IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

VITAWORKS IP, LLC and VITAWORKS, LLC, Plaintiffs, v. PRINOVA US LLC, and QIANJIANG YONGAN PHARMACEUTICAL CO. LTD., Defendants.	)	C.A. No. 19-2260 (CFC) **JURY TRIAL DEMANDED**

AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs, Vitaworks IP, LLC and Vitaworks, LLC (collectively, "Vitaworks"), by and through their undersigned attorneys, for their Amended Complaint against Defendants Prinova US LLC ("Prinova") and Qianjiang Yongan Pharmaceutical Co. Ltd. ("QYP") allege as follows:

NATURE OF THE ACTION

1. This is an action for infringement of U.S. Patent No. 9,745,258 (the "'258 Patent"); No. 9,815,778 (the "'778 Patent"); and No. 9,926,265 (the "'265 Patent"); No. 10,040,755 (the "'755 Patent"); No. 10,961,183 (the "'183 Patent") (collectively, the "Patents-in-Suit") arising under 35 U.S.C. § 271(g). Section 271(g) provides that "[w]hoever without authority imports into the United States or offers to sell, sells or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer if the importation, offer to sell, sale, or use of the product occurs during the term of such process patent." As detailed below, Prinova and QYP import, offer to sell, and/or sell a product made by QYP using processes claimed by the Patents-in-Suit.

2. The Patents-in-Suit claim improved methods for the manufacture of taurine, an amino sulfonic acid that is required by humans and certain animals. Taurine is used as an additive to a number of consumer products, including infant formula, pet food and energy drinks. The traditional processes used for manufacturing taurine suffer from suboptimal yields and generate a large amount of waste material. The founder of Vitaworks, Dr. Songzhou Hu, invented more efficient taurine manufacturing processes that increase yield and reduce waste.

3. Dr. Hu first developed significant improvements to the traditional taurine manufacturing process (the "Recycling Improvements"), and received several patents on those improvements. The Recycling Improvements materially increase the yield of the traditional process and reduce waste. Seeking to make further improvements to taurine production, Dr. Hu then invented new, even more efficient and environmentally friendly processes (the "Sulfate-Free Processes"). Notably, the Sulfate-Free Processes virtually eliminate the production of waste products, including sodium sulfate. The '258, '265 and '778 Patents claim the Sulfate-Free Processes.

4. The '755 and '183 Patents are essential patents for a cyclic process for the production of taurine from ethylene oxide to increase taurine yield and to ameliorate waste discharge. Claims of these patents can be practiced with the use of an acid, such as sulfuric acid, as part of a Recycling Improvements process, or with ammonium isethionate as part of a Sulfate-Free Process. The claims of these patents can also be practiced with other cyclic processes used to produce taurine, including those that use sulfurous acid (U.S. Pat. No. 9,061,976), isethionic acid (U.S. Pat. No. 9,593,076), solid ion exchange resin (U.S. Pat. No. 10,071,955), or a bipolar membrane (WO 2020238942) to neutralize sodium taurinate to form taurine.

5. Vitaworks brings this action to hold Prinova and QYP accountable for their importation and sale of taurine manufactured by QYP using the processes claimed by the Patents-in-Suit. QYP, the largest taurine manufacturer in the world, has a history of infringing Vitaworks' patents. It first copied the Recycling Improvements, and then, in 2018, switched production to the Sulfate-Free Processes. QYP uses the Sulfate-Free Processes today and supplies Prinova with taurine made by those processes.

6. Prinova and QYP have been on notice that they are importing and selling taurine made using Vitaworks' Sulfate-Free Processes at least since January 2019, when Prinova and QYP were named as respondents in an International Trade Commission ("ITC") proceeding in which Vitaworks asserted infringement of the '258 Patent.

7. Prinova and QYP have been on notice that they are importing and selling taurine made using the processes of the '755 Patent at least since January 2019, when Prinova and QYP were named as respondents in an ITC proceeding in which Vitaworks asserted infringement of the '755 Patent.

8. Prinova has been on notice that it is purchasing, importing and reselling taurine made using the processes of the '183 Patent at least since June 14, 2021, when Vitaworks provided Prinova with a claim chart demonstrating that it infringes the patent.

9. QYP has been on notice that it is importing and selling taurine made using the processes of the '183 Patent at least since June 24, 2021, when Vitaworks provided QYP with a copy of the '183 Patent.

