

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K**

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2022

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____

Commission File Number: 001-40344

Akoya Biosciences, Inc.

(Exact name of registrant as specified in its charter)

Delaware

47-5586242

(State or other jurisdiction of
incorporation or organization)

(I.R.S. Employer Identification No.)

**100 Campus Drive, 6th Floor
Marlborough, Massachusetts**

01752

(Address of principal executive offices)

(Zip Code)

(855) 896-8401

Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.00001 per share	AKYA	Nasdaq Global Select Market

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of common stock held by non-affiliates of the registrant based on the closing price of the registrant's common stock as reported on the Nasdaq Global Select Market on June 30, 2022, was \$221.6 million.

Number of shares of the registrant's common shares outstanding at February 28, 2023: 38,341,919

AKOYA BIOSCIENCES, INC.

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Akoya Biosciences, Inc.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report contains forward-looking statements that are based on management's beliefs and assumptions and on information currently available to management. All statements contained in this report other than statements of historical fact are forward-looking statements, including statements regarding our ability to develop, commercialize and achieve market acceptance of our current and planned products and services, our research and development efforts, and other matters regarding our business strategies, use of capital, results of operations and financial position, and plans and objectives for future operations. In some cases, you can identify forward-looking statements by the words "may," "will," "could," "would," "should," "expect," "intend," "plan," "anticipate," "believe," "estimate," "predict," "project," "potential," "continue," "ongoing" or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. These statements involve risks, uncertainties and other factors that may cause actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. These risks, uncertainties and other factors are described under "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations," and elsewhere in this report and in other documents we file with the Securities and Exchange Commission (the "SEC") from time to time. We caution you that forward-looking statements are based on a combination of facts and factors currently known by us and our projections of the future, about which we cannot be certain. As a result, the forward-looking statements may not prove to be accurate. The forward-looking statements in this report represent our views as of the date of this report. We undertake no obligation to update any forward-looking statements for any reason, except as required by law.

Unless otherwise stated or the context otherwise indicates, references to "we," "us," "our" and similar references refer to Akoya Biosciences, Inc. and its consolidated subsidiary.

Part I

Item 1. Business

BUSINESS

Overview

We are an innovative life sciences technology company delivering spatial biology solutions focused on transforming discovery and clinical research. Our mission is to deliver a revolutionary new class of spatially derived biomarkers that empower life sciences researchers to better understand disease and clinicians to improve patient outcomes. Spatial biology refers to a rapidly evolving technology that enables academic and biopharma scientists to detect and map the distribution of cell types and biomarkers across whole tissue samples at single-cell resolution, enabling advancements in their understanding of disease progression and patient response to therapy. Through our PhenoCycler™ (formerly CODEX®) and PhenoImager™ (formerly Phenoptics™) platforms, reagents, software and services, we offer end-to-end solutions to perform tissue analysis and spatial phenotyping across the full continuum from discovery through translational and clinical research.

Our spatial biology solutions measure cells and proteins by providing biomarker data in its spatial context while preserving tissue integrity. Biomarkers are objective measures that capture what is happening in a cell or tissue at a given moment. Current genomic and proteomic methods, such as next-generation sequencing (NGS), single-cell analysis, flow cytometry and mass spectrometry, are providing meaningful data but require the destruction of the tissue sample for analysis. While valuable and broadly adopted, these approaches allow scientists to analyze the biomarkers and cells that comprise the tissue but do not provide the fundamental information about tissue structure, cellular interactions and the localized measurements of key biomarkers. Furthermore, current non-destructive tissue analysis and histological methods provide some limited spatial information, but they only measure a minimal number of biomarkers at a time and require expert pathologist interpretation. Our platforms address these limitations by providing end-to-end solutions that enable researchers to quantitatively interrogate a large number of biomarkers and cell types across a tissue section at single-cell resolution. The result is a detailed and computable map of the tissue sample that thoroughly captures the underlying tissue dynamics and interactions between key cell types and biomarkers, a process now referred to as spatial phenotyping. We believe that we are the only business with the breadth of platform capabilities that enable researchers to do a deep exploratory and discovery study, and then further advance and scale their research through the translational and clinical phases, leading to a better understanding of human biology, disease progression and response to therapy.

We offer complete end-to-end solutions for spatial phenotyping, designed to serve the unique needs of our customers in the discovery, translational and clinical markets. The PhenoCycler (formerly CODEX), is an ultra-high parameter and cost-effective platform ideally suited for discovery high-plex research. The PhenoImager platforms (formerly Phenoptics), which includes the newly introduced Fusion instrument and HT instrument (formerly Vectra Polaris), provide high-throughput with the automation and robustness needed for translational and clinical applications. Furthermore, the PhenoCycler and the PhenoImager Fusion can be integrated into a combined system, the PhenoCycler-Fusion System, to enable spatial discovery at scale by providing significant improvements in the speed of the workflow. Together the systems offer seamless and integrated workflow solutions for our customers, including important benefits such as flexible sample types, automated sample processing, scalability, comprehensive data analysis and software solutions and dedicated field and applications support. With these platforms, our customers are performing spatial

phenotyping to further advance their understanding of diseases such as cancer, neurological and autoimmune disorders, and many other therapeutic areas.



PHENOCYCLER-FUSION SYSTEM

PHENOCYCLER PHENOIMAGER FUSION



Our co-founder and director, Dr. Garry Nolan, originally developed our CODEX technology (now rebranded as PhenoCycler) to better identify biomarkers in discovery research while leading a team at Stanford. We license certain patents, know-how and proprietary technology utilized in our PhenoCycler instrument from Stanford. In order to expand our offerings to the translational and clinical markets, we acquired our Phenoptics (now rebranded as PhenoImager) platform in 2018 from Perkin Elmer, Inc. (“PKI”), from whom we license certain patents incorporated into our PhenoImager instruments.

As of December 31, 2022, we have 934 instruments installed across a broad group of customers throughout North America, Asia-Pacific (“APAC”), and Europe-Middle East-Africa (“EMEA”), reflecting an increase of 261% in the number of instrument placements over 2021. Our full set of proprietary reagents, software and services allows us to drive a stream of attractive, recurring and high margin revenue through our installed base, which will grow as we continue to expand our instrument base and implement workflow advancements. We generated total revenue of \$74.9 million in the year ended December 31, 2022, and \$54.9 million in the year ended December 31, 2021. We incurred net losses of \$70.6 million in the year ended December 31, 2022, and \$42.9 million in the year ended December 31, 2021.

Our Competitive Strengths

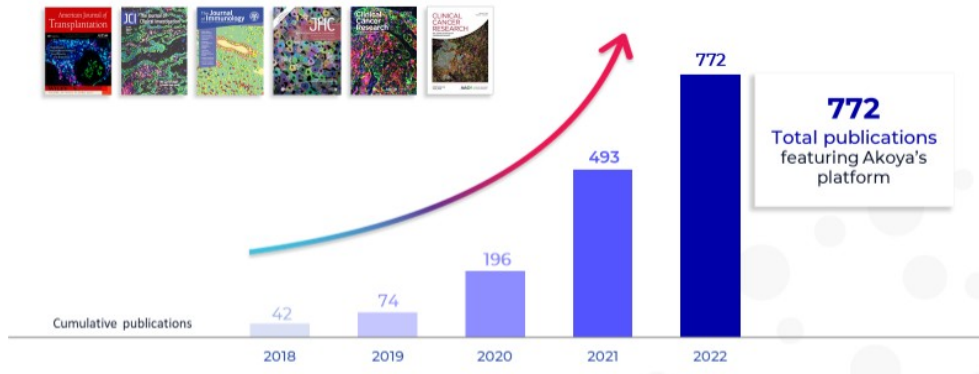
We believe the growth of our business will be propelled by our competitive strengths, including:

Established leader in the spatial biology market with a strong competitive position and proven products. We believe we are the leading spatial biology company, offering products to hundreds of customers across a diverse base, including leading biopharma companies, academic research centers and governmental institutions worldwide. As the

pioneers and leaders in the spatial biology market, we view our suite of solutions as uniquely positioned to address the varying customer needs across all market segments, from discovery through translational and clinical research. Our instrument base has expanded significantly over the last several years with 934 instruments currently in the market as of December 31, 2022, a 34% increase over 2021. The rate of publications with our technology as a centerpiece has accelerated greatly, with 772 peer-reviewed publications as of December 31, 2022, a 57% increase over 2021, a 394% increase over 2020 and a 1,043% increase over 2019 publications. A key driver of these publications and our commercial expansion is the growing body of evidence that spatial biology solutions are increasingly becoming preferred as a biomarker platform of choice. A seminal JAMA Oncology publication in 2019 established the predictive power of spatial biomarker technologies in predicting response to immuno-oncology therapeutics versus the current technologies such as gene expression, NGS and standard diagnostic PD-L1 biomarker assays. We believe that the combination of our broad customer base, expert management team, large instrument installed base, intellectual property protection and extensive and accelerating publication list helps establish our leading position in spatial biology.

Accelerating & Market Leading Publication Volume

Spatial Biology is Driving Major Discoveries Across Multiple Therapeutic Areas



**As of Dec. 31, 2022*

Comprehensive solutions that address the entire continuum. We are a fully dedicated spatial biology company with a purpose-built portfolio offering instruments, consumables, related software and services to serve the unique needs of our customers from discovery through translational and clinical research. Our PhenoCycler (formerly CODEX) platform is ideal for discovery research, providing ultra-high parameter biomarker discovery, with the ability to analyze high-plex single-cell resolution across the entire tissue sample. By pairing our PhenoCycler with our new Fusion instrument, we provide a complete cycling and imaging solution to our customers that delivers market leading scale with significant improvements in the speed of the workflow. Our Phenomager (formerly Phenoptics) platform is ideal for translational and clinical research providing a fully automated end-to-end solution with high reproducibility and throughput. Providing complete solutions across this full continuum allows us to serve our customers' full biomarker lifecycle. Comprehensive biomarker discovery is first enabled on PhenoCycler. Potentially predictive biomarkers of interest for translational and clinical studies are then analyzed at scale on Phenomager.

Relationships with leading biopharma and life science tools companies, top research institutions and medical centers. We have relationships with thought leaders such as Dana Farber Cancer Institute, Johns Hopkins University, UCSF, MD Anderson, AstraZeneca, Acrivon Therapeutics, Agilent Technologies and many other leading biopharma and life science tools companies, top research institutions and medical centers and contract research organizations ("CROs"). These collaborations and partnerships help demonstrate the utility of our solutions across a broad array of applications, including immuno-oncology, immunology, neuroscience and developmental biology. As we partner with leading

companies and institutions, we gain access to valuable customer feedback and insight. With the use of our solutions informing their development efforts:

- *Stanford University and the University of Bern* used the CODEX (now rebranded as PhenoCycler) platform for deep phenotyping of advanced-stage colorectal cancer patient tissue with more than 40 protein markers simultaneously, and at single-cell resolution. Through their use of our technology, they defined a new biological classification unit of cellular groups known as “neighborhoods.” These neighborhoods represent a completely novel organizing principle for understanding cellular activity in the tumor microenvironment and provide a robust analytical framework to better understand colon cancer progression, potentially novel diagnostics and new targets for therapeutic intervention.
- *Johns Hopkins University* developed an interdisciplinary partnership between the Hopkins Kimmel Cancer Center and the Department of Physics and Astronomy called AstroPath with our Phenoptics (now branded as PhenoImager) platform as the centerpiece. Leveraging their leadership in both cancer research and astrophysics, AstroPath was configured to apply astronomy algorithms to PhenoImager imaging data to rapidly identify and optimize predictive phenotypic signatures predicting response to immuno-therapies.
- *Dana Farber Cancer Institute and Brigham Health* recently announced the availability of their ImmunoProfile assay, an assay they developed on our Phenoptics (now rebranded as PhenoImager) platform to profile the tumors of immuno-therapy eligible patients. This assay is physician orderable and integrates into their clinical pathology workflow alongside NGS-based tumor profiling.
- *AstraZeneca* is a partner to advance new multiplex immunofluorescence (mIF) workflows and spatial biomarker signatures, based on our PhenoImager platform. The partnership has the aim of elucidating the immune biology of cancer, in greater detail, to streamline drug development, clinical trials, and biomarker discovery. With this collaboration, we are partnering with AstraZeneca’s immuno-oncology division to leverage the comprehensive spatial phenotyping capabilities of the PhenoImager platform to study drug mechanism of action, confirm target biology prevalence, and discover predictive signatures for subsequent trial designs. The aim of this collaboration will be the development and implementation of predictive assays and analysis frameworks to enable AstraZeneca, and the pharmaceutical industry in general, to advance a spatial biomarker-informed drug development strategy for immunotherapy. The results could lead to increased trial success rates, companion diagnostic partnerships with Akoya, and advancement of precision medicine.
- *Advanced Cell Diagnostics, a Bio-Techne brand*, is a partner to develop a single-cell, spatial multi-omics workflow for comprehensive, unbiased analysis of tissue samples. Through this agreement, the partners will bring to the market an automated, spatial multi-omics workflow that can perform rapid, in situ analysis of multiple analytes, at single cell resolution, across whole slides on the PhenoImager-Fusion System. Combining the PhenoCycler-Fusion workflow with the RNAScope HiPlex v2 assay has the potential to accelerate scientific understanding of human health and complex diseases like cancer. Spatial multi-omics approaches can also unlock new biomarker diagnostic signatures, enabling better stratification of patients and ultimately improving treatment outcomes. Backed by over 4,500 peer-reviewed publications, RNAScope Assays are an established standard for spatial RNA imaging. Under the terms of the agreement, both partners will develop and co-market protocols to enable automated workflows for running RNAScope assays on Akoya’s spatial phenotyping systems.
- *PathAI* is a partner to help advance discovery and validation of novel predictive biomarkers for immunotherapies using their artificial intelligence (AI) powered technology for pathology. The partnership will enable a combined capability in spatial biology and deep data mining using the PhenoImager platform, artificial intelligence tools and algorithms to enhance their shared biopharmaceutical partners’ ability to identify patients most likely to respond to drugs in clinical trials.
- *Acrivon Therapeutics* is a partner to co-develop, validate, and commercialize Acrivon’s OncoSignature® test, a first-of-its-kind companion diagnostic. The test will be used to identify cancer patients most likely to respond to treatment with ACR-368, a targeted DNA damage response inhibitor therapy being developed by Acrivon.

ACR-368 has been cleared by the U.S. Food and Drug Administration (“FDA”) to be advanced in a Phase 2 master protocol trial to treat patients with ovarian, endometrial, and urothelial cancer based on predicted sensitivity to ACR-368. The OncoSignature® test, developed by Acrivon, will be run on Akoya’s PhenoImager solution during clinical development and, pending ACR-368 approval and commercialization, will enable physicians to identify and treat the patients most likely to respond to the therapy. Akoya, in partnership with Acrivon, will develop, clinically validate, and seek regulatory co-approval for the OncoSignature® test, and, pending ACR-368 approval, commercialize the test as the exclusive provider of the companion diagnostic required for prescribing ACR-368.

- *Agilent Technologies* is a recently announced partner to develop multiplex-immunohistochemistry diagnostic solutions for tissue analysis and to commercialize workflow solutions for multiplex assays in the clinical research market. Integrating Agilent’s Dako Omnis (autostaining instrument) and Akoya’s PhenoImager® HT (imaging platform) for multiplex chromogenic immunohistochemistry (mIHC) and immunofluorescent (mIF) assays will create a singular end-to-end commercial workflow, including reagents, staining, imaging, and analysis. Agilent and Akoya will partner to develop chromogenic and immunofluorescent multiplex assays that include spatial analysis for biopharma companies developing precision cancer therapeutics. Under a separate Value-Added Reseller agreement, Akoya Biosciences will distribute and resell Dako Omnis as a part of the end-to-end multiplex solution.

Large, addressable and rapidly evolving market. The spatial biology market sits within a larger life sciences technology market. Within this market, spatial biology is currently estimated to be approximately \$14 billion. The market for spatial biology encompasses the full research and drug development continuum, ranging from discovery through translational and clinical research and, eventually the clinical markets. Each of these specific market segments have unique application and workflow needs and require fit for purpose product offerings. Today, our products and solutions are primarily sold into the cancer discovery and translational markets, representing a \$7 billion addressable market. We believe that our offerings can be readily extended to serve adjacent application areas, including immunology and neurobiology, and in the near future applications in clinical markets, which may include obtaining FDA approval for our products. We currently estimate that within the spatial biology market, half of the opportunity is in the discovery and translational research markets and the other half is in the clinical market. With the growing adoption and innovation of spatial biology solutions and as spatial phenotyping is further validated through rapid acceleration of peer-reviewed publications, we believe the global TAM will continue to grow over the near and long-term horizon. Given the critical need for spatial biology, we believe our products are uniquely suited to address the specific needs of researchers across this continuum from discovery through translational and clinical markets.

Our people. Our success begins with our people. All of our employees contribute to keeping Akoya at the forefront of the spatial biology market, from research and development, to sales and marketing, to operations and management. Our management team has extensive industry experience among a diversified base of leading companies in the healthcare industry, as well as significant experience with acquisitions and integration of technology. The experiences and skills gained during these prior multi-disciplinary employments will allow our team to continue to execute on current plans and identify future opportunities and build products and services to meet them.

Our Growth Strategy

Our growth strategy includes the following key elements:

Enhance sales and marketing efforts to drive adoption of our solutions with new and existing customers. Our solutions enable researchers to map the distribution of key cell types and biomarkers in normal and disease tissue. In 2021, we commissioned a report of researchers and surveyed their views of and plans to invest in spatial biology platforms and solutions, and approximately 44% of respondents indicated that they intend to purchase a spatial platform. To capitalize on this opportunity to drive adoption of our platforms across the entire market, we intend to invest heavily to expand our sales and marketing organizations, increase the scale of our outbound marketing activities, invest in our commercial organization and deliver new, market-leading solutions to our customers. Sales productivity and output will be achieved by expanding our global team of dedicated regional instrument and reagents sales specialists, building an inside sales team and hiring additional dedicated scientific pre- and post-sales applications specialists. A key focus of the

expanded applications specialists will be to drive further platform adoption and utilization within our existing customer base to increase our recurring proprietary reagent and software revenue. Application expansion, workflow improvements, the continued endorsement through peer-reviewed publications, a significant presence at trade conferences and an active digital platform are examples of key drivers of continued and growing market awareness and the expansion of our commercial footprint within new and existing customers.

Invest in new applications, content development and workflow improvements to drive pull through. Our research and development team is dedicated to continuously developing and improving our instruments, reagents menu, software solutions delivering a full end-to-end workflow and expanding our menu applications. Our instruments are designed to be used with our proprietary reagents. Currently, we offer an extensive menu of reagents, kits, antibodies and other consumables across our PhenoCycler (formerly CODEX) and PhenoImager (formerly Phenoptics) platforms. Researchers have the ability to choose a mixture of our products to customize and design panels to study their biomarkers of interest. As our research and development team identify and launch new applications and biomarker content, we expect to drive incremental pull-through revenue from existing and new customers. Similarly, our workflow improvements and the acceleration of data analysis through continued software advancements will further increase customers' use of our platforms. We believe this incremental software revenue and consumable pull-through will help solidify our solutions with researchers and improve our recurring revenue base and margin profile.

Curation of analysis software partnerships to accelerate discovery by delivering cutting-edge digital pathology and bioinformatics solutions. We are focused on enabling rapid and advanced data analysis and visualization tools that accelerate the timeline from image acquisition to extracting biological meaning. Image and bioinformatics analysis needs differ across the spectrum from Discovery to Translational to Clinical applications, and it is increasingly clear that one analysis solution may not meet the needs of our entire install base. Therefore, we've partnered with leading digital pathology and analysis providers to create an ecosystem of leading tools for our customers. The ecosystem includes established digital pathology names like Indica Labs Inc. and Visiopharm A/S, who provide desktop image analysis tools with ML/AI capabilities for both PhenoCycler and PhenoImager data. The ecosystem also includes newer providers like Enable Medicine Inc., who provides a cloud-based platform for high-parametric analysis and data sharing for our PhenoCycler data. The ability to enable artificial intelligence methods will help solve the growing big data challenges associated with spatial biology and enable the accelerated development of even more advanced analysis methods, thereby increasing the speed of collaborations and biomarker discovery across laboratories. The ecosystem of analysis providers for our solutions will help increase further incremental use of our instruments and consumables.

Investment in clinical developments to demonstrate validity. Our collaborations with key opinion leaders in major cancer institutions, universities and large biopharma customers provide us with visibility into our platform's potential to advance from translational research to true clinical use. The learnings from these institutions directly informs the required platform investments, clinical studies and regulatory strategy necessary to continue this advancement. Partnerships such as those with UCSF, Johns Hopkins and the Dana Farber Cancer Institute help drive the demonstration and validation of the clinical utility of our platform. In partnership with these and other key opinion leaders, we will establish clinical industry standards that further solidify our platform as the go-to clinical spatial biology solution. We plan to pursue the development and publication of data on our approach, similar to the approach taken by industry stakeholders involved in NGS-based tests for targeted cancer therapies. In parallel, through our continued partnership with key biopharma companies, particularly with their immunology franchises, we hope to establish our platforms as the preferred clinical trial biomarker solution and enable potential companion diagnostic partnerships in the long term. The centerpiece of our biopharma partnerships is our Advanced Biopharma Solutions ("ABS") lab where we are running clinical trial tissue samples for their clinical trials. We continue to expand the projects within and across top biopharmaceutical companies. The ultimate goal of ABS is to continue to advance these biomarker partnerships from clinical trials to companion diagnostics. By providing our end-to-end workflows to industry leading partners and clinicians and directly participating in validating the clinical utility of our platform through peer-reviewed publications, we will establish an ongoing cadence and pipeline to further improve our workflows and deliver clinical proof points for our sales and marketing teams to accelerate adoption in the clinical diagnostic market.

Industry and Market Opportunity

Genomic analysis techniques have evolved from bulk genomics to single-cell analysis, and proteomic techniques such as mass spectrometry are advancing to provide cutting-edge unbiased approaches. In parallel, there is a growing need in areas such as immuno-oncology for more predictive biomarkers that can accurately predict a patient's response to therapy. Spatial biology has emerged as a potential answer to these needs and represents one of the next major frontiers in life sciences research. It has become a key area of focus for researchers and clinicians alike as spatial phenotyping is able to measure protein and cellular interactions, while maintaining spatial context within a selected tissue sample. The result is a visual and computable measurement of histological patterns and an in-depth understanding of disease pathology, adding a new dimension of insights from discovery through clinical and translational research. By providing single-cell and subcellular resolution with spatial context within a single platform, researchers are able to achieve an understanding of how even small subpopulations of cells can play pivotal roles in disease pathology and patient outcome. In addition, recent innovations within proteomics have enabled unprecedented identification of novel proteins, expanding the need for spatial biology platforms that can functionally characterize these newly discovered proteins.

While spatial biology has many applications, spanning from early discovery through clinical research, the leading applications today include:

- *Immuno-oncology*: profiling of a tumor and its microenvironment.
- *Immunology*: supporting sub-specialties such as autoimmune disorders and transplant medicine.
- *Neuroscience*: characterizing neuroinflammation and neurodegeneration.
- *Infectious disease*: understanding the underlying biology of infectious diseases and immune response.
- *Developmental biology*: understanding tissue differentiation and stem cell biology to inform cell therapy development.
- *Dermatology*: immunophenotyping atopic dermatitis, psoriasis and similar dermatological conditions.
- *Other notable applications*: immunology research and broader disease pathology.

The spatial biology market sits within a larger life sciences technology market. Within this market, spatial biology is currently estimated to be over \$14 billion across the discovery, translational and clinical markets with immediate applications in cancer — especially immuno-oncology — as well as immunology, neurobiology, autoimmune disorders, infectious disease, and more. Each of these specific market segments have unique application and workflow needs and require fit for purpose product offerings. Today, our products and solutions are primarily sold into the cancer discovery and translational markets, representing a \$7 billion addressable market. We believe that our offerings can be readily extended to serve adjacent application areas, including immunology and neurobiology, as well as applications in clinical markets, certain of which may require obtaining FDA approval for our products. We currently estimate that within the spatial biology market, half of the opportunity is in the discovery and translational research markets and the other half is in the clinical market. With the growing adoption and innovation of spatial biology solutions and as spatial phenotyping is further validated through rapid acceleration of peer-reviewed publications, we believe the global TAM will continue to grow over the near and long-term horizon. Given the critical need for spatial biology, we believe our products are uniquely suited to address the specific needs of researchers across the continuum from discovery through translational and clinical markets.



