

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

PROMEGA CORPORATION,	)	
	)	
Plaintiff,	)	
	)	C.A. No.
v.	)	
	)	JURY TRIAL DEMANDED
AOBIOUS INC.,	)	
	)	
Defendant.	)	

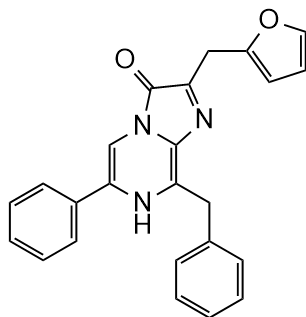
COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Promega Corporation (“PROMEGA” or “Plaintiff”), through its attorney and for its Complaint against Aobious Inc. (“AOBIOUS” or “Defendant”), alleges as follows:

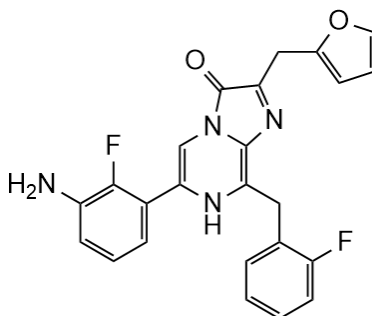
INTRODUCTION AND FACTUAL BACKGROUND

1. This civil action contains claims for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*, including 35 U.S.C. § 271, from AOBIOUS’s past and ongoing infringement, and imminent future infringement of claims of PROMEGA’s patents, including: United States Patent No. 8,809,529 (**Exhibit A**; the “’529 Patent”); United States Patent No. 10,000,500 (**Exhibit B**; the “’500 Patent”); United States Patent No. 10,669,280 (**Exhibit C**; the “’280 Patent”); and United States Patent No. 11,691,976 (**Exhibit D**; the “’976 Patent”) (collectively, the “Asserted Patents”). AOBIOUS has infringed, is infringing, and will infringe claims of the Asserted Patents through its manufacture, use, offer for sale, sale, and/or importation of furimazine, fluorofurimazine, and hydrofurimazine.

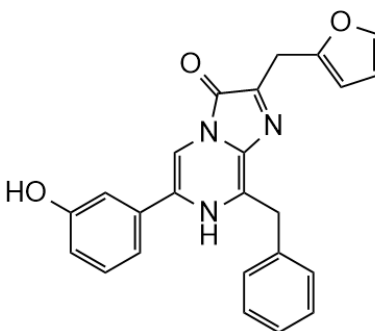
2. PROMEGA’s groundbreaking and patented molecule 2-furanylmethyl-deoxycoelenterazine, known as “furimazine,” has the following structure:



Promega has also developed related variants, “fluorofurimazine”:



and “hydrofurimazine”:



Collectively, furimazine, hydrofurimazine, and fluorofurimazine are referred to herein as “the furimazine substrates.” These molecules serve exclusively as substrates for PROMEGA’s proprietary NanoLuc® luciferase and NanoBRET®, NanoBiT®, and Lumit® technologies.

3. PROMEGA is a leading biotechnology company that specializes in providing innovative solutions for life science research, diagnostics, and applied markets. Founded in 1978 in Madison, Wisconsin by William Linton, who remains its Chief Executive Officer to this day, PROMEGA has grown into a global leader in biotechnology, offering a wide range of products

and services to researchers in areas such as genomics, proteomics, cell biology, and drug discovery. PROMEGA has established itself as a pioneer in biotechnology with new products developed and being developed that play crucial roles in advancing scientific discovery and improving human health. The company's emphasis on innovation and ethical practices has allowed PROMEGA to be a leader in the biotechnology industry for over four decades.

4. PROMEGA's furimazine substrates, when coupled with NanoLuc® luciferase and NanoBRET®, NanoBiT®, Lumit®, and other proprietary PROMEGA technologies, have provided the biotechnology field with powerful, efficient, and versatile tools for a variety of applications, from basic research to drug development and diagnostic assays. The furimazine substrates aid in facilitating non-invasive, real-time monitoring of biological processes, which has provided new possibilities for understanding and treating diseases.^{1,2}

5. Bioluminescence is used by certain organisms, like fireflies and certain marine life, to produce light through biochemical reactions. Bioluminescence occurs when a substrate molecule is converted into a higher energy product by a luciferase enzyme. As the product of this reaction settles back to its lower energy form, light is emitted. Thereby, the organism is able to emit light using the interaction of the luciferase enzyme and the substrate. Over the last 40 years, luciferase enzymes and their substrates have been adopted by scientists as essential biotechnological tools and have been employed in a wide range of applications from studying proteins and basic molecular processes to drug development.