THE PARTIES

10. Plaintiff Vitaworks IP, LLC ("Vitaworks IP") is a limited liability company organized and existing under the laws of the State of New Jersey, having its place of business at 195 Black Horse Lane, North Brunswick, New Jersey. Vitaworks IP was founded in 2015 by

Dr. Hu, who received a Ph.D in chemistry from Marquette University and post-doctoral training at Princeton University. Dr. Hu is the sole inventor on over 25 U.S. patents on innovative chemical methods, including the Patents-in-Suit. Dr. Hu assigned the Patents-in-Suit to Vitaworks IP.

11. Plaintiff Vitaworks, LLC is a limited liability company organized and existing under the laws of the State of Delaware, having its place of business at 195 Black Horse Lane, North Brunswick, New Jersey. Vitaworks, LLC develops leading technologies for green chemical syntheses of key food ingredients and biorenewable engineering materials. Vitaworks, LLC exclusively licenses the Patents-in-Suit from Vitaworks IP.

12. Defendant Prinova is a Delaware limited liability company having its principal place of business at 28 East Fullerton Avenue, Carol Stream, Illinois. Prinova buys taurine from QYP. In 2020 alone, Prinova imported at least 690,460 kilograms of taurine into the United States.

13. Defendant QYP is a Chinese corporation having its principal place of business at No. 2 Guangze Avenue, Qianjiang Economic Development Zone, Qianjiang, Hubei 433132 (China). QYP manufactures taurine in China, and imports it into and sells it in the United States to distributors, such as Prinova. In 2020 alone, QYP imported around 6.3 million kilograms of taurine into the United States.

JURISDICTION AND VENUE

14. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

15. This Court has personal jurisdiction over Prinova because Prinova is organized under the laws of the state of Delaware.

16. Personal jurisdiction over QYP in this district is proper because QYP introduces its infringing taurine into the stream of commerce by importing it into the United States

and selling it to nationwide distributors, such as Prinova, that have established channels for reselling the taurine, foreseeing that it will be resold by these distributors across the United States, including in this district. These distributors sell pre-mixes containing the infringing taurine to various manufacturers of consumer products. *See, e.g.*, C.A. No. 19-2260-CFC, D.I. 30 ¶ 50. Prinova, for example, sells pre-mixes to "manufacturers of consumer products such as energy drinks, flavored water, and carbonated soft drinks." *Id.*; C.A. No. 19-2260-CFC, D.I. 1 ¶ 50. Glanbia Nutritionals (NA), Inc., another distributor of QYP taurine, sells pre-mixes containing taurine to Monster Beverage, C.A. No. 19-2259-CFC, D.I. 30 ¶ 50, which incorporates taurine into energy drinks sold in this district. This Court also has personal jurisdiction over QYP because, as Prinova has stated in this proceeding, QYP sells taurine manufactured using Vitaworks' patented processes for importation into the United States, including to "customers based in Delaware", such as Prinova. C.A. No. 19-2260-CFC, D.I. 41 at 1–2.

17. Venue is proper in this judicial district under 28 U.S.C. § 1400(b), because Prinova, as a Delaware limited liability company, is deemed to reside in this district, and under 28 U.S.C. § 1391(c)(3), because QYP is a foreign defendant that is subject to personal jurisdiction in this district.

BACKGROUND ON TAURINE

18. Taurine is a naturally-occurring amino sulfonic acid that is found in the tissues of many animals. Mammals naturally produce taurine and they can also ingest it from meat and dairy products. Taurine was originally isolated in the 19th century from the bile of oxen; hence the derivation of its name from the Latin word for bull.

19. Taurine is believed to play an essential role in neonatal development, brain development and heart function, and, therefore, has important commercial uses as a dietary supplement and as an additive to pet food and infant formula. More recently, taurine has found an

important commercial use as an additive to energy drinks. Several leading energy drink companies prominently feature the word "taurine" on their products' containers. Taurine is, and has been advertised as, an essential, non-trivial component of such products.

20. Plants do not produce taurine and it cannot be efficiently extracted from animal tissues or byproducts. Commercial taurine must therefore be synthesized industrially. In 2018, about 60,000 metric tons of taurine were manufactured and sold worldwide.

