising reasonable diligence at the relevant time. It does not describe Elsevier digital library’s search capability at the relevant time. *See* EX1018. Nor does she or Petitioner present any evidence that a copy of Ma could be located after a reasonable search using some other search tools. In *Cronyn*, a thesis was disqualified as prior art because it could not be located unless one knew of its title or the author. 890 F.2d at 1159-61. Here too, as Dr. Schanze’s testified, “it was [his] recollection that new articles often could not be located unless one knew the author’s names or the title of the article” because “in 2008-2009, Elsevier journals often did not promptly index new articles, especially online-only versions.” EX2001, ¶116. Dr. Schanze also recalls, “in 2008-2009, Elsevier’s search tool had limited keyword search capability as it often failed to identify articles of interest,” and then-existing “indexing services, such as Clarivate Web of Science did

not index online only articles, making them difficult or impossible to locate.” *Id.* Nothing in the Reply or the Garland Declaration contradicts this testimony.

In that regard, the Garland Declaration is nothing like the declarations that courts found sufficient to establish public accessibility. In *Voter Verified, Inc. v. Premier Election Sols., Inc.*, 745 F. Supp. 2d 1237, 1245-46 (M.D. Fl. Sept. 29, 2010) and *Palo Alto Networks, Inc. v. Finjan, Inc.*, IPR2015-01979, Paper 62 at 26-28 (PTAB Mar. 15, 2017), the declarants explained how a publication could be accessed online before the priority date using search tools. Ms. Garland, however, does not even claim that Ma is one of the “certain records” for which she is a “custodian of.” EX1018, ¶4. She mentions “metadata,” but offers no testimony on Ma’s metadata. *Id.*, ¶10. She does not testify that Ma was a business record as of 2008-2009 or the general record practices of Elsevier in 2008-2009. Nor does she explain her basis for her conclusion about Ma’s publication. *Id.*, ¶11.

Instead, she focuses on Ma “as it existed on or about November 8, 2024,” noting that Ma is “currently available for public download” and presently “is maintained in the ordinary course of Elsevier’s business.” *Id.*, ¶¶9-11. This information on present-day record and practice is too late to establish public accessibility or to even overcome a hearsay objection to Ma’s date over a decade earlier. Fed. R. Evid. 803(6) (record must be “made at or near the time”). The referenced “hyperlink” with “information” about “version[s]” of Ma (Reply 1) is not

part of the record and highlights Ma’s version problem.

Lacking evidence, Petitioner argues that Ma should be presumed published because Elsevier is allegedly an “established” publisher and Ma was “peer-reviewed,” citing only EX1007, 810 that says no such thing. Reply 1. This “[a]ttorney argument is [also] not evidence.” *Elbit Sys. of Am., LLC v. Thales Visionix, Inc.*, 881 F.3d 1354, 1359 (Fed. Cir. 2018) (cleaned up). Petitioner’s cases all involved significant, external evidence—Copyright Office records, Library of Congress records, MARC records, Internet Archive records, Amazon listings, librarian declarations, etc.—to explain the when and how of access by skilled artisans and why the publisher was “established.” *VidStream LLC v. Twitter, Inc.*, 981 F.3d 1060, 1062-63, 1065-67 (Fed. Cir. 2020); *NearMap US, Inc. v. Eagle View Techs. Inc.*, IPR2022-01009, Paper 28 at 25-27 (PTAB Dec. 14, 2023) (similar). In contrast, there is “no evidence [here] that [Ma] was disseminated to the interested public” beyond identifying a disembodied online “date.” *Blue Calypso LLC v. Groupon, Inc.*, 815 F.3d 1331, 1349-50 (Fed. Cir. 2016) (cleaned up). As in *Blue Calypso*, Petitioner did not provide any evidence of online viewing, downloading, indexing for search, or any roadmap for how a skilled artisan would navigate to Ma before the critical date. *Id.* A “[p]ublished in print” online date without the “how,” “where” or “to whom” cannot establish online public availability. *In-Depth Geophysical, Inc. v. Conocophillips Co.*, IPR2019-00849, Paper 17 at 9-10 (PTAB,

Mar. 30, 2020); *First Solar, Inc. v. Rovshan Sade*, IPR2023-00827, Paper 13 at 18 (PTAB Nov. 16, 2023) (archive with no evidence of indexing). Petitioner has not shown that Ma is prior art.

II. Discretionary Denial under 314(a) is Justified

In IPR2024-00855 involving another patent in the same suit, the Board found that *Finitiv* factors 2, 4, 5 favored discretionary denial. *Samsung Display Co., Ltd. v. Pictiva Displays Int'l Ltd.*, IPR2024-00855, Paper 12 at 12 (Nov. 19, 2024). The facts here are even more compelling because the deadline for the projected institution decision in this proceeding is two months later than that of IPR2024-00855. Thus, more resources will have been spent by the projected deadline for the institution decision. For instance, in addition to activities mentioned on POPR 69, the parties will have also completed 4-6 depositions, conducted source code review, and spent resources on reverse engineering.

Petitioner speculates that the initial suit (the -495 matter) might be dismissed. Reply 4-5. That is unlikely, in light of Dr. Gilstrap's ruling in a case involving similar facts. *See Valtrus Innovations Limited v. SAP America, Inc.*, 2:24-cv-00021, Dkt. 84-1 (E.D. Tex. Nov. 14, 2024) (denying defendants' motion to dismiss for lack of standing based on arguments nearly identical to those made by Samsung). Thus, the -495 action is unlikely to be dismissed and is expected to proceed as scheduled.

Dated: November 27, 2024

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. section 42.6, that on November 27, 2024, a complete copy of the foregoing document **PATENT OWNER'S PRE-INSTITUTION SUR-REPLY** was served by electronic mail, as agreed to by the parties, upon the following:

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