¹ See, e.g., Hall *et al.* "Engineered Luciferase Reporter from a Deep Sea Shrimp Utilizing a Novel Imidazopyrazinone Substrate" *ACS Chemical Biology* 2012, 7(11):1848-1857, available at <https://pubs.acs.org/doi/10.1021/cb3002478>

² See, e.g., Su *et al.* "Novel NanoLuc substrates enable bright two-population bioluminescence imaging in animals" *Nature Methods* 2020, 17:852-860, available at <https://www.nature.com/articles/s41592-020-0889-6>

6. In the early 1990s, PROMEGA scientists began creating improved luciferase enzyme and substrates with the goals of creating new bioluminescent-based research tools that its customers could use to explore fundamental biological processes and develop innovative new therapies and diagnostics. After investing years into new research and development, PROMEGA developed furimazine and NanoLuc® luciferase. NanoLuc was engineered to be a very small and extremely bright luciferase related to a small subunit of a luciferase enzyme from the bioluminescent deep-sea shrimp, *Oplophorus gracilirostris*. During the engineering of the NanoLuc protein, Promega chemists produced a range of new substrates for the new enzyme that improved the amount of light emitted and had other properties enhancing its utilization in a variety of research methods. The furimazine substrate and its derivatives were essential for the performance of many new applications utilizing the new NanoLuc. This combined protein engineering and synthetic chemistry by scientists at PROMEGA produced systems capable of producing a luminescent signal that is ~2.5 million-fold brighter than the naturally occurring *Oplophorus* enzyme¹ from which it was engineered. NanoLuc® luciferase is optimized for brightness, kinetics, low background, and other important characteristics when specifically paired with furimazine, rather than the natural *Oplophorus* luciferase substrate coelenterazine. The innovative properties of furimazine and NanoLuc have empowered PROMEGA's customers to develop molecular tools and assays for basic research and biotechnology. These advancements enhance the understanding of biological processes and support the creation of new therapies and diagnostics.

7. Fluorofurimazine and hydrofurimazine are synthetic variants of furimazine, designed for use *in vivo*. These substrates have increased aqueous solubility and bioavailability,

enhanced and prolonged brightness, and simpler handling requirements when paired with NanoLuc® luciferase *in vivo*, compared to furimazine.

8. The small size and extreme brightness of NanoLuc® luciferase, when paired with a furimazine, or other furimazine-derived substrates (e.g., fluorofurimazine, or hydrofurimazine), facilitates a wide range of applications for which other luciferases and substrates are unsuitable. The small size of NanoLuc, relative to other luciferases, allows it to be more easily used as a reporter to study complex and sensitive systems without disrupting the native elements of the biological environments in which it is employed.

9. The brightness and narrow emission spectrum produced by the furimazine substrates, upon oxidation by NanoLuc, provide an exceptional luminescent donor for bioluminescent resonance energy transfer (BRET) assays, which can be used to measure molecular proximity through the excitation of a fluorescent acceptor. By pairing NanoLuc and a furimazine substrate with PROMEGA's HaloTag® protein and its fluorescent ligands, scientists at PROMEGA developed the NanoBRET® protein:protein interaction (PPI) assay format. The bright, blue-shifted signal from the furimazine/NanoLuc® donor combined with a far-red-shifted HaloTag® acceptor allows for a live-cell, PPI assay with optimal spectral overlap, increased signal, and lower background compared to conventional BRET assays.³

10. NanoBRET® technology using a furimazine substrate also enables live-cell target engagement assays that can measure how tightly a compound binds to a protein (compound affinity), how much compound binds to the protein (target protein occupancy), and how long a compound binds to the target protein (residence time) in living cells under physiological

³ Machleidt *et al.* "NanoBRET—A Novel BRET Platform for the Analysis of Protein–Protein Interactions" *ACS Chemical Biology* 2015, 10(8):1797-1804, available at <https://pubs.acs.org/doi/10.1021/acschembio.5b00143>

conditions.⁴ With the furimazine substrates as a source of donor light, these target engagement assays allow researchers to study, for example, the interactions of candidate therapeutics with drug targets.

11. NanoLuc® Binary Technology (NanoBiT) relies on the reconstitution of a bioluminescent complex from two engineered subunits related to NanoLuc (LgBiT and SmBiT or HiBiT) that each individually have no or relatively low luminescent activity. Upon formation of the active NanoBiT® complex (from the two components (LgBiT and SmBiT or HiBiT)) in the presence of a furimazine substrate, a bright luminescent signal is produced.⁵ Attaching the components of the NanoBiT® technology to various elements of biological systems unlocks a host of additional biotechnological tools including NanoBiT®-based immunoassays (e.g., Lumit® Immunoassays) for analyte detection⁶ and CRISPR-mediated tagging of endogenous proteins,⁷ each of which relies on the furimazine substrates as essential components for function.

