

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

INPRIA CORPORATION,

Plaintiff,

v.

LAM RESEARCH CORP.,

Defendant.

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C.A. No. 1-22-cv-01359-CJB

JURY TRIAL DEMANDED

**DEFENDANT LAM RESEARCH CORP.’S ANSWER,
DEFENSES, AND COUNTERCLAIMS TO PLAINTIFF
INPRIA CORPORATION’S AMENDED COMPLAINT**

Defendant Lam Research Corp. (“Lam”) hereby submits its Answer, Defenses, and Counterclaims to Plaintiff Inpria Corporation’s (“Inpria”) Amended Complaint filed December 13, 2023 (Dkt. 43). Lam denies the allegations and characterizations in the Complaint unless expressly admitted in the following paragraphs. Furthermore, the section headings included herein are included only for purposes of clarity and organization. Lam denies any allegation that may be implied or inferred from the headings contained in the Complaint.

I. ANSWER TO PLAINTIFF'S COMPLAINT

THE PARTIES¹

1. Lam is without knowledge or information sufficient to form a belief as to the truth of the allegations in Paragraph 1 of the Amended Complaint and, on that basis, denies each and every allegation therein.

2. Lam is without knowledge or information sufficient to form a belief as to the truth of the matters asserted in Paragraph 2 of the Amended Complaint and, on that basis, denies each and every allegation therein.

3. Lam is without knowledge or information sufficient to form a belief as to the truth of the matters asserted in Paragraph 3 of the Amended Complaint and, on that basis, denies each and every allegation therein.

4. Lam admits the allegations of Paragraph 4.

JURISDICTION AND VENUE

5. Paragraph 5 contains legal conclusions to which no response is required. To the extent a response is required, Lam admits that the Amended Complaint purports to assert claims for patent infringement under the United States patent laws, 35 U.S.C. §§ 101, et seq. Lam further admits that Paragraph 5 alleges that this Court has subject matter jurisdiction over Inpria's patent infringement claims under 28 U.S.C. §§ 1331, 1338, and 35 U.S.C. § 1, et seq. For purposes of this action only, Lam does not contest that the Court has subject matter jurisdiction over those patent infringement claims. Lam denies any remaining allegations in Paragraph 5.

6. Paragraph 6 contains legal conclusions to which no response is required. To the extent a response is required, Lam admits that it is a Delaware corporation. For purposes of this

¹ For convenience and clarity, Lam's Answer uses the same headings as the Amended Complaint. Lam does not admit any allegations contained in the Amended Complaint's headings.

action, and this action only, Lam does not contest that this Court has personal jurisdiction over it. Lam denies any remaining allegations in Paragraph 6.

7. Paragraph 7 contains legal conclusions to which no response is required. To the extent a response is required, for purposes of this action, and this action only, Lam does not dispute that venue is proper in this District pursuant to 28 U.S.C. § 1400(b). Lam, however, specifically denies that this District is more convenient for the parties, witnesses, and the interests of justice. Lam denies any remaining allegations in Paragraph 7.

**GENERAL ALLEGATIONS RELATED TO THE
INFRINGEMENT OF INPRIA'S PATENTS**

8. Lam admits that '505 patent, on its face, is titled "Organotin oxide hydroxide patterning compositions, precursors, and patterning" and states that it was issued on August 4, 2020. Lam admits that Exhibit A to the Amended Complaint purports to be a copy of the '505 patent. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 8, and therefore denies the same.

9. Lam admits that the '564 patent, on its face, is titled "Patterned inorganic layers, radiation based patterning compositions and corresponding methods" and states that it was issued on November 21, 2017. Lam admits that Exhibit B to the Amended Complaint purports to be a copy of the '564 patent. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 9, and therefore denies the same.

10. Lam admits that the '684 patent, on its face, is titled "Organometallic solution based high resolution patterning compositions" and states that it was issued on April 12, 2016. Lam admits that Exhibit C to the Amended Complaint purports to be a copy of the '684 patent. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 10, and therefore denies the same.

11. Lam admits that the '153 patent, on its face, is titled "Organometallic solution based high resolution patterning compositions and corresponding methods" and states that it was issued on May 5, 2020. Lam admits that Exhibit D to the Amended Complaint purports to be a copy of the '153 patent. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 11, and therefore denies the same.

12. Lam admits that the '048 patent, on its face, is titled "Organotin oxide hydroxide patterning compositions, precursors, and patterning" and states that it was issued on December 27, 2022. Lam admits that Exhibit E to the Amended Complaint purports to be a copy of the '048 patent. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 12, and therefore denies the same.

13. Lam admits that the '903 patent, on its face, is titled "Monoalkyl tin compounds with low polyalkyl contamination, their compositions and methods" and states that it was issued on June 13, 2023. Lam admits that Exhibit F to the Amended Complaint purports to be a copy of the '903 patent. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 13, and therefore denies the same.

14. Lam admits that the '312 patent, on its face, is titled "Radiation based patterning methods" and states that it was issued on July 4, 2023. Lam admits that Exhibit G to the Amended Complaint purports to be a copy of the '312 patent. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 14, and therefore denies the same.

15. Lam admits that the '081 patent, on its face, is titled "Organotin oxide hydroxide patterning compositions, precursors, and patterning" and states that it was issued on November 7, 2023. Lam admits that Exhibit H to the Amended Complaint purports to be a copy of the '081

patent. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 15, and therefore denies the same.

16. Lam admits that the Amended Complaint collectively refers to the '505, '564, '684, '153, '048, '903, '312, and '081 patents as the "Inpria Patents." Lam denies any remaining allegations in Paragraph 16.

17. Lam is without knowledge or information sufficient to form a belief as to the truth of the matters asserted in Paragraph 17 of the Amended Complaint and, on that basis, denies each and every allegation therein.