21. For at least the last 10 years, the vast majority of commercial taurine has been manufactured in China. Currently, the major Chinese manufacturers are QYP; Fuchi Pharmaceutical Co. Ltd. d/b/a Hubei Grand Life Science and Technology Co., Ltd ("Hubei Grand"); Jiangyin Huachang Food Additive Co., Ltd. ("JHFA"); and Hebi City Hexin Chem Ind. Co., Ltd. Most of the taurine consumed in the United States is made by these four companies.

22. The manufacturers typically sell taurine to distributors, which in turn sell taurine, alone or in formulations, to manufacturers of consumer products, such as energy drinks.

23. Commercial manufacturing of taurine has traditionally been accomplished through two types of production processes. One process uses monoethanolamine as the starting material; the other uses ethylene oxide. Of the two, the ethylene oxide process (the "EO Process") is more efficient and, accordingly, accounted for all but a small amount of world taurine production before Dr. Hu invented his improved processes. Although more efficient than the monoethanolamine processes, the traditional EO Process has two major drawbacks.

24. The first drawback of the EO Process is that not all the starting material (ethylene oxide) or an intermediate product (sodium isethionate) is converted to taurine. The maximum attainable yield of the EO Process falls between 75–80% because 20–25% of the starting material is converted into soluble, potentially harmful waste, consisting of intermediates and

byproducts. Historically, this waste was discharged into the Yangtze River, the largest river in China. But increasingly strict environmental regulation in China has made disposal of the waste from the EO Process much more difficult and expensive.

25. The second drawback of the EO Process is that the final step requires sodium salts of taurine to be neutralized with acid, typically sulfuric acid. This reaction generates sodium sulfate as a byproduct in substantial quantities, typically in an amount that approaches the quantity of taurine that is produced. The separation of sodium sulfate from taurine is labor-intensive and must be performed at very high and energy-consumptive temperatures. Although sodium sulfate can be used as a starting material for the production of sodium silicate, a compound with several uses, the process generates sulfur dioxide as a byproduct, which in turn generates acid rain. Therefore, as a practical matter, the sodium sulfate waste generated by the EO Process has no commercial value and must be discarded.

26. Several publications authored by Chinese chemists and engineers note the drawbacks of the EO Process. For example, QYP's U.S. Patent Application No. 20140121405A1 discusses the low yield of taurine and high waste produced with the EO Process. Chinese Patent Application No. 104628609A, filed by Shandong Fangming Pharmaceutical Group, and No. 105732440A, filed by JHFA, describe the costs associated with the EO Process and the adverse environmental impact of waste disposal.

27. In summary, the traditional processes for taurine production have several disadvantages, including suboptimal yield, generation of large amounts of waste materials, high cost of waste disposal, and negative environmental effects. Although the taurine industry has searched for improvements to the traditional processes, these efforts have failed to achieve close

to 100% efficiency or to eliminate the generation of waste, including sulfate salts. Dr. Hu was the first person to solve these long-standing problems and patent solutions to them.

THE PATENTS-IN-SUIT

28. Dr. Hu has been engaged, since 1998, in the study of the processes by which taurine is synthesized since 1998, with the goal of improving existing manufacturing methods. Since 2012, Dr. Hu has applied for and obtained numerous patents relating to taurine manufacture, including the Patents-in-Suit. Vitaworks IP is the owner of all title, right and interest in and to the Patents-in-Suit, and Vitaworks, LLC is its exclusive licensee.

29. Through his research, Dr. Hu came to understand that the key impediment to improving taurine yields through the EO Process is the presence of certain byproducts (principally sodium ditaurinate and disodium tritaurinate) in the aqueous solution from which taurine is purified (the "mother liquor"). Although the EO Process includes recycling the mother liquor back into the production process, each time the mother liquor is recycled, the byproducts become increasingly concentrated. Eventually these byproducts become so concentrated that their presence in the reaction medium impedes further taurine synthesis. For this reason, some of the mother liquor must periodically be discarded as waste.

30. During 2013, Dr. Hu undertook research to determine whether he could alter the EO Process so that these byproducts could be converted into taurine. In the course of attempting to synthesize ditaurine starting material for this research, Dr. Hu unexpectedly discovered that eliminating acid from a step in the synthesis made the resulting product, sodium ditaurinate, a better candidate for conversion to taurine. That led him to posit that deprotonating ditaurinate further through the affirmative addition of a base to the mother liquor would make it possible to fully recycle the mother liquor. When Dr. Hu tested his hypothesis, he found that treatment of the mother liquor containing di- and tritaurinate with a strong base increased the yield

of taurine production to over 90% and eliminated the need to dispose of any of the mother liquor. Implementing these improvements to the EO Process would mean the elimination of 1 billion liters of liquid waste per 50,000 metric tons of taurine produced.