12. Scientists at PROMEGA designed, synthesized, and demonstrated the utility of furimazine, fluorofurimazine, and hydrofurimazine. PROMEGA has protected its innovative furimazine substrate research by seeking and receiving United States patents. Among these are the '529 Patent, claim 25 of which covers furimazine; the '500 Patent, claim 13 of which covers

⁴ Robers *et al.* "Target engagement and drug residence time can be observed in living cells with BRET" *Nature Communications* 2015, 6:10091, available at <https://www.nature.com/articles/ncomms10091>

⁵ Dixon *et al.* "NanoLuc Complementation Reporter Optimized for Accurate Measurement of Protein Interactions in Cells" *ACS Chemical Biology* 2015, 11(2):400-408, available at <https://pubs.acs.org/doi/10.1021/acschembio.5b00753>

⁶ <https://promega.widen.net/s/m9djpm8d/lumit-immunoassays-white-paper-wp119>

⁷ Schwinn *et al.* "CRISPR-Mediated Tagging of Endogenous Proteins with a Luminescent Peptide" *ACS Chemical Biology* 2017, 13(2):467-474, available at <https://pubs.acs.org/doi/10.1021/acschembio.7b00549>

hydrofurimazine; the '280 Patent, claim 19 of which covers hydrofurimazine; and the '976 Patent, claim 17 of which covers fluorofurimazine (collectively, the "Asserted Claims").

13. PROMEGA has developed and launched numerous commercially successful products that practice the Asserted Claims, including but not limited to: Cat. No. N3050 - Nano-Glo® HiBiT Lytic Detection System, 10X 100ml; Cat. No. N3040 - Nano-Glo® HiBiT Lytic Detection System, 100ml; Cat. No. N2012 - Nano-Glo® Live Cell Assay System, 1000 Assays; Cat. No. N2013 - Nano-Glo® Live Cell Assay System, 10,000 Assays; Cat. No. N2422 - Nano-Glo® HiBiT Extracellular Detection System, 10 X 100ml; Cat. No. N2421 - Nano-Glo® HiBiT Extracellular Detection System, 100ml; Cat. No. N3030 - Nano-Glo® HiBiT Lytic Detection System, 10ml; Cat. No. CS1956A09 - Nano-Glo® HiBiT DLR System, 100mL; Cat. No. N2410 - Nano-Glo® HiBiT Blotting System, 100ml; Cat. No. N2011 - Nano-Glo® Live Cell Assay System, 100 Assays; Cat. No. N2420 - Nano-Glo® HiBiT Extracellular Detection System, 10ml; Cat. No. AX8610X - Nano-Glo® HiBiT Lytic Detection System, Custom; Cat. No. BX2770 - Nano-Glo® HiBiT Lytic Detection, No Buffer, Custom; CS1956A08 - Nano-Glo® HiBiT DLR System, 10mL; Cat. No. N2013X - Nano-Glo® Live Cell Assay System, Custom; Cat. No. N3051X - Nano-Glo® HiBiT Lytic Detection System, Custom; Cat. No. N1150 - Nano-Glo® Luciferase Assay, 10x100ml; Cat. No. N1120 - Nano-Glo® Luciferase Assay, 100ml; Cat. No. N1130 - Nano-Glo® Luciferase Assay, 10x10ml; Cat. No. N1620 - Nano-Glo® Dual-Luciferase® Reporter Assay System, 100ml; Cat. No. N1630 - Nano-Glo® Dual-Luciferase® Reporter Assay, 10 X 10ml; Cat. No. N1650 - Nano-Glo® Dual-Luciferase® Reporter Assay, 10 X 100ml; Cat. No. N2572 - Nano-Glo® Endurazine™ Live Cell Substrate, 10ml; Cat. No. N1110 - Nano-Glo® Luciferase Assay, 10ml; Cat. No. N1610 - Nano-Glo® Dual-Luciferase® Reporter Assay System, 10ml; Cat. No. N2582 - Nano-Glo® Vivazine™ Live Cell Substrate,