18. Lam denies each and every allegation in Paragraph 18.

19. Lam admits the allegations of Paragraph 19.

20. Lam admits that a copy of an abstract titled "Lithographic Performance of the First Entirely Dry Process for EUV Lithography" may be obtained from <https://euvlitho.com/2020/2020%20EUVL%20Workshop%20Keynote%20Weidman.pdf>. Lam admits that this abstract states a "lithographic performance of a new entirely dry EUV photoresist platform will be described," and further explains that "[p]hotoresist films are applied using reactive organometallic precursors in a vapor phase process that provides uniform, homogeneous films stable to air and visible light. EUV exposure and subsequent bake steps induce crosslinking and densification, while unexposed areas remain hydrophobic and freely soluble in common organic solvents." Lam admits that a purported copy of this abstract is attached to the Amended Complaint as Exhibit Y. Lam denies any remaining allegations in Paragraph 20.

21. Lam admits the allegations of Paragraph 21.

22. Lam admits that a presentation titled "2020 Investor Day" may be obtained from <https://investor.lamresearch.com/events/event-details/2020-investor-meeting>, from which

Paragraph 22 purports to include an excerpt of the “2020 Investor Day” presentation’s slide 66. Lam admits that a purported copy of such excerpt is attached as Exhibit L to the Amended Complaint. Lam admits that the right-hand side of slide 66 refers to Lam’s innovative dry resist and dry development technologies. Lam denies any remaining allegations in Paragraph 22.

23. Lam admits that Paragraph 23 purports to quote and include an excerpt of the “2020 Investor Day” presentation’s slide 73. Lam denies any remaining allegations in Paragraph 23.

24. Lam admits that it filed U.S. patent application No. 62/868,710 with the U.S. Patent and Trademark Office, and that a series of slides describing dry resist technology were filed with this application. Lam admits that Paragraph 24 purports to quote and include an excerpt from U.S. patent application No. 62/868,710. Lam admits that a purported copy of U.S. patent application No. 62/868,710 is attached to the Amended Complaint as Exhibit N. Lam denies any remaining allegations in Paragraph 24.

25. Lam admits that it filed numerous patent applications around the world describing dry resist technology, including WO2020/264158A1 and U.S. Patent Pub. No. 2022/0308462. Lam admits that Paragraph 25 purports to quote from WO2020/264158A1 and U.S. Patent Pub. No. 2022/0308462, and that copies of the applications are attached to the Amended Complaint as Exhibits M and AA, respectively. Lam denies any remaining allegations in Paragraph 25.

26. Lam admits that it has employees in the United States, and principally at Lam’s headquarters in Fremont, California, who have worked on the research, development, manufacturing and testing of Lam equipment that can perform certain processing steps associated with Extreme Ultraviolet (“EUV”) photoresists. Lam admits that Paragraph 26 purports to quote from the LinkedIn profiles of current Lam Employees: Mike Myers, Austin Faucett, and Cheng-Hao (Will) Wu. Lam admits that purported copies of these employees’ LinkedIn profiles are

attached to the Amended Complaint as Exhibits O, P, and Q, respectively. Lam denies any remaining allegations in Paragraph 26.

27. Lam admits that Paragraph 27 purports to include an excerpt of the “2020 Investor Day” presentation’s slide 77. Lam admits that a purported copy of this excerpt is attached to the Amended Complaint as Exhibit L. Lam admits that the left-hand side of this slide includes a graphic representing equipment capable of implementing dry resist deposition, and that the right-hand side of this slide includes a graphic representing equipment capable of dry resist development. Lam denies any remaining allegations in Paragraph 27.

28. Lam admits that it has used equipment at Lawrence Berkeley National Laboratory (“LBNL”) to expose photoresists created using Lam’s deposition tool to EUV light. Lam admits that Paragraph 28 purports to quote and include images from slide 6 of a 2021 presentation before the Society of Photographic Instrumentation Engineers (“2021 SPIE Presentation”), and that a purported copy of the slide is attached to the Amended Complaint as Exhibit R. Lam denies any remaining allegations in Paragraph 28.

29. Lam admits that MET5 is an EUV projection lithography tool located at LBNL, and that <https://engineering.lbl.gov/cxro-center-for-x-ray-optics> appears to be a link to the LBNL website. Lam denies any remaining allegations in Paragraph 29.

30. Lam admits that the ’505, ’684, ’564, and ’153 patents were cited during prosecution of the applications that issued as U.S. Patent Nos. 11,209,729 and 11,314,168. Lam admits that purported copies of these patents are attached to the Amended Complaint as Exhibits DD and EE, respectively. Lam admits that the ’048 and ’081 patents, on their faces, are continuations of application No. 15/291,738, and that the Patent Application Publication No. 2017/0102612 corresponds to this application. Lam further admits that Patent Application

Publication No. 2017/0102612 was cited during prosecution of the applications that issued as U.S. Patent Nos. 9,996,004 and 10,796,912. Lam admits that purported copies of these patents are attached to the Amended Complaint as Exhibits GG and HH, respectively. Lam admits that the '903 patent was cited during prosecution of an application relating to JP6495025, and admits that a purported copy of this patent is attached to the Amended Complaint as Exhibit II. Lam admits that the '312 patent, on its face, is a continuation of application No. 12/850,867 which issued as U.S. Patent No. 9,176,377. Lam admits that this patent was cited during prosecution of the applications relating to JP6495025 and EP4235757, and that purported copies the Japanese and European patents are attached to the Amended Complaint as Exhibits II and JJ, respectively. Lam denies any remaining allegations in Paragraph 30.

