UNITED STATES DISTRICT COURT
DISTRICT OF DELAWARE

MOSKOWITZ FAMILY LLC, Plaintiff, v. ZIMVIE INC., Defendant.	Civil Action No. _____ **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Moskowitz Family LLC ("Moskowitz Family" or "Plaintiff") files this Complaint and demand for a jury trial seeking relief for patent infringement by Defendant ZimVie Inc. ("ZimVie" or "Defendant"). Plaintiff states and alleges the following:

THE PARTIES

1. This case is brought by a physician father, Dr. Nathan C. Moskowitz, and his two sons, all of whom worked together to create groundbreaking advances in the field of spinal surgery. Those patented advances were shared with the predecessors-in-interest of ZimVie, a large spinal fusion company, who despite knowing full well of the family's patents, decided to use Moskowitz Family's technology without permission, and providing neither credit nor compensation.

2. Moskowitz Family is a limited liability company organized and existing under the laws of the state of Maryland, with its principal place of business located at 212 North Adams Street, Suite 200, Rockville, MD 20850. Dr. Moskowitz, along with his sons Mosheh T. Moskowitz and Ahmnon D. Moskowitz, created the company for developing human spine related devices, and for the protection and licensing of any resulting inventions and intellectual property.

3. Moskowitz Family owns a portfolio of more than eighty issued United States patents and more than a dozen pending patent applications related to new and improved artificial disc systems and fixation systems for minimally invasive spinal surgery. The technologies described and claimed in those patents have revolutionized spinal fusion procedures.

4. Before Moskowitz Family's inventions, spinal fusion and disc replacement patients were far more likely to suffer a host of negative outcomes, ranging from substantially constrained motion, neural or vascular injury, esophageal injuries, excessive blood loss, prolonged length of surgical time, prolonged recovery, and incomplete return to work. These complications resulted largely from implants damaging vertebral bodies after insertion, misplaced or broken screws during the operations, and plate and/or screw pull-out after the operations.

5. Moskowitz Family's patents solve these issues by providing more minimally invasive and/or more easily integrated spinal implants, combined with improved surgical methods, tools, and systems of implantation for spinal fusion and disc replacement surgery. For example, some of these inventions include easily inserted, zero-profile, integrated stand-alone cervical and lumbar spacers, which provide the biomechanical strength of traditional anterior cervical and lumbar fusions while avoiding high-profile plates and maximizing safe and multi-level placement. Other inventions include artificial discs that more closely approximate the motion of a healthy spinal disc when integrated with the spine, while avoiding damage to adjacent vertebral bodies and maximizing safe and multi-level placement. Moskowitz Family's patent portfolio has been recognized to be in the "Top 20 Companies/Inventors" for Issued Patent Count in Spinemarket, Inc.'s *Annual Patent Power Index* of 2021, and ranked Top 10 in the *Index*'s Interbody category.

6. Dr. Moskowitz and/or his sons are inventors of the patents assigned to Moskowitz Family.

7. Dr. Moskowitz is a leading neurosurgeon and an innovator in the field of spinal surgery. He trained in General Surgery and Neurological Surgery at Johns Hopkins Hospital, where he became Chief Resident. He also held several fellowship positions at Johns Hopkins University. He is a Fellow of the Academy of the College of Surgeons, the International College of Surgeons, and the American Academy of Neurological Surgeons. Both a researcher and a medical doctor, Dr. Moskowitz received his Ph.D. in Neurochemistry in 1983, and his medical degree in 1984, from the Mount Sinai School of Medicine. He has served as the Chief of the Department of Neurosurgery for Shady Grove Adventist Hospital, Chief of the Department of Neurosurgery for Montgomery General Hospital and as an Assistant Professor for the Department of Neurosurgery at Johns Hopkins University since 1992. After a decade of practicing clinical neurosurgery and consulting on and treating many patients, he became acutely aware of the complications during and after surgical procedures and came to the realization that the status quo of spinal surgery technology and methodology did not lead to the superlative quality of life that his patients deserved. The current state of the art fell short on maximizing acceptable risk/benefit ratios. He became convinced that the field could be, and needed to be, advanced. He then began to focus his career on researching and developing devices, tools, and methods utilizing more minimally invasive and improved solutions for spinal surgery in order to enhance the quality of life for his and all other patients with debilitating spine disease.

8. Dr. Moskowitz has published more than twenty research articles in leading scientific and medical publications such as *Science*, the *Journal of Neurochemistry*, *Brain Research*, the *Journal of Neurosurgery*, and the *Mount Sinai Journal of Medicine*.

9. Dr. Moskowitz has also received several awards for his work as a physician and caregiver. For example, Dr. Moskowitz has been awarded the "America's Most Compassionate

Doctors Award" seven times in the past ten years, has twice received the Patients' Choice Award (2010, 2019), has been named a Five Year Honoree of the Compassionate Doctor Award (2014-2018), and has been ranked as a "Top Doctor" in several publications for the Washington, D.C. and Baltimore, Maryland areas. Dr. Moskowitz has also received, for multiple consecutive years, the America's Best Physicians Award (2020-2023), Castle Connolly Top Doctor Award (2019-2022), and America's Most Honored Doctor Award (2020-2021). Additionally, Dr. Moskowitz is recognized as a Top Inventor in Spine by Spinemarket's *Annual Patent Power Index* of 2018, where he ranked as the number five inventor out of the top twenty.

10. Mosheh T. Moskowitz is Dr. Moskowitz's son and co-inventor. Mosheh is the named inventor on United States patents and patent applications in multiple different fields, including spinal prosthetics, wireless endoscopy, robotics, and consumer products. Mosheh received a Master's Degree in Electrical and Computer Engineering from Johns Hopkins University in 2004 and a Master's Degree in Electrical Engineering from Princeton University in 2002.

11. Dr. Moskowitz's other son, Ahmnon (Andy) D. Moskowitz, is also a named inventor of three of the Asserted Patents. Andy received a Bachelor's Degree in Finance from the University of Maryland, College Park in 2002. Andy is the named inventor on more than forty United States patents and patent applications in multiple different fields, including spinal prosthetics, wireless endoscopy, consumer products and gaming technology, the latter of which he is the sole inventor.

12. On information and belief, Defendant ZimVie, Inc. is a corporation organized and existing under the laws of the State of Delaware, with a principal place of business located at 10225 Westmoor Drive, Westminster, CO 80021.

13. On information and belief, ZimVie is a large, publicly-traded medical device company that develops, manufactures, markets, and sells multiple products for the treatment of musculoskeletal conditions of the spine. These products include implantable devices, accessories, and surgical instruments used in spinal and orthopedic procedures. The accused products at issue in this case make up a significant portion of ZimVie's products.

14. On information and belief, in early 2022, ZimVie was spun off from Zimmer Biomet Holdings, Inc. ("Zimmer Biomet"), forming ZimVie as standalone, publicly-traded company comprising the spinal and dental businesses formerly owned by Zimmer Biomet. *See, e.g.*, https://investor.zimmerbiomet.com/news-and-events/news/2022/03-01-2022-120035502 (Zimmer Biomet Announces Completion of ZimVie Spinoff). On information and belief, ZimVie (as a spin-off of Zimmer Biomet) comprises the spinal businesses formerly owned by Zimmer Holdings, Inc. ("Zimmer Holdings") and Biomet, Inc. ("Biomet"), which combined to form Zimmer Biomet in 2015. *See, e.g.*, https://www.prnewswire.com/news-releases/zimmer-completes-combination-with-biomet-300104244.html (Zimmer Completes Combination with Biomet). On information and belief, these include the spinal businesses of Zimmer Holdings' former wholly-owned subsidiaries such as Zimmer, Inc. ("Zimmer") and Zimmer Spine, Inc. ("Zimmer Spine"), as well as the spinal businesses of Biomet's former wholly-owned subsidiaries such as EBI LP, d/b/a EBI Medical ("EBI"), and EBI, LLC, d/b/a Biomet Spine ("Biomet Spine").

15. On information and belief, ZimVie (as a spin-off of Zimmer Biomet) also comprises the spinal businesses formerly owned by LDR Holding Corporation ("LDR Holding"), which became a wholly-owned subsidiary of Zimmer Biomet in 2016. *See, e.g.*, https://investor.zimmerbiomet.com/news-and-events/news/2016/07-06-2016-191722319 (Zimmer Biomet To Acquire LDR To Enhance Innovation And Growth Of Spine Business). On

information and belief, these businesses include the spinal businesses of LDR Holding, such as LDR Holding's former wholly-owned subsidiaries LDR Médical S.A.S. ("LDR Medical") and LDR Spine USA, Inc. ("LDR Spine USA").

JURISDICTION AND VENUE

16. This is a civil action for patent infringement under the patent laws of the United States, 35 U.S.C. § 271, *et seq.* This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338.

17. This Court has general personal jurisdiction over ZimVie because it is a Delaware corporation that regularly conducts business in the State of Delaware and therefore has substantial and continuous contacts within this judicial District; because it has purposefully availed itself to the privileges of conducting business in this judicial District; and/or because it has committed acts of infringement in this judicial District giving rise to this action.

18. Venue is proper in this judicial District pursuant to 28 U.S.C. § 1400(b) at least because ZimVie is incorporated in Delaware.

ASSERTED PATENTS

19. On April 18, 2017, United States Patent No. 9,622,875 ("the '875 patent") entitled "Bi-Directional Fixating/Locking Transvertebral Body Screw/Intervertebral Cage Stand-Alone Constructs Having a Central Screw Locking Lever, and Pliers and Devices for Spinal Fusion" was duly and legally issued by the United States Patent and Trademark Office. Moskowitz Family owns the '875 patent by assignment. A true and correct copy of the '875 patent is attached as Exhibit 1.

20. On March 26, 2019, United States Patent No. 10,238,383 ("the '383 patent") entitled "Bi-Directional Fixating Transvertebral Body Screws, Zero-Profile Horizontal

Intervertebral Miniplates, Expansile Intervertebral Body Fusion Devices, and Posterior Motion-Calibrating Interarticulating Joint Stapling Device for Spinal Fusion" was duly and legally issued by the United States Patent and Trademark Office. Moskowitz Family owns the '383 patent by assignment. A true and correct copy of the '383 patent is attached as Exhibit 2.

21. On April 7, 2020, United States Patent No. 10,610,371 ("the '371 patent") entitled "Artificial Cervical and Lumbar Discs, Disc Plate Insertion Gun for Performing Sequential Single Plate Intervertebral Implantation Enabling Symmetric Bi-Disc Plate Alignment For Interplate Mobile Core Placement" was duly and legally issued by the United States Patent and Trademark Office. Moskowitz Family owns the '371 patent by assignment. A true and correct copy of the '371 patent is attached as Exhibit 3.

22. On March 23, 2021, United States Patent No. 10,952,723 ("the '723 patent") entitled "Artificial Intervertebral Implant" was duly and legally issued by the United States Patent and Trademark Office. Moskowitz Family owns the '723 patent by assignment. A true and correct copy of the '723 patent is attached as Exhibit 4.

23. On August 10, 2021, United States Patent No. 11,083,591 ("the '591 patent") entitled "Artificial Cervical and Lumbar Disc System" was duly and legally issued by the United States Patent and Trademark Office. Moskowitz Family owns the '591 patent by assignment. A true and correct copy of the '591 patent is attached as Exhibit 5.

24. On October 5, 2021, United States Patent No. 11,135,072 ("the '072 patent") entitled "Artificial Disc System" was duly and legally issued by the United States Patent and Trademark Office. Moskowitz Family owns the '072 patent by assignment. A true and correct copy of the '072 patent is attached as Exhibit 6.

BACKGROUND

25. ZimVie's predecessors in interest, including at least Zimmer, Zimmer Spine, Biomet, Biomet Spine, EBI, and/or LDR Medical, have been aware of Dr. Moskowitz and Moskowitz Family's ever-growing patent portfolio since at least 2005.

26. For example, from at least as early as 2005 until 2015, Dr. Moskowitz was in contact with Zimmer Holdings' former subsidiaries such as Zimmer and Zimmer Spine, seeking to license and commercialize his family's intellectual property.

27. In February 2005, Dr. Moskowitz met with representatives of Zimmer Spine, including Jack Maertens, Director of Global Marketing, Scott Tallman, Vice President of Sales, and Dennis Farrell, Spinal Consultant, in and near Dr. Moskowitz's offices in Maryland, to discuss the possibility of a business collaboration between Dr. Moskowitz and Zimmer Spine. During those meetings, Dr. Moskowitz discussed his inventions relating to artificial spinal discs, as described in his then-existing patent applications filed with the U.S. Patent office. Dr. Moskowitz also shared CAD drawings of these inventions, and Mr. Maertens copied the CAD drawings onto a thumb drive. These discussions were covered by a confidentiality agreement signed that month by Zimmer Spine and Dr. Moskowitz for evaluating a potential business relationship between the parties. Following those meetings, Mr. Tallman emailed Dr. Moskowitz expressing his excitement about collaborating with Dr. Moskowitz. In April that same year, Dr. Moskowitz and Mosheh Moskowitz met with multiple representatives of Zimmer Spine, including Mr. Maertens, at their offices in Minneapolis, to further discuss and share additional CAD drawings of the Moskowitz family's inventions filed with the USPTO and covered by the February 2005 confidentiality agreement.

28. In September 2005, Dr. Moskowitz emailed Mr. Maertens "diagrams related to our new universal intervertebral fusion devices for Zimmer's review and consideration," including documents Dr. Moskowitz described as "Patent Drawings, Advertisement, and Engineering Drawings." (Ex. 7 (September 1 2005 Email from Moskowitz to Maertens).) These diagrams all relate to the Moskowitz family's spinal fusion inventions, as described in patent applications he had filed with the U.S. Patent Office. Dr. Moskowitz shared this information relating to the Moskowitz family's spinal fusion inventions under another confidentiality agreement with Zimmer Spine.

29. Ultimately, Dr. Moskowitz's communications with Zimmer Spine in the 2005 time frame did not result in any business relationship or licensing offer between Dr. Moskowitz and any Zimmer entity. Over the next several years, the Moskowitz family developed more intellectual property related to spinal surgery solutions. Dr. Moskowitz again contacted the Zimmer entities regarding the Moskowitz family's expanded patent portfolio.