10ml; Cat. No. N1521 - Nano-Glo® Dual-Luciferase® Reporter Asy/pNL1.1.TK Bundle; Cat. No. N1531 - Nano-Glo® Dual-Luciferase® Reporter Asy/pNL1.1PGK Bundle; Cat. No. N3020 - Nano-Glo® In-Gel Detection System, 100ml; Cat. No. N112BX - Nano-Glo® Luciferase Assay Buffer, Custom; Cat. No. N1663 - NanoBRET® Nano-Glo® Detection System 10,000 assays; Cat. No. N1662 - NanoBRET® Nano-Glo® Detection System 1000 assays; Cat. No. N1572 - NanoBRET® Nano-Glo® Substrate 5x50ul; Cat. No. N1573 - NanoBRET® Nano-Glo® Substrate 2x1.25ml; Cat. No. N1661 - NanoBRET® Nano-Glo® Detection System 200 assays; Cat. No. N1571 - NanoBRET® Nano-Glo® Substrate 50ul; Cat. No. N4110 - Nano-Glo® Fluorofurimazine In Vivo Substrate; Cat. No. N4100 - Nano-Glo® Fluorofurimazine In Vivo Substrate; Cat. No. CS320501 - Nano-Glo® In Vivo Substrate, FFz; N2161 - Intracellular TE Nano-Glo® Substrate/Inhibitor, 10,000 assays; Cat. No. N2160 - Intracellular TE Nano-Glo® Substrate/Inhibitor, 1000 assay; Cat. No. N2162 - Intracellular TE Nano-Glo® Substrate/Inhibitor, 100 assay; Cat. No. VB4060 - Lumit® Detection Reagent B, 1,000 assays; Cat. No. VB2020 - Lumit® Detection Reagent A, 5,000 assays; Cat. No. VB2010 - Lumit® Detection Reagent A, 500 assays; Cat. No. W1331 - Lumit® Immunoassay Cellular System - Set 2, 100 assays; Cat. No. VB2020X - Lumit® Detection Reagent A, Custom; Cat. No. W1231 - Lumit® Immunoassay Lysis and Detection Kit, 100 assays; and Cat. No. VB2030 - Lumit® Detection Reagent A, 50,000 assays.

14. PROMEGA lists the '529 and '976 Patents in the technical manuals for products containing furimazine and fluorofurimazine, respectively. PROMEGA also operates and maintains a webpage that serves as an informational resource for patent marking purposes, providing details about patents owned by PROMEGA and their applicability to PROMEGA's

products, including the furimazine substrates.⁸ This webpage informs the public, including customers, competitors, and other interested parties, of the patents associated with PROMEGA's products. The technical manuals and webpage comply with the patent marking requirements under 35 U.S.C. § 287, which mandates that patentees mark their products or packaging with the relevant patent numbers to provide notice to the public of their patent rights.

15. In contrast to the innovation that drives PROMEGA's products, AOBIOUS is a supplier of known small molecules for the research market. AOBIOUS offers for sale a wide variety of compounds for use in biotechnology and related fields.

16. Among AOBIOUS's portfolio of currently and/or recently available compounds are furimazine (<https://aobious.com/aobious/luminescent-probes/13199-furimazine.html>, a copy of which is attached hereto as **Exhibit E**), fluorofurimazine (<https://aobious.com/aobious/luminescent-probes/34105-fluorofurimazine.html>, a copy of which is attached hereto as **Exhibit F**), and hydrofurimazine (<https://aobious.com/aobious/custom-synthesis/34104-hydrofurimazine.html>, a copy of which is attached hereto as **Exhibit G**) ("AOBIOUS Accused Products").

17. As explained in further detail herein, AOBIOUS has infringed and is infringing the Asserted Patents by directly competing with PROMEGA in the market for NanoLuc® substrates.

THE PARTIES

18. Plaintiff PROMEGA is a privately held corporation organized and existing under the laws of the State of Wisconsin and headquartered at 2800 Woods Hollow Road, Fitchburg, WI 53711. Promega is the assignee and owner of the Asserted Patents.

⁸ <https://www.promega.com/legal/legal-and-trademarks/>

19. On information and belief, Defendant AOBIOUS is a privately held corporation organized and existing under the laws of the State of Delaware, with registered agent The Company Corporation at 251 Little Falls Drive, Wilmington, DE 19808, and headquartered at 9 Blackburn Dr, Gloucester, MA 01930.

JURISDICTION AND VENUE

20. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*, including 35 U.S.C. § 271.

21. This Court has personal jurisdiction over AOBIOUS, which is incorporated in the State of Delaware. AOBIOUS's incorporation in Delaware is sufficient to establish personal jurisdiction over it in this forum.

22. Venue is proper in this District pursuant to 28 U.S.C. § 1391 1400(b) at least because the AOBIOUS is incorporated in the State of Delaware and is therefore deemed to reside in this judicial district for venue purposes.

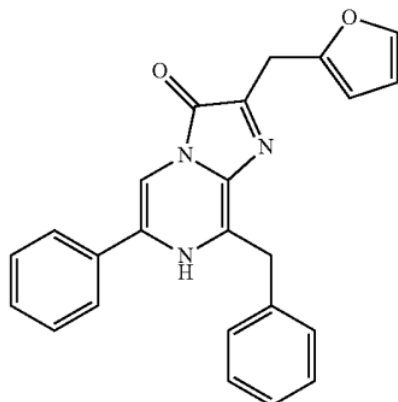
THE ASSERTED PATENTS

23. On August 19, 2014, the United States Patent and Trademark Office ("USPTO") issued the '529 Patent, entitled "Imidazo[1,2- α]pyrazine Derivatives." A true and correct copy of the '529 Patent is attached as **Exhibit A**.