31. Lam denies that it had actual notice of the Inpria Patents due to the facts alleged in Paragraph 31 and elsewhere in the Amended Complaint. Lam admits that Paragraph 31 purports to quote from WO2020/264158A1, a purported copy of which is attached to the Amended Complaint as Exhibit M. Lam admits that Ex. X is an article co-authored by certain individuals employed by Lam at the time of its publication, but denies that an Exhibit T is attached to the Amended Complaint. Lam is therefore without knowledge or information sufficient to form a belief as to the Exhibit T referenced in Paragraph 31. Lam denies any remaining allegations in Paragraph 31.

32. Lam admits that it has made public statements regarding the potential market for dry resist technology. Lam denies any remaining allegations in Paragraph 32.

33. Lam admits that purported claim charts are attached to the Amended Complaint as Exhibits KK-RR, but denies that it has committed any acts of infringement, including those alleged in the aforementioned exhibits. Lam denies any remaining allegations in Paragraph 33.

34. Lam denies each and every allegation in Paragraph 34.

35. Lam incorporates its answer to Paragraphs 30-31. Lam denies each and every remaining allegation in Paragraph 35.

36. Lam admits that a press release published on July 12, 2022 is available at <https://www.prnewswire.com/news-releases/lam-research-entegris-gelest-team-up-to-advance-euvdry-resist-technology-ecosystem-301584404.html> and is partially quoted in Paragraph 36. Lam admits that a purported copy of this press release is attached to the Amended Complaint as Exhibit U. Lam denies any remaining allegations in Paragraph 36.

37. Lam admits a press release published June 14, 2022 is available at <https://www.prnewswire.com/news-releases/lam-research-teamsup-with-sk-hynix-to-enhance-dram-production-cost-efficiency-with-breakthrough-dry-resist-euvtechnology-301567359.html> and is partially quoted in Paragraph 37. Lam admits that a purported copy of this press release is attached to the Amended Complaint as Exhibit V. Lam denies any remaining allegations in Paragraph 37.

38. Lam admits that Paragraph 38 includes images of and partially quotes from slides 6 and 8 of the 2021 SPIE Presentation, and that a purported copy of the presentation is attached to the Amended Complaint as Exhibit R. Lam denies any remaining allegations in Paragraph 38.

39. Lam incorporates its answer to Paragraph 29. Lam admits that ASML 3400 NXE equipment has been located at Interuniversity Microelectronics Centre (“IMEC”) in Leuven, Belgium. Lam denies any remaining allegations in Paragraph 39.

40. Lam admits that Paragraph 40 partially quotes from Lam’s Q3 Earnings Call Transcript, and that a purported copy of such transcript is attached to the Amended Complaint as Exhibit W. Lam denies any remaining allegations in Paragraph 40.

- 41. Lam denies each and every allegation in Paragraph 41.
- 42. Lam denies each and every allegation in Paragraph 42.
- 43. Lam denies each and every allegation in Paragraph 43.
- 44. Lam denies each and every allegation in Paragraph 44.
- 45. Lam denies each and every allegation in Paragraph 45.
- 46. Lam denies each and every allegation in Paragraph 46.

FIRST CAUSE OF ACTION

INFRINGEMENT OF U.S. PATENT NO. 10,732,505

47. Paragraph 47 purports to incorporate Paragraphs 1-46 of the Amended Complaint, and thus Lam incorporates its responses thereto.

48. Lam admits that the '505 patent, on its face, has an issue date of August 4, 2020, and is titled of "Organotin oxide hydroxide patterning compositions, precursors, and patterning." Lam admits that a purported copy of the '505 patent is attached to the Amended Complaint as Exhibit A. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 48, and therefore denies the same.

- 49. Lam denies each and every allegation in Paragraph 49.
- 50. Lam denies each and every allegation in Paragraph 50.
- 51. Lam denies each and every allegation in Paragraph 51.
- 52. Lam denies each and every allegation in Paragraph 52.
- 53. Lam denies each and every allegation in Paragraph 53.
- 54. Lam denies each and every allegation in Paragraph 54.
- 55. Lam denies each and every allegation in Paragraph 55.
- 56. Lam denies each and every allegation in Paragraph 56.

57. Lam denies each and every allegation in Paragraph 57.

58. Lam denies each and every allegation in Paragraph 58.

59. Lam denies each and every allegation in Paragraph 59.

SECOND CAUSE OF ACTION

INFRINGEMENT OF U.S. PATENT NO. 9,823,564

60. Paragraph 60 purports to incorporate Paragraphs 1-46 of the Amended Complaint, and thus Lam incorporates its responses thereto.

61. Lam admits that the '564 patent, on its face, has an issue date of November 21, 2017, and is titled of "Patterned inorganic layers, radiation based patterning compositions and corresponding methods." Lam admits that a purported copy of the '564 patent is attached to the Amended Complaint as Exhibit B. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 61, and therefore denies the same.

62. Lam denies each and every allegation in Paragraph 62.

63. Lam denies each and every allegation in Paragraph 63.

64. Lam denies each and every allegation in Paragraph 64.

65. Lam denies each and every allegation in Paragraph 65.

66. Lam denies each and every allegation in Paragraph 66.

67. Lam denies each and every allegation in Paragraph 67.

68. Lam denies each and every allegation in Paragraph 68.

69. Lam denies each and every allegation in Paragraph 69.

70. Lam denies each and every allegation in Paragraph 70.

71. Lam denies each and every allegation in Paragraph 71.

THIRD CAUSE OF ACTION

INFRINGEMENT OF U.S. PATENT NO. 9,310,684

72. Paragraph 72 purports to incorporate Paragraphs 1-46 of the Amended Complaint, and thus Lam incorporates its responses thereto.

73. Lam admits that the '684 patent, on its face, has an issue date of April 12, 2016, and is titled of "Organometallic solution based high resolution patterning compositions." Lam admits that a purported copy of the '684 patent is attached to the Amended Complaint as Exhibit C. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 73, and therefore denies the same.