30. In October 2010, Dr. Moskowitz met with Michelle Zawadzki, Vice President of Global Research and Development for Zimmer Spine, in San Francisco. During that meeting, Dr. Moskowitz discussed his family's intellectual property covered by several of the issued patents and pending patent applications in his portfolio at that time, including his inventions relating to artificial spinal discs, laminoplasty alternative devices, and spinal fusion. Later that same month, Dr. Moskowitz emailed Ms. Zawadzki as well as Matthew Doscotch, Patent Counsel for Zimmer Spine, an invention disclosure form describing his family's inventions relating to laminoplasty alternative devices, and images of his prototypes of those devices. This invention disclosure was covered by another confidentiality agreement Dr. Moskowitz signed with Zimmer Spine.

31. In December 2010, in response to a request from Mr. Doscotch, Dr. Moskowitz sent an email listing various additional technologies covered by his family's then-issued patents and then-published pending patent applications. These technologies included spinal fusion, artificial spinal discs, and bi-directional screws for use in spinal procedures. The recipients of that email included Ms. Zawadzki, Mr. Doscotch, and Robert Brosnahan, Vice President of Global Research and Development for Zimmer Spine. Mr. Doscotch responded to Dr. Moskowitz's email, indicating that he intended to pull Moskowitz Family's patents and applications related to the aforementioned technologies and internally review them with Zimmer Spine's R&D and Marketing. On information and belief, Mr. Doscotch proceeded to pull all of Dr. Moskowitz's then-issued patents and published applications, including the parent patents and parent applications for each of the patents asserted here. On information and belief, Mr. Doscotch shared these patents and applications with Zimmer Spine's R&D and Marketing Departments.

32. From December 2010 to July 2011, Dr. Moskowitz continued discussions with Mr. Doscotch regarding Zimmer Spine's interest in licensing and/or commercializing his family's patents. During that time, Dr. Moskowitz also sent emails to Mr. Doscotch to inform him about his family's newly-issued patents and newly-allowed patent claims. For example, late in December 2010, Dr. Moskowitz emailed Mr. Doscotch the front page of newly-issued U.S. Patent No. 7,854,766 (parent to the asserted '371, '072, and '591 patents). (Ex. 8 (Excerpts from December 27, 2010 email fr Moskowitz to Doscotch and attachments thereto).) Dr. Moskowitz also emailed Mr. Doscotch in February 2011 to inform him that additional patent claims relating to spinal fusion implants had recently been allowed by the U.S. Patent Office. (Ex. 9 (Excerpts from February 14, 2011 email fr Moskowitz to Doscotch,).)

33. Dr. Moskowitz's licensing and commercialization discussions with Zimmer Spine ultimately broke down in mid-2011.

34. Nevertheless, Dr. Moskowitz continued to identify his family's patents to Zimmer Spine. For example, Dr. Moskowitz also sent an email to Mr. Doscotch in October 2013, informing Mr. Doscotch about newly-issued U.S. Patent No. 8,251,891, covering a novel endoscope device. (Ex. 10 (October 4, 2013 email fr Moskowitz to Doscotch,).)

35. On June 30, 2015, Moskowitz's counsel sent a letter concerning the Moskowitz family's patent portfolio to Mr. Doscotch, then Senior Patent Counsel for Zimmer. The letter identified more than thirty issued patents and pending applications contained in the Moskowitz family's patent portfolio at the time. (Ex. 11 (June 30, 2015 Letter to Doscotch fr. Fink).) The letter specifically identified U.S. Patent Publication No. 2015/0025637, which issued as the asserted '875 patent. (Ex. 12 (Moskowitz Patent Portfolio List, June 30, 2015).) Moreover, the other Asserted Patents are continuations of patents and pending applications identified in the letter. The letter stated that the identified patents "may be of interest" to Zimmer, sought confirmation that Mr. Doscotch was the appropriate person for this type of correspondence, and informed him that Dr. Moskowitz looked forward to Zimmer's response. (Ex. 11 (June 30, 2015 Letter to Doscotch fr. Fink).)

36. Ultimately, Zimmer never offered to license or commercialize any of the Moskowitz family's intellectual property. Dr. Moskowitz never entered into a business relationship with any Zimmer entity, and no Zimmer entity ever obtained a license to any of the Moskowitz family's patents.

37. From 2005 until 2015, Dr. Moskowitz and his sons were also in contact with Biomet and its subsidiaries, such as EBI and Biomet Spine, seeking to license and commercialize his family's intellectual property.

38. In September 2005, Dr. Moskowitz emailed Linda Smyth, an employee of EBI, "diagrams related to our new universal intervertebral fusion devices for EBI's review and consideration," including "Patent Drawings, Advertisement, and Engineering Drawings." (Ex. 13 (September 13 2005 email from Moskowitz to Smyth).) Dr. Moskowitz shared this information with EBI under a confidentiality agreement that covered the inventions described in his then-pending U.S. Patent Application No. 11/208,644 (parent application to the asserted '875, '383, and '723 patents) filed in August 2005. Dr. Moskowitz's discussions with EBI ultimately broke down in October 2005.

39. Ultimately, Dr. Moskowitz's communications in the 2005 time frame with Biomet and its subsidiaries did not result in any business relationship or licensing offer between Dr. Moskowitz and any Biomet entity. Over the next several years, the Moskowitz family developed more intellectual property related to spinal surgery solutions. The Moskowitz family again contacted the Biomet entities regarding the Moskowitz family's expanded patent portfolio.

40. In June 2011, Andy Moskowitz sent an email to Gary Thomas, Vice President of Development for Biomet Spine, attaching copies of newly issued US Patent No. 7,854,766 (parent to the asserted '371, '072, and '591 patents) and U.S. Patent Pub. No. US2009/0132051 (publication of parent to the asserted '371 and '591 patents), and offering to further discuss these inventions with Mr. Thomas. (Ex. 14 (June 23 2011 email from Andy Moskowitz to Thomas, and excerpted pages from attachments thereto).)

41. On June 30, 2015, Dr. Moskowitz's counsel sent a letter concerning the Moskowitz family's patent portfolio to Jonathan Grandon, Senior Vice President and General Counsel for Biomet. The letter identified more than thirty issued patents and pending applications contained in the Moskowitz family patent portfolio at the time. (Ex. 15 (June 30, 2015 Letter to Grandon fr. Fink).) The letter specifically identified U.S. Patent Publication No. 2015/0025637, which issued as the asserted '875 patent. (Ex. 16 (Moskowitz Patent Portfolio List, June 30, 2015).) Moreover, the other Asserted Patents are continuations of patents and pending applications identified in the letter. The letters stated that the identified patents "may be of interest" to Biomet, sought confirmation that Mr. Grandon was the appropriate person for this type of correspondence, and informed him that Dr. Moskowitz looked forward to Biomet's response. (Ex. 15 (June 30, 2015 Letter to Grandon fr. Fink).)

42. Ultimately, Biomet never offered to license or commercialize any of the Moskowitz family's intellectual property. Dr. Moskowitz never entered into a business relationship with any Biomet entity, and no Biomet entity ever obtained a license to any of the Moskowitz family's patents.

43. In June 2011, Andy Moskowitz sent an email to Alexis Mercier, a Design Office Manager ("Responsable Du Bureau d'Étude") for LDR Medical, attaching copies of newly issued US Patent No. 7,854,766 (parent to the asserted '371, '072, and '591 patents) and U.S. Patent Pub. No. US2009/0132051 (publication of parent to the asserted '371 and '591 patents), and informing Mr. Mercier of the superior design of the patented artificial discs. (Ex. 17 (June 24 2011 email from Andy Moskowitz to Mercier, and excerpted pages from attachments thereto).

44. In February 2016, Andy Moskowitz had email and telephonic discussions with Herve Dao, Legal Affairs Manager for LDR Medical, during which he and Mr. Dao discussed the

Moskowitz family's patents in the spinal implant space. Andy Moskowitz also emailed Mr. Dao including the Moskowitz family's patents relating to artificial spinal discs.

45. Ultimately, the Moskowitz family never entered into a business relationship with LDR Medical, and no LDR entity ever obtained a license to the Moskowitz family's patents.

46. On information and belief, after being informed of the Moskowitz family's patented inventions, Zimmer Holdings and Zimmer Biomet recognized the value of Dr. Moskowitz's work and began including his inventive concepts in their spinal products, which are now sold by ZimVie. Specifically, Zimmer Spine (then a wholly-owned subsidiary of Zimmer Holdings) included the Moskowitz family's inventions in the accused Optio-C product, launched in April 2014, and Zimmer Biomet later included the Moskowitz Family's inventions in the accused TrellOss C SA product, launched in 2020. *See, e.g.*, https://ryortho.com/breaking/zimmer-spine-launches-no-profile-cervical-device/ (Press Release Announcing Launch of Optio-C); https://www.orthoworld.com/zimmer-biomet-launches-trelloss-tc-porous-titanium-interbody-syst/ (Press Release Announcing Launch of TrellOss-C SA).)

47. On information and belief, after being informed of the Moskowitz family's patented inventions, LDR Holding also recognized the value of Dr. Moskowitz's work and began including his inventive concepts in their spinal products, which are now sold by ZimVie. Specifically, LDR Medical included the Moskowitz family's inventions in the accused Mobi-C product, for which LDR Spine USA obtained FDA clearance in August 2013. *See, e.g.*, https://www.medicaldevice-network.com/uncategorized/newsldr-secures-first-fda-clearance-two-level-cervical-disc-replacement/ (Press Release Announcing FDA Clearance for Mobi-C).

48. On information and belief, Zimmer Biomet decided to acquire LDR Holding (including its wholly-owned subsidiaries LDR Medical and LDR Spine USA) in 2016 at least

partly due to the Moskowitz family's patented inventions embodied in LDR Holding's products, such as the accused ROI-A, ROI-C, and Mobi-C products originally sold by LDR Holding, then by Zimmer Biomet, and now by ZimVie.

49. On information and belief, ZimVie became aware of the asserted '875, '383, '371, '723, '591, and '072 patents as successor in interest to Zimmer Biomet and the Zimmer and Biomet entities identified above. Indeed, Dr. Moskowitz and/or his representatives informed ZimVie's predecessors in interest of the publication that issued as the '875 patent and each of the applications ultimately leading to the other five Asserted Patents.

50. On information and belief, ZimVie's predecessors in interest, learned about the '875, '383, '371, '723, '591, and '072 patents shortly after they issued in April 2017, March 2019, April 2020, March 2021, August 2021, and October 2021, respectively, or were willfully blind to the existence of the patents. ZimVie acquired this knowledge of the Asserted Patents when it was spun off by Zimmer Biomet.

51. On information and belief, since that time, ZimVie and/or its predecessors in interest have not taken any affirmative steps to avoid infringing the Moskowitz Family's patents, including the Asserted Patents in this case.

COUNT I

(Patent Infringement of United States Patent No. 9,622,875)

52. Plaintiff restates and realleges the preceding paragraphs of this Complaint.

53. ZimVie has directly infringed, and continues to directly infringe, literally and/or under the doctrine of equivalents, one or more claims of the '875 patent by making, using, testing, selling, offering for sale and/or importing into the United States ZimVie's '875 Accused Products pursuant to 35 U.S.C. § 271(a). ZimVie's '875 Accused Products include, but are not necessarily

limited to, the Optio-C Device, the TrellOss-C SA Device, and any other ZimVie products, either alone or in combination, that operate in a reasonably similar manner.

54. The claim chart attached hereto as Exhibit 18 describes how the limitations of exemplary claim 1 of the ’875 patent are practiced by ZimVie’s ’875 Accused Products.

55. ZimVie’s ’875 Accused Products each practice all of the limitations of claim 1 of the ’383 patent. For example, ZimVie’s Optio-C and TrellOss-C SA products are each a bi-directional fixating transvertebral (BDFT) screw/cage apparatus, comprising the following as required by claim 1: an intervertebral cage for maintaining disc height, wherein the intervertebral cage includes: a top wall, a bottom wall, and two sidewalls defining an open space capable of receiving bone filling for the biological bone fusion; a first internal screw guide and a second internal screw guide, wherein the first internal screw guide and the second internal screw guide each have an internal bore with an entry opening and an exit opening, the entry opening of the internal bore formed only in a top surface of the top wall and the exit opening formed at least partially in a bottom surface of the top wall and at least partially in a side surface of the top wall, and wherein each of the first internal screw guide and the second internal screw guide are angled to orient the first screw member and the second screw member bi-directionally in opposite directions; and a central screw locking lever coupled to the intervertebral cage, wherein the central screw locking lever prevents the first screw member and the second screw member from pulling-out of the first internal screw guide and the second internal screw guide. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/optio-c--anterior-cervical-system.html; https://www.zimvie.com/en/spine/cervical-solutions/trelloss-c-sa-porous-ti-interbody-system.html.

Optio-C	TrellOss-C SA

56. ZimVie also indirectly infringes at least claim 1 of the ’875 patent by actively inducing the direct infringement by third parties such as doctors and other medical institutions under 35 U.S.C. § 271(b). ZimVie has knowledge that these third-party activities concerning ZimVie’s ’875 Accused Products infringe one or more claims of the ’875 patent. On information and belief, ZimVie will continue to encourage, aid, or otherwise cause these third parties to, for example, use the ’875 Accused Products (which is an act of direct infringement of the ’875 patent) and ZimVie has and will continue to encourage those acts with the specific intent to infringe one or more claims of the ’875 patent. Further, ZimVie provides information and technical support to its customers (such as doctors and other medical institutions), including product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials encouraging them to purchase and to use ZimVie’s ’875 Accused Products with knowledge that usage constitutes an act of direct infringement of the ’875 patent. Alternatively, ZimVie has acted with willful blindness to these facts. ZimVie knows that there is a high probability that the use of the ’875 Accused Products constitutes direct infringement of the ’875 patent but took deliberate actions to avoid learning of these facts.

57. For example, ZimVie has had knowledge of the ’875 patent via its predecessors in interest as set forth in detail above. On information and belief, ZimVie has had knowledge that ZimVie’s ’875 Accused Products infringe the ’875 patent. On information and belief, ZimVie obtained this knowledge prior to suit vis-à-vis its predecessors in interest and had knowledge since at least shortly after the issuance of the ’875 patent in April 2017. To the extent that ZimVie did not have actual knowledge of its infringement, ZimVie’s lack of actual knowledge is due to its deliberate decision to avoid learning of these facts. ZimVie, therefore, had knowledge that its customers’ use of ZimVie’s ’875 Accused Products infringe the ’875 patent or ZimVie was otherwise willfully blind to that fact.