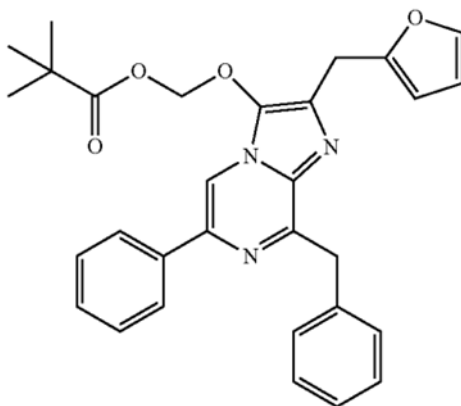
24. Promega Corporation is the owner of the '529 Patent, having acquired all rights to the patent filings that led to the '529 Patent and related filings through an assignment from inventors Dieter H. Klaubert, Poncho Meisenheimer, and James Unch, executed in 2011.

25. The '529 Patent claims, *inter alia*, furimazine, at least in independent claim 25, which reads as follows:

A compound of formula:



or



26. On June 19, 2018, the USPTO issued the '500 Patent, entitled "Coelenterazine Analogues." A true and correct copy of the '500 Patent is attached as **Exhibit B**.

27. Promega Corporation is the owner of the '500 Patent, having acquired all rights to the patent filings that led to the '500 Patent and related filings through an assignment from inventors Mary Hall, Thomas Kirkland, Thomas Machleidt, Anton Shakhmin, and Joel R. Walker, executed in 2016.

28. The '500 Patent claims, *inter alia*, hydrofurimazine, at least in independent claim 13, which claims "A compound selected from the group consisting of" a list of 85 specific compounds, including "8-benzyl-2-(furan-2-ylmethyl)-6-(3-hydroxyphenyl)imidazo[1,2-a]pyrazin-3(7H)-one," which corresponds to hydrofurimazine.

29. On June 2, 2020, the USPTO issued the '280 Patent, entitled "Coelenterazine Analogues." A true and correct copy of the '280 Patent is attached as **Exhibit C**.

30. Promega Corporation is the owner of the '280 Patent, having acquired all rights to the patent filings that led to the '280 Patent and related filings through an assignment from inventors Mary Hall, Thomas Kirkland, Thomas Machleidt, Anton Shakhmin, and Joel R. Walker, executed in 2016.

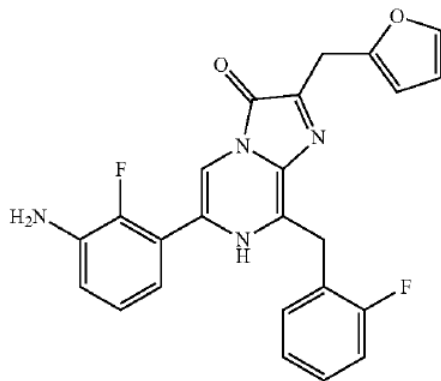
31. The '280 Patent claims, *inter alia*, hydrofurimazine, at least in dependent claim 19, which claims "The compound of claim 1, wherein the compound is selected from the group consisting of" a list of 16 specific compounds, including "8-benzyl-2-(furan-2-ylmethyl)-6-(3-hydroxyphenyl)imidazo[1,2-a]pyrazin-3(7H)-one."

32. On July 4, 2023, the USPTO issued the '976 Patent, entitled "Coelenterazine Analogues." A true and correct copy of the '976 Patent is attached as **Exhibit D**.

33. Promega Corporation is the owner of the '976 Patent, having acquired all rights to the patent filings that led to the '976 Patent and related filings through an assignment from inventors Joel R. Walker, Thomas A. Kirkland, Wenhui Zhou, Mary P. Hall, and Harry Tetsuo Uyeda, executed in 2019-2020.

34. The '976 Patent claims, *inter alia*, fluorofurimazine, at least in independent claim 17, which reads as follows:

A compound of formula:



or a tautomer or salt thereof.

INFRINGEMENT BY AOBIOUS OF THE PATENTS-IN-SUIT

35. AOBIOUS currently offers for sale furimazine (see **Exhibit E**), hydrofurimazine (see **Exhibit F**), and fluorofurimazine (see **Exhibit G**).