74. Lam denies each and every allegation in Paragraph 74.

75. Lam denies each and every allegation in Paragraph 75.

76. Lam denies each and every allegation in Paragraph 76.

77. Lam denies each and every allegation in Paragraph 77.

78. Lam denies each and every allegation in Paragraph 78.

79. Lam denies each and every allegation in Paragraph 79.

80. Lam denies each and every allegation in Paragraph 80.

81. Lam denies each and every allegation in Paragraph 81.

82. Lam denies each and every allegation in Paragraph 82.

83. Lam denies each and every allegation in Paragraph 83.

FOURTH CAUSE OF ACTION

INFRINGEMENT OF U.S. PATENT NO. 10,642,153

84. Paragraph 84 purports to incorporate Paragraphs 1-46 of the Amended Complaint, and thus Lam incorporates its responses thereto.

85. Lam admits that the '153 patent, on its face, has an issue date of May 5, 2020, and is titled of "Organometallic solution based high resolution patterning compositions and corresponding methods." Lam admits that a purported copy of the '153 patent is attached to the Amended Complaint as Exhibit D. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 85, and therefore denies the same.

86. Lam denies each and every allegation in Paragraph 86.

87. Lam denies each and every allegation in Paragraph 87.

88. Lam denies each and every allegation in Paragraph 88.

89. Lam denies each and every allegation in Paragraph 89.

90. Lam denies each and every allegation in Paragraph 90.

91. Lam denies each and every allegation in Paragraph 91.

92. Lam denies each and every allegation in Paragraph 92.

93. Lam denies each and every allegation in Paragraph 93.

94. Lam denies each and every allegation in Paragraph 94.

95. Lam denies each and every allegation in Paragraph 95.

FIFTH CAUSE OF ACTION

INFRINGEMENT OF U.S. PATENT NO. 11,537,048

96. Paragraph 96 purports to incorporate Paragraphs 1-46 of the Amended Complaint, and thus Lam incorporates its responses thereto.

97. Lam admits that the '048 patent, on its face, appears to have an issue date of December 27, 2022, and title of "Organotin oxide hydroxide patterning compositions, precursors, and patterning." Lam admits that a purported copy of the '048 patent is attached to the Amended

Complaint as Exhibit E. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 97, and therefore denies the same.

- 98. Lam denies each and every allegation in Paragraph 98.
- 99. Lam denies each and every allegation in Paragraph 99.
- 100. Lam denies each and every allegation in Paragraph 100.
- 101. Lam denies each and every allegation in Paragraph 101.
- 102. Lam denies each and every allegation in Paragraph 102.
- 103. Lam denies each and every allegation in Paragraph 103.
- 104. Lam denies each and every allegation in Paragraph 104.
- 105. Lam denies each and every allegation in Paragraph 105.
- 106. Lam denies each and every allegation in Paragraph 106.
- 107. Lam denies each and every allegation in Paragraph 107.

SIXTH CAUSE OF ACTION

INFRINGEMENT OF U.S. PATENT NO. 11,673,903

108. Paragraph 108 purports to incorporate Paragraphs 1-46 of the Amended Complaint, and thus Lam incorporates its responses thereto.

109. Lam admits that the '903 patent, on its face, appears to have an issue date of June 13, 2023, and title of "Monoalkyl tin compounds with low polyalkyl contamination, their compositions and methods." Lam admits that a purported copy of the '903 patent is attached to the Amended Complaint as Exhibit F. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 109, and therefore denies the same.

- 110. Lam denies each and every allegation in Paragraph 110.
- 111. Lam denies each and every allegation in Paragraph 111.

112. Lam denies each and every allegation in Paragraph 112.

113. Lam denies each and every allegation in Paragraph 113.

114. Lam denies each and every allegation in Paragraph 114.

115. Lam denies each and every allegation in Paragraph 115.

116. Lam denies each and every allegation in Paragraph 116.

117. Lam denies each and every allegation in Paragraph 117.

118. Lam denies each and every allegation in Paragraph 118.

119. Lam denies each and every allegation in Paragraph 119.

SEVENTH CAUSE OF ACTION

INFRINGEMENT OF U.S. PATENT NO. 11,693,312

120. Paragraph 120 purports to incorporate paragraphs 1-46 of the Amended Complaint, and thus Lam incorporates its responses thereto.

121. Lam admits that the '312 patent, on its face, appears to have an issue date of July 4, 2023, and title of "Radiation based patterning methods." Lam admits that a purported copy of the '312 patent is attached to the Amended Complaint as Exhibit G. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 121, and therefore denies the same.

122. Lam denies each and every allegation in Paragraph 122.

123. Lam denies each and every allegation in Paragraph 123.

124. Lam denies each and every allegation in Paragraph 124.

125. Lam denies each and every allegation in Paragraph 125.

126. Lam denies each and every allegation in Paragraph 126.

127. Lam denies each and every allegation in Paragraph 127.

128. Lam denies each and every allegation in Paragraph 128.

129. Lam denies each and every allegation in Paragraph 129.

130. Lam denies each and every allegation in Paragraph 130.

131. Lam denies each and every allegation in Paragraph 131.

EIGHTH CAUSE OF ACTION

INFRINGEMENT OF U.S. PATENT NO. 11,809,081

132. Paragraph 132 purports to incorporate paragraphs 1-46 of the Amended Complaint, and thus Lam incorporates its responses thereto.

133. Lam admits that the '081 patent, on its face, appears to have an issue date of November 7, 2023, and title of "Organotin oxide hydroxide patterning compositions, precursors, and patterning." Lam admits that a purported copy of the '081 patent is attached to the Amended Complaint as Exhibit H. Lam is without knowledge or information sufficient to form a belief as to the remaining allegations in Paragraph 133, and therefore denies the same.