58. ZimVie, for example, encourages doctors and other medical institutions to purchase ZimVie’s ’875 Accused Products and to use them to perform spinal surgeries. The use of the ’875 Accused Products in the United States constitutes an act of direct infringement under 35 U.S.C. § 271(a). On its website, ZimVie encourages doctors to implant ZimVie’s ’875 Accused Products in patients thereby infringing the ’875 patent. Upon information and belief, doctors in the United States perform surgeries using the accused ZimVie products and thus are direct infringers of the ’875 Patent. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/optio-c--anterior-cervical-system.html; https://www.zimvie.com/en/spine/cervical-solutions/trelloss-c-sa-porous-ti-interbody-system.html.

59. ZimVie also provides information and technical support to its customers (such as doctors and other medical institutions), including product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials encouraging its customers to purchase and instructing them to use ZimVie’s ’875 Accused Products. This information and support is found, for example, on ZimVie’s website. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-

solutions/optio-c--anterior-cervical-system.html; https://www.zimvie.com/en/spine/cervical-solutions/trelloss-c-sa-porous-ti-interbody-system.html

60. For example, on information and belief, ZimVie's sales representatives provide customers (such as doctors and other medical institutions) with surgical technique guides and other instructional materials that encourage and instruct customers (such as doctors and other medical institutions) to surgically implant ZimVie's '875 Accused Products, thereby directly infringing the '875 patent. ZimVie's individual product pages provide direction on the use of ZimVie products, including photographs and video. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/optio-c--anterior-cervical-system.html; https://www.zimvie.com/en/spine/cervical-solutions/trelloss-c-sa-porous-ti-interbody-system.html. In addition, on information and belief, ZimVie's sales representatives provide product demonstrations that instruct and encourage ZimVie's customers to surgically implant ZimVie's '875 Accused Products.

61. ZimVie products are described in catalogs and manuals directed towards healthcare professionals. *See, e.g.*, https://www.zimvie.com/content/dam/zimvie-corporate/en/spine/products/optio-c-anterior-cervical-system/1070.1-GLBL-en-REV0717_Optio-C-PEEK-Surgical-Technique.pdf; https://www.zimvie.com/content/dam/zimvie-corporate/en/spine/products/trelloss-c-sa-porous-ti-interbody-system/3082.2-GLBL-en-REV1120%20TrellOss-C%20SA%20Surgical%20Technique.pdf. On information and belief, ZimVie products are also described in journals directed toward spine professionals, including without limitation, the Journal of ASTM International, The Spine Journal, Spine, Biomaterials, and the Journal of Biomedical Materials Research.

62. ZimVie has also indirectly infringed and continues to indirectly infringe the '875 patent under 35 U.S.C. § 271(c) because it has contributed to direct infringement, and continues

to contribute to direct infringement, by third parties (such as doctors and other medical institutions), of at least claim 1 of the ’875 patent. On information and belief, ZimVie and/or its predecessors in interest have had knowledge of the ’875 patent, and that their activities concerning ZimVie’s ’875 Accused Products infringe one or more claims of the ’875 patent, at least since shortly after the ’875 patent issued in April 2017.

63. For example, ZimVie has sold, offered for sale, and/or imported into the United States and is currently selling, offering for sale, and/or importing into the United States various components of the ’875 Accused Products (including the intervertebral cages and screw locking horizontal brackets of the Optio-C Device and the TrellOss-C SA Device) to these third parties with full knowledge of the ’875 patent as set forth above. These third parties combine the intervertebral cage and screw locking brackets device and implant instrumentation of the Accused Products and use them according to instructions, documentation, tutorials, marketing materials and the like that instructed/instruct them how to arrange these components and perform surgeries with these components in ways that infringed/infringe the ’875 patent. ZimVie’s components (*e.g.*, the intervertebral cage and screw locking bracket) were and are not staple articles or commodities of commerce suitable for substantial noninfringing uses as each of these components are especially designed to interact with one another. Further, these components constituted/constitute a material part of the inventions claimed in the ’875 patent. ZimVie and/or its predecessors in interest learned about the ’875 patent or were willfully blind to the existence of the patent as set forth above. On information and belief, ZimVie has had knowledge that ZimVie’s ’875 Accused Products and method for their implantation infringe the ’875 patent. ZimVie obtained this knowledge prior to suit vis-à-vis its predecessors in interest. ZimVie, therefore, supplied/supplies these components with knowledge of the ’875 patent and knowledge that the components were especially made for

use in an infringing manner. To the extent that ZimVie did not have actual knowledge of its infringement, ZimVie's lack of actual knowledge is due to its deliberate decision to avoid learning of these facts. ZimVie, therefore, had knowledge that the assembly and use of ZimVie's '875 Accused Products infringe the '875 patent or ZimVie was otherwise willfully blind to that fact.

64. On information and belief, ZimVie has indirectly infringed and continues to indirectly infringe the '875 patent under 35 U.S.C. § 271(f)(1) by supplying or causing to be supplied in or from the United States, without authority, all or a substantial portion of the components of products, including all or a substantial portion of the components of ZimVie's '875 Accused Products, where such components are uncombined in whole or in part, in such a manner as to actively induce the combination of such components outside of the United States in a manner that would infringe one or more claims of the '875 patent if such combination occurred within the United States.

65. For example, on information and belief, ZimVie has supplied, and continues to supply from the United States, third parties outside of the United States such as doctors and other medical institutions with all or substantially all of the components of ZimVie's '875 Accused Products, including the intervertebral cages and screw locking horizontal brackets of the Optio-C Device and the TrellOss-C SA Device. On information and belief, ZimVie has supplied, and continues to supply, these components with knowledge of the '875 patent, and these third parties have made or used ZimVie's '875 Accused Products according to ZimVie-supplied product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials and the like that instructed/instruct them how to combine the components of the '875 Accused Products and use them in ways that would infringe at least claim 1 of the '875 patent if such combination occurred within the United States as described in the claim chart attached hereto as Exhibit 18.

ZimVie provides these instructions to the third parties with the knowledge to the fact that assembly and usage in accordance with their instructions would infringe at least claim 1 of the ’875 patent if such assembly and usage took place in the United States or with willful blindness to that fact.

66. On information and belief, ZimVie has indirectly infringed and continues to indirectly infringe the ’875 patent under 35 U.S.C. § 271(f)(2) by supplying or causing to be supplied in or from the United States, without authority, components of products, including components of ZimVie’s ’875 Accused Products such as the intervertebral cages and screw locking horizontal brackets of the Optio-C Device and the TrellOss-C SA Device that are especially made or especially adapted for use in the inventions claimed in the ’875 patent, and are not staple articles or commodities of commerce suitable for substantial non-infringing use, where such components are uncombined in whole or in part, knowing that such components are so made or adapted and intending or having “willful blindness” to the fact that such components will be combined outside of the United States in a manner that would infringe one or more claims of the ’875 patent if such combination occurred within the United States.

67. For example, ZimVie has supplied, and continues to supply from the United States, third parties such as doctors and other medical institutions outside of the United States with components of the ’875 Accused Products, including the intervertebral cages and screw locking horizontal brackets of the Optio-C Device and the TrellOss-C SA Device that are especially made and/or especially adapted for use in an infringing manner. On information and belief, ZimVie’s actions of providing product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials to its customers demonstrate an intent to have ZimVie’s ’875 Accused Products combined outside of the United States in a manner that would infringe at least claim 1 of the ’875 patent if such combination occurred within the United States as described

in the claim chart attached hereto as Exhibit 18. ZimVie provides these instructions to the third parties with the knowledge to the fact that assembly and usage in accordance with their instructions would infringe at least claim 1 of the ’875 patent if such assembly and usage took place in the United States or with willful blindness to that fact.

68. On information and belief, ZimVie’s actions demonstrate an intent not only to have caused the above acts that form the basis of direct infringement by third parties, but also that they caused these acts with the specific intent to infringe the ’875 patent. At a minimum, ZimVie’s conduct demonstrates that ZimVie either knew or should have known that the acts of such third parties directly infringed/infringe the ’875 patent.

69. On information and belief, ZimVie’s infringement of the ’875 patent has been willful and merits increased damages.

70. On information and belief, ZimVie and/or its predecessors in interest have known (or should have known) that their activities concerning the ’875 Accused Products infringed one or more claims of the ’875 patent since shortly after the ’875 patent issued in April 2017 as detailed above. On information and belief, ZimVie and/or its predecessors in interest learned all that they could from Dr. Moskowitz to design, develop, and sell ZimVie’s ’875 Accused Products without compensating Dr. Moskowitz and his sons for its infringement of the ’875 patent.

71. On information and belief, ZimVie has made no attempt to design around the claims of the ’875 patent.

72. On information and belief, ZimVie did not have a reasonable basis for believing that the claims of the ’875 patent were invalid.

73. On information and belief, ZimVie’s ’875 Accused Products are available to businesses and individuals throughout the United States including in this District.

74. Moskowitz Family has been damaged as the result of ZimVie's willful infringement. Upon information and belief, ZimVie will continue to infringe one or more claims of the '875 patent unless and until it is enjoined by this Court.

75. ZimVie has caused and will continue to cause Moskowitz Family irreparable injury and damage by infringing one or more claims of the '875 patent. Moskowitz Family will suffer further irreparable injury, for which it has no adequate remedy at law, unless and until ZimVie is enjoined from infringing the claims of the '875 patent.

COUNT II

(Patent Infringement of U.S. Patent No. 10,238,383)

76. Plaintiff restates and realleges the preceding paragraphs of this Complaint.

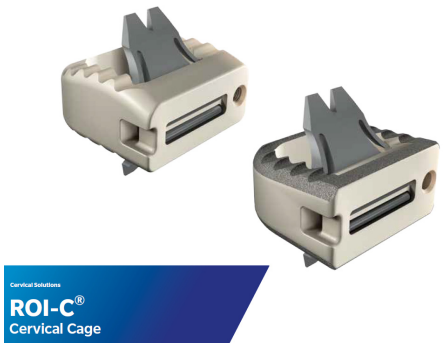
77. ZimVie has directly infringed, and continues to directly infringe, literally and/or under the doctrine of equivalents, one or more claims of the '383 patent by making, using, testing, selling, offering for sale and/or importing into the United States ZimVie's '383 Accused Products pursuant to 35 U.S.C. § 271(a). ZimVie's '383 Accused Products include, but are not limited to, ROI-C, ROI-C Ti Coated, ROI-A, ROI-A Oblique, and any other ZimVie products, either alone or in combination, that operate in a reasonably similar manner.

78. The claim chart attached hereto as Exhibit 19 describes how the limitations of exemplary claim 14 of the '383 patent are practiced by ZimVie's '383 Accused Products.

79. ZimVie's '383 Accused Products each practice all of the limitations of claim 14 of the '383 patent. For example, ZimVie's ROI-C, ROI-C Ti Coated, ROI-A, and ROI-A Oblique products each comprise the following as required by claim 14: (i) a fusion cage comprising a top wall, a bottom wall, a first sidewall, and a second sidewall, wherein the top wall, bottom wall, first sidewall, and second sidewall together define a first vertebral body facing surface and a second

vertebral body facing surface opposite of the first vertebral body facing surface, wherein the top wall comprises a top surface extending from the first sidewall to the second sidewall, wherein the top surface is a substantially flat surface between the first and second sidewalls and between the first and second vertebral body facing surfaces, wherein each of the bottom wall and the first and second sidewalls are at least partially curved when viewed from a direction facing the first vertebral body facing surface such that the bottom wall along with the first and second sidewalls together substantially form a U-shape when viewed from a direction facing the first vertebral body facing surface, wherein the top wall is substantially straight when viewed from the direction facing the first vertebral body facing surface, wherein the fusion cage defines at least one bone material slot extending from the first vertebral body facing surface through the fusion cage to the second vertebral body facing surface, wherein the at least one bone material slot is bounded between the top wall and the bottom wall; (ii) a first anchor having a first anchor body and a first tapered tip, wherein the first anchor body has a first plurality of outwardly-extending bone engagement ridges, wherein the first anchor body is curved along the first anchor body, wherein the first anchor is extendable from the fusion cage to a first anchored position with the first tapered tip and the first plurality of outwardly-extending bone engagement ridges extending out of the fusion cage past the first vertebral body facing surface; and (iii) a second anchor having a second anchor body and a second tapered tip, wherein the second anchor body has a second plurality of outwardly-extending bone engagement ridges, wherein the second anchor body is curved along the second anchor body, wherein the second anchor is extendable from the fusion cage to a second anchored position with the second tapered tip and the second plurality of outwardly-extending bone engagement ridges extending out of the fusion cage past the second vertebral body facing surface, wherein the first and second anchors are configured to be sequentially extended out of the fusion cage in opposite

directions such that the first anchor can be extended from the fusion cage past the first vertebral body facing surface prior to extending the second anchor out of the fusion cage past the second vertebral body facing surface and wherein the first and second anchors are aligned with one another when extended such that the first tapered tip of the first anchor is positioned opposite and aligned with the second tapered tip of the second anchor, wherein the top wall defines a plurality of tool engagement holes that extend through the top surface of the top wall and are configured to facilitate operable engagement between at least one tool that extends along an axis that is substantially perpendicular to the top wall of the fusion cage with the first and second anchors to sequentially advance each of the first and second anchors out of the fusion cage through aligned and opposing openings defined by the first and second vertebral body facing surfaces such that the first tapered tip of the first anchor is positioned opposite and aligned with the second tapered tip of the second anchor. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/roi-c-cervical-cage.html; https://www.zimvie.eu/en/spine/spine-products/roi-a-alif-cage.html.

ROI-C (Left) and ROI-C Ti-Coated (Right)	ROI-A (Right) and ROI-A Oblique (Left)
	

80. ZimVie also indirectly infringes at least claim 14 of the ’383 patent by actively inducing the direct infringement by third parties such as doctors and other medical institutions under 35 U.S.C. § 271(b). ZimVie has knowledge that these third-party activities concerning ZimVie’s ’383 Accused Products infringe one or more claims of the ’383 patent. On information and belief, ZimVie will continue to encourage, aid, or otherwise cause these third parties to, for example, use the ’383 Accused Products (which is an act of direct infringement of the ’383 patent) and ZimVie has and will continue to encourage those acts with the specific intent to infringe one or more claims of the ’383 patent. Further, ZimVie provides information and technical support to its customers (such as doctors and other medical institutions), including product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials encouraging them to purchase and to use ZimVie’s ’383 Accused Products with knowledge that usage constitutes an act of direct infringement of the ’383 patent. Alternatively, ZimVie has acted with willful blindness to these facts. ZimVie knows that there is a high probability that the use of the ’383 Accused Products constitutes direct infringement of the ’383 patent but took deliberate actions to avoid learning of these facts.

