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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

BRIGHTEX BIO-PHOTONICS, LLC, Plaintiff, vs. L'OREAL USA, INC., Defendant.	CIVIL ACTION NO. 5:24-cv-07919

PLAINTIFF BRIGHTEX BIO-PHOTONICS, LLC'S
COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Brightex Bio-Photonics, LLC ("BTBP") files this Complaint for patent infringement against Defendant L'Oreal USA, Inc. ("L'Oreal USA"), and alleges as follows:

1. Plaintiff BTBP is a limited liability company organized and existing under the laws of the State of California, with its principal place of business located at 359 Piercy Rd., San Jose, California 95138.

2. BTBP was founded in 2005. BTBP pioneered the combined use of quantitative image analysis, reproducible high-resolution 2D photography, and ultra-high resolution 3D models to provide its customers with flexible and innovative software platforms that utilize

machine vision and deep learning algorithms to detect and recognize skin and facial features and other physical features from an image including a face, and based on the features identified, select personalized cosmetic products and skin treatment recommendations. Through extensive research and testing, BTBP has developed significant advancements in these fields, resulting in several patents owned by BTBP. Based on this patented technology, BTBP has offered one of the world's leading and most comprehensive precision facial skin analysis platforms for use in internet and in-store technologies. BTBP's patented technology provides the ability to perform real-time facial skin tracking, precisely identifying the face and facial skin features in live videos or still photos. That patented technology enables companies in the cosmetics and beauty industries to provide validated skin health analysis along with live beauty and skin care try-on transformations.

3. Defendant L'Oreal USA is a Delaware corporation with its principal executive offices located at 10 Hudson Yards, 30th floor, New York, NY, 10001. L'Oreal USA may be served with process through its registered agent Corporation Service Company, 80 State Street, Albany, NY 12207.

JURISDICTION AND VENUE

4. This is an action for patent infringement arising under the patent laws of the United States of America, Title 35, United States Code. This Court, therefore, has original jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

5. L'Oreal USA is subject to the specific personal jurisdiction of this Court. Specifically, BTBP's claims for patent infringement against L'Oreal USA arose from L'Oreal USA's acts of infringement in the State of California, and in this district and division. In particular, L'Oreal USA's acts of infringement include testing and operating interactive websites and other tools using the patented inventions in the State of California, this district and in Santa Clara County. L'Oreal USA also has made those websites and tools available to persons residing

and located in the State of California, this district and this county. L'Oreal USA, in doing so, has facilitated the sale of products and services through the websites and tools to those persons in those locations.

6. In addition, in 2022, L'Oreal USA announced that it was opening a second company headquarters in the forum state of California, located at 888 North Douglas in El Segundo, California. As Stephane Rinderknech, then President and CEO of L'Oreal USA, stated, "[w]e are excited at the prospect of our brand teams coming together to build the future of beauty in the Los Angeles area." The California activities of L'Oreal USA at its second headquarters are, in part, related to L'Oreal USA's infringing activities alleged herein.

7. L'Oreal USA also has opened a "tech incubator" in this judicial district, located in San Francisco in 2016. This L'Oreal Technology Incubator has an office located in the City of San Francisco, and includes physicists, engineers UX specialists, hardware designers and data scientists working cross functionally brand and product-wise to help L'Oreal USA evolve from a beauty company to a technology company in the beauty and cosmetic commercial space. In that connection, L'Oreal USA has been directly involved in the development, testing and marketing of virtual try-on technology used by L'Oreal USA that has infringed the patents asserted in this action.

8. Furthermore, in approximately 2023, L'Oreal USA entered into a partnership with the University of California (UC) Berkeley's Bakar Labs, a leading biotech incubator located in this judicial district. This collaboration opens up avenues for Bakar Labs and L'Oreal USA to benefit mutually from the technological developments of both organizations used in connection with skin analysis and beauty treatments. Bakar Labs is housed in the Bakar BioEnginuity Hub on the UC Berkeley campus and provides over 40,000 square feet of lab and office space for L'Oreal USA and Bakar Labs to collaborate on advanced biological technologies to advance the

biotechnology field across the pharmaceutical and beauty industries and develop new beauty products that improve skin health and address specific skin concerns.

9. These L'Oreal USA facilities located in the San Francisco area and at the University of California's Bakar Labs in Berkeley, California are physical, geographical locations in this judicial district from which the business of L'Oreal USA has been and is carried out. These facilities located in the Northern District of California are regular and established places of business of L'Oreal USA.

10. In view of these facts, this Court has personal jurisdiction over L'Oreal USA under California's long-arm statute, Cal. Civ. Proc. Code § 410.10. L'Oreal USA has purposefully directed its activities toward California, and purposefully availed itself of the privileges of conducting activities in California, and the patent infringement claims asserted in this action arise out of and relate to L'Oreal USA's forum-related activities. Furthermore, the exercise of jurisdiction comports with fair play and substantial justice.

11. The above facts also establish that venue of this action in the Northern District of California is proper pursuant to 28 U.S.C. § 1400(b). In addition, BTBP's claims for patent infringement in this civil action based on at least some of L'Oreal USA's activities, as alleged herein, arose in Santa Clara County.

BTBP'S DEVELOPMENT OF ADVANCED AND INNOVATIVE TECHNOLOGY RELATING TO THE RECOGNITION AND COMPUTERIZED ANALYSIS OF FACIAL FEATURES

12. BTBP is a technology company headquartered in Silicon Valley that is dedicated to advancing the skincare, beauty, and makeup industries by providing technology that can capture and analyze images of a person's facial features; and, then by using artificial intelligence, diagnose the conditions or characteristics of features that might warrant further treatment. The technology

can also provide customers with recommendations and virtual visualizations of the application of cosmetics or other products to treat or improve the appearance of those features.

13. In 2005, Raj Chhibber, after a successful career in the semiconductor industry, determined that there was an unfulfilled need to improve the ability to scan facial skin features and help identify skin characteristics and conditions that could be treated or otherwise remedied. He also realized that the skincare industry was far behind in using technology to improve its products and services. For example, at the time of BTBP's founding, the industry was still visually comparing images before and after product application with no quantification of skin parameters. Visual grading was used, and books were published to train staff and dermatologists to align their grading scores. This deficient process was known as "blind dermatology" by many researchers in the field. Chhibber and the team he assembled at BTBP determined that even well-trained dermatologists could not agree on grading and classification with the accuracy required to prove product efficacy.

14. Chhibber researched the matter and determined that inspecting a face for characteristics and conditions required one to closely examine the skin for very small imperfections, which was the best way to conduct a useful diagnosis. This lead Chhibber and his team to develop software for use in a facial image scanner, which BTBP called the "Clarity Pro" system. This software enabled a facial image scanner to identify bacteria-clogging pores, show where wrinkles are forming, and identify skin damage caused by the sun. Chhibber understood that, with this BTBP technology, doctors and aestheticians would be able to recommend creams, lotions and other skin treatment products based on skin condition, and then show patients "before and after" effects of such recommendations. In addition, companies, such as cosmetic companies, could test and quantifiably demonstrate the benefits of such products to their customers.

15. Although the Clarity Pro facial image scanner was a technology targeted for use by beauty spas and dermatologists, Chhibber envisioned refining BTBP's technology to reduce its size and cost and improve its performance so that it could be used in cellphones and laptop type devices by ordinary end-users for personal use. The advanced cameras that smart devices used provided consumers with the ability to take high-quality photography at home. This, coupled with advances in artificial intelligence (AI), allowed BTBP to develop technology that could perform advanced skin measurements and analysis on images or "selfies" taken with commercially available smartphones in order to accurately assess skin conditions to recommend the correct cosmetics and skincare treatments.

16. As BTBP developed its innovative personalized skin analysis and treatment technology, it applied for and obtained numerous patents covering its advancements in technology. On September 20, 2005, for example, Chhibber and several of his colleagues filed an application for a patent covering a method and system for analyzing skin conditions using digital images. This application resulted in the issuance of United States Patent No. 7,454,046 in 2008.

17. Then, on November 8, 2008, Chhibber and his BTBP colleagues filed a related patent application covering methods and systems for analyzing skin conditions using digital images. This application resulted in the issuance of United States Patent No. 8,155,413 in 2012.

18. Then, in 2012 and 2013, the patent applications resulting in the patents asserted in this case – United States Patent Nos. 9,842,358 ("the `358 Patent") and 9,542,595 ("the `595 Patent") – were applied for and granted in 2017. See Exhibits 1 and 2, respectively. These applications cover electronic devices that capture and analyze digital images depicting facial characteristics. Since 2005, BTBP has obtained 15 United States patents covering the process for capturing and analyzing digital images of a person's face.

L'OREAL USA'S EXTENSIVE BUSINESS DEALINGS WITH BTBP LEADING UP TO ITS DECISION TO USE BTBP'S PATENTED TECHNOLOGY

19. In 2007, L'Oreal USA and its affiliates had essentially no experience with using software-based skin analysis and treatment technology but wanted to explore using such technology in its business of selling cosmetics and beauty products. In this regard, L'Oreal USA acquired from BTBP a copy of BTBP's Clarity Pro Clinical Research System in late 2007.