134. Lam denies each and every allegation in Paragraph 134.

135. Lam denies each and every allegation in Paragraph 135.

136. Lam denies each and every allegation in Paragraph 136.

137. Lam denies each and every allegation in Paragraph 137.

138. Lam denies each and every allegation in Paragraph 138.

139. Lam denies each and every allegation in Paragraph 139.

140. Lam denies each and every allegation in Paragraph 140.

141. Lam denies each and every allegation in Paragraph 141.

142. Lam denies each and every allegation in Paragraph 142.

143. Lam denies each and every allegation in Paragraph 143.

PRAYER FOR RELIEF

To the extent that the Prayer for Relief section of the Complaint is deemed to allege any facts or entitlement to the relief requested, Lam denies each and every allegation therein. Specifically, Lam denies that Plaintiff has any valid claim and is entitled to any relief whatsoever.

JURY DEMAND

Lam acknowledges that Plaintiff demands a trial by jury on all issues so triable. Lam also demands a trial by jury on all issues so triable.

II. ADDITIONAL AND AFFIRMATIVE DEFENSES

Lam asserts the following additional and affirmative defenses without assuming any burden of proof when such burden would otherwise be on Plaintiff. Lam repeats and incorporates by reference each of its answers in Paragraphs 1 through 143 and the Response to Prayer for Relief as set forth above with each of the following defenses as if fully set forth herein. Further, Lam specifically reserves all rights to assert additional defenses and affirmative defenses as additional information becomes available.

FIRST DEFENSE

Each asserted claim of the '505, '564, '684, '153, '048, '903, '312, and '081 patents ("Inpria Patents") is invalid for failure to comply with one or more requirements of the patent laws of the United States, including without limitation, 35 U.S.C. §§ 101, 102, 103, 112, and/or obviousness-type double patenting, and the rules, regulations, and laws pertaining thereto.

SECOND DEFENSE

Lam has not infringed and does not infringe, directly or indirectly, any valid and enforceable asserted claim of the Inpria Patents, either directly or indirectly, either literally or under the doctrine of equivalents, because the accused instrumentalities do not practice every

claimed limitation of any asserted claim of the Inpria Patents.

THIRD DEFENSE

Plaintiff's claims against Lam are barred, in whole or in part, by the doctrines of prosecution history estoppel and disclaimer, including based on the patent applicant's statements, arguments, and acquiescence to the U.S. Patent & Trademark Office's ("USPTO") examiner during the prosecution of the Inpria Patents, including related patents and/or applications, and/or during any other proceedings before the USPTO.

FOURTH DEFENSE

Lam has not committed any acts of infringement, willful or otherwise, in this District or elsewhere, and the Inpria Patents are invalid, and thus Plaintiff cannot prove that it is entitled to enhanced damages or that this case is otherwise exceptional under 35 U.S.C. § 285.

FIFTH DEFENSE

Plaintiff's claims against Lam for recovery are barred, in whole or in part, by 35 U.S.C. § 286. For the purposes of this defense, the relevant calculation period for damages—as prescribed by statute—cannot be more than six years prior to the filing of the Original Complaint.

SIXTH DEFENSE

Plaintiff's claims against Lam for recovery are barred, in whole or in part, by 35 U.S.C. § 287.

SEVENTH DEFENSE

Plaintiff is precluded from recovering costs under 35 U.S.C. § 288.

EIGHTH DEFENSE

Plaintiff is not entitled to any injunctive relief because, among other reasons, any alleged

injury is not immediate or irreparable, and Plaintiff has an adequate remedy at law for any alleged injury.

NINTH DEFENSE

Plaintiff's claims against Lam are barred or limited by the equitable doctrine of estoppel, waiver, unclean hands, and/or other equitable doctrines.

TENTH DEFENSE

Plaintiff's claims against Lam are barred and not actionable to the extent that they are premised on the activities of users that have a license to practice the Inpria Patents and/or Inpria has covenanted not to sue for infringement of the Inpria Patents.

ELEVENTH DEFENSE

Plaintiff lacks standing to bring suit for infringement of the Inpria Patents to the extent that it is not the owner and/or sole owner of these patents and that another third party, such as The State University of New York, is the true owner or at least a partial owner of these patents.

COUNTERCLAIMS

Defendant Lam Research Corp. ("Lam") alleges and asserts the following counterclaims against Inpria Corporation ("Inpria").

PARTIES

1. Counterclaimant Lam is a corporation organized under the laws of the state of Delaware, with a place of business located at 4650 Cushing Parkway, Fremont, CA 94538.
2. On information and belief, Counterclaim Defendant Inpria has alleged it is a corporation organized under the laws of the state of Delaware with a place of business at 1100 NE Circle Blvd., Suite 360, Corvallis, Oregon 97330.

JURISDICTION AND VENUE

3. These Counterclaims arise under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, and the Declaratory Judgment Act, 28 U.S.C. §§ 2201-02.

4. Subject to Lam's defenses and denials stated above, this Court has jurisdiction over the subject matter of these Counterclaims under 28 U.S.C. §§ 1331, 1338(a), 1367, and 2201-02.

5. This Court has personal jurisdiction over Inpria because, *inter alia*, Inpria has submitted to the jurisdiction of this Court by purposefully availing itself of the benefits and protections of the laws of this District by filing suit in this District.

6. Subject to Lam's defenses and denials stated above, venue for this Counterclaim is proper in this District because Inpria has consented to this venue through the filing of a claim of patent infringement against Lam in this District, in response to which this Counterclaim is being asserted. Lam, however, reserves all rights to seek a transfer under 28 U.S.C. § 1404.