Single-Cell with Spatial Context

Single-cell analysis enables the unbiased discovery of known and unknown cell types within a sample; it measures gene and protein expression on a cell-by-cell basis by preserving information about the cell of origin for each analyte measured. Adding spatial context to single-cell analysis provides a wealth of information to visualize tissue organization and disease pathology on a molecular level. Spatial phenotyping using multiplex immunofluorescence (“mIF”) allows for efficient mapping of cell-to-cell interactions and expression of key biomarkers across an entire tissue. Therefore, by integrating single-cell (and subcellular) resolution into a spatial context within a single solution, we provide both the “what” and “where” that can lead to critical insights that would otherwise be unattainable.

Pressing Need for more Predictive Biomarkers in Immuno-Oncology

Over the last several years, immuno-oncology has been among the most active therapeutic areas at large pharmaceutical companies with an estimated market size of \$60 billion in 2021 and over 5,000 active clinical trials. As a result, there has been a heightened focus and significant investment dedicated to the discovery of predictive biomarkers in immuno-oncology that provide more predictable measures of disease progression and response to therapy in the clinical setting. A recent research study, published in JAMA Oncology in 2019, assessed the probability of current biomarker technologies such as NGS, RNA analysis, standard histology and spatial phenotyping to predict patient response to immuno-therapies and found spatial phenotyping to be the superior method for biomarker analysis. In addition, the technology’s ability to monitor the physiological states of tumor cells over time, while maintaining integrity of the tissue, enables researchers to find correlations to drug resistance and tumor mutations, which could meaningfully facilitate the discovery and development of the next generation of cancer diagnostics and therapies.

Market needs

While NGS and single-cell analysis have led to paramount scientific advances in de-mystifying the genome, and flow cytometry and mass spectrometry have enabled researchers to gain valuable data troves used for improved biomarker analysis, these technologies fail to provide any spatial context to the genes, proteins and cells measured. As a result, there is a clear and unmet need for spatial biology tools in the life sciences research market, from discovery through translational and clinical research. We view the emergence of spatial analysis as largely complementary to current technologies by offering deeper and more contextual insights into the genome, proteome and cellular activity.

Discovery researchers are limited by the tools available within their arsenal. In recent years, the research community has fully embraced single-cell solutions as they have delivered unprecedented insights and facilitated novel medical breakthroughs. However, while single-cell technologies continue to evolve and improve, providing greater insights into cellular makeup and biomarker expression, existing technologies require the full destruction of the tissue and sacrifice all spatial information. Thus, while significant value has been realized from single-cell analysis, spatial phenotyping

promises to be the next-generation biomarker solution aiming to provide an in-depth understanding of biological function and disease pathology through a visual and computable map of histological patterns.

Clinical researchers are facing a lack of predictive biomarkers, particularly in immuno-oncology, which limit successful patient outcomes and efficiency in clinical development and deployment of novel therapies. Although targeted therapies have enjoyed many notable successes — to which NGS has been a key driver of this innovation — there remains a critical need for validated predictive biomarkers in immuno-oncology, which could disrupt the current paradigm for patient care and drug development. While significant efforts are being made in the discovery of more predictive biomarkers in immuno-oncology, there is still an ongoing and recognized unmet need. Just as NGS did for targeted cancer therapeutics, we believe spatial biology solutions will provide the necessary biological understanding and predictive power to further accelerate the field of immuno-oncology. All of our products and solutions sold today are for research use only. For future applications in clinical markets, our products may require FDA approval.

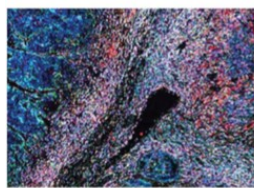
Our Platforms

We offer distinct stand-alone as well as integrated platforms for spatial phenotyping, designed to serve the unique needs of our customers in the discovery, translational and clinical markets. The PhenoCycler (formerly CODEX), is an ultra-high parameter and cost-effective platform ideally suited for discovery high-plex research. The PhenoImager platforms (formerly Phenoptics), which includes the newly introduced Fusion instrument and HT instrument (formerly Vectra Polaris), are provide high-throughput with the automation and robustness needed for translational and clinical applications. Furthermore, the PhenoCycler and the PhenoImager Fusion can be integrated into a combined system, PhenoCycler-Fusion System, to enable spatial discovery at scale. Together the systems offer seamless and integrated workflow solutions for our customers, including important benefits such as flexible sample types, automated sample processing, scalability, comprehensive data analysis and software solutions and dedicated field and applications support. With these platforms, our customers are performing spatial phenotyping to further advance their understanding of diseases such as cancer, neurological and autoimmune disorders, and many other therapeutic areas. We believe through these platforms, we are fulfilling our mission to empower life sciences researchers and clinicians to better understand the onset, advancement, treatment, prevention and monitoring of disease.

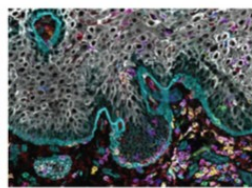
PhenoCycler

Our PhenoCycler (formerly CODEX) instrument is a powerful, yet simple, compact bench-top fluidics system that integrates with a companion microscope to automate image acquisition. It provides a comprehensive spatial biology solution, converting our customer's standard fluorescent microscope into an automated imaging system to produce ultra-high parameter multiplex images capable of providing in situ analysis at the cellular and subcellular scales. With over 300 biobanks around the world today, most of the researchers utilizing these biobanks are using inferior products, limiting discovery and spending valuable resources. Originally developed in the lab of Dr. Garry Nolan at Stanford University, The PhenoCycler instrument uses antibodies conjugated to a proprietary library of oligonucleotides called Barcodes. This enables customizable panels of greater than 70 antibodies to be combined for a single tissue staining reaction.

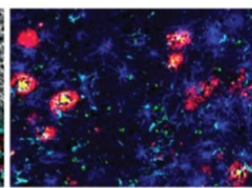
Not only is PhenoCycler a powerful tool for discovery, it is also highly intuitive and appeals to both novice and experts in the field of tissue analysis. The experimental workflow for PhenoCycler is summarized below.



Cancer
Immune cells infiltrating tumor in renal tissue



Immunology
Psoriasis skin sample showing immune cells infiltration

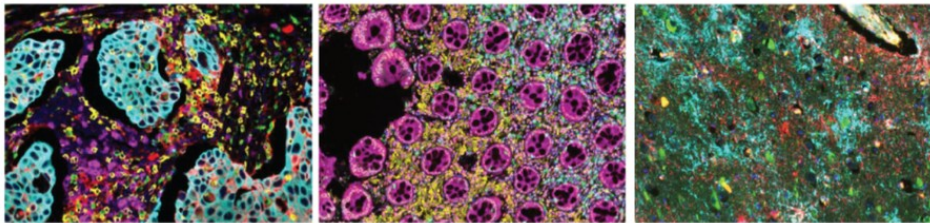


Neurobiology
Inflammation association with plaque formation in Alzheimer brain tissue

PhenoImager

For a deeper understanding of disease and patient response to therapy in large scale studies, translational and clinical researchers need a robust and automated spatial biology solutions. Our PhenoImager (formerly Phenoptics) platform enables researchers to visualize, analyze, quantify and phenotype cells in situ, in fresh frozen or formalin-fixed paraffin-embedded (“FFPE”) tissue sections, and tissue microarrays (“TMA”) utilizing an automated and high-throughput workflow. Proprietary multispectral imaging removes autofluorescence background and precisely measures fluorescent values for each biomarker with subcellular resolution, enabling researchers to capture the multiple interactions occurring between key biomarkers and cells. In contrast, inferior solutions on the market lack the necessary ability to precisely isolate and measure the different fluorescence channels due to color bleed. Users of our platform have confidence in the accuracy of the quantified interactions occurring in the biology of the cell. In addition, just as with PhenoCycler

(formerly CODEX), we offer a simple and easy workflow to stain, image and then analyze tissue samples for the high throughput translational and clinical applications.



Cancer

Immune cells engage lung cancer suppressed by PD-1/PD-L1 checkpoint signaling

Immunology

Immunosuppressive mechanisms driving irritable bowel disease

Neurobiology

Brain cells responding to head trauma

- The Akoya PhenoImager instruments product line is currently comprised of the following scanners: the Mantra 2 Quantitative Pathology Workstation, and two PhenoImager instruments, namely the PhenoImager Fusion, and PhenoImager HT (formerly Vectra Polaris) Automated Quantitative Pathology Imaging System. The PhenoImager Fusion is the most recent in this family of microscopes and represents our high-speed whole-slide scanner ideal for everyday use of 7-color imaging and easy integration with the PhenoCycler instrument to enable ultrahigh-plex imaging solution in the translational and clinical markets.
- *Mantra 2 Quantitative Pathology Workstation*: The Mantra 2 Quantitative Pathology Workstation is a single slide manual microscope that incorporates multispectral imaging technology, image acquisition and analysis with the inForm software and can be used with a variety of reagents including Akoya's Opal[®] reagent kits (as further described below). This instrument is compact and ideal for initial multispectral

imaging for assay development prior to scale up on our PhenoImager HT and is easily integrated with our PhenoImager software.



**Mantra Quantitative
Pathology Workstation**

- *PhenoImager Fusion*: is an automated 4-slide microscope, that enables whole-slide, multispectral imaging (MSI) at single-cell resolution at unprecedented speed. Ideal for standard throughput and high-plex applications, the PhenoImager Fusion can function as a stand-alone ultrafast imager for spatial phenotyping applications or can be integrated with the PhenoCycler instrument (formerly CODEX) to form the PhenoCycler-Fusion System for spatial discovery at scale by providing significant improvements in the speed of the workflow.

PHENOCYCLER-FUSION SYSTEM

PHENOCYCLER PHENOIMAGER FUSION



PhenoImager Fusion (stand-alone) or Integrated into the PhenoCycler-Fusion System

- *PhenoImager HT (formerly Vectra Polaris) Automated Quantitative Pathology Imaging System:* PhenoImager HT is our premier and most highly cited digital pathology imager featuring rapid whole-slide multispectral scanning of up to 7 colors (6 biomarkers) with an 80-slide capacity. Because of the proprietary optical components coupled to our reagents and software, it is uniquely able to accurately detect and measure weakly expressed and overlapping biomarkers within a single tissue section. It also supports multiple applications including Hematoxylin and Eosin (“H&E”), immunohistochemistry (IHC), mIF on fresh frozen or FFPE tissue section or TMA. The whole slide multispectral imaging capability creates a simpler, more robust workflow as fields of view do not need to be selected, eliminating selection bias and accelerating the time to result. The PhenoImager HT can also scan brightfield slides for downstream analysis, such as traditional DAB IHC, or scan regions of interest across a whole slide with up to 9 colors (8 biomarkers). The fully automated process provides a recorded whole slide scan, meaning no re-scans and eliminating redundant work.



PhenoImager HT

Our Proprietary Reagents

PhenoCycler (formerly CODEX) Reagents

- *PhenoCycler Antibodies:* We offer a rapidly growing menu of validated antibody content for use with PhenoCycler. Today, our menu includes over 70 unique antibodies validated for human FFPE tissue, human fresh frozen tissue, and/or mouse fresh frozen tissue.
- *PhenoCycler Antibody Conjugation Kit:* We offer an antibody conjugation kit that allows customers to label their own proprietary antibodies of interest and modify them for use with PhenoCycler. The antibody conjugation kit can be used to add antibodies to existing content or develop entirely new content for new applications.
- *PhenoCycler Workflow Reagents:* We provide the full suite of additional proprietary buffers and reagents needed as part of the full PhenoCycler workflow.

PhenoImager (formerly Phenoptics) Reagents

We offer a number of proprietary reagents required for the use of our platforms that are a key part of providing a seamless workflow solution to our customers. The PhenoImager Reagents portfolio includes the following:

PhenoCode™ Signature Panels and Reagents, Opal® and Tyramide Signal Amplification (TSA)-Based Detection Kits for Multiplexing, and Essentials for Staining.

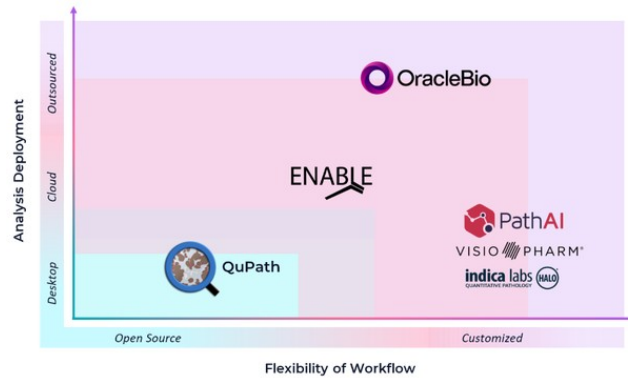
- *PhenoCode Signature Panels and Reagents*: The newest addition to the PhenoImager Reagents portfolio provides researchers with an off-the-shelf, customizable solution to answer the top five essential questions for interrogating the tumor microenvironment. In 2023, we plan to launch five pre-optimized panels that will consist of a five-plex base panel and one open position to add an additional biomarker of choice to the panel. Customers can choose from our menu of stand-alone antibodies or barcode their own antibody of interest for use in the open position of a PhenoCode Signature panel. Choice in utilizing our custom barcoding service or our catalog Antibody Conjugation Kit for PhenoCode Signature is provided if customers select to barcode their own antibody. Panels are designed to be used across a wide variety of human FFPE tissue types, providing an additional layer of flexibility for customers. PhenoCode Signature antibodies are provided barcoded, utilizing Akoya's proprietary universal barcoding technology to overcome workflow hurdles associated with traditional multiplexed immunofluorescence (mIF) detection in FFPE tissue. Akoya's Opal fluorescent dyes are included in each panel kit for high sensitivity detection; panels are compatible with PhenoImager HT and PhenoImager Fusion systems for downstream imaging.
- *Opal and TSA-Based Detection Kits*: Opal-based detection kits are optimized for reliable spectral unmixing and offer a variety of multiplexing options to anyone performing standard immunohistochemistry (IHC). Researchers using our Opal and TSA-based dyes can select antibodies at-will to develop and optimize assays for specific mIF detection needs. We provide detection reagents for both automated and manual staining, including single dye reagent packs and pre-kitted options for multiplexing. Additionally, we offer 2 Opal-based pre-optimized panels for tissue-specific biomarker detection in human FFPE lung cancer and melanoma tissues. Both the lung cancer and melanoma six-plex panels include six ready-to-use, clinically-relevant antibodies and are compatible with automated staining followed by imaging on the PhenoImager HT or PhenoImager Fusion instruments.
- *Essentials for Staining*: Akoya offers high quality, stand-alone reagents which are essential for Opal mIF staining, including antigen retrieval buffers, antibody blocking buffers to reduce non-specific binding and secondary antibodies.

Our Software Services

We offer an ecosystem of different software options, both internal and through partnerships for our solutions to provide customers with the flexibility and ability to perform their desired work.

Analysis Software Partnerships Ecosystem

- **Visiopharm A/S**: A leading digital pathology analysis provider that specializes in AI deep learning tissue analysis. It is the recommended solution for users that require on-prem software deployment and high image analysis capabilities.
- **Indica Labs Inc.**: Indica's HALO platform is a recognized and established brand in digital pathology. HALO is Indica's on-prem analysis solution, and HALO AP is their cloud-based platform for streamlined pathology workflow and laboratory information management system integration. It is the recommended solution for PhenoImager clinical workflows.
- **PathAI, Inc.**: PathAI is an AI-powered, pathology analysis services provider for our PhenoImager HT data. It is used in ABS projects for clinical spatial signature discovery, targeted primarily at translational or in vitro diagnostic ("IVD") analysis for biopharma.
- **Enable Medicine Inc.**: The Enable Platform is a subscription cloud-based platform for high-parametric image analysis and bioinformatics. It is the recommended cloud offering for PhenoCycler workflows.
- **OracleBio Limited**: OracleBio is a leading analysis services provider that is well-versed with commercial solutions like Visiopharm and HALO to perform data analysis for biopharma customers for both research use only ("RUO") and clinical spaces.



Internal Analysis Software

- *inForm Tissue*: A patented automated image analysis software package for accurately visualizing and quantifying biomarkers in tissue sections. Our software can be tailored to enable biomarker analysis in both solid tissues and TMAs from H&E, multiplexed IHC, and multiplexed immunofluorescence data. The automated, trainable algorithms permit detection, cell and tissue segmentation and identification of multiple markers within a sample. Once trained, inForm will locate and analyze user-specified regions automatically across an entire image or multiple images. Large numbers of images can be rapidly batch processed, allowing analysis that might have taken days to be done in a matter of minutes.
- *phenoptr & phenoptrReports*: Additional software to enhance the experience with our platforms. Phenoptr provides functions that consolidate and analyze output tables created by inForm software, while phenoptrReports generates shareable reports and visualizations based on the phenoptr output in an intuitive front-end GUI.

Our Biopharma Services

Our contract research services laboratory, which we call Advanced Biopharma Solutions (“ABS”), enables biopharma clients to access the Phenomager (formerly Phenoptics) platform in a fee-for-service model to support the discovery and validation of predictive biomarkers to elucidate drug mechanism of action, better understand the underlying biology of disease in translational research studies and perform patient stratification and selection. The services we offer span the entire Phenomager workflow and include sample preparation, tissue staining, tissue imaging, image analysis pathological review and reporting. Our ABS lab leverages tissue autostainers, the Phenomager HT (formerly Vectra Polaris) and our proprietary software to provide automation across the entire workflow. Our strategic focus is partnering with top biopharma companies on clinical trials and retrospective and prospective clinical studies. Ongoing expansion of this business and progression of our partnerships to later stage clinical trials may ultimately lead to companion diagnostic partnerships with these top biopharma companies. Our ABS laboratory, based in Marlborough, Massachusetts is certified through the Clinical Laboratory Improvement Amendments (“CLIA”) program. This certification enables our ABS lab to support later stage clinical trial studies with our biopharmaceutical partners. CLIA certification affirms that our ABS lab processes and services operate under high quality standards and provides a framework for assay development and validation that consistently meets guidelines for accuracy, precision, specificity, sensitivity, and reproducibility. This milestone is an important step towards advancing the company’s platforms toward clinical use. It further positions us as an attractive partner for biopharmaceutical companies seeking to incorporate our ground-breaking spatial biology technologies into their clinical research, most notably in the expanding field of cancer immunotherapy.

Suppliers and Manufacturing

We outsource the manufacturing and distribution of our instruments and reagents. We use one contract manufacturer to produce our PhenoImager (formerly PhenoOptics) instruments, another to produce our PhenoCycler (formerly CODEX) instruments, and a third to produce all reagent kits. The manufacturers procure the majority of materials needed for the finished good production from many different suppliers, with some of those suppliers located in the US and others located outside the U.S. See “Risks Related to Our Business and Strategy — Our third-party manufacturers are dependent upon third-party suppliers, including single source suppliers, making us vulnerable to supply shortages and price fluctuations, which could harm our business.”

Distribution to customers generally occurs from the manufacturing location. We manufacture one sub-assembly related to the PhenoOptics (now rebranded as PhenoImager) instruments in our Marlborough, MA facility. Inventory is generally held at the contract manufacturer locations, at a third-party warehouse in Massachusetts, or at our warehouse in Marlborough.

Employees

As of December 31, 2022, we had 369 employees, including 107 in research and development, 151 in sales, marketing, support, business development, and field service support, 76 in general and administrative and 35 in contract research and manufacturing. None of our United States employees are represented by a labor union or covered under a collective bargaining agreement and we consider our relationship with our employees to be positive.

Facilities

Our corporate headquarters, research and development facilities and manufacturing and distribution centers are located in Marlborough, Massachusetts and Menlo Park, California, where we lease in aggregate approximately 80,968 and 20,675 square feet of space, respectively, under leases expiring between December 31, 2023 and March 1, 2030. We do not own any real property and believe that our current facilities, together with our global headquarters and research and development center, are sufficient to meet our ongoing needs and that, if we require additional space, we will be able to obtain additional facilities on commercially reasonable terms.

Competition

The life sciences market is highly competitive. There are other companies, both established and early-stage, that have indicated that they are designing, manufacturing and marketing products for, among other things, tissue analysis, single-cell analysis and spatial analysis. These companies include 10x Genomics, Nanostring Technologies and Fluidigm, each of which has products that compete to varying degrees with some but not all of our product solutions, as well as a number of other emerging and established companies. Some of these companies may have substantially greater financial and other resources than us, including larger research and development staff or more established marketing and sales forces. Other competitors are in the process of developing novel technologies for the life sciences market which may lead to products that rival or replace our products.

However, we believe we are substantially differentiated from our competitors for many reasons, including our position as a leader in a large and growing market, proprietary technologies, rigorous product development processes, scalable infrastructure and positive customer experience. We believe our customers favor our products and company because of these differentiators.

For further discussion of the risks we face relating to competition, see the section titled “Risk Factors — Risks Related to our Business and Industry — Our market is highly competitive, and if we cannot compete successfully with our competitors, we may be unable to increase or sustain our revenue, or achieve and sustain profitability.”

Government Regulation

We do not currently offer any products or services intended to provide clinical diagnostic or health assessment information in relation to individual patients, for use by those patients or their healthcare providers in connection with treatment.

We offer technology, products, and services directly to our customers or on a contractual basis to a broad range of customers in the life sciences industry. Our customers may themselves be directly regulated by the FDA, the Centers for Medicare & Medicaid Services under CLIA, or similar foreign or state regulatory authorities.

We market certain of our products under the FDA exemptions applicable to RUO IVD products. To qualify for this exemption from the otherwise applicable FDA medical device requirements, IVDs must either themselves be in the laboratory research stage of development; or be instruments, systems, or reagents that are labeled for RUO and intended for use in the conduct of nonclinical laboratory research with goals other than the development of a commercial IVD product, i.e., these products are used to carry out research and are not themselves the object of the research. To make clear that these products are exclusively for research purposes, the FDA requires them to include labeling that is prominently placed to state: “For Research Use Only. Not for use in diagnostic procedures.” RUO products include those intended for use in discovering and developing medical knowledge related to human disease and conditions. For example, instruments and reagents intended for use in research attempting to isolate a gene linked with a particular disease may be labeled for RUO when such instruments and reagents are not intended to produce results for clinical use. FDA guidance describes the agency’s position on RUOs, including labeling and distribution expectations to remain consistent with RUO status. FDA has advised that it will evaluate the totality of the circumstances to determine if it agrees a product is RUO.

In addition, customers may impose contractual requirements relating to, or we may otherwise determine that it is commercially beneficial for us to voluntarily follow, certain regulatory and industry standards such as FDA good manufacturing practices and International Standards Organization (“ISO”) quality or other standards.

In the future we may pursue or play a role in the development of “companion diagnostics,” or perform clinical testing using companion diagnostics. A companion diagnostic is a medical device, often an in vitro diagnostic device, which provides information that is essential for the safe and effective use of a corresponding drug or biological product. The test helps a health care professional determine whether a particular therapeutic product’s benefits to patients will outweigh any potential serious side effects or risks. Companion diagnostics would be subject to a much more significant degree of potential FDA and CMS/CLIA and state laboratory regulation than our current product and service offerings.

Our ABS laboratory located in Marlborough, Massachusetts is CLIA certified. CLIA establishes rigorous quality standards for all laboratories that perform testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention or treatment of disease, or the impairment of, or assessment of health. Clinical laboratories must obtain a CLIA certificate based on the complexity of testing performed at the laboratory, such as a Certificate of Compliance for high-complexity testing. CLIA also mandates compliance with various operational, personnel, facilities administration, quality and proficiency requirements, intended to ensure that their clinical laboratory testing services are accurate, reliable and timely. Compliance is subject to verification through inspections and audits.

CLIA provides that a state may adopt laboratory regulations that are more stringent than those under federal law, and a number of states have implemented their own more stringent laboratory regulatory requirements. Several states additionally require the licensure of out-of-state laboratories that accept specimens from those states.

If a clinical laboratory is found to be out of compliance with CLIA certification or a state license or permit, the applicable regulatory agency may, among other things, suspend, restrict or revoke the certification, accreditation, license or permit to operate the clinical laboratory, assess civil monetary penalties and impose specific corrective action plans, among other sanctions.

Intellectual Property

Protection of our intellectual property is fundamental to the long-term success of our business. We believe that our continued success depends in large part on our proprietary technologies, the skills of our employees, and the ability of our employees to continue to innovate and incorporate advances into our products and services. We regard our services and our products, including our reagents, our instruments, and our developed software, as proprietary.

We rely primarily on a combination of patent, copyright, trademark, and trade secret laws, as well as contractual provisions with employees and third parties, to establish and protect our intellectual property rights. Our patent strategy is to pursue broad protection for key technologies, supplemented by additional patent filings covering conceptual methods, specific aspects of current and proposed products, and forward-looking applications and technological developments, and licensing of certain patent families from third parties. We also engage in strategic analysis of our owned and licensed patent assets and pursue additional patent claims from our existing portfolio that may provide us with market advantages. We do not rely heavily on trade secret protection but do maintain a certain amount of in-house know-how that is not disclosed publicly.