20. Prior to the 2007-time-frame, most skin analysis cosmetologists used visual grading techniques. In 2007 and 2008, L'Oreal USA and its affiliates performed initial tests of the BTBP Clarity Pro Clinical Research System and reviewed published studies showing a strong correlation between the results of visual grading techniques and BTBP's Clarity Pro Clinical Research System.

21. In late 2008, L'Oreal USA visited BTBP facilities to see a demonstration of the BTBP Clarity Pro Clinical Research System to learn about the BTBP Clarity Pro system. Daniel Kung, who was L'Oreal USA's Senior Chemical Engineer, contacted Shefali Sharma, Marketing Director for BTBP on July 14, 2009 and indicated that Germain Puccetti's skin team was having "positive experiences … with BTBP" and expressed interest in moving "towards a formal proposal for some" additional work with BTBP regarding a similar product for his hair team. See Exhibit 3.

22. On April 1, 2009, L'Oreal USA and its affiliates entered into a Mutual Non-Disclosure Agreement with BTBP (the "2009 L'Oreal-BTBP NDA") pursuant to which L'Oreal USA was "considering engaging" BTBP "to perform certain services or supply certain goods" relating to the computerized skin analysis.

23. Pursuant to the 2009 L'Oreal-BTBP NDA, L'Oreal USA and its affiliates held numerous meetings and conferences with BTBP personnel regarding the nature, function, and

operation of the BTBP Clarity Pro Clinical Research System. BTBP disclosed to L'Oreal USA how the Clarity Pro System performed automated skin analysis by analyzing images of skin before and after application of beauty care products. This was done to measure minute changes in the skin caused by the skin and beauty care products. As explained to L'Oreal USA, one of the benefits of the Clarity Pro System was its ability to automatically reposition facial images to ensure the before and after images lined up correctly based on regions of the skin. The system then identified a variety of skin conditions in these skin regions. More specifically, the concept of extracting a skin map (a pixel region within an image that belongs to the subject's skin) from an image using color and intensity information using digital algorithms was disclosed and demonstrated to L'Oreal USA. The concept of sub-categorization was also disclosed and shown to L'Oreal USA (*i.e.*, pores of different sizes were placed into different size/severity categories). L'Oreal USA tested the System by using a pore constrictor on a test subject, which showed that after the use of a pore constrictor, fewer visible pores were present in the largest, most severe category identified by the system. Critically, BTBP also demonstrated the system's ability to detect and measure skin features (such as sunspots and wrinkles) by looking at their color and intensity differences relative to the surrounding skin, rather than by looking at universal color and intensity values. This concept, as disclosed to Defendant, is what allowed the system to tailor its analysis of skin to an individual subject (*i.e.*, person), rather than relying on a single static algorithm for all subjects, ensuring significantly more accurate results. BTBP also disclosed and explained the system's ability to calibrate images of a subject automatically by using a color standard (or chart) that is visible within the image in a static position. This ability allowed for the correction of images by comparing the color standard's recorded values to their known or established values and making automatic corrections to the images to standardize colors between images. This ability, as disclosed to Defendant, also increased the accuracy of the system.

24. For example, in May 2009, a scientist from L'Oreal USA by the name of Dr. Germain Puccetti, located in Clark, New Jersey, visited BTBP's facilities in San Jose, California, to gather information on BTBP systems, and he reviewed images of facial skin obtained using the BTBP Clarity Pro Clinical Research System ("the System") during that visit to BTBP. L'Oreal USA's tests using the BTBP technology and systems verified that the Clarity Pro system was able to automatically and accurately measure "before and after" changes in the photographic images of the skin at a quality level comparable to that performed by a professional visual grader of the skin. This meant that studies of facial skin could be made cheaper and faster than visual grading so that a cosmetics company such as L'Oreal USA could get products to market quicker with less overhead. Thus, L'Oreal USA, through testing of the BTBP Clarity Pro Clinical Research System, demonstrated that consumers could automatically find small variations in skin to see and prove small improvements in skin conditions caused by active ingredients.

25. As L'Oreal USA continued to gather information on the BTBP technology and investigate the BTBP Clarity Pro system, in June 2010, L'Oreal USA personnel again visited BTBP facilities and attended a presentation and demonstration of BTBP instruments used in the System. During this visit, L'Oreal USA brought its Head of US Hair Instrumental Evaluation Fred Cervantes, and the Head of International Hair Jean-Yves Kemph. As one L'Oreal USA Senior Engineer commented in June 2010, "it was great for Fred and Jean-Yves to see the capabilities and potential from collaborating with your company. I am hoping that this will help build momentum for this project."

26. In 2011, L'Oreal USA conducted further clinical studies of the BTBP technology using the third-party company International Research Services, Inc. ("IRSI"), which conducted independent research to verify claims concerning cosmetic and skincare companies concerning efficacy of their products. Specifically, L'Oreal contracted out efficacy studies of these products

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through IRSI, and IRSI used BTBP's Clarity Pro System for its studies to determine if the claims made as to cosmetic and skincare were accurate.

27. Also, during the late 2010-time-period, Dr. Guive Balooch (Dr. Balooch) became the Senior Research Scientist and Innovative Imaging Science and Technology at U.S. Advanced at L'Oreal USA's Clark, New Jersey facility. Dr. Balooch is presently the Global Managing Director of Augmented Beauty and Open Innovation at L'Oreal Worldwide where he leads a global team uncovering and developing "disruptive innovations" through strategic partnerships, investments, and acquisitions for the group. From December 2014 to October 2022, Dr. Balooch was L'Oreal Worldwide Global Vice President and the head of the L'Oreal Global Technology Incubator (GTI) and California Research Center (CRC), with a focus on strategic partnerships with start-ups, investments, and digital/scientific innovations. When L'Oreal USA first began investigating BTBP, Dr. Balooch was among the first L'Oreal representatives to take part in that investigation.

28. In May 2011, Dr. Balooch announced to Dr. Germain Puccetti at L'Oreal that "I am now in charge of the imaging department at L'Oreal so I am very interested in doing a demo of Clarity Pro and trying to bring it in house to L'Oreal. Can you set up a meeting so I can discuss this with them?"

29. On July 1, 2011, Dr. Balooch visited BTBP's facilities in San Jose to obtain information on BTBP's technology, and he oversaw a demonstration and planned experiments of the Clarity Pro technology and was provided in-depth information on the new features of the Clarity Pro system. In September of 2011, L'Oreal USA ordered a BTBP Clarity LITE unit for further study, a move which L'Oreal USA asserted would build further "confidence in BTBP."

30. Near the end of April 2013, L'Oreal USA invited BTBP to visit L'Oreal USA's New York City office for meetings with L'Oreal's Digital Vice President IT, and to make a

presentation regarding BTBP's skin analysis and treatment technology. After BTBP made its presentation, L'Oreal USA decided to conduct a more thorough investigation of BTBP's technology, and, in this regard, entered into another Non-Disclosure Agreement with BTBP (the "April 2013 L'Oreal-BTBP NDA"). The April 2013 L'Oreal-BTBP NDA provided, in part, that L'Oreal USA, "together with its parent, subsidiaries and affiliates," agreed to receive from BTBP "certain confidential and proprietary information" regarding BTBP's skin analysis and treatment technology. Pursuant to this April 2013 L'Oreal-BTBP NDA, L'Oreal USA agreed not to disclose BTBP's confidential and proprietary information to any other party and to use the information only for the purpose exploring a business transaction between the parties for L'Oreal USA to use the BTBP skin analysis and treatment technology in its business. More specifically, BTBP disclosed to L'Oreal USA the initial version of its DeepTag technology, which was an e-diagnostic platform (*i.e.*, an application on a phone or website) capable of performing many of the functions of BTBP's Clarity Pro System in a fraction of the time. BTBP disclosed many aspects of its DeepTag technology to Defendant's personnel, including (1) the concept of a guide to show a user how to take images of their skin in a way that was optimal to skin measurement and analysis, (2) the analysis of user-taken images on remote servers and the division of the face into regions as described in the Clarity Pro System above, (3) the specific algorithms used for facial detection and tracking, (4) the methods by which the DeepTag platform utilized the measurements taken from the user images in order to rank skin conditions in terms of severity and recommend the appropriate products. BTBP also disclosed its methods by which to map skin measurements to specific products for recommendation purposes.

31. BTBP created applications for L'Oreal USA to conduct tests using the DeepTag technology. These applications, as provided to Defendant, had fully functional user interfaces and included BTBP's automated skin analysis systems and real-time image capturing and evaluation

services. These applications took the form of apps installed on L'Oreal smart devices (i.e., cell phones) and applications designed to be accessed via a website URL. L'Oreal USA was particularly interested in understanding how to obtain skin measurements in order to recommend products in order to make sales directly from an application.