COUNT I (Declaratory Judgment of Noninfringement of the '505 Patent)

7. Lam realleges and incorporates by reference the allegations in Paragraphs 1-6 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

8. Although Inpria alleges in its Complaint that Lam has infringed one or more claims of U.S. Patent No. 10,732,505 (the "'505 patent"), Lam has not infringed and does not infringe any valid and enforceable asserted claim of the '505 patent, either directly, indirectly, literally or under the doctrine of equivalents, because the accused instrumentalities do not practice every claimed limitation. For example, on information and belief, Lam's deposition tools do not perform a method for forming a radiation patternable film comprising an oxo-hydroxo network with metal

cations having organic ligands with metal carbon bonds and metal oxygen bonds, as required by claim 1 of the '505 patent.

9. An actual controversy exists with respect to the alleged infringement of the '505 Patent.

10. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed claims of the '505 patent, thereby causing Lam irreparable injury and damage.

11. A judicial determination of the respective rights of the parties with respect to the asserted claims of the '505 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT II (Declaratory Judgment of Noninfringement of the '564 Patent)

12. Lam realleges and incorporates by reference the allegations in Paragraphs 1-11 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

13. Although Inpria alleges in its Complaint that Lam has infringed one or more claims of U.S. Patent No. 9,823,564 (the "'564 patent"), Lam has not infringed and does not infringe any valid and enforceable asserted claim of the '564 patent, either directly, indirectly, literally or under the doctrine of equivalents, because the accused instrumentalities do not practice every claimed limitation, because the accused instrumentalities do not practice every claimed limitation. For example, Inpria has not shown that the accused instrumentalities include a structure comprising a substrate and a coating material on a surface of the substrate, much less a coating material comprising metal ions with radiation sensitive ligands, as required by claim 1 of the '564 patent.

14. An actual controversy exists with respect to the alleged infringement of the '564 patent.

15. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed claims of the '564 patent, thereby causing Lam irreparable injury and damage.

16. A judicial determination of the respective rights of the parties with respect to the asserted claims of the '564 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT III (Declaratory Judgment of Noninfringement of the '684 Patent)

17. Lam realleges and incorporates by reference the allegations in Paragraphs 1-12 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

18. Although Inpria alleges in its Complaint that Lam has infringed one or more claims of U.S. Patent No. 9,310,684 (the "'684 patent"), Lam has not infringed and does not infringe any valid and enforceable asserted claim of the '684 patent, either directly, indirectly, literally or under the doctrine of equivalents, because the accused instrumentalities do not practice every claimed limitation. For example, Inpria has not shown that the accused instrumentalities include a coated substrate comprising a radiation sensitive coating having an average thickness from about 5nm to about 200 nm and a thickness variation of no more than about 50% from the average at any point along the coating, much a coating comprising a metal oxo-hydroxo network with metal cations having organic ligands with metal carbon bonds and/or with metal carboxylate bonds, as required by claim 10 of the '684 patent.

19. An actual controversy exists with respect to the alleged infringement of the '684 patent.

20. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed claims of the '684 patent, thereby causing Lam irreparable injury and damage.

21. A judicial determination of the respective rights of the parties with respect to the asserted claims of the '684 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT IV (Declaratory Judgment of Noninfringement of the '153 Patent)

22. Lam realleges and incorporates by reference the allegations in Paragraphs 1-21 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

23. Although Inpria alleges in its Complaint that Lam has infringed one or more claims of U.S. Patent No. 10,642,153 (the "'153 patent"), Lam has not infringed and does not infringe any valid and enforceable asserted claim of the '153 patent, either directly, indirectly, literally or under the doctrine of equivalents, because the accused instrumentalities do not practice every claimed limitation, because the accused instrumentalities do not practice every claimed limitation. For example, Inpria has not shown that the accused instrumentalities include a patterned structure comprising a substrate having a surface and a coating associated with the surface that meets every limitation of claim 18 of the '153 patent.

24. An actual controversy exists with respect to the alleged infringement of the '153 patent.

25. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed claims of the '153 patent, thereby causing Lam irreparable injury and damage.

26. A judicial determination of the respective rights of the parties with respect to the asserted claims of the '153 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT V (Declaratory Judgment of Noninfringement of the '048 Patent)

27. Lam realleges and incorporates by reference the allegations in Paragraphs 1-26 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

28. Although Inpria alleges in its Complaint that Lam has infringed one or more claims of U.S. Patent No. 11,537,048 (the "'048 patent"), Lam has not infringed and does not infringe any valid and enforceable asserted claim of the '048 patent, either directly, indirectly, literally or under the doctrine of equivalents. For example, Inpria has not shown that the accused instrumentalities include a substrate within the interior of the deposition chamber configured to receive a deposition on a surface of the substrate as required by claim 1 of the '048 patent.

29. An actual controversy exists with respect to the alleged infringement of the '048 patent.

30. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed claims of the '048 patent, thereby causing Lam irreparable injury and damage.

31. A judicial determination of the respective rights of the parties with respect to the asserted claims of the '048 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT VI (Declaratory Judgment of Noninfringement of the '903 Patent)

32. Lam realleges and incorporates by reference the allegations in Paragraphs 1-31 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

33. Although Inpria alleges in its Complaint that Lam has infringed one or more claims of U.S. Patent No. 11,673,903 (the "'903 patent"), Lam has not infringed and does not infringe any valid and enforceable asserted claim of the '903 patent, either directly, indirectly, literally or under the doctrine of equivalents, because the accused instrumentalities do not practice every claimed limitation, because the accused instrumentalities do not practice every claimed limitation. For example, Inpria has not shown that the accused instrumentalities include a high purity liquid composition that meets every limitation of claim 11 of the '903 patent.

34. An actual controversy exists with respect to the alleged infringement of the '903 patent.

35. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed claims of the '903 patent, thereby causing Lam irreparable injury and damage.