31. In April 2014, Dr. Hu filed a patent application for this groundbreaking modification of the EO Process. The application ultimately issued as U.S. Patent No. 9,428,450 (the "'450 Patent"), since reissued as U.S. Patent No. RE48,238E (the "'238 Patent"), No. RE48,333 (the "'333 Patent"), and No. RE48,354 (the "'354 Patent"). This patent was followed by several others claiming a cyclic process for taurine production. These patents, which are not the subject of this suit, solved the first drawback of the traditional EO Process: the presence of byproducts in the mother liquor that cannot be recycled, which placed a ceiling of 75–80% on yield and caused the generation of large amounts of liquid waste. The improvements claimed by the Recycling Improvements patents also permit the EO Process to be performed at lower, less energy-consumptive temperatures and pressures.

32. Dr. Hu then turned his attention to eliminating the second major drawback of the EO Process: the generation of sodium sulfate. Dr. Hu previously developed sulfate-free processes that used sulfur dioxide or isethionic acid instead of sulfuric acid, as disclosed in U.S. Patent No. 8,609,890, No. 9,061,976, and No. 9,593,076, but these processes have serious drawbacks that currently make them unsuitable for industrial application. However, Dr. Hu subsequently succeeded in developing new, commercially viable sodium sulfate-free processes. He filed his first patent application on these Sulfate-Free Processes on September 16, 2016.

33. Dr. Hu's Sulfate-Free Processes differ significantly from the EO Process and the Recycling Improvements, with respect to, among other things, the selection of starting materials. The Sulfate-Free Processes start with *ammonium* isethionate rather than, as in the EO

Process, with *sodium* isethionate. Then, instead of reacting sulfuric acid with sodium taurinate, as in the EO Process, the ammonium isethionate is reacted with sodium taurinate to form two different intermediates: ammonium taurinate and sodium isethionate. Both intermediates are easy to process further and efficiently. Ammonium taurinate will become pure taurine simply by the distillation of ammonia. The taurine is then conveniently separated from sodium isethionate, which can then be fully recycled back into the process, together with the distilled ammonia, to produce sodium taurinate. That sodium taurinate is then reacted with ammonium isethionate to repeat the cycle. The result is an "atom-efficient" process that results in yields approaching 100%, eliminates the production of sodium sulfate, and avoids the energy- and labor-intensive need to separate taurine from sodium sulfate and to dispose of the latter. Use of the Sulfate-Free Processes also significantly reduces labor costs and avoids subjecting workers to the uncomfortably high temperatures associated with the EO Process.

34. The patents claiming the new Sulfate-Free Processes that have issued as of the date of this Complaint include the '258 Patent, the '778 Patent and the '265 Patent.

35. The '258 Patent (attached as Exhibit A) was filed on September 16, 2016, and duly and lawfully issued on August 29, 2017. The '258 Patent names Songzhou Hu as the sole inventor and Vitaworks IP as assignee, and is entitled "Cyclic Process for Producing Taurine." The '258 Patent expires on September 16, 2036.

36. The '778 Patent (attached as Exhibit B) was filed on December 1, 2016, and duly and lawfully issued on November 14, 2017. The '778 Patent names Songzhou Hu as the sole inventor and Vitaworks IP as assignee, and is entitled "Cyclic Process for Producing Taurine." The '778 Patent expires on September 16, 2036.

37. The ’265 Patent (attached as Exhibit C) was filed on April 24, 2017, and duly and lawfully issued on March 27, 2018. The ’265 Patent names Songzhou Hu as the sole inventor and Vitaworks IP as assignee, and is entitled “Cyclic Process for Producing Taurine.” The ’265 Patent expires on September 16, 2036.

38. As discussed above, Dr. Hu also obtained two patents—the ’755 Patent and the ’183 Patent—that have claims which can be practiced with either the Recycling Improvements processes or the Sulfate-Free Processes.