We provide products to customers and commercial and academic collaborators pursuant to agreements with non-disclosure terms and other conditions that impose restrictions on use and disclosure. We further make use of contractual obligations that require our employees, consultants and contractors with access to our proprietary information to execute nondisclosure, non-competition and assignment of intellectual property agreements, to preserve our intellectual property rights. We generally control access to our proprietary and confidential information through the use of internal and external controls that are subject to periodic review.

Our key tissue labeling technology CODEX[®] (now rebranded as PhenoCycler[®]) originated in the laboratory of Professor Garry P. Nolan at Stanford, who is a board member. Two families of patents covering this technology are exclusively licensed from Stanford.

The first patent family generally covers the “CODEX 1” labeling technology in which an antibody conjugated to an oligonucleotide barcode binds to a target in a tissue sample, and extension of a primer hybridized to the barcode generates a molecular reporter that emits a detectable fluorescent signal. The patent family covering the CODEX 1 technology includes patents directed to compositions generated by use of the CODEX 1 technology as well as methods of using the CODEX 1 technology. Patents directed to the methods of using the CODEX 1 technology include U.S. patents (expiring in 2034-2036) and European patents (expiring in 2035) in Germany, France, United Kingdom and Sweden. The patent directed to the compositions generated by use of the CODEX 1 technology is a U.S. patent expiring in 2034. The second patent family generally covers the “CODEX 2” labeling technology in which an antibody conjugated to an oligonucleotide binds to a target in a tissue sample, and a second oligonucleotide conjugated to a dye hybridizes to the first oligonucleotide to generate a fluorescent molecular reporter. The patent family covering the CODEX 2 technology includes a U.S. patent directed to methods of using the CODEX 2 technology, which expires in 2037.

Our key tissue imaging technology Phenoptics[®] (now rebranded as PhenoImager[®]) originated at Cambridge Research and Instrumentation Inc. (“Cambridge Research”), a company that was later acquired by Caliper Life Sciences, Inc. (“Caliper Life Sciences”). Caliper Life Sciences was subsequently acquired by PKI. We purchased key patent assets covering this technology from PKI, Cambridge Research and Instrumentation and Caliper Life Sciences, Inc., and also licensed certain supplemental patents from PKI, Cambridge Research and Instrumentation and VisEn Medical Inc. Some of the supplemental patents are exclusively licensed and others are non-exclusively licensed.

The PhenoImager[®] technology is embodied in the Mantra 2 Quantitative Pathology Workstation, the Vectra 3 Automated Quantitative Pathology Imaging System, the PhenoImager[®] Fusion System, and the PhenoImager[®] HT Automated Quantitative Pathology Imaging System, and in the inForm[®] Tissue software that is supplied as part of these systems and is also available independently. Each of the above systems is a complex combination of imaging

components, sample and reagent handling components, and proprietary software. Components of these systems and software that are protected by specific issued U.S. and foreign utility patents include, as of December 31, 2022:

- software that performs classification of cells and other components of biological tissues and is protected by four owned U.S. patents expected to expire between 2026 and 2028, and owned patents in China, India and Europe expected to expire in 2026;
- systems (including sample handling components) and software that perform dilute eosin staining and imaging of tissue samples and are protected by one owned U.S. patent expected to expire in 2032, and owned patents in Canada, Japan and Europe expected to expire in 2030;
- imaging components and software that perform whole slide imaging of tissue samples and registration of multispectral whole-slide images and are protected by our owned U.S. patent expected to expire in 2034, and also by our owned patents in China and Europe expected to expire in 2034;
- sample- and reagent-handling components, hardware control components, and software that performs pure spectrum determination for spectral unmixing of complex multispectral tissue images and are protected by one owned U.S. patent expected to expire in 2036, and also by owned patents in China and Europe expected to expire in 2034;
- imaging components and software that performs RNA detection in tissue samples and are protected by an owned U.S. patent expected to expire in 2032;
- software that performs real-time spectral unmixing of large multispectral images and is protected by two owned U.S. patents expected to expire between 2030 and 2031;
- imaging components, hardware control components, and software that performs dynamic, spectrally-dependent adjustment of the imaging components for multispectral image acquisition and are protected by one owned U.S. patent expected to expire in 2030 and one owned European patent expected to expire in 2027;
- software that identifies nuclear and non-nuclear regions in a tissue sample stained with two or more counterstains and is protected by one owned U.S. patent expected to expire in 2034;
- imaging components and software that performs spectral unmixing operations on multispectral tissue images to generate component images and are protected by six U.S. patents expected to expire between 2023 and 2026, and four patents in China and Europe expected to expire in 2023, all exclusively in-licensed from PKI; and
- software that decomposes multispectral images of tissue samples stained with an immunohistochemical stain, eosin, and a counterstain, determines a region of interest, and quantifies the immunohistochemical stain in the region of interest and is protected by one U.S. patent exclusively in-licensed from PKI expected to expire in 2029.

We also own patent assets (issued U.S. and foreign patents, pending patent applications, provisional patent applications that will be converted to utility applications, and licensed patent assets from third parties) covering technologies developed internally that are tied to products in development or evaluation for possible commercialization. Many of these applications are not yet open to public inspection.

As of December 31, 2022, our owned patent assets included approximately 20 issued U.S. patents, 13 pending U.S. patent applications (including one U.S. provisional patent application), 51 granted patents in foreign jurisdictions (including Austria, Canada, China, the European Patent Office (the “EPO”), France, Germany, Ireland, India, Italy, Japan, Switzerland, and the United Kingdom), 21 pending patent applications in foreign jurisdictions and five pending Patent Cooperation Treaty applications.

The subject matter covered by our owned patents and patent applications includes systems and methods for sample analysis and classification, methods for spectral unmixing of spectrally dense fluorescence signals, modules and systems for performing dynamic optical correction, methods for training machine classifiers, methods and systems for RNA detection, methods for visualizing and enhancing visualization of samples, methods for visualizing compartments within cells, systems and methods for whole-slide imaging, methods for automated adjustment of imaging systems, systems and methods for multiple- image registration, systems and methods for extraction of pure spectra from sample images, methods for specialized allocation of fluorescence bands within a detection window, systems for low- volume flow cell-based sample analysis, methods for enzyme-mediated amplification of detection signals, methods for detecting receptor-coding nucleic acid segments, methods for selective labeling of targets in samples, compositions and methods for selectively targeting certain analytes, and imaging methods using nanobody probes.

Excluding any potential patent term extension, our currently issued owned patents are expected to expire between 2026 and 2036. See “— Licenses” for more information regarding the agreements under which certain of our patents are licensed.

We also seek to protect our brands through registration of trademark rights. As of December 31, 2022, we owned approximately 13 registered trademarks in the United States, 15 registered foreign trademarks, and five pending U.S. trademark applications. Our registered trademarks and pending trademark applications include trademarks and pending trademark applications for The Spatial Biology Company, Motif, Akoya Biosciences, CODEX, Opal, Vectra, Proxima, The Spatial Biology Solution, The Spatial Biology Platform, The Spatial Biology Solution, PhenoCycler, PhenoCode, PhenoStainer, and PhenoImager, and our logos for Akoya Biosciences, CODEX, and inForm.

To supplement protection of our brand, we have also registered several internet domain names.

See “Risk Factors — Risks Related to Intellectual Property” for more information regarding the risks relating to intellectual property.

Licenses

Stanford University

In November 2015, we entered into an exclusive (equity) agreement with Stanford, pursuant to which Stanford granted us an exclusive, sublicensable (subject to certain requirements), worldwide license under certain patent rights owned by Stanford relating to oligonucleotide-based biological sample labeling to make, use and sell products and services that are covered by such patent rights, or the Stanford Licensed Products, in all fields of use. The patents are related to oligonucleotide-based labeling technology, and we refer to this technology as the CODEX 1 technology.

In November 2016, the agreement was amended to include an exclusive, sublicensable (subject to certain requirements), worldwide license granted to us by Stanford under additional patent rights owned by Stanford relating to oligonucleotide-based biological sample labeling to make, use, and sell products and services that are covered by such patent rights, in all fields of use (such products and services are also included in the Stanford Licensed Products). We refer to the technology disclosed in the additional patents as the CODEX 2 technology. We are obligated to use commercially reasonable efforts to develop, manufacture, sell and develop markets for Stanford Licensed Products, including with respect to accomplishing specific goals with specific deadlines set forth in the agreement.

We made one-time upfront payments of \$50,000 in connection with the initial execution of the agreement and \$13,000 in connection with executing the amendment. We also granted to Stanford 213,333 shares of our non-voting common stock. We are also required to pay Stanford annual license maintenance fees in the mid-five figures. We further agreed to make one-time milestone payments (i) at issuance of the first licensed patent included in the original 2015 agreement, (ii) at issuance of the first licensed additional patent included in the 2016 amendment to the agreement, (iii) at the issuance of the first licensed additional patent included in the 2021 amendment to the agreement, (iv) upon the first sale of a Stanford Licensed Product covered by the additional licensed patents included in the 2021 amendment to the agreement and (v) upon the sale of more than \$500,000 of Stanford Licensed Products in a calendar year. The aggregate amount of these milestone payments is \$120,000. We also agreed to make a payment of \$10,000 as an

execution fee for the 2021 amendment to the agreement. We are also obligated to pay Stanford a low single-digit percentage royalty on net sales of Stanford Licensed Products and a portion of any of our sublicensing income.

Subject to Stanford's approval, we control the prosecution and maintenance of the licensed patents and, if we are developing Stanford Licensed Products, have the first right to institute a suit, or defend any declaratory judgment action, related to third-party infringement of the licensed patents.

The agreement will continue until the expiration, revocation, invalidation or abandonment of the last patent or patent application that is licensed to us, unless terminated earlier in accordance with its terms. The last licensed patent is set to expire in 2036. We may terminate the agreement at any time by providing advance written notice of at least 30 days. Stanford may terminate the agreement if we violate or fail to perform any material terms thereof or for our failure to achieve certain milestones or use commercially reasonable efforts to develop and commercialize the Stanford Licensed Products and fail to cure such violation or failure within 30 days of written notice from Stanford.

PerkinElmer Heath Sciences, Inc., Cambridge Research & Instrumentation, Inc., and VisEn Medical Inc.

In September 2018, in connection with the acquisition of the Quantitative Pathology Solutions ("QPS") technology from PKI, we entered into a license and royalty agreement with PKI, Cambridge Research, and VisEn Medical Inc., or, collectively, the Licensor, pursuant to which the Licensor granted us an exclusive, nontransferable, sublicensable (subject to certain conditions), worldwide license within certain fields of use under certain patent rights and know-how owned by the Licensor to make, use, and sell products within such fields of use, as well as a similar, non-exclusive license under certain other patent rights. The licensed patents relate to methods and systems for analyzing biological samples, and in particular, slide-mounted tissue samples.

We agreed to pay the Licensor royalties ranging from 1.0% to 7.0% on net sales of products covered by either license on a decreasing schedule that ends upon the expiration of the last valid claim of the licensed patents, at which point the agreement shall terminate and our rights and licenses thereunder shall survive on a fully-paid up, royalty-free basis. The last licensed patent is set to expire in 2036. Neither we nor the Licensor has the right to terminate the agreement prior to such expiration.

The Licensor has the first right to control the prosecution, maintenance and defense of the licensed patents. We have the first right to enforce any exclusively licensed patent with respect to third-party infringement occurring solely within our licensed field of use, and Licensor has the first right to enforce the license patents with respect to any other third-party infringement. If any exclusively licensed patent is believed to be infringed by the development, manufacture, use, offer for sale, sale or importation of a product by the third-party solely inside field of use worldwide, the Licensor has the first right to institute, prosecute and control any action or proceeding with respect to such infringement of such patent.

University of Washington

In June 2018, we entered into an exclusive patent license agreement with the University of Washington, or the University, pursuant to which the University granted us an exclusive, sublicensable (subject to certain conditions), worldwide license in certain fields of use under certain patent rights owned by the University relating to technology for molecular profiling of cells and tissue specimens, to make, use and sell products that are covered by such patent rights, or the Washington Licensed Products. The licensed patents are related to the detection of biomolecules, particularly proteins and nucleic acids, in biological samples.

We made an upfront payment of \$15,000 following execution of the agreement, and we are obligated to pay the University a low single-digit percentage running royalty on net sales of Washington Licensed Products, subject to certain minimum annual royalty payments and potential reductions based on a royalty-stacking allowance for certain third-party rights that are required to be obtained to make, use, sell or import Washington Licensed Products. We are also obligated to make cumulative one-time payments to the University of \$100,000 upon the achievement of certain commercial milestones, as well as sharing a portion of any of our non-royalty sublicensing income.

We are obligated to use commercially reasonable efforts to commercialize the inventions covered by the licensed patent rights and to make and sell Washington Licensed Products as soon as practicable and maximize sales thereof, including with respect to accomplishing specific goals with specific deadlines set forth in the agreement.

The University must conduct the prosecution of the licensed patents per our instructions and at our expense, subject to certain exceptions. We have the first right to defend and enforce the licensed patents at our expense.

The agreement shall expire when all licensed patent rights have terminated, unless terminated earlier in accordance with the terms thereof. The last licensed patent is set to expire in 2032. We may terminate the agreement at any time by providing advance written notice of at least 60 days. The University may terminate the agreement if we violate or fail to perform any material term thereof and fail to cure such violation or failure within 60 days of written notice from the University. In addition, the University may terminate the exclusive license agreement upon 10 days' prior written notice upon certain insolvency-related events involving us or should we challenge the validity of the licensed patents.

Legal Proceedings

From time to time, we may become involved in legal proceedings or be subject to claims arising in the ordinary course of our business. We are not presently a party to any legal proceedings that we believe, if determined adversely to us, would have a material adverse effect on our business, financial condition, operating results, or cash flows. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources, and other factors.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, together with all of the other information in this Annual Report on Form 10-K, including the section titled "Management's discussion and analysis of financial condition and results of operations" and our consolidated financial statements and related notes, before making a decision to invest in our common stock. Our business, results of operations, financial condition and prospects could also be harmed by risks and uncertainties that are not presently known to us or that we currently believe are not material. If any of the risks actually occur, our business, platform, reputation, brand, results of operations, financial condition and prospects could be materially and adversely affected. In such event, the market price of our common stock could decline, and you could lose all or part of your investment.

Risks Related to Our Business and Strategy

We have incurred significant losses since inception, we expect to incur losses in the future and we may not be able to generate sufficient revenue to achieve and maintain profitability.

We have incurred significant losses since our inception. For the years ended December 31, 2022 and 2021, we incurred net losses of \$70.6 million and \$42.9 million, respectively. As of December 31, 2022, we had an accumulated deficit of \$166.7 million. We expect that our operating expenses will continue to increase as we grow our business and will also increase as a result of our becoming a public company. Since our inception, we have financed our operations primarily from private placements of our convertible preferred stock, the incurrence of indebtedness, the sale of our common stock in our IPO, and to a lesser extent, revenue derived from our PhenoCycler (formerly CODEX) and PhenoImager (formerly Phenoptics) platforms. We have devoted substantially all of our resources to the development and commercialization of our PhenoCycler and PhenoImager platforms and to research and development activities related to advancing and expanding our scientific and technological capabilities. We will need to generate significant additional revenue to achieve and sustain profitability, and even if we achieve profitability, we cannot be sure that we will remain profitable for any substantial period of time. We may never be able to generate sufficient revenue to achieve or sustain profitability and our recent and historical growth should not be considered indicative of our future performance.

Our success depends on our ability to drive adoption of our PhenoCycler and PhenoImager platforms.

Our ability to market and sell our PhenoCycler and PhenoImager platforms and increase awareness of spatial biology technology will depend on a number of factors, including:

- our ability to drive adoption of our platforms and complementary products by academic, government, biopharmaceutical, biotechnology and other institutions;
- our ability to increase awareness of the capabilities of our technology and solutions;
- whether our platforms reliably provide advantages over legacy and other alternative technologies and are perceived by customers to be cost effective;
- prices we charge for a direct purchase of, or other access to, our platforms and complementary products;
- the relative reliability and robustness of our platforms and complementary products as a whole and the components of both;
- our ability to develop new workflows, products, services and solutions for customers;
- the impact of our investments in product innovation and commercial growth;
- negative publicity regarding our or our competitors' products resulting from defects or errors; and
- our ability to further validate our technology through research and accompanying publications.

We cannot assure you that we will be successful in addressing each of these criteria or other criteria that might affect the adoption of our solutions. If we are unsuccessful in achieving and maintaining market acceptance of our solutions and spatial biology technology, our business, financial condition, results of operations and prospects could be adversely affected.

Our revenue has been primarily generated from sales of our PhenoCycler and PhenoImager platforms and reagents. If our products do not continue to gain market acceptance, our revenue could be materially and adversely impacted.

We made our first commercial sale of PhenoCycler in the United States in January 2019, and we began selling PhenoImager instruments in October 2018 following our acquisition of this product line from PKI. We currently generate the majority of our revenue from the sale of our PhenoCycler and PhenoImager platforms, reagents and instrument services. Direct sales of PhenoCycler and PhenoImager platforms and consumables together accounted for 76% and 78% of our revenue for the years ended December 31, 2022 and 2021, respectively. We expect that, for at least the foreseeable future, direct sales of our PhenoCycler and PhenoImager platforms and consumables will continue to account for a substantial portion of our revenue while we develop additional products for our spatial biology platforms. As technologies change in the future for research equipment in general and in spatial biology specifically, we will be expected to upgrade or adapt our products in order to keep up with the latest technology and there can be no assurance we will be able to do so. Our sales expectations are based in part on the assumption that our platforms will continue to gain market acceptance as spatial biology becomes more accepted which in turn will increase the associated purchases of our consumables. If sales of our platforms fail to materialize so will the related consumable sales and associated revenue. If our PhenoCycler and PhenoImager platforms fail to achieve sufficient market acceptance or sales of our consumables decrease, our revenue could be materially and adversely impacted.

If we fail to enter into new customer relationships or maintain and expand existing relationships, our future operating results would be adversely affected as a general matter.

Our customer base includes academic, government, biopharmaceutical, biotechnology and other institutions. Our success will depend upon our ability to increase our market penetration among these customers and to expand our market by developing and marketing new products and new applications for existing products. As we continue to scale our business, we may find that certain of our products, certain customers or certain markets, including the biopharmaceutical market, may require a dedicated sales force or personnel with different experience than those we currently employ. Identifying, recruiting and training additional qualified personnel would require significant time, expense and attention.

Our ability to grow our market penetration in existing markets will also depend on our ability to attract new customers by increasing awareness of the capabilities of our spatial biology technology and solutions. Future revenue growth will also depend on our ability to develop and market new workflows, technologies and solutions to meet our existing customers' evolving needs, as well as our ability to identify new applications and customers for our technology in additional markets. If we are unable to drive new customer conversion to our PhenoCycler and PhenoImager platforms, expand adoption of spatial biology technology into new industries and markets, expand the application of workflows across our customers' value chains, increase the usage and value of our workflows to our customers or develop and monetize proprietary biological assets, then our business, financial condition, results of operations and prospects could be adversely affected.

We cannot assure investors that we will be able to further penetrate our existing market or that the market will be able to sustain our current and future product offerings. Any failure to increase penetration in our existing markets would adversely affect our ability to improve our operating results.

Our operating results have fluctuated significantly in the past and may fluctuate significantly in the future, which makes our future operating results difficult to predict and could cause our operating results to fall below expectations.

Our quarterly and annual operating results have fluctuated significantly in the past and may fluctuate significantly in the future, which makes it difficult for us to predict our future operating results. These fluctuations may occur due to a variety of factors, many of which are outside of our control, including, but not limited to:

- the level of demand for our platforms, consumables and technologies, which may vary significantly;
- the length of time of the sales cycle for purchases of our systems, including lead time needed to develop custom workflows or to manufacture component parts;
- the timing and cost of, and level of investment in, research, development, regulatory approval and commercialization activities relating to our products, which may change from time to time;
- the start and completion of projects in which our solutions are utilized;
- the relative reliability and robustness of our platforms, including our technologies;
- the introduction of new products or product enhancements by us or others in our industry;
- expenditures that we may incur to acquire, develop or commercialize additional products and technologies;
- changes in governmental regulations or in the status of our regulatory approvals or applications;
- future accounting pronouncements or changes in our accounting policies; and

- general market conditions and other factors, including factors unrelated to our operating performance or the operating performance of our competitors.

The effect of one of the factors discussed above, or the cumulative effects of a combination of factors discussed above, could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. Stockholders should not rely on our past results as an indication of our future performance.

Our limited operating history makes it difficult to evaluate our future prospects and the risks and challenges we may encounter.

We completed our first commercial PhenoImager sale in October 2018 and PhenoCycler sale in January 2019. Our limited operating history and evolving business make it difficult to evaluate our future prospects and the risks and challenges we may encounter and may increase the risk that we will not grow at or near our expected rates. In addition, we operate in highly competitive markets characterized by rapid technological advances and our business has, and we expect it to continue, to evolve over time to remain competitive.

If we fail to address the risks and difficulties that we face, including those described elsewhere in this “Risk Factors” section, our business, financial condition, results of operations and prospects could be adversely affected. We have encountered in the past, and will encounter in the future, risks and uncertainties frequently experienced by growing companies with limited operating histories in rapidly changing industries. If our assumptions regarding these risks and uncertainties, which we use to plan and operate our business, are incorrect or change, or if we do not address these risks successfully, our results of operations could differ materially from our expectations and our business, financial condition, results of operations and prospects could be adversely affected.

Acquisitions could disrupt our business, cause dilution to our stockholders and otherwise harm our business.

We have and may continue to acquire other businesses or assets to add products or technologies as well as pursue technology licenses or investments in complementary businesses. In 2018, we acquired our PhenoImager platform from PKI. We believe we are successfully integrating the technologies acquired from PKI into our business, but the long-term success of the acquisition is not guaranteed. This transaction and any future transactions could be material to our financial condition and operating results and expose us to many risks, including:

- disruption in our relationships with customers, distributors, manufacturers or suppliers as a result of such a transaction;
- unanticipated liabilities related to acquired companies, including liabilities related to acquired intellectual property or litigation relating thereto;
- difficulties integrating acquired personnel, technologies and operations into our existing business;
- diversion of management time and focus from operating our business;
- failure to realize anticipated benefits or synergies from such a transaction;
- increases in our expenses and reductions in our cash available for operations and other uses; and
- possible write-offs or impairment charges relating to acquired businesses.

Even if we identify a strategic transaction that we wish to pursue, we may be prohibited from consummating such transaction due to the terms of our existing or any future indebtedness. If we were to pursue an acquisition that is not permitted by our existing indebtedness, we would be required to seek a waiver from the lender and we cannot assure our stockholders that the lender would grant such a waiver.

Future acquisitions or dispositions could result in potentially dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities, amortization expenses or write-offs of goodwill, any of which could materially impact our financial results or operations.

If our existing and new products fail to achieve and sustain sufficient scientific acceptance, we will not generate expected revenue and our prospects may be harmed.

The life sciences community is comprised of a small number of early adopters and key opinion leaders who significantly influence the rest of the community. The success of life sciences products is due, in large part, to acceptance by the scientific community and their adoption of certain products as best practice in the applicable field of research. The current system of academic and scientific research views publishing in a peer-reviewed journal as a measure of success. In such journal publications, the researchers will describe, not only their discoveries, but also the methods and typically the products used to fuel such discoveries. Mentions in peer-reviewed journal publications is a good barometer for the general acceptance of our products as best practices. Ensuring that early adopters and key opinion leaders publish research involving the use of our products is critical to ensuring our products gain widespread acceptance and market growth. Continuing to maintain good relationships with such key opinion leaders is vital to growing our market. The number of times our products were mentioned in peer-reviewed publications has increased significantly in the last two years. During this time our revenue has also increased significantly. We cannot assure our stockholders that our products will continue to be mentioned in peer-reviewed articles with any frequency or that any new products that we introduce in the future will be mentioned in peer-reviewed articles. If too few researchers describe the use of our products, too many researchers shift to a competing product and publish research outlining their use of that product or too many researchers negatively describe the use of our products in publications, it may drive existing and potential customers away from our products, which could harm our operating results.

We generally recognize revenue from first-year warranty, extended warranty and service contracts over the contract term, and changes in sales of such contracts may not be immediately reflected in our operating results.