36. A judicial determination of the respective rights of the parties with respect to the asserted claims of the '903 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT VII (Declaratory Judgment of Noninfringement of the '312 Patent)

37. Lam realleges and incorporates by reference the allegations in Paragraphs 1-36 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

38. Although Inpria alleges in its Complaint that Lam has infringed one or more claims of U.S. Patent No. 11,693,312 (the "'312 patent"), Lam has not infringed and does not infringe any valid and enforceable asserted claim of the '312 patent, either directly, indirectly, literally or under the doctrine of equivalents, because the accused instrumentalities do not practice every claimed limitation. For example, Inpria has not shown that the accused instrumentalities include an article comprising a substrate comprising a semiconductor wafer, or a film on a surface of the substrate, wherein the film is composed of a first material comprising metal ions with radiation sensitive ligands, as required by claim 1 of the '312 patent.

39. An actual controversy exists with respect to the alleged infringement of the '312 patent.

40. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed claims of the '312 patent, thereby causing Lam irreparable injury and damage.

41. A judicial determination of the respective rights of the parties with respect to the asserted claims of the '312 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT VIII (Declaratory Judgment of Noninfringement of the '081 Patent)

42. Lam realleges and incorporates by reference the allegations in Paragraphs 1-41 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

1. Although Inpria alleges in its Complaint that Lam has infringed one or more claims of U.S. Patent No. 11,809,081 (the "'081 patent"), Lam has not infringed and does not infringe any valid and enforceable asserted claim of the '081 patent, either directly, indirectly, literally or under the doctrine of equivalents, because the accused instrumentalities do not practice every claimed limitation, because the accused instrumentalities do not practice every claimed limitation. For example, Inpria has not shown that the accused instrumentalities perform every step of the method, including depositing a tin composition having organic ligands and hydrolysable ligands to form a coating with a dry thickness from about 1 nanometers (nm) to about 50nm, as required by claim 1 of the '081 patent.

2. An actual controversy exists with respect to the alleged infringement of the '081 patent.

3. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed claims of the '081 patent, thereby causing Lam irreparable injury and damage.

4. A judicial determination of the respective rights of the parties with respect to the asserted claims of the '081 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT IX (Declaratory Judgment of Invalidity of the '505 Patent)

5. Lam realleges and incorporates by reference the allegations in Paragraphs 1-46 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

6. Inpria alleges in its Complaint that the '505 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. However, on information and belief, each claim of the '505 patent asserted against Lam is invalid for failing to comply with one or more of the requirements for patentability set forth in 35 U.S.C. § 101 *et seq.*, including but not limited to sections 101, 102, 103, and 112. As a non-limiting example, the claims are anticipated or rendered obvious in view of Cardineau, Brian, et al. "Photolithographic properties of tin-oxo clusters using extreme ultraviolet light (13.5 nm)." *Microelectronic Engineering* 127 (2014): 44-50.

7. An actual controversy exists with respect to the alleged infringement of the '505 patent and the validity of the claims of the '505 patent.

8. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed the '505 patent, thereby causing Lam irreparable injury and damage.

9. A judicial determination of the respective rights of the parties with respect to the invalidity of the claims of the '505 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT X (Declaratory Judgment of Invalidity of the '564 Patent)

10. Lam realleges and incorporates by reference the allegations in Paragraphs 1-51 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

11. Lam alleges in its Complaint that the '564 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. However, each claim of the '564 patent asserted against Lam is invalid for failing to comply with one or more of the requirements for patentability set forth in 35 U.S.C. § 101 *et seq.*, including but not limited to sections 101, 102, 103, and 112. As a non-limiting example, the claims are anticipated or rendered obvious in view of U.S. Patent Publication No. 2011/0293888.

12. An actual controversy exists with respect to the alleged infringement of the '564 patent and the validity of the claims of the '564 patent.

13. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed the '564 patent, thereby causing Lam irreparable injury and damage.

14. A judicial determination of the respective rights of the parties with respect to the invalidity of the claims of the '564 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT XI (Declaratory Judgment of Invalidity of the '684 Patent)

15. Lam realleges and incorporates by reference the allegations in Paragraphs 1-56 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

16. Inpria alleges in its Complaint that the '684 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. However, each claim of the '684 patent asserted against Lam is invalid for failing to comply with one or more of the requirements for patentability set forth in 35 U.S.C. § 101 *et seq.*, including but not limited to sections 101, 102, 103, and 112. As a non-limiting example, the claims are anticipated or rendered obvious in view of U.S. Patent Publication No. 2009/0155546.

17. An actual controversy exists with respect to the alleged infringement of the '684 patent and the validity of the claims of the '684 patent.

18. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed the '684 patent, thereby causing Lam irreparable injury and damage.

19. A judicial determination of the respective rights of the parties with respect to the invalidity of the claims of the '684 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT XII (Declaratory Judgment of Invalidity of the '153 Patent)

20. Lam realleges and incorporates by reference the allegations in Paragraphs 1-61 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

21. Lam alleges in its Complaint that the '153 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. However, on information and belief, each claim of the '153 patent asserted against Lam is invalid for failing to comply with one or more of the requirements for patentability set forth in 35 U.S.C. § 101 *et seq.*, including but not limited to sections 101, 102, 103, and 112. As a non-limiting example, the claims are anticipated or rendered obvious in view of Cardineau, Brian, et al. "Photolithographic properties of tin-oxo clusters using extreme ultraviolet light (13.5 nm)." *Microelectronic Engineering* 127 (2014): 44-50.

22. An actual controversy exists with respect to the alleged infringement of the '153 patent and the validity of the claims of the '153 patent.

23. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed the '153 patent, thereby causing Lam irreparable injury and damage.