32. L'Oreal USA and BTBP then entered into an agreement effective November 21, 2013, pursuant to which L'Oreal USA contracted with BTBP for BTBP to create and implement what L'Oreal USA called a "customized e-diagnostic platform" for L'Oreal USA brands of cosmetics and beauty products (the "November 2013 L'Oreal E-Diagnostic Platform Agreement") for two L'Oreal products -- "LRP" and "Garnier." In particular, the November 2013 L'Oreal E-Diagnostic Platform Agreement specifically provided as follows:

> BTBP has developed an e-diagnostic platform that takes and displays an image of a person which can be viewed to diagnose features of the person that might be improved with the use of products from the Beauty Industry and that permits the person to select and apply such products to the image and then view the results ("E-Diagnostic Platform"). LUSA desires to have BTBP create and implement a customized E-Diagnostic Platform ("LUSA Customized E-Diagnostic Platform") for the LUSA brands of products identified in **Schedule A** ("LUSA Brands") and to host the LUSA Customized E-Diagnostic platform on BTBP servers for access by consumers through the various media identified in **Schedule A**.
>
> BTBP has agreed to create, implement and host the LUSA Customized E-Diagnostic Platform in accordance with the terms and conditions set forth in this Agreement.

BTBP referred to this L'Oreal E-Diagnostic Platform as the BTBP DeepTag platform.

33. BTBP then designed and delivered fully functional applications that incorporated BTBP technology for two of L'Oreal's brands, LRP and Garnier. BTBP worked with these brands to determine their preferred user-interfaces, uploading of products, and testing of the applications.

34. For example, testing of the LRP application was to be completed on July 10, 2014, and was scheduled to launch on July 13, 2014. Garnier, by comparison, was scheduled to complete testing on July 1, 2014, and launch on July 8, 2014. *See* Project Timeline.

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35. On April 20, 2015, Pritesh Davda (Assistant Vice President of Digital Marketing for L'Oreal USA) informed BTBP that it was working on its own "Skin Genius" application, which was "like what [BTBP] built for LRP." *See* Email re: Meeting with L'Oreal Brands.

L'OREAL USA'S EXPLOITATION OF OTHER COMPANIES' AUTOMATED SKIN ANALYSIS TECHNOLOGY WHILE DOUBLE DEALING WITH BTBP

36. In June 2014, L'Oreal Paris, a brand of L'Oreal USA, announced "the introduction of the "Makeup Genius" product, which L'Oreal Paris described as "a game-changing app that uses advanced facial mapping technology to turn the front-facing iPhone and iPad camera into a virtual mirror that allows women to try on products in real-time."

37. L'Oreal Paris, explained that the L'Oreal "virtual makeup app, Makeup Genius, was born out of L'Oreal USA's Connected Beauty Incubator, a new business division based out of L'Oreal's Research & Innovation labs in Clark, New Jersey, dedicated entirely to technology innovation." This Clark, New Jersey facility is the L'Oreal USA facility that worked extensively with BTBP to learn details about the BTBP Clarity technology, and then "to create, implement and host the LUSA Customized E-Diagnostic Platform" that "takes and displays an image of a person which can be viewed to diagnose features of the person that might be improved with the use of products from the Beauty Industry and that permits the person to select and apply such products to the image and then view the results."

38. In March 2016, although L'Oreal Paris announced the renewal of this contractual relationship with Image Metrics, it then unceremoniously abandoned that relationship shortly thereafter.

39. In 2015, L'Oreal USA and its affiliates announced a strategic partnership with the L'Oreal entities, and the augmented reality technology company known as Modiface to provide a smartphone application to certain L'Oreal branded products. Then, in July 2017, "L'Oreal Paris" announced "a global partnership" with Perfect Corp., the provider of the YouCam smartphone-

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based app used to provide virtual try-on make up and other beauty products. On the heels of this announcement, L'Oreal and its affiliates began negotiating the outright acquisition of the Modiface entity, effective March 2018, effectively terminating the "partnership" between L'Oreal and Perfect Corp.

40. Even after the L'Oreal acquisition of Modiface, in October 2019, L'Oreal USA's parent corporation approached BTBP to discuss whether it could obtain more information on BTBP's automated skin analysis technology and entered into another NDA to learn additional technology to pursue this technology in its business. L'Oreal Paris Headquarters once again contacted BTBP and discussed how they can leverage BTBP's technology. L'Oreal wanted to obtain further information on the features BTBP had added to DeepTag; of specific interest to L'Oreal were measurements related to skin tone and skin color for potential use in accurate makeup and beauty products recommendation. These were new features to the DeepTag platform that BTBP had added since L'Oreal USA's previous contact. As part of the discussions, BTBP provided L'Oreal with additional information under the NDA including sample apps demonstrating the new DeepTag features that showed their accuracy and how the measurements can be integrated into product recommendation. The native apps were installed onto L'Oreal's smart devices and web apps were made accessible to them via URL links.

41. Then, in mid-2021, a L'Oreal representative located in India contacted BTBP and inquired about BTBP's capabilities regarding imaging services for skin care products. Before sharing further technical information about DeepTag, BTBP requested that an NDA be signed. After signing at least three prior NDA agreements with BTBP, L'Oreal did not want to sign an NDA in 2021, and communications between L'Oreal and BTBP ended.

THE ASSERTED BTBP PATENTS

42. Notwithstanding L'Oreal USA's improper misappropriation of BTBP's intellectual property regarding its computerized methods for enabling consumers to acquire and analyze images of faces, BTBP obtained patent rights to those inventions to protect that intellectual property.

43. In particular, in 2011, a company named Own, Inc. ("Own") contacted BTBP about working with Own to develop technology for use in automated skin analysis and skin recommendations.

44. Own was a start-up skin-care company based in San Francisco, California. At the time, Own was engaged in the development, marketing and sales of facial skincare products composed of natural and naturally derived ingredients which were marketed to consumers interested in anti-acne and anti-aging products.

45. Own and BTBP entered into a contract pursuant to which Own hired BTBP to create and license software to serve as a diagnostic tool for use with Own's proposed skin care products to perform automated skin analysis and skin recommendations technology as requested by Own.

46. In connection with the development of this technology, Own filed an application for a patent – Application No. 13/527,578 (the "`578 Application") – on June 19, 2012. Before the completion of the prosecution of the application, Own transferred the ownership of the application to BTBP. The `578 Application was issued as U.S. Patent No. 9,842,358 ("the `358 Patent") on December 12, 2017, entitled "Method for Providing Personalized Recommendations."

47. BTBP has been the proper owner by assignment since at least April 17, 2014, and hence, owns all right, title, and interest in the `358 Patent until its expiration date on October 14,

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2032, including the right to sue for and recover all past, present, and future damages from infringement of the `358 Patent.

48. One embodiment of the `358 Patent is described in Claim 16, which states as follows:

> A computerized method for providing prioritized skin treatment recommendations to a user, comprising:
>
> receiving from an electronic device image data of a user's face, wherein the electronic device comprises a camera and a display, wherein the image data is obtained via said camera, and wherein said electronic device presents on the display a photo guide indicating how the user's face should be positioned with respect to the camera when the image data is obtained;
>
> transforming via a computer said image data via image processing into measurements in order to identify at least two skin characteristics of the user from the received image data;
>
> calculating a severity rating for each of the at least two user skin characteristics by:
>
> accessing stored population information comprising measurements for at least two skin characteristics of a population of the same type as the at least two skin characteristics of the user, wherein each of the measurements for the at least two population skin characteristics comprises a mean value and a standard deviation value;
>
> comparing each of the measurements of the at least two user skin characteristics to the measurements of same type population skin characteristic;
>
> determining by how much each of the measurements of the at least two user skin characteristics deviates from the mean value and the standard deviation value of the same type population skin characteristic;
>
> assigning higher severity rating to the user skin characteristic which deviates furthest than at least one standard deviation of the same type population skin characteristic; and for a subset of the user skin characteristics with the highest severity rating, selecting [one] or more skin treatment recommendations from stored skin treatment recommendations based on the subset of the user skin characteristic with the highest severity rating; and
>
> providing to the electronic device the selected one or more skin treatment recommendations.

49. Claim 18 of the `358 Patent claims "the method of claim 16: wherein at least one of the at least two user skin characteristics and the at least two population skin characteristics comprise one or more of: number of wrinkles, number of age spots, quality of age spots, percentage of facial area covered by age spots, number of hyperpigmentation spots, quality of hyperpigmentation spots, percentage of facial area affected by hyperpigmentation spots, number of crow's feet, number of fine lines, number of deep lines, oiliness of skin, dryness of skin, pigment intensity, pigment darkness, pigment evenness, visibility of pores, number of large pores, lip color, lip line curvature, lip border strength, lip line smoothness, lip fullness, acne lesion visibility, color of acne scars, visibility of acne scars, presence of melasma, percentage of facial area covered by melasma, darkness of melasma, ultraviolet damage, and skin tone."

50. On January 10, 2017, the United States Patent and Trademark Office ("the PTO") issued U.S. Patent No. 9,542,595 ("the `595 Patent") entitled "Systems and Methods for Recommending Cosmetic Products for Users with Mobile Devices." The `595 Patent was filed as Application No. 14/224,659 ("Application No. `659") on March 25, 2014. Application No. `659 was filed as Provisional Application No. 61/805,126 ("Provisional Application No. 126") entitled "Systems and Methods for Recommending Cosmetic Products for Users with Mobile Devices" on March 25, 2013.

51. BTBP has been the owner of the `595 Patent by assignment from the inventors to BTBP since June 24, 2014. BTBP thus has the right to sue for and recover all past, present, and future damages from infringement of the `595 Patent. The `595 Patent will expire on April 18, 2034 due to the term being extended by 24 days.