Our instruments are sold with a twelve-month warranty. We offer our customers the option to purchase extended warranty and service programs for regular system maintenance and system optimization on a fixed fee basis. We generally recognize revenue from our first-year warranty, extended warranty and service contracts ratably over the contract term, which is typically twelve months, which could in some cases be subject to an early termination right. Revenue from our first-year warranty, extended warranty and service contracts accounted for 11% and 12% of our revenue for the years ended December 31, 2022 and 2021, respectively. A portion of the revenue we report in each quarter is derived from the recognition of deferred revenue relating to extended warranty and service contracts entered into during previous quarters. Consequently, a decline in new or renewed extended warranty and service contracts by our customers in any one quarter may not be immediately reflected in our revenue for that quarter. Such a decline, however, will negatively affect our revenue in future quarters. Accordingly, the effect of significant downturns in sales and market acceptance of our services and potential changes in our rate of renewals may not be fully reflected in our operating results until future periods.

If we were to be sued for product liability, we could face substantial liabilities that exceed our resources.

The marketing, sale and use of our products could lead to the filing of product liability claims were someone to allege that our products identified inaccurate or incomplete information regarding the tissues analyzed or otherwise failed to perform as designed. We may also be subject to liability for errors in a misunderstanding of or inappropriate reliance upon the information we provide in the ordinary course of our business activities. A product liability claim could result in substantial damages and be costly and time-consuming for us to defend.

We maintain product liability insurance, but this insurance may not fully protect us from the financial impact of defending against product liability claims. Any product liability claim brought against us, with or without merit, could increase our insurance rates or prevent us from securing insurance coverage in the future. Additionally, any product liability lawsuit could damage our reputation, or cause current customers to terminate existing agreements and potential clinical partners to seek other partners, any of which could impact our business, financial condition, results of operations and prospects.

Our business, financial condition, results of operations and prospects may be harmed if our customers discontinue or spend less on research, development and production and other scientific endeavors.

Our customers include biopharmaceutical companies and academic and clinical institutions. Many factors, including public policy spending priorities, available resources and internal budgets and product and economic cycles, including inflationary pressures, have a significant effect on the capital spending policies of these entities. Fluctuations in the research and development budgets of our customers could have a significant effect on the demand for our products. Our customers determine their research and development budgets based on several factors, including the need to develop new products, continued availability of governmental and other funding, competition and the general availability of resources. If their research and development budgets are reduced, the impact could adversely affect our business, financial condition, results of operations and prospects.

If we are unable to support demand for the PhenoCycler and PhenoImager platforms and consumables, and for our future product offerings, including ensuring that we have adequate capacity to meet increased demand, or if we are unable to successfully manage our anticipated growth, our business could suffer.

As the number of customers using our PhenoCycler and PhenoImager platforms and consumables grows and our volume of installed instruments increases, we will need to continue to increase our capacity for customer service and support and for billing and general process improvements and to expand our internal quality assurance programs. We will also need to purchase additional equipment, some of which can take several months or more to procure, setup and validate, and increase our personnel levels to meet increased demand. There is no assurance that any of these increases in scale, expansion of personnel, equipment, software and computing capacities or process enhancements will be successfully implemented, or that we will have adequate space, including in our laboratory facility, to accommodate such required expansion.

As we commercialize additional products, we will need to incorporate new equipment, implement new technology systems and laboratory processes, and hire new personnel, possibly with supplemental or different qualifications as compared to our current personnel. Failure to manage this growth or transition could result in turnaround time delays, higher product costs, declining product quality, deteriorating customer service and slower responses to competitive challenges. A failure in any one of these areas could make it difficult for us to meet market expectations for our products and could damage our reputation and the prospects for our business.

The sizes of the markets for our solutions may be smaller than estimated and new market opportunities may not develop as quickly as we expect, or at all, limiting our ability to successfully sell our solutions.

The market for spatial biology products is new and evolving, making it difficult to predict with any accuracy the sizes of the markets for our current and future solutions. Our estimates of the annual TAM for our current and future solutions are based on a number of internal and third-party estimates and assumptions. In particular, our estimates are based on our expectations that: (a) researchers in the market for certain life sciences research tools and technologies will view our solutions as competitive alternatives to, or better options than, such existing tools and technologies; and (b) researchers who already own such existing tools and technologies will recognize the ability of our solutions to complement, enhance and enable new applications of their current tools and technologies and find the value proposition offered by our solutions convincing enough to purchase our solutions in addition to the tools and technologies they already own. Underlying each of these expectations are a number of estimates and assumptions, including the assumption that government or other sources of funding will continue to be available to life sciences researchers at times and in amounts necessary to allow them to purchase our solutions.

In addition, our growth strategy involves launching new products and expanding sales of existing products into new markets in which we have limited or no experience. Sales of new or existing products into new market opportunities may take several years to develop and mature and we cannot be certain that these market opportunities will develop as we expect. For example, new life sciences technology is often not adopted by the relevant market until a sufficient amount of research conducted using such technology has been published in peer-reviewed publications. Because there can be a considerable delay between the launch of a new life sciences product and publication of research using such product, new life sciences products do not generally contribute a meaningful amount of revenue in the year they are introduced.

In certain markets, such as the biopharmaceutical market, new life sciences technology, even if sufficiently covered in peer-reviewed publications, may not be adopted until the consistency and accuracy of such technology, method or device has been proven. As a result, the sizes of the annual TAM for new markets and new products are even more difficult to predict.

While we believe our assumptions and the data underlying our estimates of the total annual addressable market for our solutions are reasonable, these assumptions and estimates may not be correct and the conditions supporting our assumptions or estimates, or those underlying the third-party data we have used, may change at any time, thereby reducing the accuracy of our estimates. As a result, our estimates of the annual TAM for our solutions may be incorrect.

The future growth of the market for our current and future products depends on many factors beyond our control, including recognition and acceptance of our instruments and products by the scientific community as best practice and the growth, prevalence and costs of competing products and solutions. Such recognition and acceptance may not occur in the near term, or at all. If the markets for our current and future solutions are smaller than estimated or do not develop as we expect, our growth may be limited and our business, financial condition and operational results may be adversely affected.

If we fail to offer high quality customer service, our business and reputation could suffer.

We differentiate ourselves from our competition through our commitment to an exceptional customer experience. Accordingly, high quality customer service is important for the growth of our business and any failure to maintain such standards of customer service, or a related market perception, could affect our ability to sell products to existing and prospective customers. Additionally, we believe our customer service team has a positive influence on recurring consumables revenue. Providing an exceptional customer experience requires significant time and resources from our customer service team. Therefore, failure to scale our customer service organization adequately may adversely impact our business results and financial condition.

The number of our customers has grown significantly and such growth, as well as any future growth, will put additional pressure on our customer service organization. We may be unable to hire qualified staff quickly enough or to the extent necessary to accommodate increases in demand.

In addition, as we continue to grow our operations and reach a global customer base, we need to be able to provide efficient customer service that meets our customers' needs globally at scale. In geographies where we sell through distributors, we rely on those distributors to provide customer service. If these third-party distributors do not provide a high-quality customer experience, our business operations and reputation may suffer.

Our management uses certain key business metrics to evaluate our business, measure our performance, identify trends affecting our business, formulate financial projections and make strategic decisions and such metrics may not accurately reflect all of the aspects of our business needed to make such evaluations and decisions, in particular as our business continues to grow.

In addition to our consolidated financial results, our management regularly reviews a number of operating and financial metrics, including various revenue metrics and cash flows to evaluate our business, measure our performance, identify trends affecting our business, formulate financial projections and make strategic decisions. We believe that these metrics are representative of our current business; however, these metrics may not accurately reflect all aspects of our business and we anticipate that these metrics may change or may be substituted for additional or different metrics as our business grows and as we introduce new products. For example, we expect that our expansion into new markets and adoption by new customers who may not have the same financial resources to devote to consumable purchases as our existing customer base could adversely impact our revenue metrics. If our management fails to review other relevant information or change or substitute the key business metrics they review as our business grows and we introduce new products, their ability to accurately formulate financial projections and make strategic decisions may be compromised and our business, financial results and future growth prospects may be adversely impacted.

We may need to raise additional capital to fund our existing operations, improve our platform or develop and commercialize new products and technologies, or expand our operations.

Based on our current business plan, we believe our current cash, cash equivalents, and marketable securities will be sufficient to meet our anticipated cash requirements for at least the next 12 months. If our available cash resources and anticipated cash flow from operations are insufficient to satisfy our liquidity requirements including because of lower demand for our products or the realization of other risks described in this Annual Report on Form 10-K, we may be required to raise additional capital prior to such time through issuances of equity or convertible debt securities, entrance into a credit facility or another form of third-party funding or seek other debt financing.

In any event, we may consider raising additional capital in the future to expand our business, to pursue strategic investments, to take advantage of financing opportunities or for other reasons, including to:

- increase our sales and marketing efforts to drive market adoption of our PhenoCycler and PhenoImager platforms and consumables and address competitive developments;
- fund development and marketing efforts of products from our programs or any other future products;
- expand our technologies into additional markets;
- acquire, license or invest in additional intellectual property and technologies;
- acquire or invest in complementary businesses or assets; and
- finance capital expenditures and general and administrative expenses.

Our present and future funding requirements will depend on many factors, including:

- our ability to achieve revenue growth;
- our rate of progress in launching and commercializing new products, and the cost of the sales and marketing activities associated with, establishing adoption of our PhenoCycler and PhenoImager platforms and consumables;
- our rate of progress in, and cost of research and development activities associated with, products in research and development;
- the effect of competing technological and market developments;
- costs related to domestic and international expansion; and
- the potential cost of and delays in product development as a result of any regulatory oversight applicable to our products.

The various ways we could raise additional capital carry potential risks. If we raise funds by issuing equity securities, dilution to our stockholders could result. Any preferred equity securities issued also could provide for rights, preferences or privileges senior to those of holders of our common stock. If we raise funds by issuing debt securities, those debt securities would have rights, preferences and privileges senior to those of holders of our common stock. The terms of debt securities issued or borrowings pursuant to a credit agreement could impose significant restrictions on our operations. If we raise funds through collaborations or licensing arrangements, we might be required to relinquish significant rights to our platform technologies or products or grant licenses on terms that are not favorable to us.

If we are unable to obtain adequate financing or financing on terms satisfactory to us, if we require it, our ability to continue to pursue our business objectives and to respond to business opportunities, challenges, or unforeseen circumstances could be significantly limited, and could have a material adverse effect on our business, financial condition, results of operations and prospects.

Our Midcap Trust Term Loan contains covenants, which restrict our operating activities, and we may be required to repay the outstanding indebtedness in an event of default, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

In October 2020, we entered into a credit and security agreement with Midcap Financial Trust, (the “Lender”) pursuant to which the Lender agreed to provide us a \$37.5 million credit facility (the “Midcap Trust Term Loan”).

On March 21, 2022, we entered into Amendment No. 1 to the Midcap Trust Term Loan, which amended certain provisions to permit certain additional debt and capital leases.

On June 1, 2022, we entered into Amendment No. 2 (“Amendment No. 2”) to the Midcap Trust Term Loan, which permitted the draw of a second tranche of \$10.0 million, which was drawn on June 1, 2022. Additionally, the amendment provides us with a new third tranche pursuant to which we may draw \$10.0 million any time after September 30, 2022 until September 30, 2023. The amendment also delayed the amortization start dates for the outstanding loan amounts from November 1, 2023 until April 1, 2025, at which point we will repay the principal amounts in seven equal monthly installments until the maturity date. Finally, Amendment No. 2 amended the interest rate payable on the term loan to apply an interest rate equal to the Secured Overnight Financing Rate (“SOFR”) rate (with a floor of 1.61448%) plus 6.35%. Substantially all other terms and conditions, and covenants of the credit agreement remain unchanged. In connection with Amendment No. 2, the Company agreed to pay a \$75.0 thousand commitment fee as well as a 0.25% fee upon the funding of each of the second tranche and third tranche amounts. On September 30, 2022, the Company drew the third tranche of \$10.0 million related to Amendment No. 2.

On November 7, 2022, we entered into Amendment No. 3 (“Amendment No. 3”) to the Midcap Trust Term Loan, which permitted the draw of two additional tranches, each totaling \$11.25 million, the first of which was drawn on November 7, 2022. The remaining tranche will become available for draw after June 30, 2023 but before December 31, 2023, and is subject to us achieving certain trailing twelve month revenue targets. The amendment also delayed the amortization start dates for the outstanding loan amounts from April 1, 2025 until December 1, 2025 (subject to further extension upon certain conditions), at which point we will repay the principal amounts in equal monthly installments until the new maturity date of November 1, 2027, which was extended pursuant to Amendment No. 3. In addition, Amendment No. 3 amended the interest rate payable on the term loan to apply an interest rate equal to the SOFR rate (with a floor of 2.50%) plus 6.80%, and reset the call protection to begin as of November 7, 2025. Finally, Amendment No. 3 provides for a commitment fee of \$74 thousand payable on November 7, 2022 on the new tranche amounts and an exit fee of 4.75%. Substantially all other terms and conditions, and covenants of the credit agreement remain unchanged.

We have drawn \$63.75 million as of December 31, 2022, subject to our compliance with the covenants contained in the Midcap Trust Term Loan. Until we have repaid such indebtedness, the Midcap Trust Term Loan subjects us to various customary covenants, including requirements as to financial reporting, liquidity ratios and insurance and restrictions on our ability to dispose of our business or property, to change our line of business, to liquidate or dissolve, to enter into any change in control transaction, to merge or consolidate with any other entity or to acquire all or substantially all the capital stock or property of another entity, to incur additional indebtedness, to incur liens on our property, to pay any dividends or make other distributions on capital stock other than dividends payable solely in capital stock, to redeem capital stock, to enter into certain in-bound licensing agreements, to engage in transactions with affiliates, and to encumber our intellectual property. In particular, we are subject to a minimum revenue financial covenant measuring our last twelve months trailing revenue, tested on a monthly basis. Our business may be adversely affected by these restrictions.

We are permitted to make interest only payments on the Midcap Trust Term Loan through November 2025, at which time principal payments begin. However, we may be required to repay the outstanding indebtedness if an event of default occurs under the Midcap Trust Term Loan. An event of default will occur if, among other things, we fail to make required payments under the Midcap Trust Term Loan; we breach any of our covenants under the credit and security agreement, subject to specified cure periods with respect to certain breaches; the Lender determines that a material adverse change (as defined in the credit and security agreement) has occurred; we or our assets become subject to certain legal proceedings, such as bankruptcy proceedings; we are unable to pay our debts as they become due; or we default on contracts with third parties which would permit the third-party to accelerate the maturity of such indebtedness or that could have a material adverse change on us. We may not have enough available cash or be able to raise additional funds through equity or debt financings to repay such indebtedness at the time any such event of default occurs. In such a case, we may be required to delay, limit, reduce or terminate our product development or operations or grant to others rights to develop and market products that we would otherwise prefer to develop and market ourselves. The Lender could also exercise its rights as secured lender to take possession of and to dispose of the collateral securing the Midcap Trust Term Loan, which collateral includes substantially all of our property. Our business, financial condition, results of operations and prospects could be materially adversely affected as a result of any of these events.

Our actual operating results may differ significantly from any operating guidance we may provide.

From time to time, we may release guidance in our quarterly or annual earnings conference calls, quarterly or annual earnings releases, or otherwise, regarding our future performance that represents our management's estimates as of the date of release. This guidance, which will include forward-looking statements, will be based on projections prepared by our management. These projections may not be prepared with a view toward compliance with published guidelines of the American Institute of Certified Public Accountants, (the "AICPA"), and neither our registered public accountants nor any other independent expert or outside party compiles or examines the projections. Accordingly, no such person will express any opinion or any other form of assurance with respect to the projections.

Projections are based upon a number of assumptions and estimates that, while presented with numerical specificity, are inherently subject to significant business, economic and competitive uncertainties and contingencies, many of which are beyond our control and are based upon specific assumptions with respect to future business decisions, some of which will change. The principal reason that we may release guidance is to provide a basis for our management to discuss our business outlook with analysts and investors. We do not accept any responsibility for any projections or reports published by any such third parties.

Guidance is necessarily speculative in nature, and it can be expected that some or all of the assumptions underlying the guidance furnished by us will not materialize or will vary significantly from actual results.

Accordingly, our guidance is only an estimate of what management believes is realizable as of the date of release. Actual results may vary from our guidance and the variations may be material.

Any failure to successfully implement our operating strategy or the occurrence of any of the events or circumstances set forth in this "Risk Factors" section in this Annual Report on Form 10-K could result in actual operating results being different from our guidance, and the differences may be adverse and material.

Our market is highly competitive, and if we cannot compete successfully with our competitors, we may be unable to increase or sustain our revenue, or achieve and sustain profitability.

We face significant competition in our market. We currently compete with both established and early stage life sciences technology companies that design, manufacture and market products and software for, among other applications, genomics, tissue analysis, spatial analysis and immunology, and/or provide services related to the same. Growing understanding of the importance of spatial biology information is leading to more companies offering services related to collecting such information. Potential competitors within our space include 10x Genomics, Nanostring Technologies and Fluidigm, among others. In addition, our customers may also elect to develop their workflows on legacy systems rather than our platforms and may decide to stop using our platforms.

Our competitors and potential competitors may enjoy a number of competitive advantages over us, including:

- longer operating histories;
- larger customer bases;
- greater brand recognition and market penetration;
- greater financial resources;
- greater technological and research and development resources;
- more expansive intellectual property and proprietary rights; and
- larger commercial organizations and manufacturing organizations.

As a result, our competitors and potential competitors may be able to respond more quickly to changes in customer requirements, devote greater resources to the development, promotion and sale of their products than we can or sell their products, or offer services competitive with our platforms, consumables and services at prices designed to win significant levels of market share. We may not be able to compete effectively against these organizations.

In addition, competitors may be acquired by, receive investments from or enter into other commercial relationships with larger, well-established and well-financed companies. Certain of our competitors may be able to secure key inputs from vendors on more favorable terms, devote greater resources to marketing and promotional campaigns, adopt more aggressive pricing policies and devote substantially more resources to product development than we can. If we are unable to compete successfully against current and future competitors, we may be unable to increase market adoption and sales of our platform, which could prevent us from increasing our revenue or achieving profitability.

We must develop new products, adapt to rapid and significant technological change and respond to introductions of new products by competitors to remain competitive.

We sell our products in industries that are characterized by significant enhancements and evolving industry standards. As a result, our customers' needs are rapidly evolving. If we do not appropriately innovate and invest in new products and technologies, our offerings may become less desirable in the markets we serve, and our customers could move to new technologies offered by our competitors or make products themselves. Though we believe customers in our markets display a significant amount of loyalty to their supplier of a particular product, we also believe that because of the initial time investment required by many of our customers to reach a purchasing decision for a new product, it may be difficult to regain that customer once the customer purchases a product from a competitor. Without the timely introduction of new products, services and enhancements, our offerings will likely become less competitive over time, in which case our competitive position and operating results could suffer. Accordingly, we focus significant efforts and resources on the development and identification of new technologies, products and markets to further broaden our offerings. To the extent we fail to timely introduce new and innovative products or services, adequately predict our customers' needs or fail to obtain desired levels of market acceptance, our business may suffer and our operating results could be adversely affected.

We may be unable to manage our future growth effectively, which could make it difficult to execute our business strategy.

Since our inception in 2015, we have experienced rapid growth and anticipate further growth in our business operations. Our growth between 2015 and 2022 has required significant time and attention from our management, and placed strains on our operational and manufacturing systems and processes, financial systems and internal controls and other aspects of our business. We expect to continue to increase headcount and to hire more specialized personnel in the future as we grow our business. We will need to continue to hire, train and manage additional qualified scientists,

engineers, laboratory personnel, client and account services personnel and sales and marketing staff and improve and maintain our technology to properly manage our growth. We may also need to hire, train and manage individuals with expertise that is separate, supplemental or different from expertise that we currently have, and accordingly we may not be successful in hiring, training and managing such individuals. If our new hires perform poorly, if we are unsuccessful in hiring, training, managing and integrating these new employees, or if we are not successful in retaining our existing employees, our business may be harmed.

Developing and launching new products and innovating and improving our existing products have required us to hire and retain additional scientific, engineering, sales and marketing, software, manufacturing, distribution and quality assurance personnel. As a result, we have experienced rapid headcount growth since our inception in 2015 with 369 employees as of December 31, 2022. As we have grown, our employees have become more geographically dispersed. We currently serve customers located in more than 35 countries and plan to continue to expand to new international jurisdictions as part of our growth strategy, which will lead to increased dispersion of our employees, including sales employees and employees who are in our service and support groups. Our management and other personnel devote a substantial amount of time towards maintaining compliance with the requirements of being a public company. We may also face challenges integrating, developing and motivating our rapidly growing and increasingly dispersed employee base.

We may not be able to maintain the quality, reliability or robustness of our platform, or the expected turnaround times of our services and support, or to satisfy customer demand as it grows. Our ability to manage our growth properly will require us to continue to improve our operational, financial and management controls, as well as our reporting systems and procedures. To effectively manage our growth, we must continue to improve our operational and manufacturing systems and processes, our financial systems and internal controls and other aspects of our business and continue to effectively expand, train and manage our personnel. The time and resources required to improve our existing systems and procedures, implement new systems and procedures and to adequately staff such existing and new systems and procedures is uncertain, and failure to complete this in a timely and efficient manner could adversely affect our operations and negatively impact our business and financial results.

We have limited experience in marketing and sales, and if we are unable to expand our marketing and sales organization to adequately address our customers' needs, our business may be adversely affected.

We have limited experience in marketing and selling our products. We may not be able to market, sell or distribute our current products, or future products that we may develop, effectively enough to support our planned growth.

Competition for employees capable of selling expensive instruments within the pharmaceutical and biotechnology industries is intense. We may not be able to attract and retain personnel or be able to build an efficient and effective sales organization, which could negatively impact sales and market acceptance of our products and limit our revenue growth and potential profitability. In addition, the time and cost of establishing a specialized sales, marketing and service force for a particular product or service may be difficult to justify in light of the revenue generated or projected.

Our expected future growth will impose significant added responsibilities on members of management, including the need to identify, recruit, maintain and integrate additional employees. Our future financial performance and our ability to commercialize our products and to compete effectively will depend, in part, on our ability to manage this potential future growth effectively, without compromising quality.

We rely on distributors for the sale of our products in certain countries outside of the United States, in some cases, in addition to direct sales in such countries. We exert limited control over these distributors under our agreements with them, and if their sales and marketing efforts for our products in the region are not successful, our business would be materially and adversely affected. Locating, qualifying and engaging distribution partners with local industry experience and knowledge will be necessary in at least the short to mid-term to effectively market and sell our platform in certain countries outside the United States. We may not be successful in finding, attracting and retaining distribution partners, or we may not be able to enter into such arrangements on favorable terms. Even if we are successful in identifying distributors, such distributors may engage in sales practices that violate local laws or our internal policies. Furthermore, sales practices utilized by any such distribution parties that are locally acceptable may not comply with sales practices

standards required under U.S. laws that apply to us, which could create additional compliance risk. If our sales and marketing efforts by us or our distributors are not successful outside the United States, we may not achieve significant market acceptance for our products outside the United States, which would materially and adversely impact our business, financial condition, results of operations and prospects.

The loss of any member of our senior management team or our inability to attract and retain highly skilled scientists, engineers and salespeople could adversely affect our business.

Our success depends on the skills, experience and performance of key members of our senior management team, including Brian McKelligon, our Chief Executive Officer. The individual and collective efforts of these employees will be important as we continue to develop our platforms and additional products, and as we expand our commercial activities. The loss or incapacity of existing members of our executive management team could adversely affect our operations if we experience difficulties in hiring qualified successors. Our executive officers are at-will employees, and we cannot guarantee their retention for any period of time. We do not maintain “key person” insurance on any of our employees.

Our research and development programs and laboratory operations depend on our ability to attract and retain highly skilled scientists and engineers. We may not be able to attract or retain qualified scientists and engineers in the future due to the competition for qualified personnel among life sciences businesses. We also face competition from universities and public and private research institutions in recruiting and retaining highly qualified scientific and engineering personnel. We may have difficulties locating, recruiting or retaining qualified salespeople. Recruiting and retention difficulties can limit our ability to support our research and development and sales programs. All of our employees are at-will, which means that either we or the employee may terminate their employment at any time.

Due to the significant resources required to enable access in new markets, we must make strategic and operational decisions to prioritize certain markets, technology offerings or partnerships. We may expend our resources to access markets, develop technologies or form certain partnerships that do not yield meaningful revenue, or we may fail to capitalize on markets, technologies or partnerships that may be more profitable or with a greater potential for success.