24. A judicial determination of the respective rights of the parties with respect to the invalidity of the claims of the '153 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT XIII (Declaratory Judgment of Invalidity of the '048 Patent)

25. Lam realleges and incorporates by reference the allegations in Paragraphs 1-66 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

26. Inpria alleges in its Complaint that the '048 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. However, on information and belief, each claim of the '048 patent asserted against Lam is invalid for failing to comply with one or more of the requirements for patentability set forth in 35 U.S.C. § 101 *et seq.*, including but not limited to sections 101, 102, 103, and 112. As a non-limiting example, the claims are anticipated or rendered obvious in view of Cardineau, Brian, et al. "Photolithographic properties of tin-oxo clusters using extreme ultraviolet light (13.5 nm)." *Microelectronic Engineering* 127 (2014): 44-50.

27. An actual controversy exists with respect to the alleged infringement of the '048 patent and the validity of the claims of the '048 patent.

28. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed the '048 patent, thereby causing Lam irreparable injury and damage.

29. A judicial determination of the respective rights of the parties with respect to the invalidity of the claims of the '048 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT XIV (Declaratory Judgment of Invalidity of the '903 Patent)

30. Lam realleges and incorporates by reference the allegations in Paragraphs 1-71 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

31. Lam alleges in its Complaint that the '903 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. However, each asserted claim of the '903 patent asserted against Lam is invalid for failing to comply with one or more of the requirements for patentability set forth in 35 U.S.C. § 101 *et seq.*, including but not limited to sections 101, 102, 103, and 112. As a non-limiting example, the claims are anticipated or rendered obvious in view of PCT Publication No. WO2016/065120.

32. An actual controversy exists with respect to the alleged infringement of the '903 patent and the validity of the asserted claims of the '903 patent.

33. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed the '903 patent, thereby causing Lam irreparable injury and damage.

34. A judicial determination of the respective rights of the parties with respect to the invalidity of the asserted claims of the '903 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT XV (Declaratory Judgment of Invalidity of the '312 Patent)

35. Lam realleges and incorporates by reference the allegations in Paragraphs 1-76 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

36. Inpria alleges in its Complaint that the '312 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. However, each asserted

claim of the '312 patent asserted against Lam is invalid for failing to comply with one or more of the requirements for patentability set forth in 35 U.S.C. § 101 *et seq.*, including but not limited to sections 101, 102, 103, and 112. As a non-limiting example, the claims are anticipated or rendered obvious in view of U.S. Patent Publication No. 2011/0293888.

37. An actual controversy exists with respect to the alleged infringement of the '312 patent and the validity of the asserted claims of the '312 patent.

38. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed the '312 patent, thereby causing Lam irreparable injury and damage.

39. A judicial determination of the respective rights of the parties with respect to the invalidity of the asserted claims of the '312 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

COUNT XVI (Declaratory Judgment of Invalidity of the '081 Patent)

40. Lam realleges and incorporates by reference the allegations in Paragraphs 1-81 of its Counterclaims and all of the Defenses and Additional and Affirmative Defenses above as if fully set forth herein.

41. Lam alleges in its Complaint that the '081 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. However, each asserted claim of the '081 patent asserted against Lam is invalid for failing to comply with one or more of the requirements for patentability set forth in 35 U.S.C. § 101 *et seq.*, including but not limited to sections 101, 102, 103, and 112.

42. An actual controversy exists with respect to the alleged infringement of the '081 patent and the validity of the asserted claims of the '081 patent. As a non-limiting example, the claims are anticipated or rendered obvious in view of Cardineau, Brian, et al. "Photolithographic

properties of tin-oxo clusters using extreme ultraviolet light (13.5 nm)." Microelectronic Engineering 127 (2014): 44-50.

43. Absent a declaration and order as sought by Lam, Inpria will continue to wrongfully assert that Lam has infringed the '081 patent, thereby causing Lam irreparable injury and damage.

44. A judicial determination of the respective rights of the parties with respect to the invalidity of the asserted claims of the '081 patent is now necessary and appropriate under 28 U.S.C. §§ 2201 and 2202.

LAM'S PRAYER FOR RELIEF

Wherefore, Lam respectfully requests that the Court enter an Order and Judgment against Inpria, as follows:

- a. Granting judgment in favor of Lam and against Inpria on all counts;
- b. Dismissing with prejudice Inpria's Complaint and all purported causes of action therein against Lam, denying any and all relief sought by Inpria, and ordering that Inpria take nothing by reason of its Amended Complaint;
- c. Declaring that Lam has not infringed and is not currently infringing any claim of the '505 patent;
- d. Declaring that Lam has not infringed and is not currently infringing any claim of the '564 patent;
- e. Declaring that Lam has not infringed and is not currently infringing any claim of the '684 patent;
- f. Declaring that Lam has not infringed and is not currently infringing any claim of the '153 patent;

- g. Declaring that Lam has not infringed and is not currently infringing any claim of the '048 patent;
- h. Declaring that Lam has not infringed and is not currently infringing any claim of the '903 patent;
- i. Declaring that Lam has not infringed and is not currently infringing any claim of the '312 patent;
- j. Declaring that Lam has not infringed and is not currently infringing any claim of the '081 patent;
- k. Declaring that the asserted claims of the '505 patent are invalid;
- l. Declaring that the claims of the '564 patent are invalid;
- m. Declaring that the asserted claims of the '684 patent are invalid;
- n. Declaring that the asserted claims of the '153 patent are invalid;
- o. Declaring that the asserted claims of the '048 patent are invalid;
- p. Declaring that the asserted claims of the '903 patent are invalid;
- q. Declaring that the asserted claims of the '312 patent are invalid;
- r. Declaring that the asserted claims of the '081 patent are invalid;
- s. Awarding Lam its costs and expenses incurred in this action to the extent authorized by applicable law, including its reasonable attorneys' fees under 35 U.S.C. § 285;
- t. That Lam be awarded its costs incurred in this action; and
- u. Awarding any other such relief as this Court deems just and proper.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Lam demands a trial by jury as to all issues so triable.

Dated: January 12, 2024

Respectfully submitted,

MORGAN, LEWIS & BOCKIUS LLP

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