36. Numerous academic publications from at least as early as April 22, 2021, and as recent as November 26, 2024, cite AOBIOUS as their source of furimazine, indicating actual sales of furimazine by AOBIOUS. See, e.g., Arveseth *et al. PLoS Biol.* 2021, 19(4):e3001191, a copy of which is attached hereto as **Exhibit H**; Canyelles i Font *et al. Front. Chem.* 2024, 12:1436389, a copy of which is attached hereto as **Exhibit I**; Cho *et al. Nat. Commun.* 2023, 14(1):3586, a copy of which is attached hereto as **Exhibit J**; Davis *et al. ACS Sens.* 2024, 9(9):4740-4747, a copy of which is attached hereto as **Exhibit K**; Happ *et al. Nat. Struct. Mol. Biol.* 2022, 29(10):990-999, a copy of which is attached hereto as **Exhibit L**; Huang *et al. SLAS Discov.* 2023, 28(7):350-354, a copy of which is attached hereto as **Exhibit M**; Landers *et al. Emerg. Microbes Infect.* 2024, 13(1):2300452, a copy of which is attached hereto as **Exhibit N**; Lieberman *et al. J. Am. Chem. Soc.* 2023, 145(30):16899-16905, a copy of which is attached hereto as **Exhibit O**; Nguyen *et al. Nat. Chem.* 2024, 16(2):218-228, a copy of which is attached hereto as **Exhibit P**; Sekhot *et al. Cell Rep. Methods* 2022, 2(4):100202, a copy of which is

attached hereto as **Exhibit Q**; and Yu *et al. Pharmaceuticals* 2022, 14(1):176, a copy of which is attached hereto as **Exhibit R**.

37. Attached hereto as **Exhibit S** is a preliminary and exemplary claim chart describing direct infringement by AOBIOUS of the Asserted Claims. The claim chart is not intended to limit PROMEGA's right to modify the chart or to allege that other products or activities of AOBIOUS infringe the Asserted Claims or any other claims of the Asserted Patents, or any other patents. AOBIOUS has infringed at least claim 25 of the '529 Patent, claim 13 of the '500 Patent, claim 19 of the '280 Patent, and claim 17 of the '976 Patent. **Exhibit S** is hereby incorporated by reference in its entirety.

38. AOBIOUS knew or should have known of the scope of the Asserted Claims since the issuance of the Asserted Patents on August 19, 2014 (the '529 Patent), June 19, 2018 (the '500 Patent), June 2, 2020 (the '280 Patent), and July 4, 2023 (the '976 Patent).

39. PROMEGA became aware of AOBIOUS's infringing commercial activities, namely the offer for sale of the furimazine substrates on AOBIOUS's website.

40. On July 27, 2020, PROMEGA contacted AOBIOUS by email to inform AOBIOUS of PROMEGA's intellectual property covering the furimazine compound. Copies of the email and the attached letter are attached hereto as **Exhibit T**. In light of that correspondence, AOBIOUS has had actual knowledge of the '529 patent since at least July 27, 2020.

41. On October 14, 2021, PROMEGA contacted AOBIOUS by courier to again inform AOBIOUS of PROMEGA's patent portfolio covering furimazine and related compounds. A copy of the letter is attached hereto as **Exhibit U**. The letter specifically listed the '529 patent among other international patents. AOBIOUS responded to the letter on October 15, 2021,

thereby confirming receipt of PROMEGA's letter and demonstrating actual knowledge of the '529 patent. See the attached **Exhibit V**, which includes a copy of the response from AOBIOUS.

42. On information and belief, following the correspondence of October 15, 2021, and at least as early as November 10, 2021, AOBIOUS provided the following statement on the webpage for their furimazine product: "Discontinued product that has been withdrawn from sale for commercial reasons." See the attached **Exhibit W**, which is the AOBIOUS product webpage for furimazine on or before November 10, 2021, retrieved from the Wayback Machine in association with the Wayback URL:

<https://web.archive.org/web/20211110082040/https://aobious.com/aobious/luminescent-probes/13199-furimazine.html>.

43. On information and belief, by August 17, 2022, PROMEGA learned that AOBIOUS was again offering furimazine for sale on the AOBIOUS website. On August 17, 2022, PROMEGA contacted AOBIOUS by email to request that AOBIOUS "Please immediately cease selling AOB36539 (furimazine) and offering it for sale on your website." See **Exhibit V**. AOBIOUS responded on the same day confirming receipt of the letter. *Id.*

44. On information and belief, by December 6, 2022, PROMEGA identified the following statement on AOBIOUS's website indicating the continued offer for sale of furimazine by AOBIOUS, "This product has been discontinued on commercial reason. For custom synthesis project please contact sales@aobious.com." *Id.*

45. On December 6, 2022, PROMEGA contacted AOBIOUS by email highlighting the continued offer for sale of furimazine and informing AOBIOUS that "any making, using, selling, or offering to sell furimazine is prohibited by Promega's patents – whether by custom

synthesis or otherwise,” and requesting that AOBIOUS “please remove the entire furimazine webpage from its website.” *Id.*

46. On December 7, 2022, AOBIOUS responded “Will ask IT people to do that. Currently he is on vacation in Hawaii and will be back on Dec 19. Please remind me by then.” *Id.* On information and belief, AOBIOUS did not remove the webpage offering furimazine for sale in response to the email of December 7, 2022.