52. One embodiment of the `595 Patent is described in Claim 5, which states as follows:

> A method for analyzing a skin of a subject and identifying a cosmetic product for the subject, comprising:

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at an electronic device with one or more processors and memory storing one or more programs for execution by the one or more processors:

calibrating colors of a first digital image, wherein the first digital image depicts at least a portion of a face of the subject, and the first digital image includes a plurality of pixels;

displaying the first digital image;

dividing the display of the first digital image into two sides, wherein one side of the first digital image is displayed with no cosmetic product applied, and one side of the first digital image is displayed with a simulated application of a cosmetic product;

transferring the first digital image; and

transferring information of a cosmetic product, wherein skin pixels in the plurality of pixels are identified, color space values are identified from the skin pixels, and the cosmetic product is identified at least based on the color space values.

THE INNOVATION OF THE ASSERTED PATENTS

53. Claim 16 of the asserted `358 Patent is directed to a novel method for receiving an image of the skin of a person's face, then providing a computer analysis of that image data to identify its skin characteristics that deviate substantially from a group of reference data relating to those skin characteristics, and then providing recommendations to a user for treating those skin conditions based upon the "severity" of the deviations or "ratings." The Claim requires the method to use a "photo guide" to position the capture of the facial image in the camera display.

54. Thus, the claimed invention is not directed to the abstract idea of providing recommendations to a user about a product *per se*.

55. Moreover, in the claimed invention, a computer is **not** invoked merely as a tool, using its generic processes. Instead, it is directed at a specific computerized process that provides for a particular, improved way to acquire an image of a person's face, and then analyze that image data to identify at least two user skin characteristics, and then calculate the extent to which the

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user's data for at least these two skin characteristics deviate from stored data regarding the same type of skin characteristics (i.e. "severity rating") for a specific group of people.

56. The provided skin treatment recommendations, therefore, are based, in part, on the user skin characteristics with highest severity ratings, as determined by a computerized analysis of photo image data, and not previously performed by the use of pen and paper. In particular, the claims require the specified process to be performed using an "electronic device" that "comprises a camera and display."

57. The claims focus on a specific computerized method for providing skin treatment recommendations to a user based, in part, on the extent of the deviation of the severity of the user's skin characteristics compared to the same type to of skin characteristics for a comparable group of people.

58. The claimed specific computerized process solved the problem of automatically identifying a user's most severe skin conditions and then recommending a treatment for the condition based, in part, on the highest severity rating of the skin condition. The claims are not directed at the abstract idea of providing skin treatment recommendations to users in general, merely by invoking generic processes and equipment.

59. The asserted claims improved upon the technology for acquiring and then analyzing facial data for prioritizing product recommendation to treat skin conditions, based in part on the perceived severity of skin condition problems. The specific steps set forth in the asserted claims state how the claims improve the method for identifying the severity of a skin condition and then recommending a treatment for improving the condition, not achieving the recommendation of a product. The asserted claims, therefore, recite a technical solution to a problem arising in the realm of computing networks.

60. During prosecution, the Patent and Trademark Office initially rejected the claims of the `358 Patent under 35 U.S.C. § 101, contending that the claimed invention is directed to the abstract idea of providing recommendations. The `358 Patent issued in 2017, which means this Patent was examined after, and in view of, the Supreme Court's *Alice Corp*. decision on Section 101 of the Patent Act.

61. The patentee responded to the aforementioned rejection by pointing out that the invention is a novel computerized method of providing prioritized skin treatment recommendations to users based on a severity rating calculation.

62. The patentee further responded that the pending claims of the application for the `358 Patent contain meaningful limitations that represent a sufficiently inventive concept, and that they recite specifically how the recommendations are selected and prioritized based on a specifically calculated severity rating.

63. In addition, during prosecution, the claims were eventually amended to require the display of the camera used to perform the specific process to have a "photo guide indicating how the user's face should be positioned with respect to the camera when the image is obtained." These limitations also preclude a pen-and-paper method of implementation.

64. In view of the patentee's responses to the PTO's office actions and the amendments to the pending claims of the application for the `358 Patent, the PTO withdrew the rejection of the claims pending claims, including the now issued Claims 16 and 18, under 35 U.S.C. § 101.

65. In addition, the PTO, in the first office action during prosecution, rejected the pending claims under pre-AIA 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,571,003 (hereinafter "Hillebrand").

66. The patentee responded to this initial rejection under § 102(b) by pointing out that the present invention is a novel computerized method of providing prioritized skin

treatment recommendations to users based on a severity rating calculation not disclosed by Hillebrand or any other prior art.

67. In contrast, the patentee explained, Hillebrand failed to calculate a "severity rating" according to the principles of the present invention and to use the severity rating to provide recommendations. In particular, the patentee explained that Hillebrand instead determined "skin severity" for each defected skin area in order to display the individual skin severities or overall skin severity to the user. Hillebrand was not concerned about prioritizing defected skin areas by severity and therefore Hillebrand did not provide any relation between the skin severities of different defected skin areas in order to prioritize for which defected skin area the user would benefit the most from treatment. In addition, while Hillebrand disclosed comparing the severity of the defected areas to an average skin severity of a population of people, Hillebrand failed to disclose that each of the population skin characteristics comprises a mean value as well as a standard deviation value. As such, Hillebrand failed to disclose calculating a severity rating by "determining by how much each of the at least two user skin characteristics deviates from the mean value and the standard deviation value of the same type population skin characteristic" and "assigning higher severity rating to the user skin characteristic which deviates furthest than at least one standard deviation of the same type population skin characteristic," as required by the relevant pending claims.

68. The PTO examiner accepted the patentee's arguments distinguishing the pending claims from the Hillebrand reference and withdrew his rejection under 35 U.S.C. § 102(b).

69. With regard to the `595 Patent, during prosecution of that patent, the PTO did not reject the claims as invalid under 35 U.S.C. § 101 for any reason.

70. The claims of the `595 Patent are directed at an improved process for calibrating the color values of a portion of a digital image of a person's face, and then providing a two-sided

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display of a portion of the digital image – first side showing the portion of the digital image with no cosmetic product applied and the second side showing the portion of the digital image with a simulated application of a cosmetic product. The second side image of the simulated cosmetic product is based, in part, on the color space values identified of the first digital image.

71. Prior to this invention, consumers were typically relegated to selecting cosmetics and beauty products through the laborious and time-consuming "hit or miss" process of trying on many different products to determine whether a particular product would be the most appropriate and acceptable for the user's facial features and condition (*e.g.*, skin complexion).

72. The `595 Patent, therefore, provides a specific technological solution to overcome these drawbacks in the process of selecting cosmetics and beauty products and to improve this process by increasing the speed, quality, accuracy, and consistency of measuring a person's skin and applying artificial intelligence to identify the most appropriate cosmetics or beauty product for the consumer with those facial features and conditions.

73. In particular, the `595 Patent discloses a system and method that captures and analyzes a person's skin from a digital image of the consumer's face to determine the consumer's skin feature characteristics and then recommends a cosmetics or beauty product based upon those features through the consumer's use of an electronic device with one or more processors and memory to store one or more programs for execution by those processors.

74. During prosecution of the `595 Patent, the PTO examiner initially rejected certain pending claims under AIA 35 U.S.C. § 102(a)(2) as being anticipated by U.S. Patent No. 8,693,768 – the LaForgia reference – and certain pending claims as obvious under 35 U.S.C. § 103 in view of LaForgia and Saito (US Application No. 2012/0223956).

75. After the patentee made some amendments to the pending claims, the PTO examiner dropped the § 102(a)(2) rejection, continued some rejections under § 103, now based

upon a new combination of prior art -- LaForgia and Kinjo (U.S. Patent No.7,577,310), and indicated that some claims were now allowable if rewritten in independent form.

76. These allowable claims, then Claims 6, 8, 11 and 17, contained the limitation concerning the dividing of the display of the first digital image into two sides, with one side displaying a simulated application of a cosmetic product and the other displaying no simulated cosmetic product. This limitation can be seen in the now-issued Claim 5.

77. After one further amendment to the pending claims, the PTO examiner withdrew all remaining rejections and allowed issuance of all pending claims, including issued Claim 5.

L'OREAL'S INFRINGING CONDUCT IN COLLABORATION WITH OTHER DIVISIONS AND DEPARTMENTS WITHIN THE L'OREAL GROUP OF COMPANIES

78. Defendant L'Oréal USA is a subsidiary of L'Oreal S.A., a French corporation incorporated in France as a Société Anonyme with its registered office in Paris and its corporate headquarters and principal offices in Clichy, France. L'Oréal S.A. is the parent company of several subsidiaries, which manufacture and distribute beauty, cosmetic, and personal hygiene products throughout the world. L'Oreal USA is the largest subsidiary of L' Oréal S.A. and was incorporated in 1953. *See* https://www.loreal.com/en/usa/. For years L' Oréal S.A. has had global revenues exceeding $40 billion, with approximately $9 billion or more of those annual sales made through L'Oreal USA. *See* https://www.loreal.com/en/usa/.