81. For example, ZimVie has had knowledge of the ’383 patent via its predecessors in interest as set forth in detail above. On information and belief, ZimVie has had knowledge that ZimVie’s ’383 Accused Products infringe the ’383 patent. On information and belief, ZimVie obtained this knowledge prior to suit vis-à-vis its predecessors in interest and had knowledge since at least shortly after the issuance of the ’383 patent in March 2019. To the extent that ZimVie did not have actual knowledge of its infringement, ZimVie’s lack of actual knowledge is due to its deliberate decision to avoid learning of these facts. ZimVie, therefore, had knowledge that its

customers' use of ZimVie's '383 Accused Products infringe the '383 patent or ZimVie was otherwise willfully blind to that fact.

82. ZimVie, for example, encourages doctors and other medical institutions to purchase ZimVie's '383 Accused Products and to use them to perform spinal surgeries. The use (*e.g.,* surgical implantation) of the '383 Accused Products in the United States constitutes an act of direct infringement under 35 U.S.C. § 271(a). For example, on its website, ZimVie encourages doctors to purchase and implant ZimVie's '383 Accused Products in patients thereby infringing the '383 patent. Upon information and belief, these doctors perform surgeries using the accused ZimVie products and thus are direct infringers of the '383 Asserted Patent. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/roi-c-cervical-cage.html; https://www.zimvie.eu/en/spine/spine-products/roi-a-alif-cage.html. ZimVie also provides directional videos to these customers encouraging the use of ZimVie's '383 Accused Products. *See, e.g.*, https://youtu.be/XUSYIRtkqCQ; https://youtu.be/Zz8tO8f-4Ws; https://youtu.be/TDnUXS4xt2I.

83. ZimVie provides information and technical support to its customers (such as doctors and other medical institutions), including product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials encouraging its customers to purchase and instructing them to use (*e.g.,* surgically implant) ZimVie's '383 Accused Products. This information and support is found, for example, on ZimVie's website. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/roi-c-cervical-cage.html; https://www.zimvie.eu/en/spine/spine-products/roi-a-alif-cage.html.

84. For example, on information and belief, ZimVie's sales representatives provide customers (such as doctors and other medical institutions) with surgical technique guides and other

instructional materials that encourage and instruct customers (such as doctors and other medical institutions) to surgically implant ZimVie's '383 Accused Products, thereby directly infringing the '383 patent. ZimVie's individual product pages provide direction on the use of ZimVie products, including photographs and video. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/roi-c-cervical-cage.html; https://www.zimvie.eu/en/spine/spine-products/roi-a-alif-cage.html. In addition, on information and belief, ZimVie's sales representatives provide product demonstrations that instruct and encourage ZimVie's customers to surgically implant ZimVie's '383 Accused Products.

85. ZimVie products are described in catalogs and manuals directed towards healthcare professionals. *See, e.g.*, https://www.zimvie.com/content/dam/zimvie-corporate/en/spine/products/roi-c-cervical-cage/19911USenRev0518ROICSurgicalTechnqiueGuide.pdf; https://www.zimvie.com/content/dam/zimvie-corporate/en/spine/products/roi-a-alif-cage/roiaalifcagewithvertebridgeplatingtechnologysurgicaltechniqueguide.pdf. On information and belief, ZimVie products are also described in journals directed toward spine professionals, including without limitation, Medical Devices, Clinical Interventions in Aging, BMC Musculoskeletal Disorders, Medicine, The European Spine Journal, The Spine Journal, and The Journal of Neurosurgery: Spine.

86. ZimVie has also indirectly infringed and continues to indirectly infringe the '383 patent under 35 U.S.C. § 271(c) because it has contributed to direct infringement, and continues to contribute to direct infringement, by third parties (such as doctors and other medical institutions), of at least claim 14 of the '383 patent. On information and belief, ZimVie and/or its predecessors in interest have had knowledge of the '383 patent, and that their activities concerning

ZimVie's '383 Accused Products infringe one or more claims of the '383 patent, at least since shortly after the '383 patent issued in March 2019.

87. For example, ZimVie has sold, offered for sale, and/or imported into the United States and is currently selling, offering for sale, and/or importing into the United States various components of the '383 Accused Products (including the fusion cages and anchors of the ROI-C Device, ROI-C Ti Coated Device, ROI-A Device, and ROI-A Oblique Device) to these third parties with full knowledge of the '383 patent as set forth above. These third parties arrange the implant device and implant instrumentation of the Accused Products according to instructions, documentation, tutorials, marketing materials and the like that instructed/instruct them how to arrange these components in ways that infringed/infringe the '383 patent. ZimVie's components (*e.g.*, the fusion cage and anchors) were and are not staple articles or commodities of commerce suitable for substantial noninfringing uses as each of these components are especially designed to interact with one another. Further, these components constituted/constitute a material part of the inventions claimed in the '383 patent. ZimVie and/or its predecessors in interest learned about the '383 patent or were willfully blind to the existence of the patent as set forth above. On information and belief, ZimVie has had knowledge that ZimVie's '383 Accused Products infringe the '383 patent. ZimVie obtained this knowledge prior to suit vis-à-vis its predecessors in interest. ZimVie, therefore, supplied/supplies these components with knowledge of the '383 patent and knowledge that the components were especially made for use in an infringing manner. To the extent that ZimVie did not have actual knowledge of its infringement, ZimVie's lack of actual knowledge is due to its deliberate decision to avoid learning of these facts. ZimVie, therefore, had knowledge that the assembly of ZimVie's '383 Accused Products infringe the '383 patent or ZimVie was otherwise willfully blind to that fact.

88. On information and belief, ZimVie has indirectly infringed and continues to indirectly infringe the ’383 patent under 35 U.S.C. § 271(f)(1) by supplying or causing to be supplied in or from the United States, without authority, all or a substantial portion of the components of products, including all or a substantial portion of the components of ZimVie’s ’383 Accused Products, where such components are uncombined in whole or in part, in such a manner as to actively induce the combination of such components outside of the United States in a manner that would infringe one or more claims of the ’383 patent if such combination occurred within the United States.

89. For example, on information and belief, ZimVie has supplied, and continues to supply from the United States, third parties outside of the United States such as doctors and other medical institutions with all or substantially all of the components of ZimVie’s ’383 Accused Products, including the fusion cages and anchors of the ROI-C Device, ROI-C Ti Coated Device, ROI-A Device, and ROI-A Oblique Device. On information and belief, ZimVie has supplied, and continues to supply, these components with knowledge of the ’383 patent, and these third parties have made or used ZimVie’s ’383 Accused Products according to ZimVie-supplied product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials and the like that instructed/instruct them how to combine the components of the ’383 Accused Products and use them in ways that would infringe at least claim 14 of the ’383 patent if such combination occurred within the United States as described in the claim chart attached hereto as Exhibit 19. ZimVie provides these instructions to the third parties with the knowledge to the fact that assembly and usage in accordance with their instructions would infringe at least claim 14 of the ’383 patent if such assembly and usage took place in the United States or with willful blindness to that fact.

90. On information and belief, ZimVie has indirectly infringed and continues to indirectly infringe the ’383 patent under 35 U.S.C. § 271(f)(2) by supplying or causing to be supplied in or from the United States, without authority, components of products, including components of ZimVie’s ’383 Accused Products such as the fusion cages and anchors of the ROI-C Device, ROI-C Ti Coated Device, ROI-A Device, and ROI-A Oblique Device that are especially made or especially adapted for use in the inventions claimed in the ’383 patent, and are not staple articles or commodities of commerce suitable for substantial non-infringing use, where such components are uncombined in whole or in part, knowing that such components are so made or adapted and intending or having “willful blindness” to the fact that such components will be combined outside of the United States in a manner that would infringe one or more claims of the ’383 patent if such combination occurred within the United States.

91. For example, ZimVie has supplied, and continues to supply from the United States, third parties such as doctors and other medical institutions outside of the United States with components of the ’383 Accused Products, including the fusion cages and anchors of the ROI-C Device, ROI-C Ti Coated Device, ROI-A Device, and ROI-A Oblique Device that are especially made and/or especially adapted for use in an infringing manner. On information and belief, ZimVie’s actions of providing product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials to its customers demonstrate an intent to have ZimVie’s ’383 Accused Products combined outside of the United States in a manner that would infringe at least claim 14 of the ’383 patent if such combination occurred within the United States as described in the claim chart attached hereto as Exhibit 19. ZimVie provides these instructions to the third parties with the knowledge to the fact that assembly and usage in accordance with their instructions

would infringe at least claim 14 of the ’383 patent if such assembly and usage took place in the United States or with willful blindness to that fact.

92. On information and belief, ZimVie’s actions demonstrate an intent not only to have caused the above acts that form the basis of direct infringement by third parties, but also that they caused these acts with the specific intent to infringe the ’383 patent. At a minimum, ZimVie’s conduct demonstrates that ZimVie either knew or should have known that the acts of such third parties directly infringed/infringe the ’383 patent.

93. On information and belief, ZimVie’s infringement of the ’383 patent has been willful and merits increased damages.

94. On information and belief, ZimVie and/or its predecessors in interest have known (or should have known) that their activities concerning the ’383 Accused Products infringed one or more claims of the ’383 patent since at least shortly after the ’383 patent issued in March 2019 as detailed above. On information and belief, ZimVie and/or its predecessors in interest learned all that they could from Dr. Moskowitz to design, develop, and sell ZimVie’s ’383 Accused Products without compensating Dr. Moskowitz and his sons for its infringement of the ’383 patent.

95. On information and belief, ZimVie has made no attempt to design around the claims of the ’383 patent.

96. On information and belief, ZimVie did not have a reasonable basis for believing that the claims of the ’383 patent were invalid.

97. On information and belief, ZimVie’s ’383 Accused Products are available to businesses and individuals throughout the United States, including in this District.

98. Moskowitz Family has been damaged as the result of ZimVie's infringement. Upon information and belief, ZimVie will continue to infringe one or more claims of the '383 patent unless and until it is enjoined by this Court.

99. ZimVie has caused and will continue to cause Moskowitz Family irreparable injury and damage by infringing one or more claims of the '383 patent. Moskowitz Family will suffer further irreparable injury, for which it has no adequate remedy at law, unless and until ZimVie is enjoined from infringing the claims of the '383 patent.

COUNT III

(Patent Infringement of United States Patent No. 10,610,371)

100. Plaintiff restates and realleges the preceding paragraphs of this Complaint.

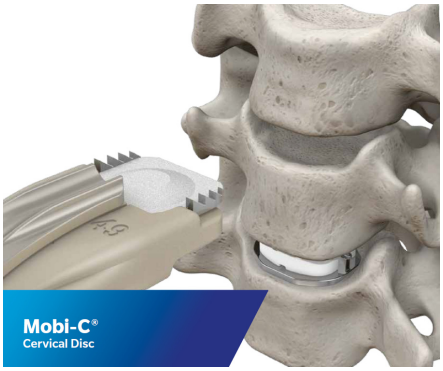
101. ZimVie has directly infringed, and continues to directly infringe, literally and/or under the doctrine of equivalents, one or more claims of the '371 patent by making, using, testing, selling, offering for sale and/or importing into the United States ZimVie's '371 Accused Products pursuant to 35 U.S.C. § 271(a). ZimVie's '371 Accused Products include, but are not limited to, Mobi-C and any other ZimVie products, either alone or in combination, that operate in a reasonably similar manner.

102. The claim chart attached hereto as Exhibit 20 describes how the limitations of exemplary claim 1 of the '371 patent are practiced by ZimVie's '371 Accused Products.

103. ZimVie's '371 Accused Products each practice all of the limitations of claim 1 of the '371 patent. For example, ZimVie's Mobi-C product is an artificial disc comprising the following as required by claim 1: (i) first and second plates formed to occupy a space defined by vertebral endplates of a spine, each of the first and second plates including an endplate-engaging surface having plurality of anchors and a core-engaging surface positioned opposite the endplate-

engaging surface, wherein the plurality of anchors on the endplate-engaging surface of the first plate comprise a first group of at least three anchors on a left side of the first plate and a second group of at least three anchors on a right side of the first plate with a middle portion of the first plate having no anchors between the first and second groups of anchors, wherein the plurality of anchors on the endplate-engaging surface of the second plate comprise a third group of at least three anchors on a left side of the second plate and a fourth group of at least three anchors on a right side of the second plate with a middle portion of the second plate having no anchors between the third and fourth groups of anchors, wherein the core-engaging surface of the first plate is substantially concave; and (ii) a mobile core sized and configured to be positioned between the first and second plates to permit the first and second plates to move relative to one another, wherein the anchors on the endplate-engaging surface extend substantially away from the mobile core, wherein the core-engaging surfaces engage first and second plate-engaging surfaces of the mobile core, wherein both of the first and second plate-engaging surface are configured to slide against adjacent core-engaging surfaces of the first and second plate, wherein the first plate-engaging surface of the mobile core has a convex spherical dome portion shaped to mate with the concave core-engaging surface of the first plate, and wherein the mobile core is engaged with the first and second plates such that the first plate can move with respect to the second plate about an x-axis for lateral bending, a y-axis for flexion/extension, and a z-axis for axial spinal rotation, wherein the mobile core is sized large enough to extend partially out of a space defined between the first and second plates when the artificial disc is tiled about the y-axis for flexion/extension. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/mobi-c-cervical-disc.html.

Mobi-C



104. ZimVie also indirectly infringes at least claim 1 of the ’371 patent by actively inducing the direct infringement by third parties such as doctors and other medical institutions under 35 U.S.C. § 271(b). ZimVie has knowledge that these third-party activities concerning ZimVie’s ’371 Accused Products infringe one or more claims of the ’371 patent. On information and belief, ZimVie will continue to encourage, aid, or otherwise cause these third parties to, for example, use the ’371 Accused Products (which is an act of direct infringement of the ’371 patent) and ZimVie has and will continue to encourage those acts with the specific intent to infringe one or more claims of the ’371 patent. Further, ZimVie provides information and technical support to its customers (such as doctors and other medical institutions), including product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials encouraging them to purchase and to use ZimVie’s ’371 Accused Products with knowledge that usage constitutes an act of direct infringement of the ’371 patent. Alternatively, ZimVie has acted with willful blindness to these facts. ZimVie knows that there is a high probability that the use of the ’371 Accused Products constitutes direct infringement of the ’371 patent but took deliberate actions to avoid learning of these facts.