39. The ’755 Patent (attached as Exhibit D) was filed on January 12, 2018, and duly and lawfully issued on August 7, 2018. The ’755 Patent names Songzhou Hu as the sole inventor and Vitaworks IP as assignee, and is entitled “Process for Producing Alkali Taurinate.” The ’755 Patent expires on August 20, 2032.

40. The ’183 Patent (attached as Exhibit E) was filed on July 9, 2018, and duly and lawfully issued on March 30, 2021. The ’183 Patent names Songzhou Hu as the sole inventor and Vitaworks IP as assignee, and is entitled “Process for Producing Alkali Taurinate.” The ’183 Patent expires on August 20, 2032.

PRINOVA’S AND QYP’S INFRINGEMENT OF DR. HU’S PATENTED PROCESSES

41. Prinova imports taurine into the United States from Chinese taurine manufacturers, including QYP, and sells it in the United States.

42. QYP has produced taurine using Vitaworks’ patented inventions continuously for the last six years, and has sold that infringing taurine to Prinova.

QYP’s Practice of Dr. Hu’s Recycling Improvements

43. Prior to 2014, when Dr. Hu applied for patents on his Recycling Improvements, QYP used the EO Process. In its 2012 annual report, released in 2013, QYP notes its use of ethylene oxide and sodium bisulfite, the two starting materials in the EO Process. QYP’s

2012 report also discusses research the company was conducting "to reduce waste discharge and lower manufacturing cost, the technical processes for the recovery and use of the taurine mother liquor." This is a reference to one of the major drawbacks of the EO Process: that it generated liquid waste that could not be fully recycled in the production process.

44. In January 2014, Dr. Hu visited the QYP factory to meet with QYP's Chairman, Mr. Yong Chen, and its Chief Technology Officer ("CTO"), Mr. Xiquan Fang. At that meeting, Dr. Hu learned from QYP that the company was achieving yields of about 74–76%, and in no event higher than 78%. The executives expressed concern that the Chinese Ministry of Ecology and Environment had repeatedly cited QYP for violating environmental laws because it was improperly discharging waste water into the Yangtze River.

45. Dr. Hu toured QYP's taurine manufacturing facility and saw firsthand the production methods QYP was then using. He learned that, as one would expect with the EO Process, QYP was not able to fully recycle the mother liquor and that as a result, QYP was generating significant amounts of waste water, as well as sodium sulfate. At that time, QYP did not understand the composition of the waste water it was discharging. Dr. Hu acquired a sample of the mother liquor from QYP to confirm his suspicions that it contained sodium salts of ditaurine and tritaurine. His analysis of the QYP sample corroborated his research indicating that these acidic analogues of taurine are present in the mother liquor generated in the EO Process.

46. Dr. Hu returned to QYP in May 2014 with his patent application (which would become the '450 Patent, later reissued as the '238 Patent, the '333 Patent and the '354 Patent) to meet again with Mr. Chen and Mr. Fang. Dr. Hu explained to the QYP executives that he had solved the problems of low taurine yield and waste production that they were facing. He described the Recycling Improvements, and provided QYP with a copy of the specification and

drawings from his patent application in the hope that QYP would agree to license his inventions. During that visit and later meetings, Dr. Hu negotiated with QYP about potential royalty fees for licensing the Recycling Improvements or, as an alternative, QYP's purchase of his patent application. QYP offered to buy the application for the equivalent of $2,380,000, but Dr. Hu declined that offer because it did not adequately reflect the cost savings and freedom to operate in compliance with Chinese environmental regulations offered by his novel improvements.

47. Unable to secure the rights to Dr. Hu's invention, QYP copied it and began using it without permission. Shortly after Dr. Hu's May 2014 visit, Mr. Fang (QYP's CTO) told Dr. Hu's brother (who lives in China) that QYP understood that the only way for QYP to increase the yield of taurine was to recycle the mother liquor more effectively by converting the ditaurinate and tritaurinate byproducts to taurine, just as Dr. Hu's patent application on the Recycling Improvements teaches. Mr. Fang also noted that Dr. Hu's process had caused changes in pressure gauge readings, indicating that QYP had used the process. During a later phone call with Dr. Hu, Mr. Jinchao Lü, QYP's Chief Financial Officer, stated that QYP was adding sodium hydroxide to the waste water—as claimed in one of Dr. Hu's patents but disclosed by no prior art—and that this solved the problem of suboptimal yield and generation of liquid waste.