79. L'Oréal S.A. manufactures, distributes, and sells cosmetics and other beauty products under numerous brand names – approximately 37 brands at the current time. *See* L'Oreal 2023 Annual Report. L'Oréal S.A. and its subsidiaries, including Defendant L'Oreal USA, operate as a unified organization referred to as the "L'Oreal Group." *See* https://www.loreal.com/en/usa/. As L'Oréal S.A. states on its website: "L'Oreal has chosen a unique strategy: Universalization." https://www.loreal.com/en/group/about-loreal/strategy-and-model/. In this regard, L'Oréal S.A. states on its website that, "[f]or L'Oreal, universalization is

about having a truly global presence through a unique organization. We are strategically concentrated yet operationally decentralized. Local teams are empowered." *Id*. In this regard, L' Oréal S.A. states that, "[t]o achieve that, we have developed a worldwide network of Research & Innovation and marketing hubs, one for each of our strategic markets," including the United States. *Id*. L'Oreal USA receives overall strategic guidance regarding its operations from L'Oréal S.A. L'Oréal S.A. sells and distributes its products in the United States exclusively through L'Oreal USA.

80. In accordance with this organizational and operational structure, during the time period relevant to the acts of infringement by L'Oreal USA alleged in this complaint, the divisions and departments within the L'Oreal Group have acted as the agents of L'Oreal USA in the furtherance of these infringing activities.

L'OREAL USA'S WILLFUL INFRNGEMENT OF THE ASSERTED PATENTS

81. On May 23, 2022, Mr. Chhibber, BTBP's founder and Chief Executive Officer, sent a letter to Dr. Balooch, Global Vice President of L'Oreal's Technology Incubator, notifying L'Oreal USA of BTBP's 15 U.S. patents in the skin analysis and recommendation fields. In particular, Mr. Chhibber notified Dr. Balooch of BTBP's U.S. Patent No. 9,842,358, entitled "Method for Providing Personalized Recommendations," and U.S. Patent No. 9,542,595, entitled "Systems and Methods for Recommending Cosmetic Products for Users with Mobile Devices." Mr. Chhibber explained to Dr. Balooch that these patents "relate generally to providing skin treatment recommendations to an end user by analyzing a digital image of the user, identifying relevant skin characteristics of the user, and selecting a skin treatment recommendation for the user based on the identified skin characteristics."

82. Mr. Chhibber pointed out to Dr. Balooch that these BTBP's patents "are relevant to the skin treatment recommendation software that is developed and offered by [L'Oreal]." Mr.

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Chhibber identified, in particular, "L'Oreal's 'Skin Genius's face mapping software' which . . . provides skin treatment recommendations to an end user by analyzing a digital image of the user, identifying relevant skin characteristics of the user, and selecting a skin treatment recommendation for the user based on the identified skin characteristics." Mr. Chhibber informed Dr. Balooch that he was "interested in having a discussion . . . to explore the possibility of BTBP and [L'Oreal] entering into a mutually beneficial business arrangement" regarding the BTBP patents. Notwithstanding L'Oreal USA's extensive business dealings with BTBP between 2007-2014 regarding BTBP's patented technology, L'Oreal USA and Dr. Balooch ignored Mr. Chhibber's letter and continued to use the technology claimed in the asserted patents in connection with its use of skin treatment recommendation software and the sale of L'Oreal USA products. This conduct by L'Oreal USA constitutes willful infringement of the asserted patents.

FIRST CLAIM FOR RELEIF
(Infringement of the `358 Patent)

83. L'Oreal USA has directly infringed at least Claims 16 and 18 of the `358 Patent by using the methods claimed and patented in those claims literally or by the doctrine of equivalents. In particular, L'Oreal USA has infringed these claims by using the claimed methods when providing web pages and applications to individuals for use on its various websites that operate to analyze the skin of a potential customer and identify a cosmetic product for a potential customer.

84. L'Oreal USA offers this cosmetic recommendation technology to encourage sales of its products to its consumers.

85. L'Oreal USA operates and controls, and has operated and controlled, at least the e-commerce interactive website www.vichyusa.com/skin-care-analysis-ai.html (the "Vichy Website"), the application SkinConsult AI ("Vichy App"), the lorealparisusa.com website including the Skin Genius application, and the Match My Shade Application (collectively the

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"L'Oreal USA Virtual Beauty Tools"), the yslbeautyus.com/makeup-virtual-try-on.html website including the Shade Finder application (collectively the "YSL Website and Apps"), the https://www.giorgioarmanibeauty-usa.com/face-maestro/face-maestro.html website, Face Maestro application, and Skin Precision Analyzer application (collectively the "Armani Beauty Website and Apps"), the https://www.maybelline.com/virtual-makeover-makeup-tools website Foundation Shade Finder application (the "Maybelline Website and Apps), the https://www.lancome-usa.com/beauty-services.html website, the E-Shade Finder application, the E-Skin Expert application, and E-Youth Finder application (collectively, the "Lancome Website and Apps"), the https://www.valentino-beauty.us/services.html website Virtual Shade Finder application, (the "Valentino Website and Apps"), and the https://www.laroche-posay.us/find-your-routine/myroutine-ai-analysis.html website MyRoutine application and Spot Scan application (collectively, the "La Roche Website and App."). While BTBP has identified the above websites and applications, BTBP accuses all websites and applications operated and controlled by L'Oreal USA, whether created previously or in the future, with similar or identical functionality as Accused Instrumentalities or similar instrumentalities.

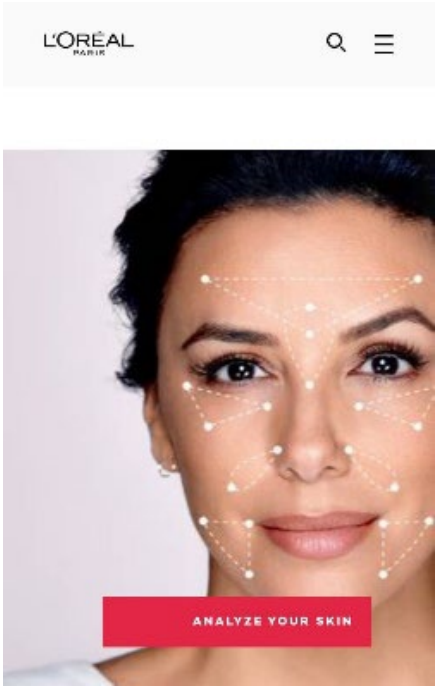
86. The above websites and applications in Paragraph 85 (all collectively "L'Oreal's `358 Accused Instrumentalities") are all owned and operated by L'Oreal USA. *See* Exhibit 4.

87. When a consumer uses an electronic device to access L'Oreal USA's `358 Accused Instrumentalities, L'Oreal USA has performed a method for providing prioritized skin treatment recommendations to a user. Moreover, Defendant also directly infringed the `358 Patent when its employees internally tested or used the `358 Accused Instrumentalities or other similar instrumentalities.

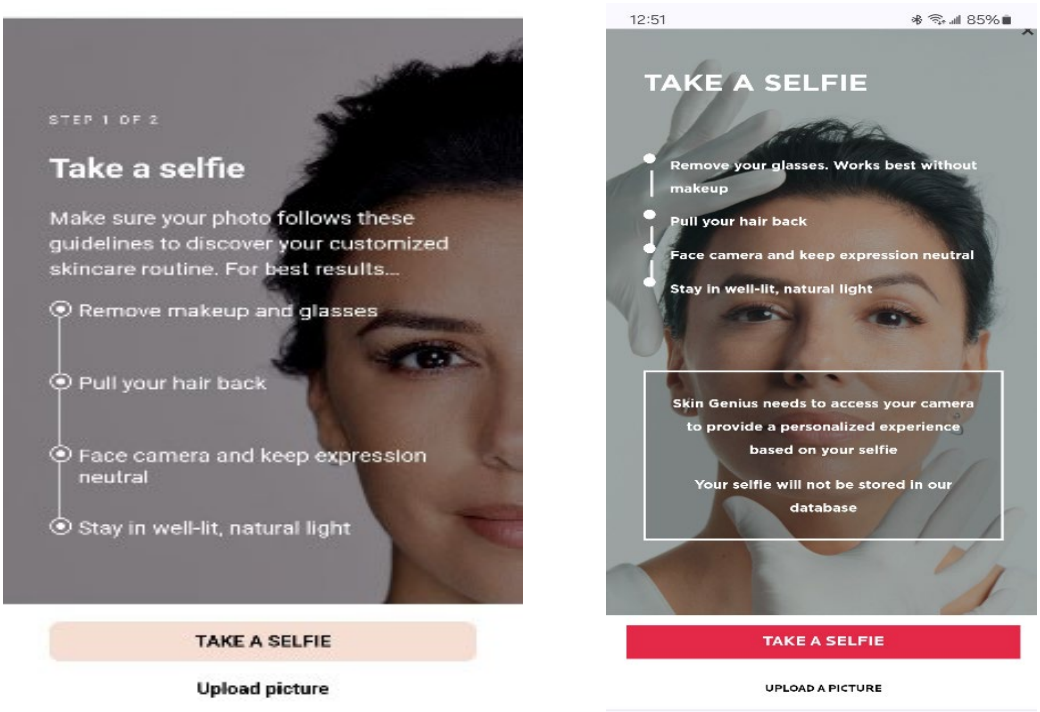
88. If the `358 Accused Instrumentalities or similar instrumentalities are claimed by Defendant not to be owned and operated directly by Defendant, Plaintiff alleges, upon information

and belief, that Defendant indirectly infringes the `358 Patent under an inducement to infringe or contributory infringement theory because the platform is being owned, operated and controlled indirectly by Defendant and for Defendant's benefit.