105. For example, ZimVie has had knowledge of the ’371 patent via its predecessors in interest as set forth in detail above. On information and belief, ZimVie has had knowledge that ZimVie’s ’371 Accused Products infringe the ’371 patent. On information and belief, ZimVie obtained this knowledge prior to suit vis-à-vis its predecessors in interest and had knowledge since at least shortly after the issuance of the ’371 patent in April 2020. To the extent that ZimVie did not have actual knowledge of its infringement, ZimVie’s lack of actual knowledge is due to its deliberate decision to avoid learning of these facts. ZimVie, therefore, had knowledge that its customers’ use of ZimVie’s ’371 Accused Products infringe the ’371 patent or ZimVie was otherwise willfully blind to that fact.

106. ZimVie, for example, encourages doctors and other medical institutions to purchase ZimVie’s ’371 Accused Products and to use them to perform spinal surgeries. The use (*e.g.,* surgical implantation) of the ’371 Accused Products in the United States constitutes an act of direct infringement under 35 U.S.C. § 271(a). On its website, ZimVie encourages doctors to purchase and implant ZimVie’s ’371 Accused Products in patients thereby infringing the ’371 patent. Upon information and belief, these doctors perform surgeries using the accused ZimVie products and thus are direct infringers of the ’371 Asserted Patent. *See, e.g.*, https://www.cervicaldisc.com/surgeon-locator. ZimVie also provides directional videos to these customers encouraging the use of ZimVie’s ’371 Accused Products. *See, e.g.*, https://www.cervicaldisc.com/about-mobi-c.

107. ZimVie provides information and technical support to its customers (such as doctors and other medical institutions), including product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials encouraging its customers to purchase and instructing them to use (*e.g.,* surgically implant) ZimVie’s ’371 Accused Products. This

information and support is found, for example, on ZimVie's website. *See, e.g.*, https://www.cervicaldisc.com/about-mobi-c.

108. For example, on information and belief, ZimVie's sales representatives provide customers (such as doctors and other medical institutions) with surgical technique guides and other instructional materials that encourage and instruct customers (such as doctors and other medical institutions) to surgically implant ZimVie's '371 Accused Products, thereby directly infringing the '371 patent. ZimVie's individual product pages provide direction on the use of ZimVie products, including photographs and video. *See, e.g.*, https://www.cervicaldisc.com/about-mobi-c; https://www.zimvie.com/en/spine/cervical-solutions/mobi-c-cervical-disc.html; https://www.zimvie.com/content/dam/zimvie-corporate/en/spine/products/mobi-c-cervical-disc/mobiccervicaldiscsurgicaltechniqueguide.pdf. In addition, on information and belief, ZimVie's sales representatives provide product demonstrations that instruct and encourage ZimVie's customers to surgically implant ZimVie's '371 Accused Products.

109. ZimVie products are described in catalogs and manuals directed towards healthcare professionals. *See, e.g.*, https://www.zimvie.com/content/dam/zimvie-corporate/en/spine/products/mobi-c-cervical-disc/mobiccervicaldiscsurgicaltechniqueguide.pdf. On information and belief, ZimVie products are also described in journals directed toward spine professionals, including without limitation, the Journal of Spine Surgery, The International Journal of Spine Surgery, Medicine, and The Journal of Neurosurgery: Spine.

110. ZimVie has also indirectly infringed and continues to indirectly infringe the '371 patent under 35 U.S.C. § 271(c) because it has contributed to direct infringement, and continues to contribute to direct infringement, by third parties (such as doctors and other medical institutions), of at least claim 1 of the '371 patent. On information and belief, ZimVie and/or its

predecessors in interest have had knowledge of the ’371 patent, and that their activities concerning ZimVie’s ’371 Accused Products infringe one or more claims of the ’371 patent, at least since shortly after the ’371 patent issued in April 2020.

111. For example, ZimVie has sold, offered for sale, and/or imported into the United States and is currently selling, offering for sale, and/or importing into the United States various components of the ’371 Accused Products (including the Mobi-C Device) to these third parties with full knowledge of the ’371 patent as set forth above. These third parties arrange the implant device and implant instrumentation of the Accused Products according to instructions, documentation, tutorials, marketing materials and the like that instructed/instruct them how to arrange these components in ways that infringed/infringe the ’371 patent. ZimVie’s components (*e.g.*, the Mobi-C Device) were and are not staple articles or commodities of commerce suitable for substantial noninfringing uses as the Mobi-C Device infringes the ’371 patent. Further, these components constituted/constitute a material part of the inventions claimed in the ’371 patent. ZimVie and/or its predecessors in interest learned about the ’371 patent or were willfully blind to the existence of the patent as set forth above. On information and belief, ZimVie has had knowledge that ZimVie’s ’371 Accused Products infringe the ’371 patent. ZimVie obtained this knowledge prior to suit vis-à-vis its predecessors in interest. ZimVie, therefore, supplied/supplies these components with knowledge of the ’371 patent and knowledge that the components were especially made for use in an infringing manner. To the extent that ZimVie did not have actual knowledge of its infringement, ZimVie’s lack of actual knowledge is due to its deliberate decision to avoid learning of these facts. ZimVie, therefore, had knowledge that the use of the Mobi-C Device with its corresponding instrumentation of ZimVie’s ’371 Accused Products infringe the ’371 patent or ZimVie was otherwise willfully blind to that fact.

112. On information and belief, ZimVie's actions demonstrate an intent not only to have caused the above acts that form the basis of direct infringement by third parties, but also that they caused these acts with the specific intent to infringe the '371 patent. At a minimum, ZimVie's conduct demonstrates that ZimVie either knew or should have known that the acts of such third parties directly infringed/infringe the '371 patent.

113. On information and belief, ZimVie's infringement of the '371 patent has been willful and merits increased damages.

114. On information and belief, ZimVie and/or its predecessors in interest have known (or should have known) that their activities concerning the '371 Accused Products infringed one or more claims of the '371 patent since at least shortly after the '371 patent issued in April 2020 as detailed above. On information and belief, ZimVie and/or its predecessors in interest learned all that they could from Dr. Moskowitz to design, develop, and sell ZimVie's '371 Accused Products without compensating Dr. Moskowitz and his sons for its infringement of the '371 patent.

115. On information and belief, ZimVie has made no attempt to design around the claims of the '371 patent.

116. On information and belief, ZimVie did not have a reasonable basis for believing that the claims of the '371 patent were invalid.

117. On information and belief, ZimVie's '371 Accused Products are available to businesses and individuals throughout the United States, including in this District.

118. Moskowitz Family has been damaged as the result of ZimVie's infringement. Upon information and belief, ZimVie will continue to infringe one or more claims of the '371 patent unless and until it is enjoined by this Court.

119. ZimVie has caused and will continue to cause Moskowitz Family irreparable injury and damage by infringing one or more claims of the ’371 patent. Moskowitz Family will suffer further irreparable injury, for which it has no adequate remedy at law, unless and until ZimVie is enjoined from infringing the claims of the ’371 patent.

COUNT IV

(Patent Infringement of United States Patent No. 10,952,723)

120. Plaintiff restates and realleges the preceding paragraphs of this Complaint.

121. ZimVie has directly infringed, and continues to directly infringe, literally and/or under the doctrine of equivalents, one or more claims of the ’723 patent by making, using, testing, selling, offering for sale and/or importing into the United States ZimVie’s ’723 Accused Products pursuant to 35 U.S.C. § 271(a). ZimVie’s ’723 Accused Products include, but are not limited to, ROI-C, ROI-C Ti Coated, ROI-A, ROI-A Oblique, and any other ZimVie products, either alone or in combination, that operate in a reasonably similar manner.

122. The claim chart attached hereto as Exhibit 21 describes how the limitations of exemplary claim 1 of the ’723 patent are practiced by ZimVie’s ’723 Accused Products.

123. ZimVie’s ’723 Accused Products each practice all of the limitations of claim 1 of the ’723 patent. For example, ZimVie’s ROI-C, ROI-C Ti Coated, ROI-A, and ROI-A Oblique product each comprise the following as required by claim 1: (i) a fusion cage comprising a top wall, a bottom wall, a first sidewall, and a second sidewall, wherein portions of the top wall, the bottom wall, the first sidewall, and the second sidewall together define a first vertebral body facing surface and a second vertebral body facing surface opposite of the first vertebral body facing surface, wherein the top wall comprises a top surface extending from the first sidewall to the second sidewall, wherein the top surface is a substantially flat surface between the first and second

sidewalls and between the first and second vertebral body facing surfaces, wherein each of the bottom wall and the first and second sidewalls are at least partially curved where the bottom wall connects to the first and second sidewalls when viewed from a direction facing the first vertebral body facing surface such that the top wall, the bottom wall, the first sidewall and the second sidewall together substantially form a D-shape when viewed from a direction facing the first vertebral body facing surface with the top wall forming a straight portion of the D-shape and the bottom wall and the first and second sidewalls together forming a curved portion of the D-shape, wherein the fusion cage defines at least one bone material slot extending from the first vertebral body facing surface through the fusion cage to the second vertebral body facing surface, wherein the at least one bone material slot is bounded between the top wall and the bottom wall; (ii) a first anchor having a first anchor body and a first tapered tip, wherein the first anchor body has a first plurality of outwardly-extending bone engagement ridges, wherein the first anchor body is curved along the first anchor body, wherein the first anchor is extendable from the fusion cage to a first anchored position with the first tapered tip and the first plurality of outwardly-extending bone engagement ridges extending out of the fusion cage past the first vertebral body facing surface; and (iii) a second anchor having a second anchor body and a second tapered tip, wherein the second anchor body has a second plurality of outwardly-extending bone engagement ridges, wherein the second anchor body is curved along the second anchor body, wherein the second anchor is extendable from the fusion cage to a second anchored position with the second tapered tip and the second plurality of outwardly-extending bone engagement ridges extending out of the fusion cage past the second vertebral body facing surface, wherein the first and second anchors are configured to be sequentially extended out of the fusion cage in opposite directions such that the first anchor can be extended from the fusion cage past the first vertebral body facing surface prior to extending

the second anchor out of the fusion cage past the second vertebral body facing surface and wherein the first and second anchors are substantially aligned with one another when extended such that the first tapered tip of the first anchor is positioned at a first location that is opposite of and aligned with a second location of the second tapered tip of the second anchor, wherein the top wall defines tool engagement holes that extend through the top surface of the top wall and are configured to facilitate operable engagement between at least one tool that extends along an axis that is substantially perpendicular to the top wall of the fusion cage with the first and second anchors to sequentially advance each of the first and second anchors out of the fusion cage through aligned and opposing openings defined by the first and second vertebral body facing surfaces such that the first tapered tip of the first anchor is positioned opposite of and aligned with the second tapered tip of the second anchor. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/roi-c-cervical-cage.html; https://www.zimvie.eu/en/spine/spine-products/roi-a-alif-cage.html.

ROI-C (Left) and ROI-C Ti-Coated (Right)	ROI-A (Right) and ROI-A Oblique (Left)

124. ZimVie also indirectly infringes at least claim 1 of the ’723 patent by actively inducing the direct infringement by third parties such as doctors and other medical institutions

under 35 U.S.C. § 271(b). ZimVie has knowledge that these third-party activities concerning ZimVie's '723 Accused Products infringe one or more claims of the '723 patent. On information and belief, ZimVie will continue to encourage, aid, or otherwise cause these third parties to, for example, use the '723 Accused Products (which is an act of direct infringement of the '723 patent) and ZimVie has and will continue to encourage those acts with the specific intent to infringe one or more claims of the '723 patent. Further, ZimVie provides information and technical support to its customers (such as doctors and other medical institutions), including product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials encouraging them to purchase and to use ZimVie's '723 Accused Products with knowledge that usage constitutes an act of direct infringement of the '723 patent. Alternatively, ZimVie has acted with willful blindness to these facts. ZimVie knows that there is a high probability that the use of the '723 Accused Products constitutes direct infringement of the '723 patent but took deliberate actions to avoid learning of these facts.

125. For example, ZimVie has had knowledge of the '723 patent via its predecessors in interest as set forth in detail above. On information and belief, ZimVie has had knowledge that ZimVie's '723 Accused Products infringe the '723 patent. On information and belief, ZimVie obtained this knowledge prior to suit vis-à-vis its successors in interest and had knowledge since at least shortly after the issuance of the '723 patent in March 2021. To the extent that ZimVie did not have actual knowledge of its infringement, ZimVie's lack of actual knowledge is due to its deliberate decision to avoid learning of these facts. ZimVie, therefore, had knowledge that its customers' use of ZimVie's '723 Accused Products infringe the '723 patent or ZimVie was otherwise willfully blind to that fact.

126. ZimVie, for example, encourages doctors and other medical institutions to purchase ZimVie's '723 Accused Products and to use them to perform spinal surgeries. The use (*e.g.,* surgical implantation) of the '723 Accused Products in the United States constitutes an act of direct infringement under 35 U.S.C. § 271(a). For example, on its website, ZimVie encourages doctors to purchase and implant ZimVie's '723 Accused Products in patients thereby infringing the '723 patent. Upon information and belief, these doctors perform surgeries using the accused ZimVie products and thus are direct infringers of the '723 Asserted Patent. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/roi-c-cervical-cage.html; https://www.zimvie.eu/en/spine/spine-products/roi-a-alif-cage.html. ZimVie also provides directional videos to its customers encouraging the use of at least one of ZimVie's '723 Accused Products. *See, e.g.*, https://youtu.be/XUSYIRtkqCQ; https://youtu.be/Zz8tO8f-4Ws; https://youtu.be/TDnUXS4xt2I.

127. ZimVie provides information and technical support to its customers (such as doctors and other medical institutions), including product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials encouraging its customers to purchase and instructing them to use (*e.g.,* surgically implant) ZimVie's '723 Accused Products. This information and support is found, for example, on ZimVie's website. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/roi-c-cervical-cage.html; https://www.zimvie.eu/en/spine/spine-products/roi-a-alif-cage.html.

128. For example, on information and belief, ZimVie's sales representatives provide customers (such as doctors and other medical institutions) with surgical technique guides and other instructional materials that encourage and instruct customers (such as doctors and other medical institutions) to surgically implant ZimVie's '723 Accused Products, thereby directly infringing the

’723 patent. ZimVie’s individual product pages provide direction on the use of ZimVie products, including photographs and video. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/roi-c-cervical-cage.html; https://www.zimvie.eu/en/spine/spine-products/roi-a-alif-cage.html.