47. On information and belief, by October 19, 2023, PROMEGA became aware that AOBIOUS was offering hydrofurimazine and fluorofurimazine for sale. On October 19, 2023, PROMEGA contacted AOBIOUS with a cease-and-desist letter sent by courier and indicating:

We write because we recognize that Aobious is offering for sale certain furimazine-based substrates (*See, e.g.*, Aobious Cat # AOB12875 (Fluorofurimazine), Aobious Cat # AOB12876 (Hydrofurimazine)) (the “Furimazine Products”) on its website. Please be advised that the Promega IP covers the manufacture, sale, or use of various furimazine-based substrates including furimazine, fluorofurimazine, and hydrofurimazine. **Promega requests that Aobious respect the Promega IP and immediately cease and desist from any further manufacture, marketing, or sale of the Furimazine Products.**

A copy of the cease-and-desist letter, along with proof of delivery, is attached hereto as **Exhibit X**.

48. On information and belief, AOBIOUS did not respond with correspondence to PROMEGA’s October 19, 2023, letter.

49. On information and belief, over the time period from when PROMEGA first contacted AOBIOUS (July 27, 2020) to the present, AOBIOUS has never removed the pages for furimazine, hydrofurimazine, and fluorofurimazine from the AOBIOUS website.

50. As of March 3, 2025, furimazine, hydrofurimazine, and fluorofurimazine were all available for sale on the AOBIOUS website. Accordingly, despite numerous requests from

PROMEGA, AOBIOUS has continued to offer furimazine, hydrofurimazine, and fluorofurimazine for sale.

51. As presented above, at least as early as November 21, 2024, and continuing to the present, the AOBIOUS website has provided a list of academic publications that cite AOBIOUS as their source of furimazine. See **Exhibit E**, along with **Exhibits H, J, Q, and R**. In each case, the furimazine product was used in experiments in conjunction with a complementary PROMEGA kit or product, thereby indicating that the purchase of the furimazine product from AOBIOUS represents a lost sale from PROMEGA. The continued appearance of peer-reviewed academic publications that cite AOBIOUS as a source of furimazine provides other researchers with knowledge that infringing furimazine is available from AOBIOUS.

52. Entering “NanoLuc,” the name of PROMEGA’s patented luciferase product, into the search bar on the AOBIOUS website yields “furimazine” and “fluorofurimazine” as results. See the attached **Exhibit Y**. As such, AOBIOUS is marketing the Accused Products to consumers of PROMEGA’s complementary products.

53. As described *supra*, AOBIOUS knows and has known about the Asserted Patents and that the sale and offer for sale of the Accused Products infringes the Asserted Claims.

54. By its actions, AOBIOUS’s infringement of the Asserted Claims has damaged and continues to damage PROMEGA in an amount yet to be determined, of at least a reasonable royalty and/or lost profits that PROMEGA would have made, but for AOBIOUS’s infringing acts.

55. In continuing to sell and offer for sale the Accused Products after issuance of the Asserted Patents and being constructively (through marking) and directly (through the correspondence discussed above) informed of the Asserted Claims encompassing the Accused

Products, AOBIOUS has knowingly and willfully engaged in infringement of the Asserted Claims.

56. This civil action contains claims for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*, including 35 U.S.C. § 271, from AOBIOUS's past and ongoing infringement, and imminent future infringement of claims of PROMEGA's patents. AOBIOUS has infringed, is infringing, and will infringe Claims of the Asserted Patents through its manufacture, use, offer for sale, and/or sale of furimazine, fluorofurimazine, and hydrofurimazine.

57. As discussed *supra*, AOBIOUS's actions are egregious and beyond typical infringement. AOBIOUS could not have reasonably or subjectively believed that its actions did not constitute infringement of the '529, '500, '280, and '976 Patents, particularly in light of the notices provided by PROMEGA. Nor could AOBIOUS reasonably or subjectively believe that claim 25 of the '529 Patent, claim 13 of the '500 Patent, claim 19 of the '280 Patent, or claim 17 of the '976 Patent are invalid.

58. By its actions, AOBIOUS's infringement of the '529, '500, '280, and '976 Patents has damaged and continues to damage PROMEGA in an amount yet to be determined, of at least a reasonable royalty and/or lost profits that PROMEGA would have made but for AOBIOUS's infringing acts.

COUNT I: INFRINGEMENT OF U.S. PATENT NO. 8,809,529

59. PROMEGA realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein, including without limitation the allegations in **Exhibit S**.

60. PROMEGA is the owner of the '529 Patent, which was duly and legally issued by the USPTO on August 19, 2014.

61. AOBIOUS has made, used, offered for sale, sold, and/or imported furimazine in the United States.

62. AOBIOUS continues to make, use, offer for sale, sell, and/or import furimazine in the United States.

63. AOBIOUS has infringed, and/or continues to infringe, at least one claim of the '529 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering for sale, selling, and/or importing furimazine in the United States and without authority.