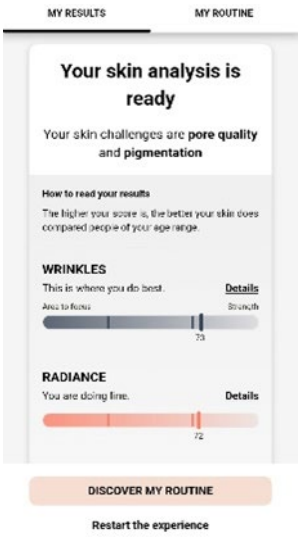
89. Since at least 2018, L'Oreal USA has used a method via the `358 Accused Instrumentalities for analyzing the skin of a subject and identifying a cosmetic product for the subject.



90. An exemplary method performed by L'Oreal USA via one `358 Accused Instrumentality (in this case, the L'Oreal Skin Genius Application) has included the step of receiving from an electronic device image data of a user's face, wherein the electronic device comprises a camera and a display, wherein the image data is obtained via said camera, and wherein said electronic device presents on the display a photo guide indicating how the user's face should be positioned with respect to the camera when the image data is obtained. As can be seen in the figures below, a guide for how to obtain a photo is displayed to a user:



91. The exemplary method performed by L'Oreal USA via the Skin Genius Application has included the step of transforming via a computer said image data via image processing into measurements to identify at least two skin characteristics of the user from the received image data. This can be seen in the figure below, with at least the identification of pore quality, pigmentation, wrinkles, and radiance:



92. The Accused Instrumentality processes the image of the user's face that is received and transforms the image into measurements. The Accused Instrumentality uses image processing algorithms such as AI, Machine Learning, and Machine Vision, for example. These measurements are used to identify at least two skin characteristics of the user from the image. The "My Results" tab displays Wrinkles, Radiance, Firmness, Pigmentation (even tone), and Pores measurements. The two measurements with the highest severity are summarized at the top as "Skin Challenges." See the figure above, with pore quality and pigmentation having been identified as skin challenges.

93. The exemplary method performed by L'Oreal via the Skin Genius Application has included the step of calculating a severity rating for each of the at least two user skin characteristics. See the above figure.

94. The exemplary method performed by L'Oreal USA via the Skin Genius Application has calculated a severity rating for each of the at least two user skin characteristics by accessing stored population information comprising measurements for at least two skin characteristics of a population of the same type as the at least two skin characteristics of the user, wherein each of the measurements for the at least two population skin characteristics comprises a mean value and a standard deviation value. As can be seen in the below figure, L'Oreal USA explains that the user's image is compared against many other images to determine how the user's skin characteristics compare to others:

What is Skin Genius?

L'Oréal Paris Skin Genius is a skin analysis tool powered by Artificial Intelligence technology that analyzes your skin's specific needs and helps create a more personalized skincare routine. Paired with over 20 years of skin research at L'Oréal, Skin Genius is developed using a database of more than 10,000 clinically graded images. Your results are analyzed and then compared against clinically graded images of women across different ages, race/ethnicities and skin tones.

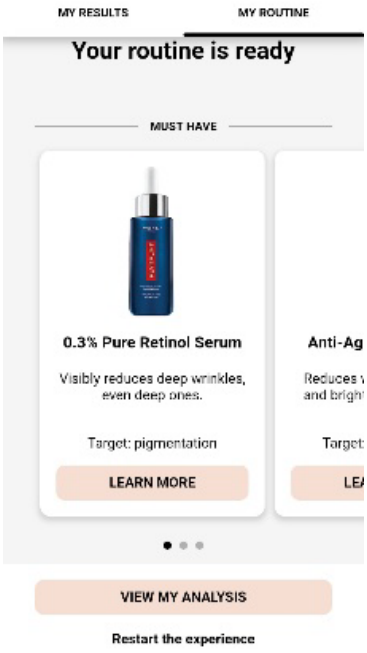
95. The exemplary method performed by L'Oreal USA via the Skin Genius Application has therefore calculated a severity rating for each of the at least two user skin characteristics by comparing each of the measurements of the at least two user skin characteristics to the measurements of same type population skin characteristic.

96. Similarly, the exemplary method performed by L'Oreal USA via the Skin Genius Application has calculated a severity rating for each of the at least two user skin characteristics by determining by how much each of the measurements of the at least two user skin characteristics deviates from the mean value and the standard deviation value of the same type population skin characteristic. Additionally, a person skilled in the art would understand that training the AI necessary to perform the functions of the Accused Instrumentality requires comparing its performance repeatedly to the clinically graded images. In compiling the data of the clinically graded images, the standard deviation is used to assess the distribution of data. In cases where there is a lack of correlation between similar clinically graded images, an average value is used.

97. The exemplary method performed by L'Oreal USA via the Skin Genius Application has calculated a severity rating for each of the at least two user skin characteristics by assigning higher severity rating to the user skin characteristic which deviates furthest than at least one standard deviation of the same type population skin characteristic. A person skilled in the art would understand that clinical grading of the images establishes a set of criteria to grade the severity of a subject's skin characteristic. The further from the baseline of healthy/clear skin a subject has, the higher the severity rating of the skin characteristic. The labels are used to train the AI to assign higher severity to users who deviate most from the healthy/clear skin baseline score.

98. The exemplary method performed by L'Oreal USA via the Skin Genius Application has calculated a severity rating for each of the at least two user skin characteristics

by, for a subset of the user skin characteristics with the highest severity rating, selecting one or more skin treatment recommendations from stored skin treatment recommendations based on the subset of the user skin characteristic with the highest severity rating. This can be seen in the "my routine" recommendations tab of the Accused Instrumentality, which recommends several products as skin treatments to address the user's skin characteristics with the highest severity (labeled "skin challenges" above). See the figure below for the "my routine" recommendations:



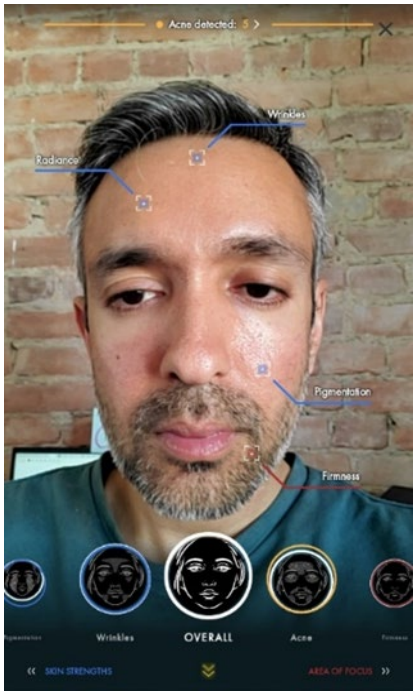
99. The exemplary method performed by L'Oreal USA via the Skin Genius Application has calculated a severity rating for each of the at least two user skin characteristics by providing to the electronic device the selected one or more skin treatment recommendations. See above figure, which appears on the electronic device of a user.

100. The exemplary method performed by L'Oreal USA via the Skin Genius Application has utilized at least one skin characteristic within the list contained in Claim 18: number of wrinkles, number of age spots, quality of age spots, percentage of facial area covered by age spots, number of hyperpigmentation spots, quality of hyperpigmentation spots, percentage

of facial area affected by hyperpigmentation spots, number of crow's feet, number of fine lines, number of deep lines, oiliness of skin, dryness of skin, pigment intensity, pigment darkness, pigment evenness, visibility of pores, number of large pores, lip color, lip line curvature, lip border strength, lip line smoothness, lip fullness, acne lesion visibility, color of acne scars, visibility of acne scars, presence of melasma, percentage of facial area covered by melasma, darkness of melasma, ultraviolet damage, and skin tone.

101. Since at least 2018, L'Oreal USA has continued to put this exemplary method into service.

102. While only one example of one `358 Accused Instrumentality has been provided above, L'Oreal USA's use of this `358 Accused Instrumentality is widespread and in use throughout its various webpages and applications as detailed in Paragraph 85 above.



Vichy App

103. The duty to mark under 35 U.S.C. § 287 is inapplicable to the asserted method claims of the `358 Patent, and there are no unmarked "patented articles" that were sold or offered for sale by BTBP or its licensees of the `358 Patent that were subject to § 287.

104. BTBP has been damaged by L'Oreal USA's infringing activities.

SECOND CLAIM FOR RELEIF
(Infringement of the `595 Patent)

105. L'Oreal USA has directly infringed at least Claim 5 of the `595 Patent by using the method claimed therein. In particular, L'Oreal USA has infringed Claim 5 by using the claimed method, literally or by the doctrine of equivalents, when providing web pages and applications to individuals for use on its various websites that operates to analyze the skin of a potential customer and display a cosmetic product for a potential customer.

106. L'Oreal USA offers this virtual makeup try-on technology to encourage sales of its makeup products to its consumers.