129. ZimVie products are described in catalogs and manuals directed towards healthcare professionals. *See, e.g.*, https://www.zimvie.com/content/dam/zimvie-corporate/en/spine/products/roi-c-cervical-cage/19911USenRev0518ROICSurgicalTechnqiueGuide.pdf; https://www.zimvie.com/content/dam/zimvie-corporate/en/spine/products/roi-a-alif-cage/roiaalifcagewithvertebridgeplatingtechnologysurgicaltechniqueguide.pdf. On information and belief, ZimVie products are also described in journals directed toward spine professionals, including without limitation, Medical Devices, Clinical Interventions in Aging, BMC Musculoskeletal Disorders, Medicine, The European Spine Journal, The Spine Journal, and The Journal of Neurosurgery: Spine. In addition, on information and belief, ZimVie’s sales representatives provide product demonstrations that instruct and encourage ZimVie’s customers to surgically implant ZimVie’s ’723 Accused Products.

130. ZimVie has also indirectly infringed and continues to indirectly infringe the ’723 patent under 35 U.S.C. § 271(c) because it has contributed to direct infringement, and continues to contribute to direct infringement, by third parties (such as doctors and other medical institutions), of at least claim 1 of the ’723 patent. On information and belief, ZimVie and/or its predecessors in interest have had knowledge of the ’723 patent, and that their activities concerning ZimVie’s ’723 Accused Products infringe one or more claims of the ’723 patent, at least since shortly after the ’723 patent issued in March 2021.

131. For example, ZimVie has sold, offered for sale, and/or imported into the United States and is currently selling, offering for sale, and/or importing into the United States various components of the ’723 Accused Products (including the fusion cages and anchors of the ROI-C Device, ROI-C Ti Coated Device, ROI-A Device, and ROI-A Oblique Device) to these third parties with full knowledge of the ’723 patent as set forth above. These third parties arrange the implant device and implant instrumentation of the Accused Products according to instructions, documentation, tutorials, marketing materials and the like that instructed/instruct them how to arrange these components in ways that infringed/infringe the ’723 patent. ZimVie’s components (*e.g.*, fusion cages and anchors) were and are not staple articles or commodities of commerce suitable for substantial noninfringing uses. Further, these components constituted/constitute a material part of the inventions claimed in the ’723 patent. ZimVie and/or its predecessors in interest learned about the ’723 patent or were willfully blind to the existence of the patent as set forth above. On information and belief, ZimVie has had knowledge that ZimVie’s ’723 Accused Products infringe the ’723 patent. ZimVie obtained this knowledge prior to suit vis-à-vis its successors in interest. ZimVie, therefore, supplied/supplies these components with knowledge of the ’723 patent and knowledge that the components were especially made for use in an infringing manner. To the extent that ZimVie did not have actual knowledge of its infringement, ZimVie’s lack of actual knowledge is due to its deliberate decision to avoid learning of these facts. ZimVie, therefore, had knowledge that the assembly of ZimVie’s ’723 Accused Products infringe the ’723 patent or ZimVie was otherwise willfully blind to that fact.

132. On information and belief, ZimVie has indirectly infringed and continues to indirectly infringe the ’723 patent under 35 U.S.C. § 271(f)(1) by supplying or causing to be supplied in or from the United States, without authority, all or a substantial portion of the

components of products, including all or a substantial portion of the components of ZimVie's '723 Accused Products, where such components are uncombined in whole or in part, in such a manner as to actively induce the combination of such components outside of the United States in a manner that would infringe one or more claims of the '723 patent if such combination occurred within the United States.

133. For example, on information and belief, ZimVie has supplied, and continues to supply from the United States, third parties outside of the United States such as doctors and other medical institutions with all or substantially all of the components of ZimVie's '723 Accused Products, including the fusion cages and anchors of the ROI-C Device, ROI-C Ti Coated Device, ROI-A Device, and ROI-A Oblique Device. On information and belief, ZimVie has supplied, and continues to supply, these components with knowledge of the '723 patent, and these third parties have made or used ZimVie's '723 Accused Products according to ZimVie-supplied product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials and the like that instructed/instruct them how to combine the components of the '723 Accused Products and use them in ways that would infringe at least claim 1 of the '723 patent if such combination occurred within the United States as described in the claim chart attached hereto as Exhibit 21. ZimVie provides these instructions to the third parties with the knowledge to the fact that assembly and usage in accordance with their instructions would infringe at least claim 1 of the '723 patent if such assembly and usage took place in the United States or with willful blindness to that fact.

134. On information and belief, ZimVie has indirectly infringed and continues to indirectly infringe the '723 patent under 35 U.S.C. § 271(f)(2) by supplying or cause to be supplied in or from the United States, without authority, components of products, including components of ZimVie's '723 Accused Products such as the fusion cages and anchors of the ROI-C Device, ROI-

C Ti Coated Device, ROI-A Device, and ROI-A Oblique Device that are especially made or especially adapted for use in the inventions claimed in the ’723 patent, and are not staple articles or commodities of commerce suitable for substantial non-infringing use, where such components are uncombined in whole or in part, knowing that such components are so made or adapted and intending or having “willful blindness” to the fact that such components will be combined outside of the United States in a manner that would infringe one or more claims of the ’723 patent if such combination occurred within the United States.

135. For example, ZimVie has supplied, and continues to supply from the United States, third parties such as doctors and other medical institutions outside of the United States with components of the ’723 Accused Products, including the fusion cages and anchors of the ROI-C Device, ROI-C Ti Coated Device, ROI-A Device, and ROI-A Oblique Device that are especially made and/or especially adapted for use in an infringing manner. On information and belief, ZimVie’s actions of providing product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials to its customers demonstrate an intent to have ZimVie’s ’723 Accused Products combined outside of the United States in a manner that would infringe at least claim 1 of the ’723 patent if such combination occurred within the United States as described in the claim chart attached hereto as Exhibit 21. ZimVie provides these instructions to the third parties with the knowledge to the fact that assembly and usage in accordance with their instructions would infringe at least claim 1 of the ’723 patent if such assembly and usage took place in the United States or with willful blindness to that fact.

136. On information and belief, ZimVie’s actions demonstrate an intent not only to have caused the above acts that form the basis of direct infringement by third parties, but also that they caused these acts with the specific intent to infringe the ’723 patent. At a minimum, ZimVie’s

conduct demonstrates that ZimVie either knew or should have known that the acts of such third parties directly infringed/infringe the ’723 patent.

137. On information and belief, ZimVie’s infringement of the ’723 patent has been willful and merits increased damages.

138. On information and belief, and/or its predecessors in interest have known (or should have known) that their activities concerning the ’723 Accused Products infringed one or more claims of the ’723 patent since at least shortly after the ’723 patent issued in March 2021. On information and belief, ZimVie and/or its predecessors in interest learned all that they could from Dr. Moskowitz to design, develop, and sell ZimVie’s ’723 Accused Products without compensating Dr. Moskowitz and his sons for its infringement of the ’723 patent

139. On information and belief, ZimVie has made no attempt to design around the claims of the ’723 patent.

140. On information and belief, ZimVie did not have a reasonable basis for believing that the claims of the ’723 patent were invalid.

141. On information and belief, ZimVie’s ’723 Accused Products are available to businesses and individuals throughout the United States, including in this District.

142. Moskowitz Family has been damaged as the result of ZimVie’s infringement. Upon information and belief, ZimVie will continue to infringe one or more claims of the ’723 patent unless and until it is enjoined by this Court.

143. ZimVie has caused and will continue to cause Moskowitz Family irreparable injury and damage by infringing one or more claims of the ’723 patent. Moskowitz Family will suffer further irreparable injury, for which it has no adequate remedy at law, unless and until ZimVie is enjoined from infringing the claims of the ’723 patent.

COUNT V

(Patent Infringement of United States Patent No. 11,083,591)

144. Plaintiff restates and realleges the preceding paragraphs of this Complaint.

145. ZimVie has directly infringed, and continues to directly infringe, literally and/or under the doctrine of equivalents, one or more claims of the ’591 patent by making, using, testing, selling, offering for sale and/or importing into the United States ZimVie’s ’591 Accused Products pursuant to 35 U.S.C. § 271(a). ZimVie’s ’591 Accused Products include, but are not limited to, Mobi-C and any other ZimVie products, either alone or in combination, that operate in a reasonably similar manner.

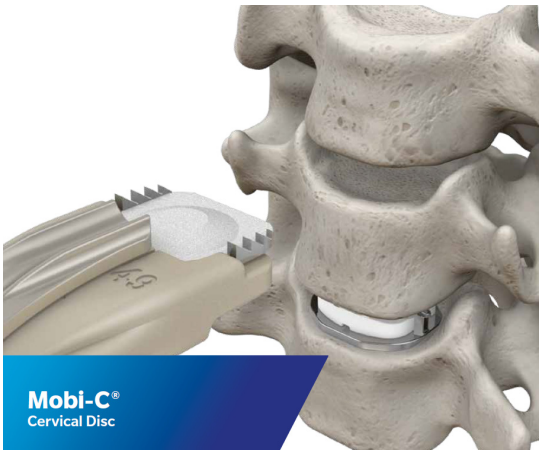
146. The claim chart attached hereto as Exhibit 22 describes how the limitations of exemplary claims 1, 17, and 18 of the ’591 patent are practiced by ZimVie’s ’591 Accused Products.

147. ZimVie’s ’591 Accused Products each practice all of the limitations of claim 1 of the ’591 patent. For example, ZimVie’s Mobi-C product is an artificial disc system comprising the following as required by claim 1: a first plate that includes (i) a first endplate-engaging surface adapted to engage a first vertebral endplate of a first vertebrae, (ii) a first core-engaging surface that has concavity and that is positioned opposite the first endplate-engaging surface, (iii) a first group of three anchors that each extend from a left side of the first endplate-engaging surface that is left of a center of the first plate with respect to a direction in which the artificial disc system is adapted to be inserted into a cavity between the first vertebrae and a second vertebrae, (iv) a second group of three anchors that each extend from a right side of the first endplate-engaging surface that is right of the center of the first plate with respect to the direction in which the artificial disc system is adapted to be inserted into the cavity, and (v) a peripheral edge positioned between the first

endplate-engaging surface and the first core-engaging surface, wherein the first plate has a first depth that passes through the center of the first plate along the direction in which the artificial disc system is adapted to be inserted into the cavity, the first plate has a first width that passes through the center of the first plate and is perpendicular to the direction in which the artificial disc system is adapted to be inserted into the cavity, the first width is greater than the first depth, the peripheral edge of the first plate has a first flat surface at a center of a front side of the peripheral edge that is oriented towards the direction in which the artificial disc system is adapted to be inserted into the cavity with respect to the center of the first plate, the first flat surface being flat along a direction of a dimension that is perpendicular to the direction in which the artificial disc system is adapted to be inserted into the cavity, and the peripheral edge of the first plate has a second flat surface at a center of a rear side of the peripheral edge that is positioned opposite the front side of the peripheral edge of the first plate, the second flat surface being flat along the direction of the dimension that is perpendicular to the direction in which the artificial disc system is adapted to be inserted into the cavity; a second plate that includes: (i) a second endplate-engaging surface adapted to engage a second vertebral endplate of the second vertebrae, (ii) a second core-engaging surface that is positioned opposite the second endplate-engaging surface, (iii) a third group of three anchors that each extend from a left side of the second endplate-engaging surface that is left of a center of the second plate with respect to the direction in which the artificial disc system is adapted to be inserted into the cavity, and (iv) a fourth group of three anchors that each extend from a right side of the second endplate-engaging surface that is right of the center of the second plate with respect to the direction in which the artificial disc system is adapted to be inserted into the cavity; and a mobile core adapted to be positioned between the first plate and the second plate to permit the first plate and the second plate to move relative to one another while the artificial disc system

is located in the cavity between the first vertebrae and the second vertebrae, the mobile core including a first plate-engaging surface adapted to slide against the first core-engaging surface of the first plate, the first plate-engaging surface having convexity to slide against the concavity of the first core-engaging surface of the first plate, and a second plate-engaging surface adapted to slide against the second core-engaging surface of the second plate, the second plate-engaging surface being positioned opposite the first plate-engaging surface. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/mobi-c-cervical-disc.html.

Mobi-C



148. ZimVie's '591 Accused Products each practice all of the limitations of claim 17 of the '591 patent. For example, ZimVie's Mobi-C product is an artificial disc system comprising: an artificial disc comprising: first and second plates formed to occupy a space defined by vertebral endplates of a spine, each of the first and second plates including an endplate-engaging surface having plurality of anchors and a core-engaging surface positioned opposite the endplate-engaging surface, wherein the plurality of anchors on the endplate-engaging surface of the first plate comprise a first group of at least three anchors on a left side of the first plate and a second group

of at least three anchors on a right side of the first plate with a middle portion of the first plate having no anchors between the first and second groups of anchors, wherein the plurality of anchors on the endplate-engaging surface of the second plate comprise a third group of at least three anchors on a left side of the second plate and a fourth group of at least three anchors on a right side of the second plate with a middle portion of the second plate having no anchors between the third and fourth groups of anchors, wherein the core-engaging surface of the first plate is concave, wherein each of the first and second plates comprises a flat portion and a curved portion; and a mobile core sized and configured to be positioned between the first and second plates to permit the first and second plates to move relative to one another, wherein the anchors on the endplate-engaging surface extend away from the mobile core, wherein the core-engaging surfaces engage first and second plate-engaging surfaces of the mobile core, wherein both of the first and second plate-engaging surface are configured to slide against adjacent core-engaging surfaces of the first and second plate, wherein the first plate-engaging surface of the mobile core has a convex spherical dome portion shaped to mate with the concave core-engaging surface of the first plate, and wherein the mobile core is engaged with the first and second plates such that the first plate can move with respect to the second plate about an x-axis for lateral bending, a y-axis for flexion/extension, and a z-axis for axial spinal rotation, wherein the mobile core is sized large enough to extend partially out of a space defined between the first and second plates when the artificial disc is tilted about the y-axis for flexion/extension. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/mobi-c-cervical-disc.html.

149. ZimVie's '591 Accused Products each practice all of the limitations of claim 18 of the '591 patent. For example, ZimVie's Mobi-C product further comprises a surgical tool for inserting the artificial disc between vertebral endplates, the surgical tool comprising: a handle; an

elongate insertion portion extending distally away from the handle portion; and an implant holder connected at a distal end of the elongate insertion portion and having a first tip sized and configured to engage the first plate and a second tip size and configured to engage the second plate so as to hold both the first and second plates relatively firmly during insertion and positioning of the first and second plates in the space defined by the vertebral endplates of the spine, wherein the implant holder comprises a claw having first and second curved portions that engage the first plate to hold the first plate, wherein the first curved portion of the claw is pivotable with respect to the second curved portion of the claw so as to release the first plate when the claw is opened. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/mobi-c-cervical-disc.html.