48. QYP's public statements provide further evidence that QYP implemented the Recycling Improvements. In its 2014 annual report, QYP stated that it had "optimized the manufacturing process, upgraded the equipment" and "the annual production of taurine reached new height." In its 2015 annual report, QYP reported that "the 2015 annual average yield of taurine reached highest historical level, waste discharge drastically reduced, financial performance and social benefits achieved at the same time." Because, as QYP had previously acknowledged, QYP could not increase yield and drastically reduce waste discharge except by substantially increasing

the extent to which the mother liquor is recycled, QYP's statement that it had achieved both goals demonstrates that it had copied Dr. Hu's Recycling Improvements.

49. Patent applications filed by QYP after Dr. Hu disclosed his 2014 patent application to it also evidence QYP's copying of Dr. Hu's Recycling Improvements. On or about June 16, 2017, QYP filed Chinese patent application, No. 107056659A (the "CN '659 Application"), entitled "Method for Cyclically Producing Taurine at High Yield," and, shortly thereafter, filed corresponding U.S. Patent Application No. 15/678,737. The CN '659 Application discloses, as an embodiment, the addition of sodium hydroxide to recycled mother liquor, as claimed in Dr. Hu's Recycling Improvements patents.

QYP's Practice of the Patents-in-Suit

50. As described above, Dr. Hu filed his first patent application on the Sulfate-Free Processes on September 16, 2016. Shortly thereafter, in October 2016, Dr. Hu disclosed this application to QYP, Hubei Grand, and JHFA and sought to license to them the Sulfate-Free Processes. QYP's CTO, Mr. Fang, later stated to Dr. Hu's brother that the process was very good and very easy to use. However, none of the three manufacturers agreed to take a license.

51. Instead of licensing the Sulfate-Free Processes, QYP copied them without permission. In early 2018, QYP opened a new plant with an annual production capacity of 30,000 metric tons of taurine. In a 2018 submission to the Chinese Ministry of Ecology and Environment to gain approval to operate the plant (the "2018 Report"), QYP said that there is "no sulfuric acid tank" because the new plant "does not use sulfuric acid." QYP also said that the process to be used in the plant "does not generate sodium sulfate." Dr. Hu's Sulfate-Free Processes are the only commercially viable methods to produce taurine without the generation of sodium sulfate.

52. While QYP was conducting trial runs at its new plant in April 2018, Mr. Fang confirmed to Dr. Hu's brother that QYP was realizing two major benefits from its

transition to the new process: (1) elimination of sodium sulfate generation; and (2) close to 100% taurine yield. Because those are the two principal advantages of Dr. Hu's Sulfate-Free Processes and are not offered by any other commercially viable process, Mr. Fang's statement corroborates QYP's copying of Dr. Hu's Sulfate-Free Processes.

53. QYP began operating the new plant in July 2018. To further confirm that QYP is using the Sulfate-Free Processes at this new plant, Vitaworks obtained packages of taurine that QYP had manufactured in 2018 and 2019 and that had been imported into the United States. These samples were tested by Vitaworks according to a standard method for detecting the presence of sulfate. Neither sample showed the presence of sulfate, confirming that QYP is using Dr. Hu's Sulfate-Free Processes.

54. The taurine in these packages of QYP-produced taurine was (and remains to this day) a fine, free-flowing crystalline powder, without lumps or cakes. This is significant because taurine manufactured according to the EO Process (including with the Recycling Improvements), tends to form lumps after long-term storage unless an anti-caking agent, such as silicate, is added. Taurine that, like the QYP taurine Vitaworks obtained, does not form lumps, even without the addition of an anti-caking agent, is characteristic of taurine produced by Dr. Hu's Sulfate-Free Processes.

55. In the 2018 Report, QYP also included a production flowchart, which shows the usage of sodium hydroxide as a catalyst in the production of taurine. The flowchart also displays recycling of mother liquor (containing sodium ditaurinate and sodium tritaurinate) through the use of an ammonolysis step. The 2018 Report is evidence that QYP is practicing the asserted claims of the '755 Patent as well as the newly issued '183 Patent. Infringement of these patents is also supported by QYP's achievement of a yield of close to 100%. Without adding a

catalyst, such as sodium hydroxide, to the mother liquor in sufficient amounts to deprotonate the byproducts and then subjecting them to ammonolysis, QYP would not be able to achieve close to the 100% taurine yield it claims.