107. L'Oreal USA operates and controls, and has operated and controlled, at least the e-commerce interactive website lorealparisusa.com including the MakeUp Try It On application and Beauty Hub physical retailer screen (collectively the "L'Oreal USA Virtual Beauty Tools"), the nyxcosmetics.com/try-it-on.html website and NYX Try It On application (collectively the "NYX Website and App"), the yslbeautyus.com/makeup-virtual-try-on.html website including the Virtual Try On application (collectively the "YSL Website and Apps"), the https://www.giorgioarmanibeauty-usa.com/face-maestro/face-maestro.html website, Face Maestro application and Virtual Try-On application, (collectively the "Armani Beauty Website and Apps"), the https://www.maybelline.com/virtual-makeover-makeup-tools website, Virtual Try-On application and Microsoft Teams Virtual Try-On application (collectively the Maybelline Website and Apps), the https://www.lancome-usa.com/beauty-services.html website and Virtual

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Makeup Try-On application (collectively, the "Lancome Website and Apps"), the https://www.shuuemura-usa.com/en_US/makeup/virtual-services/virtual-try-on/ website and Virtual Try-On application (collectively, the "Shu Uemura Website and App"), the https://www.urbandecay.com website and Virtual Try-On application (collectively, the "Urban Decay Website and App"), and the https://www.valentino-beauty.us/services.html website and the Virtual Try-On application (collectively, the "Valentino Website and Apps"). While BTBP has identified the above websites and applications, BTBP accuses all websites and applications operated and controlled by L'Oreal USA, whether created previously or in the future, with similar or identical functionality as Accused Instrumentalities or similar instrumentalities.

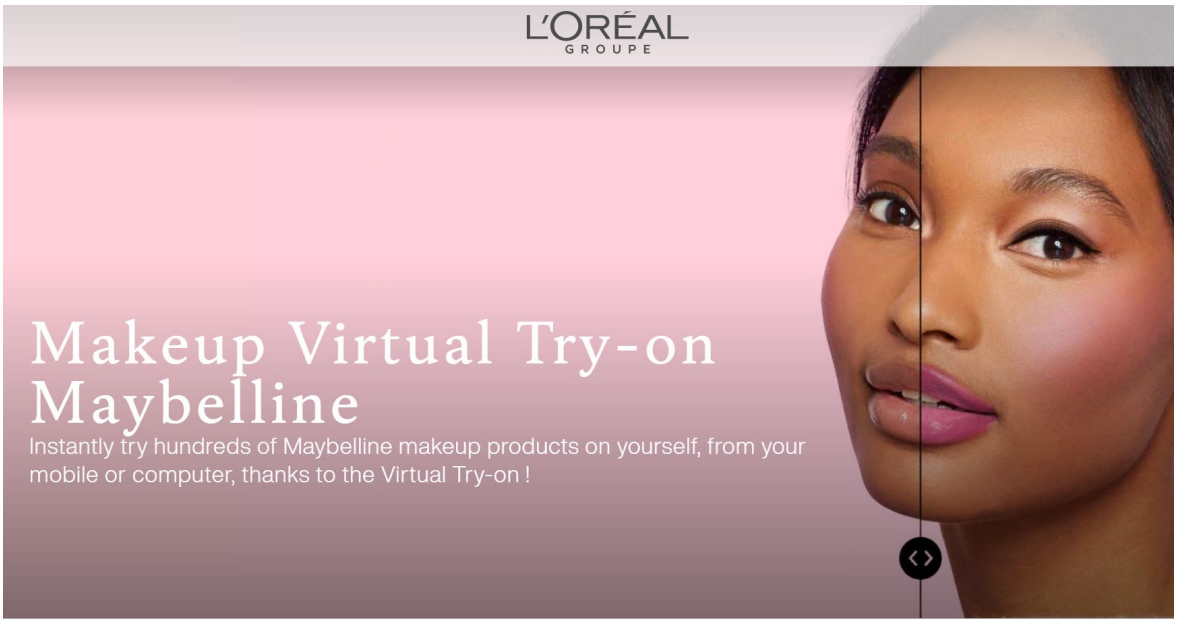
108. The above websites and applications in Paragraph 107 (all collectively "L'Oreal's `595 Accused Instrumentalities") are all owned and operated by L'Oreal USA. *See* Exhibit 4.

109. When a consumer uses an electronic device to access L'Oreal USA's virtual makeup try-on technology, L'Oreal USA has performed a method for analyzing a consumer's skin from a digital image of the consumer's face to determine the consumer's skin color and identify a cosmetic product. Moreover, Defendant also directly infringe the `595 Patent when its employees internally test or use the `595 Accused Instrumentalities or other similar instrumentalities.

110. If the `595 Accused Instrumentalities or similar instrumentalities are claimed by Defendant not to be owned and operated directly by Defendant, Plaintiff alleges, upon information and belief, that Defendant indirectly infringes the `595 Patent under an inducement to infringe or contributory infringement theory because the platform is being owned, operated and controlled indirectly by Defendant and for Defendant's benefit.

111. Since at least 2018, L'Oreal USA has used at least one method via the `595 Accused Instrumentalities for analyzing the skin of a subject and identifying a cosmetic product for the subject. An exemplary method performed by L'Oreal USA via one `595 Accused

Instrumentality (in this case, the Maybelline Website and Apps) is provided below, but each of the `595 Accused Instrumentalities operate in a similar manner and infringe the `595 Patent.



How does it work?

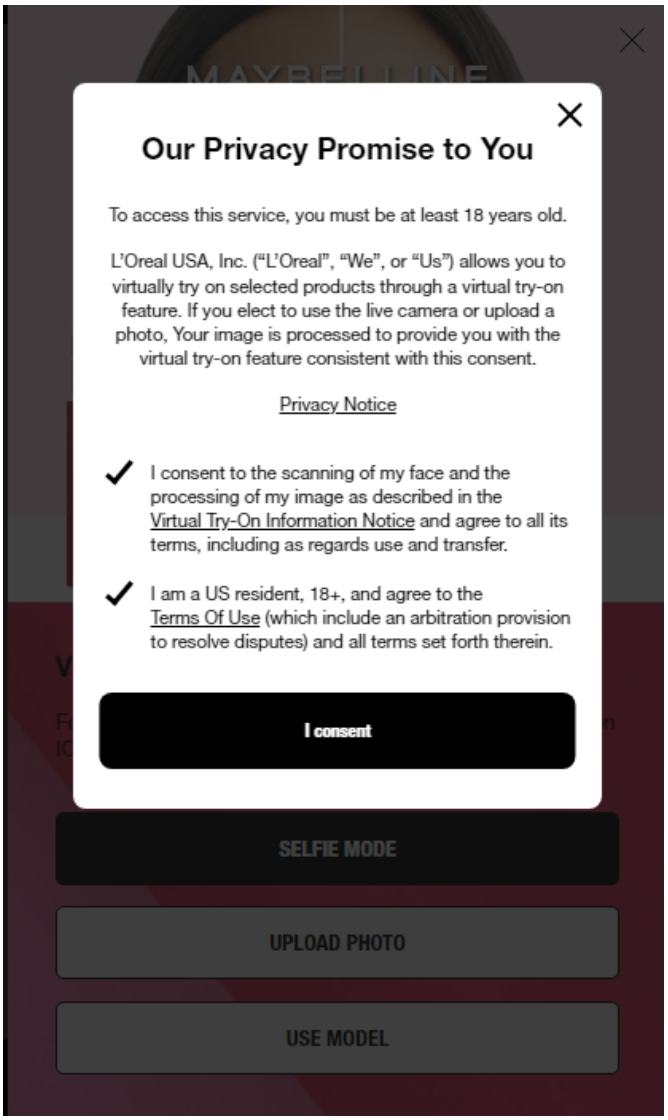
Available at maybelline.com:

- Choose the product you want to try on
- Find good natural light
- Launch your live camera or upload a picture
- Select the shade you would like to try
- And see instantly the result on yourself
- You can see the result of the before/after makeup application, compare between 4 different shades, and share your selfie on social media to ask your friends what they think about your new style.

112. The methods utilized by the exemplary `595 Accused Instrumentality for analyzing the skin of a subject and identifying a cosmetic product for the subject utilized electronic devices with one or more processors and memory storing one or more programs for execution by the one or more processors. The Accused Instrumentality comprises, at least in part, software that can run on any electronic device such as a mobile telephone, a smart phone, a tablet computer, a personal digital assistant, a laptop, or a desktop. Each of these devices necessarily contains one or more processors and memory storing one or more programs for execution by the one or more processors. Additionally, these devices may take the form of severs operated by, or on behalf of, L'Oreal USA

for the purposes of operating and providing the exemplary `595 Accused Instrumentality and the electronic devices may be cellular phones or computers utilized by a user at the direction and control of L'Oreal USA for the benefit of L'Oreal USA.