150. ZimVie also indirectly infringes at least claims 1, 17, and 18 of the '591 patent by actively inducing the direct infringement by third parties such as doctors and other medical institutions under 35 U.S.C. § 271(b). ZimVie has knowledge that these third-party activities concerning ZimVie's '591 Accused Products infringe one or more claims of the '591 patent. On information and belief, ZimVie will continue to encourage, aid, or otherwise cause these third parties to, for example, use the '591 Accused Products (which is an act of direct infringement of the '591 patent) and ZimVie has and will continue to encourage those acts with the specific intent to infringe one or more claims of the '591 patent. Further, ZimVie provides information and technical support to its customers (such as doctors and other medical institutions), including product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials encouraging them to purchase and to use ZimVie's '591 Accused Products with knowledge that usage constitutes an act of direct infringement of the '591 patent. Alternatively, ZimVie has acted with willful blindness to these facts. ZimVie knows that there is a high

probability that the use of the ’591 Accused Products constitutes direct infringement of the ’591 patent but took deliberate actions to avoid learning of these facts.

151. For example, ZimVie has had knowledge of the ’591 patent via its predecessors in interest as set forth in detail above. On information and belief, ZimVie has had knowledge that ZimVie’s ’591 Accused Products infringe the ’591 patent. On information and belief, ZimVie obtained this knowledge prior to suit vis-à-vis its predecessors in interest and had knowledge since at least shortly after the issuance of the ’591 patent in August 2021. To the extent that ZimVie did not have actual knowledge of its infringement, ZimVie’s lack of actual knowledge is due to its deliberate decision to avoid learning of these facts. ZimVie, therefore, had knowledge that its customers’ use of ZimVie’s ’591 Accused Products infringe the ’591 patent or ZimVie was otherwise willfully blind to that fact.

152. ZimVie, for example, encourages doctors and other medical institutions to purchase ZimVie’s ’591 Accused Products and to use them to perform spinal surgeries. The use (*e.g.,* surgical implantation) of the ’591 Accused Products in the United States constitutes an act of direct infringement under 35 U.S.C. § 271(a). On its website, ZimVie encourages doctors to purchase and implant ZimVie’s ’591 Accused Products in patients thereby infringing the ’591 patent. Upon information and belief, these doctors perform surgeries using the accused ZimVie products and thus are direct infringers of the ’591 Asserted Patent. *See, e.g.*, https://www.cervicaldisc.com/surgeon-locator. ZimVie also provides directional videos to its customers encouraging the use of ZimVie’s ’591 Accused Products. *See, e.g.,* https://www.cervicaldisc.com/about-mobi-c.

153. ZimVie provides information and technical support to its customers (such as doctors and other medical institutions), including product manuals, surgical technique guides,

brochures, videos, demonstrations, and website materials encouraging its customers to purchase and instructing them to use (*e.g.,* surgically implant) ZimVie's '591 Accused Products. This information and support is found, for example, on ZimVie's website. *See, e.g.,* https://www.cervicaldisc.com/about-mobi-c.

154. For example, on information and belief, ZimVie's sales representatives provide customers (such as doctors and other medical institutions) with surgical technique guides and other instructional materials that encourage and instruct customers (such as doctors and other medical institutions) to surgically implant ZimVie's '591 Accused Products, thereby directly infringing the '591 patent. ZimVie's individual product pages provide direction on the use of ZimVie products, including photographs and video. *See, e.g.*, *See, e.g.*, https://www.cervicaldisc.com/about-mobi-c; https://www.zimvie.com/en/spine/cervical-solutions/mobi-c-cervical-disc.html; https://www.zimvie.com/content/dam/zimvie-corporate/en/spine/products/mobi-c-cervical-disc/mobiccervicaldiscsurgicaltechniqueguide.pdf. In addition, on information and belief, ZimVie's sales representatives provide product demonstrations that instruct and encourage ZimVie's customers to surgically implant ZimVie's '591 Accused Products.

155. ZimVie products are described in catalogs and manuals directed towards healthcare professionals. *See, e.g.*, https://www.zimvie.com/content/dam/zimvie-corporate/en/spine/products/mobi-c-cervical-disc/mobiccervicaldiscsurgicaltechniqueguide.pdf. On information and belief, ZimVie products are also described in journals directed toward spine professionals, including without limitation, the Journal of Spine Surgery, The International Journal of Spine Surgery, Medicine, and The Journal of Neurosurgery: Spine.

156. ZimVie has also indirectly infringed and continues to indirectly infringe the '591 patent under 35 U.S.C. § 271(c) because it has contributed to direct infringement, and continues

to contribute to direct infringement, by third parties (such as doctors and other medical institutions), of at least claims 1, 17, and 18 of the ’591 patent. On information and belief, ZimVie and/or its predecessors in interest have had knowledge of the ’591 patent, and that their activities concerning ZimVie’s ’591 Accused Products infringe one or more claims of the ’591 patent, at least since shortly after the ’591 patent issued in August 2021.

157. For example, ZimVie has sold, offered for sale, and/or imported into the United States and is currently selling, offering for sale, and/or importing into the United States various components of the ’591 Accused Products (including the Mobi-C Device and corresponding instrumentation) to these third parties with full knowledge of the ’591 patent. These third parties arrange the implant device and implant instrumentation of the Accused Products according to instructions, documentation, tutorials, marketing materials and the like that instructed/instruct them how to arrange these components in ways that infringed/infringe the ’591 patent. ZimVie’s components (*e.g.*, the Mobi-C Device and corresponding instrumentation) were and are not staple articles or commodities of commerce suitable for substantial noninfringing uses as each of these components are especially designed to interact with one another. Further, these components constituted/constitute a material part of the inventions claimed in the ’591 patent. ZimVie and/or its predecessors in interest learned about the ’591 patent or were willfully blind to the existence of the patent as set forth above. On information and belief, ZimVie has had knowledge that ZimVie’s ’591 Accused Products infringe the ’591 patent. ZimVie obtained this knowledge prior to suit vis-à-vis its predecessors in interest. ZimVie, therefore, supplied/supplies these components with knowledge of the ’591 patent and knowledge that the components were especially made for use in an infringing manner. To the extent that ZimVie did not have actual knowledge of its infringement, ZimVie’s lack of actual knowledge is due to its deliberate decision to avoid learning of these facts.

ZimVie, therefore, had knowledge that the use of the Mobi-C Device with its corresponding instrumentation of ZimVie's '591 Accused Products infringe the '591 patent or ZimVie was otherwise willfully blind to that fact.

158. On information and belief, ZimVie has indirectly infringed and continues to indirectly infringe the '591 patent under 35 U.S.C. § 271(f)(1) by supplying or causing to be supplied in or from the United States, without authority, all or a substantial portion of the components of products, including all or a substantial portion of the components of ZimVie's '591 Accused Products, where such components are uncombined in whole or in part, in such a manner as to actively induce the combination of such components outside of the United States in a manner that would infringe one or more claims of the '591 patent if such combination occurred within the United States.

159. For example, on information and belief, ZimVie has supplied, and continues to supply from the United States, third parties outside of the United States such as doctors and other medical institutions with all or substantially all of the components of ZimVie's '591 Accused Products, including the Mobi-C device and corresponding instrumentation. On information and belief, ZimVie has supplied, and continues to supply, these components with knowledge of the '591 patent, and these third parties have made or used ZimVie's '591 Accused Products according to ZimVie-supplied product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials and the like that instructed/instruct them how to combine the components of the '591 Accused Products and use them in ways that would infringe at least claim 18 of the '591 patent if such combination occurred within the United States as described in the claim chart attached hereto as Exhibit 22. ZimVie provides these instructions to the third parties with the knowledge to the fact that usage of the Mobi-C Device with the corresponding

instrumentation in accordance with their instructions would infringe at least claim 18 of the ’591 patent if such assembly and usage took place in the United States or with willful blindness to that fact.

160. On information and belief, ZimVie has indirectly infringed and continues to indirectly infringe the ’591 patent under 35 U.S.C. § 271(f)(2) by supplying or causing to be supplied in or from the United States, without authority, components of products, including components of ZimVie’s ’591 Accused Products such as the Mobi-C Device and corresponding instrumentation that are especially made or especially adapted for use in the inventions claimed in the ’591 patent, and are not staple articles or commodities of commerce suitable for substantial non-infringing use, where such components are uncombined in whole or in part, knowing that such components are so made or adapted and intending or having “willful blindness” to the fact that such components will be combined outside of the United States in a manner that would infringe one or more claims of the ’591 patent if such combination occurred within the United States.

161. For example, ZimVie has supplied, and continues to supply from the United States, third parties such as doctors and other medical institutions outside of the United States with components of the ’591 Accused Products, including the Mobi-C Device and corresponding instrumentation that are especially made and/or especially adapted for use in an infringing manner. On information and belief, ZimVie’s actions of providing product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials to its customers demonstrate an intent to have ZimVie’s ’591 Accused Products combined outside of the United States in a manner that would infringe at least claim 18 of the ’591 patent if such combination occurred within the United States as described in the claim chart attached hereto as Exhibit 22. ZimVie provides these instructions to the third parties with the knowledge to the fact that use and combination of the

Mobi-C Device with the corresponding instrumentation in accordance with their instructions would infringe at least claim 18 of the ’591 patent if such combination and usage took place in the United States or with willful blindness to that fact.

162. On information and belief, ZimVie’s actions demonstrate an intent not only to have caused the above acts that form the basis of direct infringement by third parties, but also that they caused these acts with the specific intent to infringe the ’591 patent. At a minimum, ZimVie’s conduct demonstrates that ZimVie either knew or should have known that the acts of such third parties directly infringed/infringe the ’591 patent.

163. On information and belief, ZimVie’s infringement of the ’591 patent has been willful and merits increased damages.

164. On information and belief, ZimVie and/or its predecessors in interest have known (or should have known) that their activities concerning the ’591 Accused Products infringed one or more claims of the ’591 patent since at least shortly after the ’591 patent issued in August 2021. On information and belief, ZimVie and/or its predecessors in interest learned all that they could from Dr. Moskowitz to design, develop, and sell ZimVie’s ’591 Accused Products without compensating Dr. Moskowitz and his sons for its infringement of the ’591 patent.

165. On information and belief, ZimVie has made no attempt to design around the claims of the ’591 patent.

166. On information and belief, ZimVie did not have a reasonable basis for believing that the claims of the ’591 patent were invalid.

167. On information and belief, ZimVie’s ’591 Accused Products are available to businesses and individuals throughout the United States, including in this District.

168. Moskowitz Family has been damaged as the result of ZimVie's infringement. Upon information and belief, ZimVie will continue to infringe one or more claims of the '591 patent unless and until it is enjoined by this Court.

169. ZimVie has caused and will continue to cause Moskowitz Family irreparable injury and damage by infringing one or more claims of the '591 patent. Moskowitz Family will suffer further irreparable injury, for which it has no adequate remedy at law, unless and until ZimVie is enjoined from infringing the claims of the '591 patent.

COUNT VI

(Patent Infringement of United States Patent No. 11,135,072)

170. Plaintiff restates and realleges the preceding paragraphs of this Complaint.

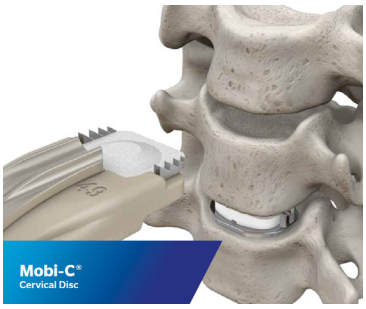
171. ZimVie has directly infringed, and continues to directly infringe, literally and/or under the doctrine of equivalents, one or more claims of the '072 patent by making, using, testing, selling, offering for sale and/or importing into the United States ZimVie's '072 Accused Products pursuant to 35 U.S.C. § 271(a). ZimVie's '072 Accused Products include, but are not limited to, Mobi-C and any other ZimVie products, either alone or in combination, that operate in a reasonably similar manner.

172. The claim chart attached hereto as Exhibit 23 describes how the limitations of exemplary claims 1 and 10 of the '072 patent are practiced by ZimVie's '072 Accused Products.

173. ZimVie's '072 Accused Products each practice all of the limitations of claim 1 of the '072 patent. For example, ZimVie's Mobi-C product is an artificial disc comprising the following as required by claim 1: (i) a first plate configured to occupy a space defined by a first vertebral endplate of a spine, the first plate including a first endplate-engaging surface having a first plurality of anchors, a first core-engaging surface positioned opposite the first endplate-

engaging surface, and a first perimeter surface extending around a first perimeter of the first plate between the first endplate-engaging surface and the first core-engaging surface, wherein the first core-engaging surface comprises a concave core-engaging portion, wherein the first plurality of anchors comprise a first group of at least four anchors extending from the first endplate-engaging surface on a left side of the first endplate-engaging surface and a second group of at least four anchors extending from the first endplate-engaging surface on a right side of the first endplate-engaging surface, wherein each anchor in the first and second groups of the at least four anchors is positioned on the first endplate-engaging surface adjacent the first perimeter surface of the first plate such that each anchor in the first and second groups of the at least four anchors has an exterior surface that extends continuously from the first perimeter surface; (ii) a second plate configured to occupy a space defined by a second vertebral endplate of the spine, the second plate including a second endplate-engaging surface having a second plurality of anchors, a second core-engaging surface positioned opposite the second endplate-engaging surface, and a second perimeter surface extending around a second perimeter of the second plate between the second endplate-engaging surface and the second core-engaging surface, wherein the second plurality of anchors comprise a third group of at least four anchors extending from the second endplate-engaging surface on a left side of the second endplate-engaging surface and a fourth group of at least four anchors extending from the second endplate-engaging surface on a right side of the second endplate-engaging surface, wherein each anchor in the third and fourth groups of the at least four anchors is positioned on the second endplate-engaging surface spaced inward of the second perimeter surface of the second plate such that each anchor in the third and fourth groups of the at least four anchors is entirely offset from the second perimeter surface; and (iii) a mobile core sized and configured to be positioned between the first and second plates to space the first plate from the second plate and to

permit the first and second plates to move relative to one another, wherein the mobile core has first and second plate-engaging surfaces that engage the first and second core-engaging surfaces of the first and second plates respectively, wherein the first and second plate-engaging surfaces of the mobile core are configured to slide against the first and second core-engaging surfaces of the first and second plates, respectively, wherein the first plate-engaging surface of the mobile core has a convex dome portion shaped to mate with the concave core-engaging portion of the first core-engaging surface of the first plate, wherein the mobile core is engaged with the first and second plates such that the first plate can move with respect to the second plate to accommodate lateral bending, flexion, extension, and rotation, and wherein a plurality of raised barriers or protrusions are positioned with respect to the mobile core to partially limit motion of the mobile core with respect to the first and second plates, wherein the raised barriers or protrusions are positioned inward of the second perimeter surface so as to define a gap between the second perimeter surface and the raised barriers or protrusions on the left and right sides of the second plate. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/mobi-c-cervical-disc.html.