PRINOVA'S IMPORT AND SALE OF INFRINGING TAURINE

56. Prinova is a leading taurine importer and distributor in the United States. Over the past five years, Prinova has imported, on average, around 1,000 metric tons of taurine annually.

57. A substantial amount of the taurine imported by Prinova is manufactured by QYP. Since 2016, Prinova's imports into the United States from QYP totaled more than 5,263 metric tons of taurine.

58. Since QYP opened its new plant in July 2018 and began manufacturing taurine using the processes claimed by the Patents-in-Suit, Prinova has imported around 1,702 metric tons of QYP-manufactured, infringing taurine.

59. On January 30, 2019, Vitaworks initiated an ITC proceeding against Prinova and other entities based on their importation of infringing taurine made using the Sulfate-Free Processes claimed by the '258 Patent. Although that proceeding was later discontinued, Prinova received notice through its initiation, that QYP practices at least the Sulfate-Free Processes of the '258 Patent, and that Prinova's importation of QYP-manufactured taurine infringes Vitaworks' patents. Despite knowledge of its infringement, Prinova continues to import taurine from QYP. Since the public announcement of the ITC proceeding, Prinova has received around 50 shipments of 1,366 metric tons of taurine from QYP. For example, a bill of lading shows that on or about November 4, 2019, Prinova imported 33,280 kilograms of taurine from QYP.

60. In the ITC proceeding, Vitaworks also asserted that Prinova infringed certain processes claimed by the '755 Patent. Again, even though that proceeding was later

discontinued, Prinova received notice that QYP practices at least the asserted claims of the '755 Patent.

61. Vitaworks notified Prinova of its infringement of the Sulfate-Free Processes of the '265 and '778 Patents specifically through a letter transmitted on December 11, 2019. Vitaworks also notified Prinova of its infringement of the processes of the '183 Patent through the service of a claim chart for this patent on June 14, 2021.

62. Prinova also supplies QYP-sourced taurine to manufacturers of consumer products such as energy drinks, flavored water, and carbonated soft drinks. Prinova advertises on its company website its ability to create custom formulations with taurine for those types of consumer products and more.

63. Prinova has infringed Vitaworks' patents through its activities of importation, distribution and sale, and has committed these acts willfully and intentionally after notice of infringement.

QYP'S IMPORT AND SALE OF INFRINGING TAURINE

64. QYP is a leading manufacturer of taurine and importer of that taurine into the United States. Over the past five years, QYP has imported and sold, on average, around 5,935 metric tons of taurine annually in the United States.

65. Since QYP opened its new plant in July 2018 and began manufacturing taurine using the processes claimed by the Patents-in-Suit, QYP has imported and sold around 18,125 metric tons of infringing taurine in the United States.

66. Through the ITC proceeding discussed earlier in paragraphs 59–60, QYP received notice that the taurine it produces, imports and sells infringes at least processes claimed by the '258 Patent and the '755 Patent. Since the public announcement of the ITC proceeding, QYP has imported into the United States around 417 shipments of 14,085 metric tons of taurine.

For example, a bill of lading shows that on May 13, 2019, QYP imported 54,080 kilograms of taurine into the United States.

67. Vitaworks notified QYP of its infringement of processes claimed by the '265 and '778 Patents specifically through a letter transmitted on to QYP on December 11, 2019. As of the date of this Amended Complaint, QYP has yet to respond to this letter.

68. Vitaworks also notified QYP of its infringement of the '183 Patent through a letter transmitted to QYP on June 24, 2021.

69. QYP has infringed Vitaworks' patents through its activities of importation and sale, and has committed these acts willfully and intentionally after it was notified of its infringement.

COUNT I: INFRINGEMENT OF THE '258 PATENT
(AGAINST BOTH DEFENDANTS)

70. Vitaworks incorporates by reference paragraphs 1–69 as if fully set forth herein.

71. Prinova and QYP have infringed claims 1–3 of the '258 Patent in violation of 35 U.S.C. § 271(g), by importing into the United States, offering for sale, and selling taurine made by processes claimed in the '258 Patent.