113. The exemplary `595 Accused Instrumentality calibrates colors of a first digital image, wherein the first digital image depicts at least a portion of a face of the subject, and the first digital image includes a plurality of pixels. As explained by L'Oreal USA, the image of a user (whether through the live camera or through upload) is "processed to provide [a user] with the virtual try-on feature." See https://www.maybelline.com/virtual-try-on-makeup-tools:



114. As readily acknowledged by L'Oreal USA on its website at https://www.loreal.com/en/articles/science-and-technology/makeup-virtual-try-on-maybelline, the application will collect an image of a user, whether live or static. As a cosmetic product may appear differently once applied to different complexions (i.e., skin tone) in real life, a person of skill in the art would understand that L'Oreal, through the L'Oreal server, is calibrating the colors of the user's image. Additionally, L'Oreal's application calibrates the colors of the user image to identify where to apply their virtual makeup (i.e., to identify lips or eyes).

115. This processing by L'Oreal USA inherently includes the calibrating of colors. To the extent this element is in dispute, upon information and belief discovery will reveal that the Accused Instrumentality calibrates colors of the first digital image.

116. The first digital image is captured by and through L'Oreal USA's exemplary `595 Accused Instrumentality, and this first digital image depicts at least a portion of a face of the subject and includes a plurality of pixels. This first digital image is captured by selecting either "selfie mode" or "upload photo," each of which allow a user to provide L'Oreal USA's exemplary `595 Accused Instrumentality with an image of their face. These images inherently include a plurality of pixels.

117. The exemplary method performed by L'Oreal USA via the Maybelline Website and Apps has included the step of displaying the first digital image.

118. As can be seen in the figure above, the image of a potential customer is displayed on an electronic device.

119. The exemplary method performed by L'Oreal USA via the Maybelline Website and Apps has included the step of dividing the display of the first digital image into two sides, wherein one side of the first digital image is displayed with no cosmetic product applied, and one side of the first digital image is displayed with a simulated application of a cosmetic product, as can be seen in the figure above.

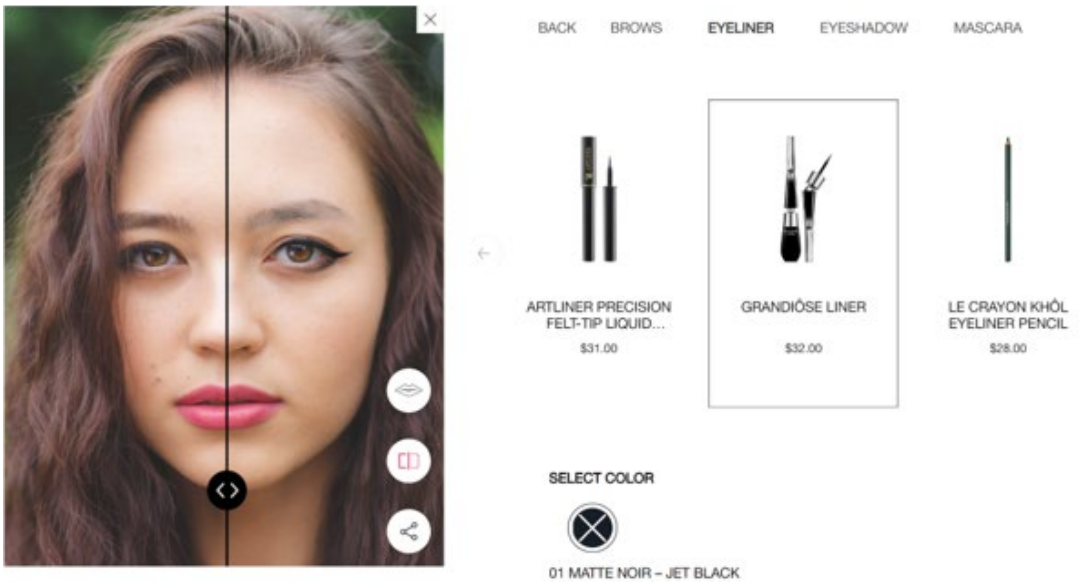
120. The exemplary method performed by L'Oreal USA via the Maybelline Website and Apps shows two sides of the user's face, one without make-up, and one with simulated make-up. Further, the Accused Instrumentality also shows two sides of the image, one without make-up (background), and one with simulated make-up (foreground, i.e., the user's face).

121. The exemplary method performed by L'Oreal USA via the Maybelline Website and Apps transfers the first digital image. The image is transferred to L'Oreal USA upon consent by the user and transferred back to the user for display in the figure above.

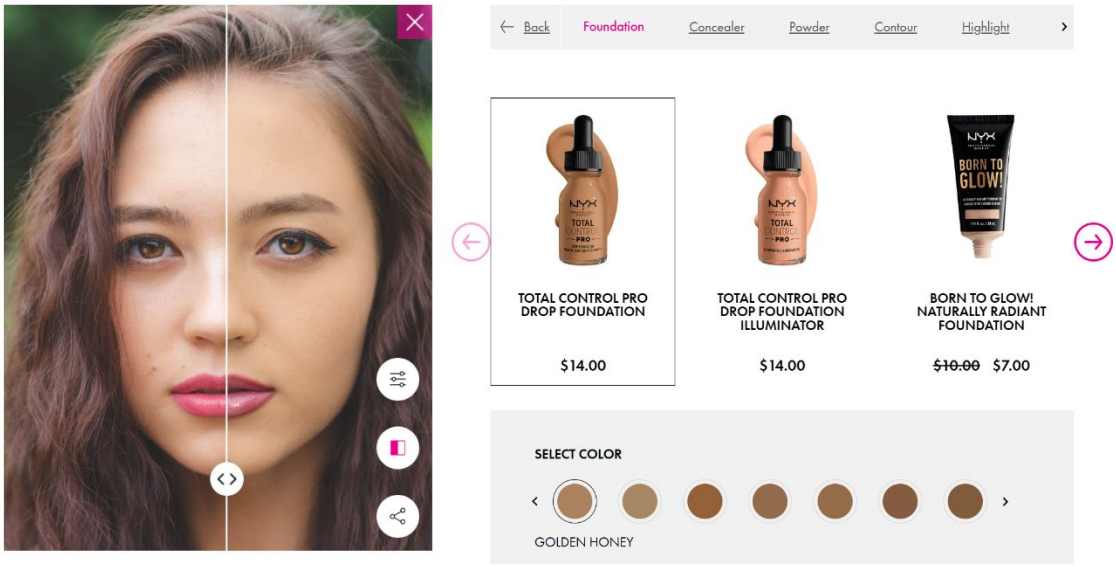
122. The exemplary method performed by L'Oreal USA via the Maybelline Website and Apps has included the step of transferring information of a cosmetic product, wherein skin pixels in the plurality of pixels are identified, color space values are identified from the skin pixels, and the cosmetic product is identified at least based on the color space values. As can be seen in the figure above, different shades of makeup are offered to the user for virtual try-on. This is completed through the transferring of information concerning those shades of makeup, identifying the parts (or pixels) of the customer image that should change color based on color space values of the customer's skin (i.e., identifying lips and eyes). The cosmetic products are identified based on the color space values for selection by the user. This is done to realistically simulate the cosmetic product on not just any face, but the face of the user.

123. To the extent that any required steps of the claim occurred on a device in the possession, custody or control of and used by a third party, L'Oreal USA performed those steps because it initiated and controlled the performance of those steps.

124. While only one example of one Accused Instrumentality has been listed above, L'Oreal USA's use of this Accused Instrumentality is widespread and in use throughout its various webpages and applications, as can be seen in the figures below:



Lancome Website and Apps



NYX Website and App

125. The duty to mark under 35 U.S.C. § 287 is inapplicable to the asserted method claims of the `595 Patent. There is no applicable marking requirement that has not been complied with.

126. BTBP has been damaged by L'Oreal USA's infringing activities concerning the `595 Patent.

BTBP SRX 2006

DEMAND FOR JURY TRIAL

127. Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, BTBP hereby demands a trial by jury of all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, BTBP requests the following relief:

(a) A judgment that the asserted patents are valid and enforceable,

(b) A judgment in favor of BTBP that L'Oreal USA has directly or indirectly infringed one or more claims of the asserted patents;

(c) An accounting of damages owed to BTBP;

(d) A judgment and order requiring L'Oreal USA to pay BTBP damages adequate to compensate for infringement under 35 U.S.C. § 284, which, in no event shall be less than a reasonable royalty for its usage made of the inventions of the asserted patents, including pre- and post-judgment interest and costs;

(e) A judgment awarding BTBP up to treble damages for Defendant's willful infringement;

(f) If necessary to adequately compensate BTBP, a declaration that this case is exceptional and that BTBP be awarded additional damages and/or attorney fees under that declaration or under another basis in the law;

(g) An award of costs and expenses that BTBP incurred in prosecution of this action;

(h) A judgment awarding BTBP post-judgment royalties to the extent applicable; and

(i) Any and all such further necessary or proper relief as this Court may deem just or equitable.

Dated: November 12, 2024

Respectfully,

By: */s/Christopher M. Joe*
Christopher M. Joe

Attorney for Plaintiff
Brightex Bio-Photonics, LLC

ATTESTATION

I, Jamie L. Dupree, hereby attest that concurrence in the filing of PLAINTIFF BRIGHTEX BIO-PHOTONICS, LLC'S COMPLAINT FOR PATENT INFRINGEMENT has been obtained from all counsel with conformed signatures above.

Dated: November 12, 2024

FUTTERMAN DUPREE DODD CROLEY MAIER LLP

/s/ Jamie L. Dupree
Jamie L. Dupree

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