We believe our platforms have potential applications across a wide range of markets and we have targeted certain markets in which we believe our technology has significant advantages, or for which we believe we have a higher probability of success or revenue opportunity or for which the path to commercialize products and realizing or achieving revenue is shorter. We seek to maintain a process of prioritization and resource allocation among our programs to maintain a balance between advancing near-term opportunities and exploring additional markets for our technology. However, due to the significant resources required for the development of workflows for new markets, we must make decisions on which markets to pursue and the amount of resources to allocate to each. Our decisions concerning the allocation of research, development, collaboration, management and financial resources toward particular markets or workflows may not lead to the development of any viable product and may divert resources away from better opportunities. Similarly, our potential decisions to delay, terminate or collaborate with third parties in respect of certain markets may subsequently also prove to be suboptimal and could cause us to miss valuable opportunities. In particular, if we are unable to develop additional relevant workflows for markets such as antibody therapeutics, cell therapy or the synthetic biology market it could slow or stop our business growth and negatively impact our business, financial condition, results of operations and prospects.

If our operating facilities, including those of our third-party manufacturers, become damaged or inoperable, our ability to conduct and pursue our research and development efforts and manufacture our products may be jeopardized.

We currently derive the majority of our revenue based upon scientific and engineering research and development conducted at two facilities located in California and Massachusetts and from products manufactured by our third-party manufacturers. Our facilities and equipment, and that of our third-party manufacturers, could be harmed or rendered inoperable or inaccessible by natural or man-made disasters or other circumstances beyond our control, including fire, earthquake, power loss, communications failure, war or terrorism, or another catastrophic event, such as a pandemic or

similar outbreak or public health crisis, which may render it difficult or impossible for us to support our customers and develop updates, upgrades and other improvements to our PhenoCycler and PhenoImager platforms, and workflow software for some period of time. The inability to address system issues or manufacture our products could develop if our facilities, or those of our third-party manufacturers, are inoperable or suffer a loss of utilization for even a short period of time, may result in the loss of customers or harm to our reputation, and we may be unable to regain those customers or repair our reputation in the future. Furthermore, our facilities and the equipment we use to perform our research and development work could be unavailable or costly and time-consuming to repair or replace. It would be difficult, time-consuming and expensive to rebuild either of our facilities, to locate and qualify a new facility or license or transfer our proprietary technology to a third-party. Even in the event we are able to find a third-party to assist in research and development efforts, we may be unable to negotiate commercially reasonable terms to engage with the third-party.

We carry insurance for damage to our property and the disruption of our business, but this insurance may not cover all of the risks associated with damage or disruption to our business, may not provide coverage in amounts sufficient to cover our potential losses and may not continue to be available to us on acceptable terms, if at all.

Our insurance policies are expensive and protect us only from some business risks, which leaves us exposed to significant uninsured liabilities.

We do not carry insurance for all categories of risk that our business may encounter and our policies have limits and significant deductibles.

Some of the policies we currently maintain include general liability, property, umbrella and directors' and officers' insurance.

Any additional product liability insurance coverage we acquire in the future, may not be sufficient to reimburse us for any expenses or losses we may suffer. Moreover, insurance coverage is becoming increasingly expensive and in the future we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses. A successful product liability claim or series of claims in which judgments exceed our insurance coverage could adversely affect our business, financial condition, results of operations and prospects, including preventing or limiting the commercialization of any products we develop.

In addition, our director and officer liability insurance includes policy limits which may not provide sufficient coverage in the event of a successful claim or series of claims. Any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our business, financial condition, results of operations and prospects.

Security incidents, loss of data or modification of information, and other disruptions could compromise information related to our business or prevent us from accessing critical information, result in a significant disruption of our activities and expose us to liability, which could adversely affect our business and our reputation.

In the ordinary course of our business, we collect and store information, including personal information, intellectual property and proprietary business information that we own or control or have an obligation to protect. For example, we collect and store research and development information, employee data, commercial information, customer information, business and financial information, and payment card data. We and our service providers, including security and infrastructure vendors, manage and maintain our applications and data using a combination of on-site systems and cloud-based data centers. We face a number of risks related to protecting critical information and our applications, including inappropriate use or disclosure, unauthorized access or acquisition, or inappropriate modification of, critical information. We also face the risk of being unable to access our critical information, applications, or systems due to actual or threats of ransomware, unauthorized encryption, or other malicious activity. We face the risk of our being unable to adequately monitor and audit and modify our controls over our critical information and applications. These risks extend to third-party service providers and subcontractors we use to assist us in managing our information or otherwise process it on our behalf. The secure processing, storage, maintenance and transmission of our critical information are vital to our operations and business strategy, and we devote significant resources to protecting such information.

Although we take reasonable measures to protect critical information and other data from unauthorized access, acquisition, use or disclosure, our information technology and infrastructure and that of our service providers handling and storing information on our behalf may be vulnerable to a variety of disruptions, including data breaches, attacks by hackers and other malicious third parties (including the deployment of computer viruses, malware, ransomware, denial-of-service attacks, social engineering, and other events that affect service reliability and threaten the confidentiality, integrity, and availability of information), unauthorized access, natural disasters, fires, terrorism, war, telecommunications or electrical interruptions or failures, employee error or malfeasance or other malicious or inadvertent disruptions. In particular, the risk of a security breach or disruption, particularly through cyber-attacks or cyber intrusion, has generally increased as the number, intensity, and sophistication of attempted attacks and intrusions from around the world have increased. We have in the past, and may in the future, experience such cybersecurity threats. We may not be able to anticipate all types of security threats, and we may not be able to implement preventive measures effective against all such security threats. Because the techniques used by cyber criminals change frequently, may not be recognized until launched, and can originate from a wide variety of sources, including outside groups such as external service providers, organized crime affiliates or terrorist organizations, we and our services providers and other partners may be unable to anticipate these techniques or implement adequate preventative measures. Further, we do not have any control over the operations of the facilities or technology of third parties that collect, process and store sensitive information on our behalf. Any unauthorized access or acquisition, breach, or other loss, of information could result in legal claims or proceedings, and liability under U.S. federal or state, or non-U.S., laws regarding the privacy and protection of information, including personal information, and could disrupt our operations and harm our reputation. In addition, notice of breaches may be required to affected individuals, regulators, credit reporting agencies or the media. Any such publication or notice could harm our reputation and our ability to compete. The financial exposure from the events referenced above could either not be insured against or not be fully covered through any insurance that we may maintain, and there can be no assurance that the limitations of liability in any of our contracts would be enforceable or adequate or would otherwise protect us from liabilities or damages as a result of the events referenced above.

Seasonality may cause fluctuations in our revenue and results of operations.

We operate on a December 31st year end and believe that there are seasonal factors which may cause sales of our products to vary on a quarterly or yearly basis and increase the magnitude of quarterly or annual fluctuations in our operating results. We believe that this seasonality results from a number of factors, including the procurement and budgeting cycles of many of our customers, especially government- or grant-funded customers, whose cycles often coincide with government fiscal year ends. For example, the United States government's fiscal year end occurs in our third quarter and may result in increased sales of our products during this quarter if government-funded customers have unused funds that may be forfeited, or future budgets that may be reduced, if such funds remain unspent at such fiscal year end. Furthermore, the academic budgetary cycle similarly requires grantees to 'use or lose' their grant funding, which seems to be tied disproportionately to the end of the calendar year, driving sales higher during the fourth quarter. Similarly, our biopharmaceutical customers typically have calendar year fiscal years which also result in a disproportionate amount of their purchasing activity occurring during our fourth quarter. These factors have contributed, and may contribute in the future, to fluctuations in our quarterly operating results. Because of these fluctuations, it is possible that in some quarters our operating results will fall below the expectations of securities analysts or investors. If that happens, the market price of our common stock would likely decrease. These fluctuations, among other factors, also mean that our operating results in any particular period may not be relied upon as an indication of future performance. Seasonal or cyclical variations in our sales have in the past, and may in the future, become more or less pronounced over time, and have in the past materially affected, and may in the future materially affect, our business, financial condition, results of operations and prospects.

Public health crises such as COVID-19 and similar pandemics or outbreaks have caused and could cause disruptions of the development of our platform technologies and products, and adversely impact our business, financial condition and results of operations.

The COVID-19 pandemic, including the spread of variants, continues to evolve, and to date has led to the implementation of various containment efforts. While conditions have improved, the impact of this pandemic has been and may continue to be extensive in many aspects of society. In the event that government authorities were to further modify current restrictions, our employees conducting research and development or manufacturing activities may not be

able to access our laboratory or manufacturing space, and our core activities may be significantly limited or curtailed, possibly for an extended period of time.

The COVID-19 pandemic created many negative headwinds that presented risks to our business and results of operations. For example, the COVID-19 pandemic generally disrupted the operations of our customers and prospective customers, and a resurgence of the COVID-19 pandemic, or a similar public health crises, may in the future disrupt their operations, including as a result of laboratory closures, travel restrictions and/or business shutdowns, uncertainty in the financial markets or other harm to their business and financial results. These disruptions have in the past and could in the future cause reduced capital spend by our existing customers and potential new customers, which has in the past and could in the future negatively impact our instrument and consumables sales. Disruptions from public health crises like COVID-19 could result in further reductions to capital expenditure budgets, delayed purchasing decisions, longer sales cycles, extended payment terms or missed payments, and postponed or canceled projects, any of which would negatively impact our business and operating results, including sales and cash flows. We do not yet know the net impact that the COVID-19 pandemic may have on our business and cannot guarantee that it will not be materially negative. The future development of the COVID-19 pandemic, or similar public health crises, could also exacerbate the severity of the other risks disclosed herein.

Risks Related to Manufacturing and Supply

Our third-party manufacturers are dependent upon third-party suppliers, including single source suppliers, making us vulnerable to supply shortages and price fluctuations, which could harm our business.

Our instruments and reagents contain components that are currently manufactured by a single supplier or a limited number of suppliers. In many of these cases, we and our third-party manufacturers have not yet engaged alternate suppliers and rely upon purchase orders, rather than long-term supply agreements. A supply interruption or an increase in demand beyond our current suppliers' capabilities could harm our ability to manufacture our systems unless and until new sources of supply are identified and qualified. Our reliance on these suppliers subjects us to a number of risks that could harm our business, including:

- interruption of supply resulting from modifications to or discontinuation of a supplier's operations;
- trade disputes or other political or economic conditions, including any global macroeconomic impact resulting from the Russia-Ukraine conflict;
- interruption of or insufficient supply resulting from labor strikes, work stoppages, infectious disease, epidemics or pandemics, political or regulatory prohibition, unrest, acts of terrorism or other interruptions in production and transportation systems;
- delays in product shipments resulting from uncorrected defects, reliability issues, or a supplier's variation in a component;
- a lack of long-term supply arrangements for key components with our suppliers;
- inability to obtain adequate supply in a timely manner, or to obtain adequate supply on commercially reasonable terms;
- difficulty and cost associated with locating and qualifying alternative suppliers for our components in a timely manner;
- a modification or change in a manufacturing process or part that unknowingly or unintentionally negatively impacts the operation of our systems;

- production delays related to the evaluation and testing of products from alternative suppliers, and corresponding regulatory qualifications;
- delay in delivery due to our suppliers prioritizing other customer orders over ours;
- damage to our brand reputation caused by defective components produced by our suppliers;
- increased cost of our warranty program due to product repair or replacement based upon defects in components produced by our suppliers; and
- fluctuation in delivery by our suppliers due to changes in demand from us or their other customers.

Any interruption in the supply of components or materials, or our inability to obtain substitute components or materials from alternate sources at acceptable prices in a timely manner, could impair our ability to meet the demand of our customers, which would have an adverse effect on our business.

We outsource the manufacturing of our instruments and reagents to third-party manufacturers. The failure of these manufacturers to manufacture finished goods on a timely basis could adversely affect our business.

We have engaged with three different third parties to manufacture our instruments and reagents. One such third-party manufacturer manufactures PhenoCycler instruments, a second manufactures Phenolmager instruments, and the other third-party manufactures our reagent kits. In addition, the third parties we rely on source certain key parts of our instruments from other various parties. We do not have any control over the process or timing of the acquisition or manufacture of materials by our third-party manufacturers, and cannot ensure that they will deliver to us the finished goods we order on time, or at all. If the operations of our third-party manufacturers are interrupted, cease, or if they are unable to meet our delivery requirements due to capacity limitations or other constraints, we may be limited in our ability to fulfill new customer orders or to service or repair instruments at current customer sites. Any change to another contract manufacturer, even if ultimately consummated, would likely entail significant delay, require us to devote substantial time and resources, result in additional costs, and could involve a period in which our systems could not be produced in a timely or consistently high-quality manner, any of which could harm our reputation and business, and frustrate our customers and cause them to turn to our competitors. Additionally, we may be unable to enter into agreements with another contract manufacturer on commercially reasonable terms or at all, which could have a material adverse impact on our business.

We forecast sales to determine requirements for components and materials used in our systems, and if our forecasts are incorrect, we may experience delays in shipments or increased inventory costs.

We and our third-party manufacturers keep limited materials, components and finished products on hand. To manage our operations with our third-party manufacturers and suppliers, we forecast anticipated product orders and material requirements to predict our inventory needs and enter into purchase orders on the basis of these requirements. Several components of our instruments and reagent kits have long lead times. Our limited historical commercial experience and rapid growth may not provide us with enough data to consistently and accurately predict future demand. If our business expands and our demand for components and materials increase beyond our estimates, our manufacturers and suppliers may be unable to meet our demand. In addition, if we or our third-party manufacturers underestimate our component and material requirements, we may have inadequate inventory, which could interrupt, delay, or prevent delivery of our systems to our customers. By contrast, if we overestimate our component and material requirements, we may have excess inventory, which would increase our working capital and decrease our cash. Any of these occurrences would negatively affect our financial performance and business results.

Risks Related to Government Regulation

We market certain of our products as Research Use Only, or RUO, in the United States. Our RUO products support the research and development conducted at institutions and biopharmaceutical companies of potential diagnostic and therapeutic products and services for which they may later pursue investigation and clearance, authorization or approval from regulatory authorities, such as the FDA.

RUO products belong to a separate regulatory classification under a long-standing FDA regulation. From an FDA perspective, products that are intended for research use only and are labeled as RUO are not regulated by the FDA as in vitro diagnostic devices for clinical use, and are therefore not subject to those specific regulatory requirements. RUO products may be used or distributed for research use without first obtaining FDA clearance, authorization or approval. The products must bear the statement: “For Research Use Only. Not for Use in Diagnostic Procedures.” RUO products cannot make any claims related to safety, effectiveness or diagnostic utility, and they cannot be intended for human clinical diagnostic use. Accordingly, a product labeled RUO but intended or promoted for clinical diagnostic use may be viewed by the FDA as adulterated and misbranded under the FDCA and subject to FDA enforcement action. The FDA will consider the totality of the circumstances surrounding distribution and use of an RUO product, including how the product is marketed and to whom, when determining its intended use. If the FDA disagrees with our RUO status for our product, we may be subject to FDA enforcement activities, including, without limitation, requiring us to seek clearance, authorization or approval for our products.

We are currently subject to, and may in the future become subject to additional, U.S. state and federal, and non-U.S. laws and regulations, industry guidelines, and contracts, imposing obligations on how we collect, store, use and process personal information. Our actual or perceived failure to comply with such obligations could harm our business. Ensuring compliance with such laws could also impair our efforts to maintain and expand our customer base, and thereby decrease our revenue.

We are, and may increasingly become, subject to various laws and regulations, as well as contractual obligations and mandatory industry standards relating to data privacy and security in the jurisdictions in which we operate. The regulatory environment related to data privacy and security is increasingly rigorous, with new and constantly changing requirements applicable to our business, and enforcement practices are likely to remain uncertain for the foreseeable future. These laws and regulations may be interpreted and applied differently over time and from jurisdiction to jurisdiction, and it is possible that they will be interpreted and applied in ways that may have a material adverse effect on our business, financial condition, results of operations and prospects.

We are not a business associate under the Health Insurance Portability and Accountability Act of 1996, or HIPAA, and do not receive, access, store, or transmit any individually identifiable health information of any patient; however, we are a covered entity under HIPAA as an employer that sponsors a group health plan for its employees. Therefore, the HIPAA Privacy, Security and Breach Notification Rules apply to our group health plan. We have appointed a HIPAA Privacy Officer and HIPAA Security Officer, train our group health plan employees on HIPAA compliance and ensure that individuals outside of the group health plan functions do not have access to protected health information of our employees. We have also entered into a business associate agreement with our third-party administrator to handle medical claims for our group health plan. The HIPAA privacy regulations govern the use and disclosure of protected health information by covered healthcare providers, as well as health insurance plans. They also set forth certain rights that an individual has with respect to his or her protected health information maintained by a covered plan, including the right to access or amend certain records containing protected health information or to request restrictions on the use or disclosure of protected health information. The HIPAA security regulations establish requirements for safeguarding the confidentiality, integrity and availability of protected health information that is electronically transmitted or electronically stored. A covered entity must also notify HHS and each affected individual of a breach of unsecured protected health information as well as the media if the breach involves more than 500 individuals in a particular jurisdiction. HIPAA violations are subject to civil and criminal penalties.

Despite the fact that we do not currently access, store, receive or transmit any protected health information on behalf of a covered entity which could qualify us as a business associate under HIPAA, from time to time we are asked by a customer to enter into a business associate agreement. To date, we have not entered into any business associate

agreements and do not intend to do so as a standard practice. The HIPAA Security Rule regulations establish requirements for safeguarding the confidentiality, integrity and availability of protected health information that is electronically transmitted or electronically stored or electronically stored by a business associate. Under the HIPAA Breach Notification Rule, a business associate must notify a covered entity, within certain required timeframes, of any breach of the security of an individual's protected health information by the business associate or any subcontractor of the business associate.

In the United States, in addition to HIPAA, various federal and state regulators, including governmental agencies like the Federal Trade Commission, or the FTC, have adopted, or are considering adopting, laws and regulations concerning personal information and data security. According to the FTC, failing to take appropriate steps to keep consumers' personal information secure or using or disclosing personal information in violation of a company's privacy notice may constitute unfair or deceptive acts or practices in or affecting commerce in violation of the Federal Trade Commission Act ("FTCA"). The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business and the cost of available tools to improve security and reduce vulnerabilities. We may also become subject to additional data privacy and security laws and regulations in the future, and we anticipate that states and potentially, the federal government, may propose or enact legislation to strengthen data privacy and security standards, which may cause us to incur additional costs and expenses to maintain compliance and could subject us to fines, penalties and negative publicity in the event of a breach or violation under any such law or regulation. Certain state laws may be more stringent or broader in scope, or offer greater individual rights, with respect to personal information than federal, international or other state laws, and such laws may differ from each other, all of which may complicate compliance efforts. For example, the California Consumer Privacy Act of 2018, or CCPA, which increases privacy rights for California residents and imposes obligations on companies that process their personal information and meet certain revenue or volume processing thresholds, came into effect on January 1, 2020, and was further amended by the California Privacy Rights Act, or CPRA, on November 3, 2020. Among other things, the CCPA requires covered companies to provide new disclosures to California residents and provide such residents new data protection and privacy rights, including the ability to opt-out of certain sales of personal information. The CCPA provides for civil penalties for violations, as well as a private right of action for certain data breaches. The CPRA significantly modifies the CCPA by expanding residents' rights with respect to certain personal information and creates a new state agency to oversee implementation and enforcement efforts. Many of the CPRA's provisions will become effective on January 1, 2023. This private right of action may increase the likelihood of, and risks associated with, data breach litigation, including class-action litigation. In addition, laws in all 50 U.S. states require businesses to provide notice to individuals if certain of their personal information has been disclosed as a result of a qualifying data breach. State laws are changing rapidly and there is discussion in the U.S. Congress of a new comprehensive federal data privacy law to which we may likely become subject, if enacted.

Internationally, laws, regulations and standards in many jurisdictions apply broadly to the collection, use, retention, security, disclosure, transfer, marketing and other processing of personal information. For example, the EU General Data Protection Regulation, or GDPR, which became effective in May 2018, greatly increased the European Commission's jurisdictional reach of its data privacy and security laws and introduced a broad array of requirements for handling personal data. EU member states are tasked under the GDPR to enact, and have enacted, certain implementing legislation that adds to and/or further interprets the GDPR requirements and potentially extends our obligations and potential liability for failing to meet such obligations. The GDPR, together with national legislation, regulations and guidelines of the EU member states governing the processing of personal data, impose strict obligations and restrictions on the ability to collect, use, retain, protect, disclose, transfer and otherwise process personal data. In particular, the GDPR includes requirements to establish a legal basis for processing, higher standards for obtaining consent from individuals to process their personal data, more robust disclosures to individuals, a strengthened individual data rights regime, requirements to implement safeguards to protect the security and confidentiality of personal data, data breach notification obligations to appropriate data protection authorities or individuals, limitations on retention and secondary use of information, increased requirements pertaining to health data and additional obligations when entities contract with third-party processors to process personal data. The GDPR allows for fines for certain violations of up to 4% of global annual revenue or €20 million, whichever is greater, and other administrative penalties. Following the withdrawal of the United Kingdom from the European Union, data privacy and security laws that are substantially similar to the GDPR are in effect in the United Kingdom, which carry similar risks and authorize similar fines for certain violations.

Certain legal regimes outside of the United States, including in the United Kingdom and under the GDPR, prohibit the transfer of personal data to the United States unless certain measures are in place, including, for example, executing Standard Contractual Clauses, or historically, relying on the receiving entity's certification under the EU-US and/or Swiss-US Privacy Shield Frameworks, or the Privacy Shield Frameworks. The Privacy Shield Frameworks were invalidated, and the adequacy of Standard Contractual Clauses is now in question, following the Court of Justice of the European Union's July 2020 decision in the so-called Schrems II case (Data Protection Commissioner v. Facebook Ireland Limited, Maximilian Schrems (Case C-311/18)). Due to this evolving regulatory guidance, we are continuing to evaluate the validity of the data transfer mechanisms upon which we rely and we may need to invest in additional technical, legal and organizational safeguards in the future to avoid disruptions to data flows within our business and to and from our customers and service providers. There is no guarantee that any transfer mechanism upon which we rely will be deemed to be valid by the relevant legal authorities, or that mechanisms that are currently deemed to be valid will remain valid in the future. This uncertainty, and its eventual resolution, may increase our costs of compliance, impede our ability to transfer data and conduct our business and harm our business or results of operations.

We use third-party credit card processors to process payments from our customers. Through our agreements with our third-party credit card processors, we are subject to payment card association operating rules, including the Payment Card Industry Data Security Standard, or PCI-DSS, which governs a variety of areas, including how consumers and customers may use their cards, the security features of cards, security standards for processing, data security and allocation of liability for certain acts or omissions, including liability in the event of a data breach. Any change in these rules or standards and related requirements could make it difficult or impossible for us to comply. Additionally, any data breach or failure to hold certain information in accordance with PCI-DSS may have an adverse effect on our business and results of operations.

All of these evolving compliance and operational requirements impose significant costs, such as costs related to organizational changes, implementing additional protection technologies, training employees and engaging consultants and legal advisors, which are likely to increase over time. In addition, such requirements may require us to modify our data processing practices and policies, utilize management's time or divert resources from other initiatives and projects, all of which could have a material adverse effect on our business, financial condition, results of operations and prospects. Any failure or perceived failure by us to comply with any applicable federal, state or similar non-U.S. laws and regulations relating to data privacy and security could result in damage to our reputation, as well as proceedings or litigation by governmental agencies or other third parties, including class action privacy litigation in certain jurisdictions, which would subject us to significant fines, sanctions, awards, injunctions, penalties or judgments. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

As we continue to expand our product and technology offerings and the applications and uses of our products into new fields, we may become subject to government regulation, and the regulatory approval and maintenance process for such products may be expensive, time-consuming and uncertain both in timing and in outcome.

As we continue to expand our product and technology offerings and the applications and uses of our existing products into new fields, certain of our current or future products could become subject to regulation by the FDA, or comparable regulatory authorities, including requirements for regulatory clearance or approval of such products before they can be marketed. Such regulatory approval processes or clearances may be expensive, time-consuming and uncertain, and our failure to obtain or comply with such approvals and clearances could have an adverse effect on our business, financial condition and operating results. The laws, regulations and policies governing the marketing of our products or future products, for example, RUO products, companion diagnostics, or other products and services are extremely complex and in many instances there may be no significant regulatory or judicial interpretations of these laws and regulations. These laws and regulations are subject to interpretation by the relevant regulatory and enforcement officials, and they may interpret them differently than we do. Furthermore, changes to the current regulatory framework, including the imposition of additional or new regulations, including regulation of our products, could arise at any time during the development or marketing of our products, which may negatively affect our ability to obtain or maintain FDA or comparable regulatory approval of our products, if required. Further, if we sell devices for diagnostic purposes, we may in turn be subject to additional healthcare regulation and enforcement by the applicable government agencies. Such laws and regulations include, without limitation, state and federal anti-kickback, fraud and abuse, false claims, data

privacy and security and transparency and reporting requirements for payments and transfers of value to physicians and certain other healthcare professionals.