72. Prinova and QYP have been on notice of the infringements alleged in this Count at least since January 2019.

73. Vitaworks has been damaged by the infringements alleged in this Count.

COUNT II: INFRINGEMENT OF THE '778 PATENT
(AGAINST BOTH DEFENDANTS)

74. Vitaworks incorporates by reference paragraphs 1–69 as if fully set forth herein.

75. Prinova and QYP have infringed claims 1, 3–6 and 8–9 of the '778 Patent in violation of 35 U.S.C. § 271(g), by importing into the United States, offering for sale, and selling taurine made by processes claimed in the '778 Patent.

76. Prinova and QYP have been on notice of the infringements alleged in this Count at least as of the date of separate letters transmitted to Prinova and QYP on December 11, 2019.

77. Vitaworks has been damaged by the infringements alleged in this Count.

COUNT III: INFRINGEMENT OF THE '265 PATENT
(AGAINST BOTH DEFENDANTS)

78. Vitaworks incorporates by reference paragraphs 1–69 as if fully set forth herein.

79. Prinova and QYP have infringed claims 1–3 and 5–9 of the '265 Patent in violation of 35 U.S.C. § 271(g), by importing into the United States, offering for sale, and selling taurine made by processes claimed in the '265 Patent.

80. Prinova and QYP have been on notice of the infringements alleged in this Count at least as of the date of separate letters transmitted to Prinova and QYP on December 11, 2019.

81. Vitaworks has been damaged by the infringements alleged in this Count.

COUNT IV: INFRINGEMENT OF THE '755 PATENT
(AGAINST BOTH DEFENDANTS)

82. Vitaworks incorporates by reference paragraphs 1–69 as if fully set forth herein.

83. Prinova and QYP have infringed the claims 1 and 3–8 of the '755 Patent in violation of 35 U.S.C. § 271(g), by importing into the United States, offering for sale, and selling taurine made by processes claimed in the '755 Patent.

84. Prinova and QYP have been on notice of the infringements alleged in this Count at least since January 2019.

85. Vitaworks has been damaged by the infringements alleged in this Count.

COUNT V: INFRINGEMENT OF THE '183 PATENT
(AGAINST BOTH DEFENDANTS)

86. Vitaworks incorporates by reference paragraphs 1–69 as if fully set forth herein.

87. Prinova and QYP have infringed claims 1, 4 and 7-9 of the '183 Patent in violation of 35 U.S.C. § 271(g), by importing into the United States, offering for sale, and selling taurine made by processes claimed in the '183 Patent.

88. Prinova has been on notice of the infringements alleged in this Count at least as of June 14, 2021. QYP has been on notice of the infringements alleged in this Count at least as of June 24, 2021.

89. Vitaworks has been damaged by the infringements alleged in this Count.

PRAYER FOR RELIEF

WHEREFORE, Vitaworks prays for judgment in its favor and against Prinova and respectfully requests the following relief:

A. A judgment that Prinova and QYP have infringed each of the '258 Patent, the '778 Patent. the '265 Patent, the '755 Patent and the '183 Patent.

B. Damages adequate to compensate Vitaworks for the infringement, but in no event less than a reasonable royalty for the use made of the inventions by Prinova and QYP, together with interest and costs.

C. Treble damages up to three times the amount found or assessed for the infringement pursuant to 35 U.S.C. § 284 on the ground that Prinova's and QYP's infringement was and is deliberate and willful.

D. An injunction against infringement of the '258 Patent, the '778 Patent, the '265 Patent, the '755 Patent and the '183 Patent.

E. A declaration that this case is exceptional within the meaning of 35 U.S.C. § 285, and awarding reasonable attorneys' fees, costs and disbursement incurred as a result of this action; and

F. Such other and further relief as the Court deems just and proper.

JURY DEMAND

Pursuant to Fed. R. Civ. P. 38(b), Vitaworks demands a jury trial on all issues so triable.

MORRIS, NICHOLS, ARSHT & TUNNEL LLP

/s/ Jack B. Blumenfeld

Jack B. Blumenfeld (#1014)
Megan E. Dellinger (#5739)
1201 North Market Street
P.O. Box 1347
Wilmington, DE 19899
(302) 658-9200
jblumenfeld@morrisnichols.com
mdellinger@morrisnichols.com

Attorneys for Plaintiff

OF COUNSEL:

Keith R. Hummel
Sharonmoyee Goswami
CRAVATH, SWAINE & MOORE LLP
Worldwide Plaza
825 Eighth Avenue
New York, NY 10019
(212) 474-1000

August 4, 2021