Mobi-C


174. ZimVie's '072 Accused Products also each practice all of the limitations of claim 10 of the '072 patent. For example, ZimVie's Mobi-C product further comprises a surgical tool for inserting the artificial disc between the first and second vertebral endplates, the surgical tool comprising: a handle portion; an elongate insertion portion extending distally away from the handle portion; and an implant holder connected at a distal end of the elongate insertion portion and having first and second portions sized and configured to engage the first and second plates so as to hold the first and second plates relatively firmly during insertion and positioning of the first and second plates between the first and second vertebral endplates in a disc space. *See, e.g.*, https://www.zimvie.com/en/spine/cervical-solutions/mobi-c-cervical-disc.html.

175. ZimVie also indirectly infringes at least claims 1 and 10 of the '072 patent by actively inducing the direct infringement by third parties such as doctors and other medical institutions under 35 U.S.C. § 271(b). ZimVie has knowledge that these third-party activities concerning ZimVie's '072 Accused Products infringe one or more claims of the '072 patent. On information and belief, ZimVie will continue to encourage, aid, or otherwise cause these third parties to, for example, use the '072 Accused Products (which is an act of direct infringement of the '072 patent) and ZimVie has and will continue to encourage those acts with the specific intent to infringe one or more claims of the '072 patent. Further, ZimVie provides information and technical support to its customers (such as doctors and other medical institutions), including product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials encouraging them to purchase and to use ZimVie's '072 Accused Products with knowledge that usage constitutes an act of direct infringement of the '072 patent. Alternatively, ZimVie has acted with willful blindness to these facts. ZimVie knows that there is a high

probability that the use of the ’072 Accused Products constitutes direct infringement of the ’072 patent but took deliberate actions to avoid learning of these facts.

176. For example, ZimVie has had knowledge of the ’072 patent via its predecessors in interest as set forth in detail above. On information and belief, ZimVie has had knowledge that ZimVie’s ’072 Accused Products infringe the ’072 patent. On information and belief, ZimVie obtained this knowledge prior to suit vis-à-vis its predecessors in interest and had knowledge since at least shortly after the issuance of the ’072 patent in October 2021. To the extent that ZimVie did not have actual knowledge of its infringement, ZimVie’s lack of actual knowledge is due to its deliberate decision to avoid learning of these facts. ZimVie, therefore, had knowledge that its customers’ use of ZimVie’s ’072 Accused Products infringe the ’072 patent or ZimVie was otherwise willfully blind to that fact.

177. ZimVie, for example, encourages doctors and other medical institutions to purchase ZimVie’s ’072 Accused Products and to use them to perform spinal surgeries. The use (*e.g.,* surgical implantation) of the ’072 Accused Products in the United States constitutes an act of direct infringement under 35 U.S.C. § 271(a). On its website, ZimVie encourages doctors to purchase and implant ZimVie’s ’072 Accused Products in patients thereby infringing the ’072 patent. Upon information and belief, these doctors perform surgeries using the accused ZimVie products and thus are direct infringers of the ’072 Asserted Patent. *See, e.g.*, https://www.cervicaldisc.com/surgeon-locator. ZimVie also provides directional videos to its customers encouraging the use of ZimVie’s ’072 Accused Products. *See, e.g.*, https://www.cervicaldisc.com/about-mobi-c.

178. ZimVie provides information and technical support to its customers (such as doctors and other medical institutions), including product manuals, surgical technique guides,

brochures, videos, demonstrations, and website materials encouraging its customers to purchase and instructing them to use (*e.g.,* surgically implant) ZimVie's '072 Accused Products. This information and support is found, for example, on ZimVie's website. *See, e.g.,* https://www.cervicaldisc.com/about-mobi-c.

179. For example, on information and belief, ZimVie's sales representatives provide customers (such as doctors and other medical institutions) with surgical technique guides and other instructional materials that encourage and instruct customers (such as doctors and other medical institutions) to surgically implant ZimVie's '072 Accused Products, thereby directly infringing the '072 patent. ZimVie's individual product pages provide direction on the use of ZimVie products, including photographs and video. *See, e.g.*, *See, e.g.*, https://www.cervicaldisc.com/about-mobi-c; https://www.zimvie.com/en/spine/cervical-solutions/mobi-c-cervical-disc.html; https://www.zimvie.com/content/dam/zimvie-corporate/en/spine/products/mobi-c-cervical-disc/mobiccervicaldiscsurgicaltechniqueguide.pdf. In addition, on information and belief, ZimVie's sales representatives provide product demonstrations that instruct and encourage ZimVie's customers to surgically implant ZimVie's '072 Accused Products.

180. ZimVie products are described in catalogs and manuals directed towards healthcare professionals. *See, e.g.*, https://www.zimvie.com/content/dam/zimvie-corporate/en/spine/products/mobi-c-cervical-disc/mobiccervicaldiscsurgicaltechniqueguide.pdf. On information and belief, ZimVie products are also described in journals directed toward spine professionals, including without limitation, the Journal of Spine Surgery, The International Journal of Spine Surgery, Medicine, and The Journal of Neurosurgery: Spine.

181. ZimVie has also indirectly infringed and continues to indirectly infringe the '072 patent under 35 U.S.C. § 271(c) because it has contributed to direct infringement, and continues

to contribute to direct infringement, by third parties (such as doctors and other medical institutions), of at least claims 1 and 10 of the ’072 patent. On information and belief, ZimVie and/or its predecessors in interest have had knowledge of the ’072 patent, and that their activities concerning ZimVie’s ’072 Accused Products infringe one or more claims of the ’072 patent, at least since shortly after the ’072 patent issued in October 2021.

182. For example, ZimVie has sold, offered for sale, and/or imported into the United States and is currently selling, offering for sale, and/or importing into the United States various components of the ’072 Accused Products (including the Mobi-C Device and corresponding instrumentation) to these third parties with full knowledge of the ’072 patent. These third parties arrange the implant device and implant instrumentation of the Accused Products according to instructions, documentation, tutorials, marketing materials and the like that instructed/instruct them how to arrange these components in ways that infringed/infringe the ’072 patent. ZimVie’s components (*e.g.*, the Mobi-C Device and corresponding instrumentation) were and are not staple articles or commodities of commerce suitable for substantial noninfringing uses as each of these components are especially designed to interact with one another. Further, these components constituted/constitute a material part of the inventions claimed in the ’072 patent. ZimVie and/or its predecessors in interest learned about the ’072 patent or were willfully blind to the existence of the patent as set forth above. On information and belief, ZimVie has had knowledge that ZimVie’s ’072 Accused Products infringe the ’072 patent. ZimVie obtained this knowledge prior to suit vis-à-vis its predecessors in interest. ZimVie, therefore, supplied/supplies these components with knowledge of the ’072 patent and knowledge that the components were especially made for use in an infringing manner. To the extent that ZimVie did not have actual knowledge of its infringement, ZimVie’s lack of actual knowledge is due to its deliberate decision to avoid learning of these facts.

ZimVie, therefore, had knowledge that the use of the Mobi-C Device with its corresponding instrumentation of ZimVie's '072 Accused Products infringe the '072 patent or ZimVie was otherwise willfully blind to that fact.

183. On information and belief, ZimVie has indirectly infringed and continues to indirectly infringe the '072 patent under 35 U.S.C. § 271(f)(1) by supplying or causing to be supplied in or from the United States, without authority, all or a substantial portion of the components of products, including all or a substantial portion of the components of ZimVie's '072 Accused Products, where such components are uncombined in whole or in part, in such a manner as to actively induce the combination of such components outside of the United States in a manner that would infringe one or more claims of the '072 patent if such combination occurred within the United States.

184. For example, on information and belief, ZimVie has supplied, and continues to supply from the United States, third parties outside of the United States such as doctors and other medical institutions with all or substantially all of the components of ZimVie's '072 Accused Products, including the Mobi-C device and corresponding instrumentation. On information and belief, ZimVie has supplied, and continues to supply, these components with knowledge of the '072 patent, and these third parties have made or used ZimVie's '072 Accused Products according to ZimVie-supplied product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials and the like that instructed/instruct them how to combine the components of the '072 Accused Products and use them in ways that would infringe at least claim 10 the '072 patent if such combination occurred within the United States as described in the claim chart attached hereto as Exhibit 23. ZimVie provides these instructions to the third parties with the knowledge to the fact that usage of the Mobi-C Device with the corresponding

instrumentation in accordance with their instructions would infringe at least claim 10 of the ’072 patent if such assembly and usage took place in the United States or with willful blindness to that fact.

185. On information and belief, ZimVie has indirectly infringed and continues to indirectly infringe the ’072 patent under 35 U.S.C. § 271(f)(2) by supplying or causing to be supplied in or from the United States, without authority, components of products, including components of ZimVie’s ’072 Accused Products such as the Mobi-C Device and corresponding instrumentation that are especially made or especially adapted for use in the inventions claimed in the ’072 patent, and are not staple articles or commodities of commerce suitable for substantial non-infringing use, where such components are uncombined in whole or in part, knowing that such components are so made or adapted and intending or having “willful blindness” to the fact that such components will be combined outside of the United States in a manner that would infringe one or more claims of the ’072 patent if such combination occurred within the United States.

186. For example, ZimVie has supplied, and continues to supply from the United States, third parties such as doctors and other medical institutions outside of the United States with components of the ’072 Accused Products, including the Mobi-C Device and corresponding instrumentation that are especially made and/or especially adapted for use in an infringing manner. On information and belief, ZimVie’s actions of providing product manuals, surgical technique guides, brochures, videos, demonstrations, and website materials to its customers demonstrate an intent to have ZimVie’s ’072 Accused Products combined outside of the United States in a manner that would infringe at least claim 10 of the ’072 patent if such combination occurred within the United States as described in the claim chart attached hereto as Exhibit 23. ZimVie provides these instructions to the third parties with the knowledge to the fact that use and combination of the

Mobi-C Device with the corresponding instrumentation in accordance with their instructions would infringe at least claim 10 of the ’072 patent if such combination and usage took place in the United States or with willful blindness to that fact.

187. On information and belief, ZimVie’s actions demonstrate an intent not only to have caused the above acts that form the basis of direct infringement by third parties, but also that they caused these acts with the specific intent to infringe the ’072 patent. At a minimum, ZimVie’s conduct demonstrates that ZimVie either knew or should have known that the acts of such third parties directly infringed/infringe the ’072 patent.

188. On information and belief, ZimVie’s infringement of the ’072 patent has been willful and merits increased damages.

189. On information and belief, ZimVie and/or its predecessors in interest have known (or should have known) that their activities concerning the ’072 Accused Products infringed one or more claims of the ’072 patent since at least shortly after the ’072 patent issued in October 2021. On information and belief, ZimVie and/or its predecessors in interest learned all that they could from Dr. Moskowitz to design, develop, and sell ZimVie’s ’072 Accused Products without compensating Dr. Moskowitz and his sons for its infringement of the ’072 patent.

190. On information and belief, ZimVie has made no attempt to design around the claims of the ’072 patent.

191. On information and belief, ZimVie did not have a reasonable basis for believing that the claims of the ’072 patent were invalid.

192. On information and belief, ZimVie’s ’072 Accused Products are available to businesses and individuals throughout the United States, including in this District.

193. Moskowitz Family has been damaged as the result of ZimVie's infringement. Upon information and belief, ZimVie will continue to infringe one or more claims of the '072 patent unless and until it is enjoined by this Court.

194. ZimVie has caused and will continue to cause Moskowitz Family irreparable injury and damage by infringing one or more claims of the '072 patent. Moskowitz Family will suffer further irreparable injury, for which it has no adequate remedy at law, unless and until ZimVie is enjoined from infringing the claims of the '072 patent.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Moskowitz Family respectfully requests that this Court:

1) Enter judgment that ZimVie has infringed one or more claims of each of the Asserted Patents;

2) Enter an order permanently enjoining ZimVie and its officers, agents, employees, attorneys, and all persons in active concert or participation with any of the foregoing, from infringing the claims of the Asserted Patents;

3) Award Moskowitz Family damages in an amount sufficient to compensate it for ZimVie's infringement of one or more claims of the Asserted Patents, together with pre-judgment and post-judgment interest costs, and all other damages permitted under 35 U.S.C. § 284;

4) Perform an accounting of ZimVie's infringing activities through trial and judgment;

5) Treble the damages awarded to Moskowitz Family under 35 U.S.C. § 284 by reason of ZimVie's willful infringement of the Asserted Patents;

6) Declare this case to be "exceptional" under 35 U.S.C. § 285 and award Moskowitz Family its attorneys' fees, expenses, and costs incurred in this action; and

7) Award Moskowitz Family such other and further relief as this Court deems just and proper.

DEMAND FOR JURY TRIAL

Plaintiff Moskowitz Family demands a jury trial on all issues so triable.

Dated: December 23, 2022

Respectfully Submitted,

FISH & RICHARDSON P.C.

By: */s/ Douglas E. McCann*

Douglas E. McCann (#3852)
222 Delaware Avenue, 17th Floor
Wilmington, DE 19801
(302) 652-5070
dmccann@fr.com

Of Counsel

Ruffin B. Cordell (*pro hac vice*)
cordell@fr.com
Joseph V. Colaianni, Jr. (*pro hac vice*)
colaianni@fr.com
Timothy W. Riffe (*pro hac vice*)
riffe@fr.com
Brian Livedalen (*pro hac vice*)
livedalen@fr.com
1000 Maine Ave., S.W., Suite 1000
Washington, D.C. 20024
Tel: (202) 783-5070
Fax: (202) 783-2331

Jason M. Zucchi (*pro hac vice*)
Zucchi@fr.com
Suite 3200
60 South Sixth Street
Minneapolis, MN 55402
Tel: (612) 335-5070
Fax: (612) 288-9696

COUNSEL FOR PLAINTIFF,
MOSKOWITZ FAMILY LLC

Moskowitz Exhibit 2009,
Medtronic v. Moskowitz IPR2026-00124 p. 74