Diagnostic products are regulated as medical devices by the FDA and comparable international agencies and may require either clearance from the FDA following the 510(k) pre-market notification process or pre-market approval from the FDA, in each case prior to marketing. Obtaining the requisite regulatory clearances or approvals can be expensive and may involve considerable delay in our ability to commercialize our products. For example, we may in the future assist in the development of, or perform clinical testing relative to, companion diagnostics which would subject us to much more extensive regulation under FDA law, CMS/CLIA regulations and state laboratory requirements. None of our products are currently offered to customers as medical devices, however, if our products labeled as RUO are used, or could be used, for the diagnosis of disease, the regulatory requirements related to marketing, selling and supporting such products could change or be uncertain, even if such use by our customers is without our consent.

If the FDA or other regulatory authorities assert that any of our products are subject to regulatory clearance or approval, our business, financial condition or results of operations could be adversely affected.

International expansion of our business exposes us to business, regulatory, political, operational, financial and economic risks associated with doing business outside of the United States.

We currently have limited international operations, and our business strategy incorporates potentially significant international expansion. We currently maintain relationships with distributors outside of the United States, and may in the future enter into new distributor relationships. We may also extend laboratory capabilities outside of the United States, both directly and possibly indirectly. Doing business internationally involves a number of risks, including:

- multiple, conflicting and changing laws and regulations such as data privacy and security regulations, tax laws, export and import restrictions, tariffs, economic sanctions and embargoes, employment laws, regulatory requirements and other governmental approvals, permits and licenses;
- failure by us or our distributors to obtain approvals to conduct our business in various countries;
- differing respect, and protection for, intellectual property rights in other jurisdictions;
- complexities and difficulties in obtaining intellectual property protection, maintaining, enforcing and defending our intellectual property and proprietary rights and defending against third-party intellectual property claims;
- difficulties in staffing and managing foreign operations;
- logistics and regulations associated with shipping systems and parts and components for systems, consumables and reagent kits, as well as transportation delays;
- travel restrictions that limit the ability of marketing, presales, sales, services and support teams to service customers;
- financial risks, such as longer payment cycles, difficulty collecting accounts receivable, the impact of local and regional financial crises on demand and payment for our products and exposure to foreign currency exchange rate fluctuations;
- international trade disputes that could result in tariffs and other protective measures;
- natural disasters, political and economic instability, including wars, terrorism and political unrest, outbreak of disease, boycotts, curtailment of trade and other business restrictions; and

- regulatory and compliance risks that relate to maintaining accurate information and control over sales and distributors' activities that may fall within the purview of the U.S. Foreign Corrupt Practices Act, or FCPA, its books and records provisions, or its anti-bribery provisions.

Any of these factors could significantly harm our future international expansion and operations and, consequently, our business, financial condition, results of operations and prospects. In addition, certain international markets are subject to significant political and economic uncertainty, including for example the effect of the withdrawal of the United Kingdom from the European Union. Significant political and economic developments in international markets for which we intend to operate, or the perception that any of them could occur, creates further challenges for operating in these markets in addition to creating instability in global economic conditions.

We could be adversely affected by violations of the FCPA and the anti-bribery and anti-corruption laws of the United States or other countries.

We are subject to the FCPA, which among other things prohibits companies and their intermediaries from making payments in violation of law to non-U.S. government officials for the purpose of obtaining or retaining business or securing any other improper advantage. We have engaged independent distributors in the past and currently use independent distributors to sell our platforms and instruments outside of the United States. Our reliance on independent distributors to sell the PhenoCycler and PhenoImager platforms internationally demands a high degree of vigilance in maintaining our policy against participation in corrupt activity, because these distributors could be deemed to be our agents and we could be held responsible for their actions. Other U.S. companies in the biotechnology and biopharmaceutical field have faced criminal penalties under the FCPA for allowing their agents to deviate from appropriate practices in doing business with these individuals. We are also subject to similar anti-bribery laws in the jurisdictions in which we operate, including the United Kingdom's Bribery Act of 2010, which also prohibits commercial bribery and makes it a crime for companies to fail to prevent bribery, and the People's Republic of China anti-bribery laws, including the PRC Anti-Unfair Competition Law amended in 2017, the PRC Criminal Law amended in 2017. These laws are complex and far-reaching in nature, and, as a result, we cannot assure you that we would not be required in the future to alter one or more of our practices to be in compliance with these laws or any changes in these laws or the interpretation thereof. Any violations of these laws, or allegations of such violations, could disrupt our operations, involve significant management distraction, involve significant costs and expenses, including legal fees and could result in a material adverse effect on our business, financial condition, results of operations and prospects. We could also suffer severe penalties, including criminal and civil penalties, disgorgement and other remedial measures.

Unfavorable U.S. or global economic conditions could adversely affect our business, financial condition or results of operations.

Our results of operations could be adversely affected by general conditions in the global economy and financial markets. Changes in these economic conditions can arise suddenly, such as in the case of the recent rise in inflation. A rise in inflation could result in higher cost of goods sold and higher operating expenses. A severe or prolonged economic downturn, as result of a global pandemic or otherwise, could result in a variety of risks to our business, including weakened demand for our products and services and our ability to raise additional capital when needed. A weak or declining economy could strain our customers and suppliers, possibly resulting in supply disruption, or cause delays in their payments to us. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

Our employees, consultants, distributors and commercial partners may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements, and insider trading.

We are exposed to the risk of fraud or other misconduct by our employees, consultants, distributors and commercial partners. Misconduct by these parties could include intentional failures to comply with the applicable laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. These laws and regulations may restrict or prohibit a wide range of pricing, discounting and other business arrangements. Such misconduct could result in legal or regulatory sanctions and cause serious harm to our

reputation. It is not always possible to identify and deter employee misconduct, and any other precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses, or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could result in the imposition of significant civil, criminal and administrative penalties, which could have a significant impact on our business. Whether or not we are successful in defending against such actions or investigations, we could incur substantial costs, including legal fees and divert the attention of management in defending ourselves against any of these claims or investigations.

We use biological and hazardous materials that require considerable expertise and expense for handling, storage and disposal and may result in claims against us.

We work with materials, including chemicals, biological agents and compounds that could be hazardous to human health and safety or the environment. Our operations also produce hazardous and biological waste products. Federal, state and local laws and regulations govern the use, generation, manufacture, storage, handling and disposal of these materials and wastes. We are subject to periodic inspections by federal, state and local authorities to ensure compliance with applicable laws. Compliance with applicable environmental laws and regulations is expensive, and current or future environmental laws and regulations may restrict our operations. If we do not comply with applicable regulations, we may be subject to fines and penalties.

In addition, we cannot eliminate the risk of accidental injury or contamination from these materials or wastes, which could cause an interruption of our commercialization efforts, research and development programs and business operations, as well as environmental damage resulting in costly clean-up and liabilities under applicable laws and regulations. In the event of contamination or injury, we could be liable for damages or penalized with fines in an amount exceeding our resources and our operations could be suspended or otherwise adversely affected. Furthermore, environmental laws and regulations are complex, change frequently and have tended to become more stringent. We cannot predict the impact of such changes and cannot be certain of our future compliance.

Risks Related to Intellectual Property

If we are unable to obtain and maintain sufficient patent or other intellectual property protection for our technology, including the PhenoCycler and PhenoImager platforms, or if the scope of the intellectual property protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to successfully commercialize our products and our technology may be impaired.

We rely on patent protection as well as trademark, copyright, trade secret and other intellectual property rights protection and contractual restrictions to protect our proprietary technologies, all of which provide limited protection and may not adequately protect our rights or permit us to gain or keep any competitive advantage. If we fail to obtain or to protect our intellectual and proprietary property, third parties may be able to compete more effectively against us. In addition, we may incur substantial litigation costs in our attempts to recover or restrict use of our intellectual property.

To the extent our intellectual property offers inadequate protection, is found to be invalid or unenforceable, or laws affecting the scope of intellectual property protection and remedial actions change, we would be exposed to a greater risk of direct competition. If our intellectual property does not provide adequate coverage of our own or our competitors' products, our competitive position could be adversely affected, as could our business. Both the patent application process and the process of managing patent disputes can be time-consuming and expensive.

As is the case with other life sciences and biotechnology companies, our success depends in large part on our ability to obtain and maintain protection of the intellectual property we may own solely and jointly with others, particularly patents, in the United States and other countries with respect to our products and technologies. We apply for patents covering our products and technologies and uses thereof, as we deem appropriate. However, obtaining and enforcing patents in our industry is costly, time-consuming and complex, and we may fail to apply for patents on important products, services and technologies in a timely fashion or at all, or we may fail to apply for patents in potentially relevant jurisdictions. We may not be able to file and prosecute all necessary or desirable patent applications, or maintain, enforce

and license any patents that may issue from such patent applications, at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. We may not have the right to control the preparation, filing and prosecution of patent applications, to maintain the rights to patents licensed to or from third parties, or to control enforcement of licensed patent rights. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. We may not be able to control the extent of auxiliary rights licensed to other parties by entities from whom we license patent rights, which may affect our ability to exclude other parties from markets and jurisdictions based on those licensed patent rights.

It is possible that none of our pending patent applications will result in issued patents in a timely fashion or at all, and even if patents are granted, they may not provide a basis for intellectual property protection of commercially viable products or services, may not provide us with any competitive advantages, or may be challenged and invalidated by third parties. It is possible that others will design around our current or future patented technologies or that our patents and patent applications may be challenged at the United States Patent and Trademark Office, or USPTO, or in proceedings before the patent offices of other jurisdictions. We may not be successful in defending any such challenges made against our patents or patent applications. We may not be able to intervene or participate in any challenge to patent rights that are licensed by us from another party. Any successful third-party challenge to our patents could result in the unenforceability or invalidity of such patents, in whole or in part, and increased competition to our business. We may have to challenge the patents or patent applications of third parties. The outcome of patent litigation or other proceedings can be uncertain, and any attempt by us to enforce our patent rights against others or to challenge the patent rights of others may not be successful, or, if successful, may take substantial time and result in substantial cost, and may divert our efforts and attention from other aspects of our business.

Furthermore, our patents may be subject to a reservation of rights by one or more third parties. For example, the research resulting in certain of our in-licensed patent rights and technology was funded in part by the U.S. government. As a result, the government may have certain rights, or march-in rights, to such patent rights and technology. When new technologies are developed with government funding, the government generally obtains certain rights in any resulting patents, including a non-exclusive license authorizing the government to use the invention for non-commercial purposes. These rights may permit the government to disclose our confidential information to third parties and to exercise march-in rights to use or allow third parties to use our licensed technology. The government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the government-funded technology, because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to U.S. industry. In addition, our rights in such inventions may be subject to certain requirements to manufacture products embodying such inventions in the United States.

The patent positions of life sciences companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in such companies' patents has emerged to date in the United States or elsewhere. Courts frequently render opinions in the biotechnology field that may affect the patentability of certain inventions or discoveries. Further, codified patent laws, legal principles, the scope of damages, and remedies for patent infringement can vary widely among jurisdictions, and our business may be affected differentially among those jurisdictions by any verdict, judgment, administrative proceeding, or other decision relating to enforcement of patent rights.

Moreover, the coverage claimed in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. Even if patent applications we license or own, currently or in the future, issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors or other third parties from competing with us, or otherwise provide us with any competitive advantage. Any patents that we own may be challenged, narrowed, circumvented or invalidated by third parties. Consequently, we do not know whether our products or other technologies will be protectable or remain protected by valid and enforceable patents. Our competitors or other third parties may be able to circumvent our patents by developing similar or alternative technologies or products in a non-infringing manner which could harm our business, financial condition and results of operations.

Some of our patents and patent applications may in the future be co-owned with third parties. If we are unable to obtain an exclusive license to any such third-party co-owners' interest in such patents or patent applications, such co-

owners may be able to license their rights to other third parties, including our competitors, and our competitors could market competing products and technology. In addition, we may need the cooperation of any such co-owners of our patents in order to enforce such patents against third parties, and such cooperation may not be provided to us. Any of the foregoing could harm our business, financial condition and results of operations.

Additionally, we may find it necessary or prudent to acquire or obtain licenses from third-party intellectual property holders. However, we may be unable to acquire or secure such licenses to any intellectual property rights from third parties that we identify as necessary for our products or any future products we may develop. The acquisition or licensing of third-party intellectual property rights is a competitive area, and our competitors may pursue strategies to acquire or license third-party intellectual property rights that we may consider attractive or necessary. Our competitors may have a competitive advantage over us due to their size, capital resources and greater development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to acquire or license third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment or at all. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

We heavily depend on intellectual property licensed from third parties, including our license agreements with Stanford for our PhenoCycler product, PKI, Cambridge Research and VisEn Medical Inc. for our PhenoImager product, and our licensors may not always act in our best interest. If such owners do not properly or successfully obtain, maintain or enforce the patents underlying such licenses, or if they retain or license to others any competing rights, our competitive position and business prospects may be adversely affected.

We are dependent on patents, know-how and proprietary technology licensed from others. As a result, any termination of these licenses could result in the loss of significant rights and could harm our ability to commercialize our product candidates. For example, we are a party to an agreement with Stanford pursuant to which we in-license key patents and patent applications for our proprietary PhenoCycler product, as well as possible future product candidates and other technology used in our PhenoCycler product. We are also a party to license agreements with the University of Washington; Caliper Life Sciences, Inc.; and PKI, Cambridge Research, and VisEn Medical Inc., pursuant to in which we have in-licensed important patents that protect key aspects of our current and future technologies.

Our current license agreements impose, and future agreements may impose, various diligence, commercialization, milestone payment, royalty, insurance and other obligations on us and require us to meet development timelines, or to exercise commercially reasonable efforts to develop and commercialize licensed products, in order to maintain the licenses. If we fail to comply with these obligations, our licensors may have the right to terminate our license, in which event we would not be able to further develop or market our PhenoCycler product. For example, our license agreement with Stanford imposes various due diligence, development and commercialization obligations, milestone payments, royalties and other obligations on us.

Certain of our licenses, including certain licenses with Stanford may not provide us with exclusive rights to use the licensed intellectual property and technology, or may not provide us with exclusive rights to use such intellectual property and technology in all relevant fields of use and in all territories in which we may wish to develop or commercialize our technology and product candidates in the future. In addition, the intellectual property portfolio licensed to us by our licensors, including certain intellectual property licensed by Stanford, at least in some respects, may be used by such licensors or licensed to third parties, and such third parties may have certain enforcement rights with respect to such intellectual property. Thus, patents licensed to us could be put at risk of being invalidated or interpreted narrowly in litigation filed by or against our licensors or another licensee or in administrative proceedings brought by or against our licensors or another licensee in response to such litigation or for other reasons. As a result, we may not be able to prevent competitors or other third parties from developing and commercializing competitive products, including in territories covered by our licenses.

In addition, we may need or desire to obtain additional licenses from our existing licensors and others to advance our research or allow commercialization of product candidates we may develop. In addition, third parties may allege that we require a license to their intellectual property rights to use our software and technology in connection with the exploitation of our products. It is possible that we may be unable to obtain needed or desired additional licenses at a

reasonable cost or on reasonable terms, if at all. In such an event, we may be required to expend significant time and resources to redesign our technology, product candidates, or the methods for manufacturing them or to develop or license replacement technology, all of which may not be feasible on a technical or commercial basis. If we are unable to do so, we may be liable for damages, which may be significant, and we may be unable to develop or commercialize the affected technology or product candidates, or face greater risk in the development or commercialization of such technologies and product candidates, which would significantly harm our business, financial condition, results of operations and prospects significantly. We cannot provide any assurances that third-party patents and other intellectual property rights do not exist which might be enforced against our current technology, manufacturing methods, product candidates, or future methods or products resulting in either an injunction prohibiting our manufacture or future sales, or, with respect to our future sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties, which could be significant. Even if we are able to obtain such additional licenses, they may be non-exclusive thereby giving our competitors and other third parties access to the same technology licensed to us.

In addition, we may seek to obtain additional licenses from our licensors and, in connection with obtaining such licenses, we may agree to amend our existing licenses in a manner that may be more favorable to the licensors, including by agreeing to terms that could enable third parties, including our competitors, to receive licenses to a portion of the intellectual property that is subject to our existing licenses and to compete with our product candidates.

For example, some of our future agreements with certain of our third-party research partners may provide that improvements developed in the course of our relationship may be owned solely by either us or our third-party research partner. If we determine that rights to such improvements owned solely by a third-party research partner or other third-party with whom we collaborate are necessary to commercialize our products or maintain our competitive advantage, we may need to obtain a license from such third-party in order to use the improvements and continue developing, manufacturing or marketing our products. We may not be able to obtain such a license on an exclusive basis, on commercially reasonable terms, or at all, which could prevent us from commercializing our product candidates or allow our competitors or others the chance to access technology that is important to our business.

Our success will depend in part on the ability of our licensors to obtain, maintain, protect and enforce patent protection for our licensed intellectual property, in particular, those patents to which we have secured exclusive rights. Our licensors may not successfully prosecute the patent applications licensed to us. If we or our licensors fail to adequately protect our licensed intellectual property, our ability to commercialize our product candidates and technology could suffer. In addition, we may not have the right to control the maintenance, prosecution, preparation, filing, enforcement, defense and litigation of patents and patent applications that we license from other third parties. For example, in each of our agreements with Stanford; the University of Washington; and PKI, Cambridge Research and VisEn Medical Inc., we do not maintain control over the prosecution and maintenance of the licensed patents. We thus cannot be certain that activities such as the maintenance and prosecution by our licensors have been or will be conducted consistent with our best interests or in compliance with applicable laws and regulations, or will result in valid and enforceable patents and other intellectual property rights. It is possible that our licensors' infringement proceedings or defense activities may be less vigorous than had we conducted them ourselves or may not be conducted in accordance with our best interests. If our licensors fail to maintain such patents or patent applications, determine not to pursue litigation against other companies that are infringing these patents, pursue litigation less aggressively than we would, or lose rights to those patents or patent applications, the rights we have licensed may be reduced or eliminated, and our right to develop and commercialize any of our product candidates that are the subject of such licensed rights and our right to exclude third parties from commercializing competing products could be adversely affected. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

We are generally also subject to all of the same risks with respect to protection of intellectual property that we license as we are for intellectual property that we own, which are described herein. If we or our licensors fail to adequately protect this intellectual property, our ability to commercialize products could suffer, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

Our products are dependent on intellectual property we license from third parties. If we fail to comply with our obligations under our intellectual property licenses, if the licenses are terminated, or if disputes regarding these licenses arise, we could lose significant rights that are important to our business and could interfere with our ability to operate our business.

Our instruments incorporate intellectual property we license from Stanford, with respect to PhenoCycler, and PKI, Cambridge Research and VisEn Medical Inc., with respect to PhenoImager. Disputes may arise regarding intellectual property subject to a license agreement, including those relating to:

- the scope of rights, if any, granted under the license agreement and other interpretation-related issues;
- our financial and other obligations under the license agreement;
- whether and the extent to which our technology and processes infringe, misappropriate or otherwise violate intellectual property of the licensor that is not subject to the licensing agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships;
- our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our product candidates and what activities satisfy those diligence obligations;
- the inventorship or ownership of inventions and know-how resulting from the creation or use of intellectual property by our licensors and us and our partners; and
- the priority of invention of patented technology.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected technology or product candidates.

Our license agreements are, and future license agreements are likely to be, complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

In spite of our efforts, our current and future licensors might conclude that we have materially breached our obligations under our license agreements and might therefore terminate such license agreements, thereby removing or limiting our ability to develop and commercialize products and technology covered by these license agreements. If these in-licenses are terminated, or if the underlying patents fail to provide the intended exclusivity, competitors would have the freedom to seek regulatory approval of, and to market, products identical or competitive to ours and we may be required to cease our development and commercialization of certain of our product candidates. Moreover, if disputes over intellectual property that we license prevent or impair our ability to maintain other licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected technology or product candidates. In addition, certain of these license agreements may not be assignable by us without the consent of the respective licensor, which may have an adverse effect on our ability to engage in certain transactions. As a result, any termination of or disputes over our intellectual property licenses could result in the loss of our ability to develop and commercialize our product candidates, or we could lose other significant rights, experience significant delays in the development and commercialization of our product candidates, or incur liability for damages, any of which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In addition, a third-party may in the future bring claims that our performance under our license agreements, including our sponsoring of clinical trials, interferes with such third-party's rights under its agreement with one of our

licensors. If any such claim were successful, it may adversely affect our rights and ability to advance our product candidates as clinical candidates or subject us to liability for monetary damages, any of which would have an adverse effect on our business, financial condition, results of operations and prospects.

Changes in patent law and its interpretation in the United States and other jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our products and technologies.

Changes in either the patent laws or in interpretations of patent laws in the United States or other countries or regions may diminish the value of our intellectual property. We cannot predict the breadth of claims that may be allowed or enforced in our patents or in third-party patents. We may not develop additional proprietary products, methods and technologies that are patentable.

Assuming that other requirements for patentability are met, prior to March 16, 2013, in the United States, the first to invent the claimed invention was entitled to the patent, while outside the United States, the first to file a patent application was entitled to the patent. On or after March 16, 2013, under the Leahy-Smith America Invents Act, or the America Invents Act, enacted in September 2011, the United States transitioned to a first-inventor-to-file system in which, assuming that other requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third-party was the first to invent the claimed invention. A third-party that files a patent application in the USPTO on or after March 16, 2013, but before us could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by such third-party. This will require us to be cognizant of the time from invention to filing of a patent application. Since patent applications in the United States and most other countries are confidential for a period of time after filing or until issuance, we cannot be certain that we or our licensors were the first to either file any patent application related to our products or technologies or invent any of the inventions claimed in our or our licensors' patents or patent applications.

The America Invents Act also included a number of significant changes that affect the way patent applications are prosecuted and also may affect patent litigation. These include allowing third-party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by USPTO-administered post-grant proceedings, including post-grant review, *inter partes* review and derivation proceedings. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in United States federal courts necessary to invalidate a patent claim, a third-party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third-party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third-party as a defendant in a district court action. Therefore, the America Invents Act and its implementation have increased the uncertainties and costs surrounding the prosecution of our owned or in-licensed patent applications and the enforcement or defense of our owned or in-licensed issued patents.

In addition, the patent position of companies in the biotechnology field is particularly uncertain. Various courts, including the United States Supreme Court, have rendered decisions that affect the scope of patentability of certain inventions or discoveries relating to biotechnology. These decisions state, among other things, that a patent claim that recites an abstract idea, natural phenomenon or law of nature (for example, the relationship between particular genetic variants and cancer) are not themselves patentable. Precisely what constitutes a law of nature or abstract idea is uncertain and continues to evolve in the courts, and it is possible that certain aspects of our technology could be considered natural laws. Accordingly, the evolving statutory and case law in the United States may adversely affect our ability to obtain patents and may facilitate third-party challenges to any owned or licensed patents. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

Issued patents covering our products and technologies could be found invalid or unenforceable if challenged or unenforceable if challenged in court or before administrative bodies in the United States or abroad, which could harm our business, financial condition and results of operations.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability. Our patents or patent applications (including licensed patents) may be challenged at the USPTO or foreign patent offices in opposition,

derivation, reexamination, *inter partes* review, post-grant review, interference or other proceedings. Any successful third-party challenge to our patents could result in the unenforceability or invalidity of such patents, in whole or in part, which may lead to increased competition to our business, which could harm our business. In addition, in patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. The outcome following legal assertions of invalidity and unenforceability during patent litigation is unpredictable. If a defendant were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of the patent protection on certain aspects of our products and platform technologies. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, regardless of the outcome, it could dissuade companies from collaborating with us to license, develop or commercialize current or future products.

We may not be aware of all third-party intellectual property rights potentially relating to our products. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until approximately 18 months after filing or, in some cases, not until such patent applications issue as patents. We might not have been the first to make the inventions covered by each of our pending patent applications and we might not have been the first to file patent applications for these inventions. To determine the priority of these inventions, we may have to participate in interference proceedings, derivation proceedings or other post-grant proceedings declared by the USPTO or foreign patent offices that could result in substantial cost to us. The outcome of such proceedings is uncertain. No assurance can be given that third-party patent applications will not have priority over our patent applications. In addition, changes to the patent laws of the United States allow for various post-grant opposition proceedings that have not been extensively tested, and their outcome is therefore uncertain. Furthermore, if third parties bring these proceedings against our patents, we could experience significant costs and management distraction.