64. AOBIOUS's infringement has damaged and continues to damage PROMEGA, which is entitled to recover damages resulting from AOBIOUS's wrongful acts in an amount to be determined at trial, and in any event no less than a reasonable royalty.

65. AOBIOUS's infringement has been and continues to be deliberate and willful, as AOBIOUS has acted with full knowledge of PROMEGA's patent rights and has continued the infringing conduct despite receiving notice, thereby justifying an award of enhanced damages under 35 U.S.C. § 284.

COUNT II: INFRINGEMENT OF U.S. PATENT NO. 10,000,500

66. PROMEGA realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein, including without limitation the allegations in **Exhibit S**.

67. PROMEGA is the owner of the '500 Patent, which was duly and legally issued by the USPTO on June 19, 2018.

68. AOBIOUS has made, used, offered for sale, sold, and/or imported hydrofurimazine in the United States.

69. AOBIOUS continues to make, use, offer for sale, sell, and/or import hydrofurimazine in the United States.

70. AOBIOUS has infringed, and/or continues to infringe, at least one claim of the '500 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering for sale, selling, and/or importing hydrofurimazine in the United States and without authority.

71. AOBIOUS's infringement has damaged and continues to damage PROMEGA, which is entitled to recover damages resulting from AOBIOUS's wrongful acts in an amount to be determined at trial, and in any event no less than a reasonable royalty.

72. AOBIOUS's infringement has been and continues to be deliberate, willful, and unlicensed, justifying an award of enhanced damages under 35 U.S.C. § 284.

COUNT III: INFRINGEMENT OF U.S. PATENT NO. 10,669,280

73. PROMEGA realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein, including without limitation the allegations in **Exhibit S**.

74. PROMEGA is the owner of the '280 Patent, which was duly and legally issued by the USPTO on June 2, 2020.

75. AOBIOUS has made, used, offered for sale, sold, and/or imported hydrofurimazine in the United States.

76. AOBIOUS continues to make, use, offer for sale, sell, and/or import hydrofurimazine in the United States.

77. AOBIOUS has infringed, and/or continues to infringe, at least one claim of the '280 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by

making, using, offering for sale, selling, and/or importing hydrofurimazine in the United States and without authority.

78. AOBIOUS's infringement has damaged and continues to damage PROMEGA, which is entitled to recover damages resulting from AOBIOUS's wrongful acts in an amount to be determined at trial, and in any event no less than a reasonably royalty.

79. AOBIOUS's infringement has been and continues to be deliberate, willful, and unlicensed, justifying an award of enhanced damages under 35 U.S.C. § 284.

COUNT IV: INFRINGEMENT OF U.S. PATENT NO. 11,691,976

80. PROMEGA realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein, including without limitation the allegations in **Exhibit S**.

81. PROMEGA is the owner of the '976 Patent, which was duly and legally issued by the USPTO on July 4, 2023.

82. AOBIOUS has made, used, offered for sale, sold, and/or imported fluorofurimazine in the United States.

83. AOBIOUS continues to make, use, offer for sale, sell, and/or import fluorofurimazine in the United States.

84. AOBIOUS has infringed, and/or continues to infringe, at least one claim of the '976 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering for sale, selling, and/or importing fluorofurimazine in the United States and without authority.

85. AOBIOUS's infringement has damaged and continues to damage PROMEGA, which is entitled to recover damages resulting from AOBIOUS's wrongful acts in an amount to be determined at trial, and in any event no less than a reasonably royalty.

86. AOBIOUS's infringement has been and continues to be deliberate, willful, and unlicensed, justifying an award of enhanced damages under 35 U.S.C. § 284.

PRAYER FOR RELIEF

WHEREFORE, PROMEGA respectfully requests the following relief:

A. A judgment that AOBIOUS has infringed and is infringing the '529, '500, '280, and '976 Patents;

B. Preliminary and permanent injunctions enjoining AOBIOUS and its officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting on behalf of or in active concert or participation therewith, from acts that infringe the '529, '500, 280, and '976 Patents;

C. An award of damages sufficient to compensate PROMEGA for AOBIOUS's infringement under 35 U.S.C. § 284;

D. A determination that AOBIOUS's infringement of the '529, '500, 280, and '976 Patents has been willful;

E. An award of treble damages for AOBIOUS's willful infringement of the '529, '500, 280, and '976 Patents;

F. A determination that this is an exceptional case under 35 U.S.C. § 285 and that PROMEGA be awarded attorneys' fees incurred in this action;

G. Costs and expenses that PROMEGA incurred in this action;

H. An award of pre-judgment and post-judgment interest; and

I. Such other and further relief as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, PROMEGA respectfully demands a trial by jury on all triable issues.

Respectfully submitted,

POTTER ANDERSON & CORROON LLP

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12081499 / 24857.00001

By: /s/ David E. Moore

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