In addition, if we initiate legal proceedings against a third-party to enforce a patent covering our products, the defendant could counterclaim that such patent is invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO or made a misleading statement during prosecution. Defenses of these types of claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. Third parties may also raise claims challenging the validity or enforceability of our patents before administrative bodies in the United States or abroad, even outside the context of litigation, including through re-examination, post-grant review, *inter partes* review, interference proceedings, derivation proceedings and equivalent proceedings in foreign jurisdictions (such as opposition proceedings). Such proceedings could result in the revocation of, cancellation of or amendment to our patents in such a way that they no longer cover our products or technologies. The outcome for any particular patent following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant or other third-party were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our products and technology. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

Our rights to develop and commercialize our products and technologies are subject, in part, to the terms and conditions of licenses granted to us by others.

We have in-licensed certain intellectual property rights from third parties, including Stanford and the University of Washington, with respect to our PhenoCycler platform, and PKI, Cambridge Research and VisEn Medical Inc. with respect to our PhenoImager platform, and we may license intellectual property rights from others in the future. See “Business — Licenses” for more information regarding such agreements. If, for any reason, our license agreements are terminated or we otherwise lose the rights associated with such licenses, it could adversely affect our business. Our

current and any future license agreements may impose various development, commercialization, funding, diligence, sublicensing, insurance, patent prosecution and enforcement or other obligations on us, as well as milestone, royalty, annual maintenance and other payment obligations. If we breach any material obligations, or use the intellectual property licensed to us in an unauthorized manner, or if, in spite of our efforts, a collaborator or licensor concludes that we have materially breached our obligations under such agreement, we may be required to pay damages and the licensor may have the right to terminate the license, which could result in us being unable to develop, manufacture and commercialize products that are covered by the licensed technology or having to negotiate new or reinstated licenses on less favorable terms, or enable a competitor or other third-party to gain access to the licensed technology.

Licensing of intellectual property is of high importance to our business and involves complex legal, business and scientific issues. Disputes may arise between us and our licensors regarding intellectual property subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- our compliance with reporting and financial obligations under our license agreements;
- whether and the extent to which our products and technologies infringe on, misappropriate or otherwise violate intellectual property of the licensor that is not subject to the license agreement;
- our right to sublicense the applicable intellectual or proprietary rights to third parties;
- our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our products and technologies, and what activities satisfy those diligence obligations;
- our right to transfer or assign the license;
- the inventorship and/or ownership of patents, inventions, know-how and other intellectual property and proprietary rights resulting from activities performed by our licensors, us and our partners; and
- the priority of invention of patented technology.

These agreements may be complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our licensing arrangements on acceptable terms, we may not be able to successfully develop and commercialize the affected product candidates. In addition, certain of our agreements may limit or delay our ability to consummate certain transactions, may impact the value of those transactions, or may limit our ability to pursue certain activities. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

If we cannot acquire or license rights to use technologies on reasonable terms or at all, we may not be able to commercialize our current or any future products or technologies.

In the future, we may identify third-party intellectual property and technology we may need to license in order to engage in our business, including to develop or commercialize new products or technologies, and the growth of our business may depend in part on our ability to acquire, in-license or use this technology. However, such licenses may not be available to us on acceptable terms or at all. The licensing or acquisition of third-party intellectual property rights is a competitive area, and several more established companies may pursue strategies to license or acquire third -party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, capital resources and greater development or commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us.

Even if such licenses are available, we may be required to pay the licensor in return for the use of such licensor's technology, including lump-sum payments, ongoing maintenance fees, payments based on certain milestones such as development and regulatory events and sales volumes, or royalties based on sales of our platform. In addition, such licenses may be non-exclusive, which could give our competitors and other third parties access to the same intellectual property licensed to us. We may also need to acquire or negotiate licenses to patents or patent applications before or after introducing a commercial product. The acquisition and licensing of third-party patent and other intellectual property and proprietary rights is a competitive area, and other companies may also be pursuing strategies to acquire or license such rights that we may consider attractive. Our business, financial condition, results of operations and prospects could be materially and adversely affected if we are unable to enter into necessary agreements on acceptable terms or at all, if any necessary licenses are subsequently terminated, if the licensors fail to abide by the terms of the licenses or fail to prevent infringement, misappropriation or other violation by third parties, or if the acquired or licensed patents or other rights are found to be invalid or unenforceable. Moreover, we could encounter delays in the introduction of products or services while we attempt to develop alternatives. Defense of any lawsuit or failure to obtain any of these licenses on favorable terms could prevent us from commercializing our current and any future products and technologies. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

We have limited foreign intellectual property rights and we may not be able to protect our intellectual property rights throughout the world, which could harm our business, financial condition and results of operations.

We have limited intellectual property rights outside the United States. Filing, prosecuting and defending patents on our products, technologies, instruments and workflows in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States, and we may encounter difficulties in protecting and defending such rights in foreign jurisdictions. Consequently, we may not be able to prevent third parties from practicing our inventions in some or all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors or other third parties may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and may also export infringing products to territories where we have patent protection, but enforcement is not as strong as in the United States. These products may compete with our products. Our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. In addition, certain countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to other parties. Furthermore, many countries limit the enforceability of patents against other parties, including government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of any patents.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of many other countries do not favor the enforcement of patents and other intellectual property and proprietary protection, particularly those relating to biotechnology, which could make it difficult for us to stop the infringement, misappropriation or other violation of our intellectual property rights including infringement of our patents in such countries. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, or that are initiated against us, and the damages or other remedies awarded, if any, may not be commercially meaningful. In addition, changes in the law and legal decisions by courts in the United States and foreign countries may affect our ability to obtain adequate protection for our products, services and other technologies and the enforcement of intellectual property. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we are forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business, financial condition and results of operations may be harmed.

If we are unable to protect the confidentiality of our trade secrets, the value of our technology could be materially adversely affected and our business could be harmed.

We rely on trade secrets and confidentiality agreements to protect our unpatented know-how, technology and other proprietary information, including parts of our technology platforms, and to maintain our competitive position. However, trade secrets and know-how can be difficult to protect. In addition to pursuing patents on our technology, we seek to protect our intellectual property and proprietary technology by entering into agreements, including confidentiality agreements, non-disclosure agreements and intellectual property assignment agreements, with our employees, consultants, academic institutions, corporate partners and, when needed, our advisors. However, we cannot be certain that such agreements have been entered into with all relevant parties. We therefore cannot be certain that our trade secrets and other confidential proprietary information will not be disclosed or that competitors or other third parties will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. For example, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Such agreements may not be enforceable or may not provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure or other breaches of the agreements, and we may not be able to prevent such unauthorized disclosure, which could adversely impact our ability to establish or maintain a competitive advantage in the market. If we are required to assert our rights against such party, it could result in significant cost and distraction. Depending upon the parties involved in such a breach, the available remedies may not provide adequate compensation for the value of any proprietary information disclosed to a third-party.

Monitoring unauthorized disclosure is difficult, and we do not know whether the steps we have taken to prevent such disclosure are, or will be, adequate. If we were to attempt to enforce a claim that a third-party had illegally obtained and was using our trade secrets, it would be expensive and time-consuming, and the outcome would be unpredictable. In addition, the scope of protection for trade secrets outside the United States varies widely and may be significantly less than in the United States, and damages and other remedies available for improper disclosure of proprietary information can differ substantially from those in the United States, and in some jurisdictions may not be available at all.

We also seek to preserve the integrity and confidentiality of our confidential proprietary information by maintaining physical security of our premises and physical and electronic security of our information technology systems, but it is possible that these security measures could be breached. If any of our confidential proprietary information were to be lawfully obtained or independently developed by a competitor or other third-party, absent patent protection, we would have no right to prevent such competitor from using that technology or information to compete with us, which could harm our competitive position. If any of our trade secrets were to be disclosed to or independently discovered by a competitor or other third-party, it could harm our business, financial condition, results of operations and prospects.

We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed trade secrets or other confidential information of their former employers or other third parties or claims asserting ownership of what we regard as our own intellectual property.

We have employed and expect to employ individuals who were previously employed at universities or other companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants, advisors and independent contractors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that our employees, advisors, consultants or independent contractors have deliberately, inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information of their former employers or other third parties, or to claims that we have improperly used or obtained such trade secrets. Litigation may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights and face increased competition to our business. A loss of key research personnel work product could hamper or prevent our ability to commercialize potential products, which could harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be

unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property that we regard as our own. The assignment of intellectual property rights may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property. Any of the foregoing could harm our business, financial condition, results of operations and prospects.

We may not be able to protect and enforce our trademarks and trade names, or build name recognition in our markets of interest thereby harming our competitive position.

The registered or unregistered trademarks or trade names that we own may be challenged, infringed, circumvented, declared generic, lapsed or determined to be infringing on or dilutive of other marks. We may not be able to protect our rights in these trademarks and trade names, which we need in order to build name recognition. In addition, third parties have filed, and may in the future file, for registration of trademarks similar or identical to our trademarks, thereby impeding our ability to build brand identity and possibly leading to market confusion. If they succeed in registering or developing common law rights in such trademarks, and if we are not successful in challenging such rights, we may not be able to use these trademarks to develop brand recognition of our technologies, products or services. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. Further, we may in the future be required to enter into agreements with owners of such third-party trade names or trademarks to avoid potential trademark litigation which may limit our ability to use our trade names or trademarks in certain fields of business.

We have not yet registered certain of our trademarks in all of our potential markets, although we have registered 13 trademarks in the United States as well as certain of our trademarks outside of the United States. If we apply to register these trademarks in other countries, and/or other trademarks in the United States and other countries, our applications may not be allowed for registration in a timely fashion or at all; and further, our registered trademarks may not be maintained or enforced. In addition, opposition or cancellation proceedings have been, or may in the future be, filed against our trademark applications and registrations, and our trademarks may not survive such proceedings. In addition, third parties may file first for our trademarks in certain countries. If they succeed in registering such trademarks, and if we are not successful in challenging such third-party rights, we may not be able to use these trademarks to market our products and technologies in those countries. If we do not secure registrations for our trademarks, we may encounter more difficulty in enforcing them against third parties than we otherwise would. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively, which could harm our business, financial condition, results of operations and prospects. Over the long-term, if we are unable to establish name recognition based on our trademarks, then our marketing abilities may be materially adversely impacted.

We may be subject to claims challenging the ownership or inventorship of our patents and other intellectual property and, if unsuccessful in any of these proceedings, we may be required to obtain licenses from third parties, which may not be available on commercially reasonable terms, or at all, or to cease the development, manufacture and commercialization of one or more of our products.

We or our licensors may be subject to claims that former employees, collaborators or other third parties have an interest in our owned or in-licensed patents, trade secrets or other intellectual property as an inventor or co-inventor. For example, we or our licensors may have inventorship disputes arise from conflicting obligations of employees, consultants or others who are involved in developing our products.

Litigation may be necessary to defend against these and other claims challenging inventorship of our or our licensors' owned or in-licensed patents, trade secrets or other intellectual property. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, intellectual property that is important to our systems, including our software, workflows, consumables and reagent kits. If we or our licensors were to lose exclusive ownership of such intellectual property, other owners may be able to license their rights to other third parties, including our competitors. We also may be required to obtain and maintain licenses from third parties, including parties involved in any such disputes. Such licenses may not be available on commercially reasonable terms, or at all, or may be non-exclusive. If we are unable to obtain and maintain

such licenses, we may need to cease the development, manufacture and commercialization of one or more of our products. The loss of exclusivity or the narrowing of our patent claims could limit our ability to stop others from using or commercializing similar or identical technology and products. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees. Any of the foregoing could harm our business, financial condition, results of operations and prospects.

We may become involved in litigation related to intellectual property, which could be time-intensive and costly and may adversely affect our business, financial condition, results of operations and prospects, and may require us to pay damages, or prevent us from making our existing or future products.

In recent years, there has been significant litigation in the United States involving intellectual property rights. Our commercial success depends in part upon our ability and that of our contract manufacturers and suppliers to manufacture, market, and sell our products and to use our proprietary technologies without infringing, misappropriating or otherwise violating the proprietary rights or intellectual property of third parties. We may in the future be involved in litigation or actions at the USPTO with various third parties that claim we or our partners or customers using our solutions and services have infringed, misappropriated, misused or otherwise violated other parties' intellectual property rights. We expect that the number of such claims may increase as the number of our products, instruments, workflows, and the level of competition in our industry segments, grow. Any claim of infringement, misappropriation or other violation, regardless of its validity, could harm our business by, among other things, resulting in time-consuming and costly litigation, diverting management's time and attention from the development of the business, requiring the payment of monetary damages (including treble damages and attorneys' fees in circumstances where infringement of patent rights is deemed to be willful) or royalty payments, or result in potential or existing customers delaying purchases of our products or entering into engagements with us pending resolution of the dispute.

As we move into new markets and applications for our platforms, incumbent participants in such markets may assert their patents and other intellectual property and proprietary rights against us as a means of slowing our entry into such markets or as a means to extract substantial license and royalty payments from us. Our competitors and others may now and, in the future, have significantly larger and more mature patent portfolios than we currently have. In addition, future litigation may involve patent holding companies or other adverse patent owners who have no relevant product or service revenue and against whom our own patents may provide little or no deterrence or protection. Therefore, our commercial success may depend in part on our ability to avoid infringing, misappropriating or otherwise violating the patents or other intellectual property and proprietary rights of third parties, or our ability to prove the invalidity or unenforceability of such rights.

Our research, development and commercialization activities may in the future be subject to claims that we infringe, misappropriate or otherwise violate patents or other intellectual property or proprietary rights owned or controlled by third parties. There is a substantial amount of patent challenges and other litigation involving intellectual property and proprietary rights, both within and outside the United States, in the biotechnology industry, including patent infringement lawsuits, interferences, *inter partes* review, *ex parte* review, and post-grant review proceedings before the USPTO and corresponding proceedings (such as oppositions) in foreign patent offices. Numerous U.S. and foreign issued patents and pending patent applications owned by third parties exist in the fields in which we are developing products. As the biotechnology industry expands and more patents are issued, the risk increases that our products may be subject to claims of infringement of the patent rights of third parties. Numerous significant intellectual property issues have been litigated, are being litigated and will likely continue to be litigated, between existing and new participants in our existing and targeted markets, and one or more third parties may assert that our products or services infringe, misappropriate or otherwise violate their intellectual property or proprietary rights as part of a business strategy to impede our successful entry into or growth in those markets.

Third parties may assert that we are employing their proprietary technology without authorization. In addition, we may in the future receive correspondence from third parties referring to the relevance of such third parties' intellectual property to our technology, our workflows or our advanced automated systems.

Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that our current or future products and services may be accused of infringing. In

addition, we expect our competitors and other third parties may have patents or other intellectual property rights or may in the future obtain patents or other intellectual property rights and allege that making, having made, using, selling, offering to sell or importing our platforms, or the systems, workflows, consumables and reagent kits that comprise our platforms, infringe, misappropriate or otherwise violate these patents and other intellectual property rights. Pending patent applications that may or may not have been published can, subject to certain limitations, be later amended in a manner that may be alleged to cover our platforms, including our products, instruments and workflows. Future patent applications that are related to currently pending patent applications filed by third parties may also be alleged to cover our products, instruments and workflows.

Under the applicable laws of various jurisdictions, the scope of a patent claim is determined by a variety of factors which can include, but are not limited to, an interpretation of statutes, decisions of courts of competent jurisdiction, the written disclosure in a patent, the patent's prosecution history, and an understanding of the scope of knowledge available to a person of ordinary skill in the particular art to which the patent claim pertains at the earliest effective priority date of the patent claim. These various factors can be weighed differently in different jurisdictions, and some may not be taken into account at all. Our interpretation of the meaning or the scope of one or more claims of an issued patent or a pending application may be incorrect, which may negatively impact our ability to market our products. We may incorrectly determine that our products are not covered by third-party patent claims or may incorrectly predict whether a third-party's pending application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States or abroad that we consider relevant may be incorrect, which may negatively impact our ability to develop and market our products. In order to successfully challenge the validity of a U.S. patent in federal court, we would need to overcome a presumption of validity. As this burden is a high one requiring us to present clear and convincing evidence as to the invalidity of any such U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent.

Even if we believe third-party intellectual property claims are without merit, there can be no assurance that we will prevail in any suit initiated against us by third parties, successfully reach a settlement, or otherwise resolve patent or other intellectual property-related claims. Third parties making claims against us may be able to obtain injunctive or other relief, which could block our ability to develop, commercialize and sell products or services, import or export products, components, reagents and other articles, and could result in the award of substantial damages against us, including treble damages and attorney's fees if we are found to have willfully infringed a patent. In the event of a successful claim of infringement, misappropriation or other violation against us, we may be required to pay damages and ongoing royalties, and obtain one or more licenses from third parties, or be prohibited from selling certain products or services. We may not be able to obtain these licenses on acceptable or commercially reasonable terms, if at all, or these licenses may be non-exclusive, which could result in our competitors or other third parties gaining access to the same intellectual property. In addition, we could encounter delays and incur significant costs in product or service introductions while we attempt to develop alternative products or services or redesign our products or services in order to avoid infringing, misappropriating or otherwise violating third-party patents or other intellectual property and proprietary rights. Defense of any lawsuit or failure to obtain any of these licenses or to develop a workaround could prevent us from commercializing our products and technologies, and the prohibition of sale or the threat of the prohibition of sale of any of our products or technologies could materially affect our business and our ability to gain market acceptance for our products and technologies.

In addition, our agreements with some of our customers, suppliers or other entities with whom we do business require us to defend or indemnify these parties to the extent they become involved in infringement claims, including the types of claims described above. We could also voluntarily agree to defend or indemnify third parties in instances where we are not obligated to do so if we determine it would be important to our business relationships. If we are required or agree to defend or indemnify third parties in connection with any infringement claims, we could incur significant costs and expenses. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

Intellectual property litigation could cause us to spend substantial resources, distract our personnel from their normal responsibilities and result in negative publicity and other harms.

Litigation or other legal proceedings relating to intellectual property claims, even if resolved in our favor, may cause us to incur substantial costs and divert the attention of our management and technical personnel from their normal responsibilities in defending against any of these claims. Parties making claims against us may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. Such litigation or proceedings could substantially increase our operating costs and reduce the resources available for development activities or any future sales, marketing, or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Uncertainties resulting from the initiation and continuation of intellectual property proceedings could harm our ability to compete in the marketplace. In addition, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There also could be public announcements of the results of hearings, motions, or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Any of the foregoing could harm our business, financial condition, results of operations and prospects.

We may become involved in lawsuits to protect or enforce our intellectual property, which could be expensive, time-consuming and unsuccessful.

Third parties, including our competitors, could infringe, misappropriate or otherwise violate our intellectual property and proprietary rights. Monitoring unauthorized use of our intellectual property is difficult and costly. From time to time, we seek to analyze our competitors' products and services, and may in the future seek to enforce our rights against potential infringement, misappropriation or violation of our intellectual property. However, the steps we have taken to protect our proprietary rights may not be adequate to enforce our rights as against such infringement, misappropriation or other violation of our intellectual property. We may not be able to detect unauthorized use of, or take appropriate steps to enforce, our intellectual property rights. Any inability to meaningfully enforce our intellectual property rights could harm our ability to compete and reduce demand for our products and services.

Litigation may be necessary for us to enforce our patent and other proprietary rights or to determine the scope, coverage and validity of the proprietary rights of others. We are not currently engaged in any lawsuits based upon allegations of infringement, misappropriation or other violation of intellectual property or proprietary rights. If we become engaged in litigation related to intellectual property rights and we do not prevail in such legal proceedings, we may be required to pay damages and we may lose significant intellectual property protection for our products or services, such that competitors could copy our products or services. Any litigation that may be necessary in the future could result in substantial costs and diversion of resources and could have a material adverse effect on our business, financial condition, results of operations and prospects. In any lawsuit we bring to enforce our intellectual property rights, a court may refuse to stop the other party from using the technology at issue on grounds that our intellectual property rights do not cover the technology in question. Further, in such proceedings, the defendant could counterclaim that our intellectual property is invalid or unenforceable and the court may agree, in which case we could lose valuable intellectual property rights. The outcome in any such lawsuits are unpredictable. Even if we do prevail in any future litigation related to intellectual property rights, the cost and time requirements of the litigation could negatively impact our financial results.

Obtaining and maintaining our patent protection depends on compliance with various required procedures, document submissions, fee payments and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications will be due to be paid to the USPTO and various governmental patent agencies outside of the United States at several stages over the lifetime of our patents and/or applications. We have systems in place to remind us to pay these fees, and we engage an outside service and rely on our outside counsel to pay these fees due to non-U.S. patent agencies.

The USPTO and various non-U.S. governmental patent agencies also require compliance with a number of procedural, documentary and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply, but we also may be dependent on our licensors to take the necessary action to comply with these requirements with respect to our licensed intellectual property. In many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. However, there are situations in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, our competitors and other third parties may be able to enter the market without infringing our patents, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

Patent terms may be inadequate to protect our competitive position on our products for an adequate amount of time.

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest claimed priority date. Modifications to this lifetime may occur, but the life of a patent, and the protection it affords, is limited. Even if patents covering our products are obtained, once the patent term has expired, we may be open to competition from competitive products. If one of our products requires extended development, testing and/or regulatory review, patents protecting such products might expire before or shortly after such products are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours within a commercially meaningful window.

Our use of "open source" software could adversely affect our ability to offer our products and technologies and subject us to possible litigation.

We use open source software in connection with our products and technologies. Companies that incorporate open source software into their technologies have, from time to time, faced claims challenging the use of open source software and/or compliance with open source license terms. As a result, we could be subject to suits by parties claiming ownership of what we believe to be open source software or claiming non-compliance with open source licensing terms. Some open source software licenses require users who distribute software containing open source software to publicly disclose all or part of the source code to such software and/or make available any derivative works of the open source code, which could include valuable proprietary code of the user, on unfavorable terms or at no cost. While we monitor our use of open source software and try to ensure that none is used in a manner that would require us to disclose our internally developed source code or that would otherwise breach the terms of an open source agreement, such use could inadvertently occur, in part because open source license terms are often ambiguous. In addition to risks related to license requirements, use of certain open source software can lead to greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or controls on the origin of software which, thus, may contain security vulnerabilities or infringing or broken code. Any requirement to publicly disclose our internally developed source code or pay damages for breach of contract could have a material adverse effect on our business, financial condition, results of operations and prospects and could help our competitors develop products and technologies that are similar to or better than ours.

Intellectual property rights do not necessarily address all potential threats.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations and may not adequately protect our business or permit us to maintain our competitive advantage. For example:

- others may be able to make products and technologies that are similar to any products and technologies we may develop but that are not covered by the claims of the patents that we own or license;
- we, or our current or future license partners or collaborators, might not have been the first to make the inventions covered by our owned or licensed issued patents or pending patent applications;

- we, or our current or future license partners or collaborators, might not have been the first to file patent applications covering certain of our or their inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our owned or licensed intellectual property rights;
- it is possible that our current and future owned or licensed pending patent applications will not lead to issued patents;
- it is possible that there are prior public disclosures that could invalidate our issued patents, or parts of our issued patents;
- it is possible that there are unpublished applications or patent applications maintained in secrecy that may later issue with claims covering our product candidates or technology similar to ours;
- the claims of our patent applications, if and when issued, may not cover our products or technologies;
- the laws of foreign countries may not protect our proprietary rights or the proprietary rights of license partners or current or future collaborators to the same extent as the laws of the United States;
- the inventors of our patent applications may become involved with competitors, develop products or processes that design around our patents, or become hostile to us or the patents or patent applications on which they are named as inventors;
- we engage in scientific collaborations and will continue to do so in the future, and our collaborators may develop adjacent or competing products that are outside the scope of our patents;
- any products or technologies we develop may be covered by third parties' patents or other exclusive rights;
- issued patents that we hold rights to may be held invalid or unenforceable, including as a result of legal challenges by our competitors;
- our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable;
- the patents of others may harm our business; and
- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third-party may subsequently file a patent covering such intellectual property.

Should any of these events occur, they could have a material adverse effect on our business, financial condition, results of operations and prospects.

Risks Related to Ownership of Our Common Stock

The market price of our common stock has been and is likely to continue to be volatile, and you may be unable to sell your shares at or above the price at which you purchased them.

The market price of our common stock is highly volatile and may fluctuate substantially due to many factors, including:

- actual or anticipated fluctuations in our financial condition and operating results, including fluctuations in our quarterly and annual results;
- the introduction of new products or product enhancements by us or others in our industry;
- variances in our product and system reliability;
- overall conditions in our industry and the markets in which we operate;
- disputes or other developments with respect to our or others' intellectual property or proprietary rights;
- actual or anticipated changes in our operating results or growth rate as a result of our competitors' operating results;
- our ability to develop, obtain any required regulatory clearance or approval for, and market new and enhanced products on a timely basis;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- product liability claims or other litigation;
- announcement or expectation of additional financing effort;
- sales of our common stock by us or our stockholders;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- media exposure of our products or of those of others in our industry;
- the COVID-19 pandemic and its impact on our ability to receive products and supplies from third parties and our ability to sell our products;
- changes in applicable governmental regulations or in the status of our regulatory approvals or applications;
- changes in earnings estimates or recommendations by securities analysts; and
- general market conditions and other factors, including factors unrelated to our operating performance or the operating performance of our competitors.

In recent years, the stock markets generally have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of listed companies. Broad market and industry factors may significantly affect the market price of our common stock, regardless of our actual operating performance. As a result, you may not realize any return on your investment in us and may lose some or all of your investment.

In addition, in the past, class action litigation has often been instituted against companies whose securities have experienced periods of volatility in market price. Securities litigation brought against us following volatility in our stock price, regardless of the merit or ultimate results of such litigation, could result in substantial costs, which would hurt our financial condition and operating results and divert management's attention and resources from our business.

Securities analysts may not publish favorable research or reports about our business or may publish no information at all, which could cause our stock price or trading volume to decline.

The trading market for our common stock is influenced to some extent by the research and reports that industry or financial analysts publish about us and our business. We do not control these analysts. As a newly public company, we may be slow to attract research coverage and the analysts who publish information about our common stock will have had relatively little experience with us or our industry, which could affect their ability to accurately forecast our results and could make it more likely that we fail to meet their estimates. If any of the analysts who cover us provide inaccurate or unfavorable research or issue an adverse opinion regarding our stock price, our stock price could decline. If one or more of these analysts cease coverage of us or fail to publish reports covering us regularly, we could lose visibility in the market, which in turn could cause our stock price or trading volume to decline.

We are an "emerging growth company" and a "smaller reporting company" and the reduced disclosure requirements applicable to "emerging growth companies" and "smaller reporting companies" may make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and we may take advantage of certain exemptions and relief from various reporting requirements that are applicable to other public companies that are not "emerging growth companies." In particular, while we are an "emerging growth company," we will not be required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act; we will be exempt from any rules that could be adopted by the Public Company Accounting Oversight Board requiring mandatory audit firm rotations or a supplement to the auditor's report on financial statements; we will be subject to reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements; and we will not be required to hold nonbinding advisory votes on executive compensation or stockholder approval of any golden parachute payments not previously approved.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this extended transition period and, as a result, we will not be required to adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies.

We may remain an "emerging growth company" until the fiscal year-end following the fifth anniversary of the completion of our initial public offering, though we may cease to be an "emerging growth company" earlier under certain circumstances, including if (i) we have more than \$1.235 billion in annual revenue in any fiscal year, (ii) the date on which we are deemed to be a large accelerated filer under the rules of the SEC or (iii) we issue more than \$1.0 billion of non-convertible debt over a three-year period.

The exact implications of the JOBS Act are subject to interpretations and guidance by the SEC and other regulatory agencies, and we cannot assure you that we will be able to take advantage of all of the benefits of the JOBS Act. In addition, investors may find our common stock less attractive to the extent we rely on the exemptions and relief granted by the JOBS Act. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may decline or become more volatile.

We are also a "smaller reporting company," meaning that the market value of our stock held by non-affiliates is less than \$700 million as of the last trading day of our second quarter and our annual revenue is less than \$100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company if either (i) the market value of our stock held by non-affiliates is less than \$250 million or (ii) our annual revenue is less than \$100 million

during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than \$700 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

If our estimates or judgments relating to our critical accounting policies are based on assumptions that change or prove to be incorrect, our operating results could fall below our publicly announced guidance or the expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.

The preparation of financial statements in conformity with generally accepted accounting principles, or GAAP, requires management to make estimates and assumptions that affect the amounts reported in our consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets, liabilities, equity, revenue and expenses that are not readily apparent from other sources. If our assumptions change or if actual circumstances differ from our assumptions, our operating results may be adversely affected and could fall below our publicly announced guidance or the expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.

Future sales and issuances of our common stock or rights to purchase our common stock, including pursuant to our equity incentive plans, or other equity securities or securities convertible into our common stock, could result in additional dilution of the percentage ownership of our stockholders and could cause the stock price of our common stock to decline.

In the future, we may sell common stock, other series of common stock, convertible securities, or other equity securities, including preferred securities, in one or more transactions at prices and in a manner we determine from time to time. We also expect to continue to issue common stock to employees, consultants, and directors pursuant to our equity incentive plans. If we sell common stock, other series of common stock, convertible securities, or other equity securities in subsequent transactions, or common stock is issued pursuant to equity incentive plans, stockholders may be materially diluted. New investors in subsequent transactions could gain rights, preferences, and privileges senior to those of holders of our common stock.

We do not intend to pay dividends for the foreseeable future. Consequently, any gains from an investment in our common stock will likely depend on whether the price of our common stock increases.

We have not and do not intend to pay any dividends on our common stock in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the operation and growth of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our board of directors. Accordingly, stockholders must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments. Furthermore, our Midcap Trust Term Loan contain negative covenants that limit our ability to pay dividends. For more information, see the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources.”

Our directors, officers and principal stockholders have significant voting power and may take actions that may not be in the best interests of our other stockholders.

Our officers, directors and principal stockholders each holding more than 10% of our common stock, collectively control approximately 53.7% of our outstanding common stock as of December 31, 2022. As a result, these stockholders, if acting together, have significant influence over the outcome of corporate actions requiring stockholder approval, including the election of directors, amendment of our organizational documents, any merger, consolidation or sale of all or substantially all of our assets and any other significant corporate transaction. The interests of these stockholders may not be the same as or may even conflict with your interests. For example, these stockholders could delay or prevent a change of control of our company, even if such a change of control would benefit our other

stockholders, which could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company or our assets and might affect the prevailing market price of our common stock. The significant concentration of stock ownership may adversely affect the trading price of our common stock due to investors' perception that conflicts of interest may exist or arise.

We will incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, and particularly after we are no longer an emerging growth company or smaller reporting company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, Nasdaq listing requirements and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, we expect these rules and regulations to substantially increase our legal and financial compliance costs and to make some activities more time consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to incur substantial costs to maintain sufficient coverage. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these requirements. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers. Moreover, these rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

If we experience material weaknesses in the future or otherwise fail to implement and maintain an effective system of internal controls in the future, we may not be able to accurately report our financial condition or results of operations which may adversely affect investor confidence in us and, as a result, the value of our common stock.

We are required, under Section 404 of the Sarbanes-Oxley Act, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. This assessment includes disclosure of any material weaknesses identified by our management in our internal control over financial reporting. A material weakness is a deficiency or combination of deficiencies in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of a company's annual and interim financial statements will not be detected or prevented on a timely basis.

The rules governing the standards that must be met for management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation. To comply with the requirements of being a reporting company under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), including performing the evaluation needed to comply with Section 404, we will need to implement additional financial and management controls, reporting systems and procedures and hire additional accounting and finance staff. We may not be able to complete our evaluation, testing and any required remediation in a timely fashion. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal controls are effective. The effectiveness of our controls and procedures may be limited by a variety of factors, including:

- faulty human judgment and simple errors, omissions or mistakes;
- fraudulent action of an individual or collusion of two or more people;
- inappropriate management override of procedures; and
- the possibility that any enhancements to controls and procedures may still not be adequate to assure timely and accurate financial control.

We cannot assure you that there will not be material weaknesses in our internal control over financial reporting in the future. Any failure to implement and maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition, results of operations or cash flows. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness in our internal control over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by Nasdaq, the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

When we cease to be an “emerging growth company” under the JOBS Act, our auditors will be required to express an opinion on the effectiveness of our internal controls, unless we are then eligible for any other exemption from such requirement. If we are unable to confirm that our internal control over financial reporting is effective, or if our independent registered public accounting firm is unable to express an opinion on the effectiveness of our internal controls, we could lose investor confidence in the accuracy and completeness of our financial reports, which could cause the price of our common stock to decline.

The failure to successfully implement and maintain accounting systems could materially adversely impact our business, results of operations, and financial condition.

If our revenue and other accounting or tax systems do not operate as intended or do not scale with anticipated growth in our business, the effectiveness of our internal control over financial reporting could be adversely affected. Any failure to develop, implement, or maintain effective internal controls related to our revenue and other accounting or tax systems and associated reporting could materially adversely affect our business, results of operations, and financial condition or cause us to fail to meet our reporting obligations. In addition, if we experience interruptions in service or operational difficulties with our revenue and other accounting or tax systems, our business, results of operations, and financial condition could be materially adversely affected.

Our results of operations and financial condition could be materially adversely affected by changes in accounting principles.

The accounting for our business is subject to change based on the evolution of our business model, interpretations of relevant accounting principles, enforcement of existing or new regulations, and changes in policies, rules, regulations, and interpretations, of accounting and financial reporting requirements of the SEC or other regulatory agencies. Adoption of a change in accounting principles or interpretations could have a significant effect on our reported results of operations and could affect the reporting of transactions completed before the adoption of such change. It is difficult to predict the impact of future changes to accounting principles and accounting policies over financial reporting, any of which could adversely affect our results of operations and financial condition and could require significant investment in systems and personnel.

Provisions in our corporate charter documents and under Delaware law could make an acquisition of us more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our amended and restated certificate of incorporation and our amended and restated bylaws may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Because our board of directors is responsible for appointing the members

of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team. Among others, these provisions include that:

- our board of directors has the right to expand the size of our board of directors and to elect directors to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;
- our board of directors is divided into three classes, Class I, Class II and Class III, with each class serving staggered three-year terms, which may delay the ability of stockholders to change the membership of a majority of our board of directors;
- our stockholders may not act by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- a special meeting of stockholders may be called only by the chair of the board of directors, the chief executive officer, or a majority of the board of directors, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors;
- our amended and restated certificate of incorporation prohibits cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- our board of directors may alter our bylaws without obtaining stockholder approval;
- the required approval of the holders of at least two-thirds of the voting power of all of the then outstanding shares of voting stock to adopt, amend or repeal our bylaws or repeal the provisions of our amended and restated certificate of incorporation regarding the election and removal of directors;
- stockholders must provide advance notice and additional disclosures in order to nominate individuals for election to the board of directors or to propose matters that can be acted upon at a stockholders' meeting, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror's own slate of directors or otherwise attempting to obtain control of our company; and
- our board of directors is authorized to issue shares of preferred stock and to determine the terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquiror.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Our amended and restated certificate of incorporation and amended and restated bylaws provide that we will indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law.

In addition, as permitted by Section 145 of the Delaware General Corporation Law, our amended and restated bylaws and our indemnification agreements that we have entered into with our directors and officers provide that:

- we will indemnify our directors and officers to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such

person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful;

- we may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law;
- we are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers will undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification;
- the rights conferred in our amended and restated bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees and agents and to obtain insurance to indemnify such persons; and
- we may not retroactively amend our amended and restated bylaw provisions to reduce our indemnification obligations to directors, officers, employees, and agents.

While we have procured directors' and officers' liability insurance policies, such insurance policies may not be available to us in the future at a reasonable rate, may not cover all potential claims for indemnification, and may not be adequate to indemnify us for all liability that may be imposed.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for certain disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated certificate of incorporation specifies that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for most legal actions involving actions brought against us by stockholders; provided that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Our amended and restated certificate of incorporation also provides that the federal district courts of the United States of America will be the exclusive forum for the resolution of any complaint asserting a cause of action against us or any of our directors, officers, employees or agents and arising under the Securities Act of 1933, as amended (the "Securities Act"). We believe these provisions may benefit us by providing increased consistency in the application of Delaware law and federal securities laws by chancellors and judges, as applicable, particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums and protection against the burdens of multi-forum litigation. However, these provisions may have the effect of discouraging lawsuits against our directors and officers. The choice of forum provision requiring that the Court of Chancery of the State of Delaware be the exclusive forum for certain actions would not apply to suits brought to enforce any liability or duty created by the Exchange Act.

There is uncertainty as to whether a court would enforce such provisions, and the enforceability of similar choice of forum provisions in other companies' charter documents has been challenged in legal proceedings. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions, and there can be no assurance that such provisions will be enforced by a court in those other jurisdictions. If a court were to find these types of provisions to be inapplicable or unenforceable, and if a court were to find the exclusive forum provision in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving the dispute in other jurisdictions, which could materially adversely affect our business.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. Any future determination related to dividend

policy will be made at the discretion of our board of directors, subject to applicable laws and the restrictions set forth in any of our contractual agreements, and will depend upon, among other factors, our results of operations, financial condition, contractual restrictions and capital requirements. In addition, any future debt or preferred securities or future debt agreements we may enter may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

Our ability to use our net operating losses and certain other tax attributes may be limited.

Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, or the Code, if a corporation undergoes an “ownership change,” generally defined as a cumulative change of more than 50 percentage points (by value) in its equity ownership by certain stockholders over a three-year period, the corporation’s ability to use its pre-change NOL carryforwards and other pre-change tax attributes (such as research tax credits) to offset its post-change income or taxes may be limited. We may have experienced at least one ownership change in the past, and we may experience ownership changes in the future as a result of shifts in our stock ownership (some of which shifts are outside our control). As a result, if we earn net taxable income, our ability to use our pre-change NOL carryforwards to offset such taxable income will be subject to limitations. Similar provisions of state tax law may also apply to limit our use of accumulated state tax attributes. As a result, even if we attain profitability, we may be unable to use a material portion of our NOL carryforwards and other tax attributes, which could adversely affect our future cash flows.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our corporate headquarters, research and development facilities and manufacturing and distribution centers are located in Marlborough, Massachusetts and Menlo Park, California, where we lease in aggregate approximately 80,968 and 20,675 square feet of space, respectively, under leases expiring between December 31, 2023 and March 1, 2030. We do not own any real property and believe that our current facilities, together with our global headquarters and research and development center, are sufficient to meet our ongoing needs and that, if we require additional space, we will be able to obtain additional facilities on commercially reasonable terms.

Item 3. Legal Proceedings

From time to time, we may be subject to legal proceedings. We are not currently a party to or aware of any proceedings that we believe will have, individually or in the aggregate, a material adverse effect on our business, financial condition or results of operations. Regardless of outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Item 4. Mine Safety Disclosures

Not applicable.

Part II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Certain Information Regarding the Trading of Our Common Stock

Our common stock trades under the symbol “AKYA” on the Nasdaq Global Select Market. Trading of our common stock commenced on April 16, 2021 in connection with our initial public offering (“IPO”). Prior to that time, there was no established public market for our common stock.

Holders of Our Common Stock

As of February 28, 2023, there were approximately 34 holders of record of our common stock. The actual number of holders of our common stock is greater than this number of record holders and includes stockholders who are beneficial owners, but whose shares are held in “street name” by brokers or held by other “nominees.” The number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Securities Authorized for Issuance Under Equity Compensation Plans

Information about our equity compensation plans will be included in our definitive proxy statement to be filed with the SEC with respect to our 2023 Annual Meeting of Stockholders (“2023 Proxy Statement”) and is incorporated herein by reference.

Issuer Purchases of Equity Securities

We did not purchase any of our equity securities during the period covered by this Annual Report on Form 10-K.

Dividends

We have never declared or paid any cash dividends on our common stock, and we do not currently intend to pay any cash dividends on our common stock in the foreseeable future. We currently intend to retain any future earnings for use in the operation and expansion of our business, and we do not plan to declare or pay cash dividends in the foreseeable future. Any further determination to pay dividends on our capital stock will be at the discretion of our board of directors, subject to applicable laws, and will depend on our financial condition, results of operations, capital requirements, general business conditions, and other factors that our board of directors considers relevant. In addition, our ability to pay dividends is currently restricted by the terms of our Midcap Trust Term Loan.

Item 6. [Reserved]

Not applicable.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

You should read the following discussion and analysis of financial condition and results of operations together with our consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K and our audited consolidated financial statements and notes thereto. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those in the Annual Report, as referred to in the section titled “Risk Factors.” Please also see the section titled “Special Note Regarding Forward-Looking Statements.”

Overview

We are an innovative life sciences technology company delivering spatial biology solutions focused on transforming discovery and clinical research. Our mission is to deliver a revolutionary new class of spatially derived biomarkers that empower life sciences researchers to better understand disease and clinicians to improve patient outcomes. Spatial biology refers to a rapidly evolving technology that enables academic and biopharma scientists to detect and map the distribution of cell types and biomarkers across whole tissue samples at single-cell resolution, enabling advancements in their understanding of disease progression and patient response to therapy. Through our PhenoCycler™ (formerly CODEX®) and PhenoImager™ (formerly Phenoptics™) platforms, reagents, software and services, we offer end-to-end solutions to perform tissue analysis and spatial phenotyping across the full continuum from discovery through translational and clinical research.

Our spatial biology solutions measure cells and proteins by providing biomarker data in its spatial context while preserving tissue integrity. Biomarkers are objective measures that capture what is happening in a cell or tissue at a given moment. Current genomic and proteomic methods, such as next-generation sequencing (NGS), single-cell analysis, flow cytometry and mass spectrometry, are providing meaningful data but require the destruction of the tissue sample for analysis. While valuable and broadly adopted, these approaches allow scientists to analyze the biomarkers and cells that comprise the tissue but do not provide the fundamental information about tissue structure, cellular interactions and the localized measurements of key biomarkers. Furthermore, current non-destructive tissue analysis and histological methods provide some limited spatial information, but they only measure a minimal number of biomarkers at a time and require expert pathologist interpretation. Our platforms address these limitations by providing end-to-end solutions that enable researchers to quantitatively interrogate a large number of biomarkers and cell types across a tissue section at single-cell resolution. The result is a detailed and computable map of the tissue sample that thoroughly captures the underlying tissue dynamics and interactions between key cell types and biomarkers, a process now referred to as spatial phenotyping. We believe that we are the only business with the breadth of platform capabilities that enable researchers to do a deep exploratory and discovery study, and then further advance and scale their research through the translational and clinical phases, leading to a better understanding of human biology, disease progression and response to therapy.

We offer complete end-to-end solutions for spatial phenotyping, designed to serve the unique needs of our customers in the discovery, translational and clinical markets. The PhenoCycler (formerly CODEX), is an ultra-high parameter and cost-effective platform ideally suited for discovery high-plex research. The PhenoImager platforms (formerly Phenoptics), which includes the newly introduced Fusion instrument and HT instrument (formerly Vectra Polaris), provide high-throughput with the automation and robustness needed for translational and clinical applications. Furthermore, the PhenoCycler and the PhenoImager Fusion can be integrated into a combined system, the PhenoCycler-Fusion System, to enable spatial discovery at scale by providing significant improvements in the speed of the workflow. Together the systems offer seamless and integrated workflow solutions for our customers, including important benefits such as flexible sample types, automated sample processing, scalability, comprehensive data analysis and software solutions and dedicated field and applications support. With these platforms, our customers are performing spatial phenotyping to further advance their understanding of diseases such as cancer, neurological and autoimmune disorders, and many other therapeutic areas.

For the years ended December 31, 2022 and 2021, revenue from North America accounted for approximately 56% and 51% of our revenue, respectively.

As of December 31, 2022, we employed a commercial team of 151 employees, including many with significant industry and technical experience. This total includes field instrument service personnel whose salaries and other personnel costs are classified in cost of goods sold in our consolidated statements of operations. We follow a direct sales model in North America and EMEA, while selling through third-party distributors and dealers in APAC.

We focus a substantial portion of our resources on research and development, as well as on business development and sales and marketing. Our research and development efforts are geared towards developing new instruments and assay capabilities, as well as new reagent kits, to meet both our customers' needs and to address new markets. We intend

to continue making significant investments in this area for the foreseeable future. We also intend to continue to make investments in building our sales team and marketing our products and services to potential customers.

We generally outsource all of our production manufacturing. Design work, prototyping and pilot manufacturing are performed in-house before outsourcing to third-party contract manufacturers. Our outsourced production strategy is intended to drive cost leverage and scale and avoid the high capital outlays and fixed costs related to constructing and operating a manufacturing facility. The contract manufacturers of our systems and reagent kits are located in the United States and Asia. Certain of our suppliers of components and materials are single source suppliers. We manufacture and assemble certain instrument components in-house.

As of the date of this Annual Report on Form 10-K, we have financed our operations primarily from the issuance and sale of convertible preferred stock, borrowings under our long-term debt agreement, and our IPO. We have incurred net losses in each year since our inception in 2015. Our net losses were \$70.6 million and \$42.9 million for the years ended December 31, 2022 and 2021, respectively. We expect to continue to incur significant expenses and operating losses for the foreseeable future. We expect our expenses will increase substantially in connection with our ongoing activities, as we:

- attract, hire and retain qualified personnel, including the expansion of our commercial capabilities and organizations;
- market and sell new and existing solutions and services;
- invest in processes and infrastructure to scale our business;
- support research and development to introduce new solutions;
- expand, protect and defend our intellectual property; and
- acquire complementary businesses or technologies to support the growth of our business.

Key factors affecting our results of operations and future performance

There are a number of factors that have impacted, and we believe will continue to impact, our business, results of operations and growth. Our ability to successfully address these factors is subject to various risks and uncertainties, including those described under the heading “*Risk Factors*.”

Expansion of our installed base

We are focused on increasing sales of our PhenoCycler and PhenoImager platforms (Fusion and HT) to new and existing customers. Our financial performance has historically been driven by, and will continue to be impacted by, the volume of instrument sales. Additionally, instrument sales are a leading indicator of future recurring revenue from consumables and services. Our operating results and growth prospects will be dependent in part on our ability to increase our instrument installed base as we further penetrate existing markets and expand into, or offer new features and solutions that appeal to, new markets.

We believe our market is still evolving and relatively underpenetrated. As spatial biology is further validated through rapid acceleration of peer-reviewed publications and growing adoption by the life sciences research market, we believe we have an opportunity to significantly increase our installed base. In order to capitalize on this opportunity to drive adoption of our platforms across the entire market, we intend to expand our global sales and marketing organizations, increase the scale of our outbound marketing activities, invest in commercial channel infrastructure and deliver new, market-leading solutions to our customers. In addition, we regularly solicit feedback from our customers in order to enhance our solutions and their applications for life sciences research, which we believe will drive increased adoption of our platforms as they better serve our customers’ needs.

Drive incremental pull through

We believe that expansion of our installed base to new and existing customers will drive an increase in our recurring reagent and instrument service revenue. In addition, as our research and development team identifies and launches new applications and biomarker targets, we expect to increase incremental pull through on our existing and new instrument installed base. Recurring revenue was 35% and 38% for the years ended December 31, 2022 and 2021, respectively. Our recurring revenue as a percentage of total product and service revenue will vary based upon new device placements in the period. As our installed base expands, we expect recurring revenue on an absolute basis to increase and become an increasingly important contributor to our revenue.

Improve revenue mix and gross margin

Our revenue is primarily derived from sales of our platforms, consumables, software, and services. Our revenue mix will fluctuate from period-to-period, particularly revenue generated from instrument sales. As our installed base grows, we expect consumables and instrument service revenue to constitute a larger percentage of total revenue.

Our margins are higher for those instruments and consumables that we sell directly to customers compared to those sold through distributors.

Future instrument and consumable selling prices and gross margins may fluctuate due to a variety of factors, including the introduction by others of competing products and solutions. We aim to mitigate downward pressure on our average selling prices by increasing the value proposition offered by our instruments and consumables, primarily by expanding the applications for our devices and increasing the quantity and quality of data that can be obtained using our consumables.

Key Business Metrics

We regularly review the number of instrument placements and cumulative instrument placement as key metrics to evaluate our business, measure our performance, identify trends affecting our business, develop financial projections, and make strategic decisions. We believe that these metrics are representative of our current business; however, we anticipate these will change or may be substituted for additional or different metrics as our business grows.

During the years ended December 31, 2022 and 2021, our instrument placements were as follows:

	Year ended December 31,	
	2022	2021
Instrument Placements:	237	147

Our instruments are sold globally to leading biopharma companies and top research institutions and medical centers. Our quarterly instrument placements fluctuate considerably from period-to-period due to the type and size of our customers and their procurement and budgeting cycles. We expect continued fluctuations in our quarterly period-to-period number of instrument placements.

We believe our instrument placements is an important metric to measure our business because the number of new placements is driven by our ability to secure new customers and to increase adoption of our PhenoCycler and PhenoImager platforms as well as provide insights into anticipated recurring revenue for consumables and instrument services.

Components of results of operations

Revenue

Product Revenue

We generate product revenue from the sale of our instruments, consumables and software products. Instrument sales accounted for 67% and 65% of product revenue for the years ended December 31, 2022 and 2021, respectively. Consumables revenue accounted for 32% and 32% of product revenue for the years ended December 31, 2022 and 2021, respectively.

Our current instrument offerings include our PhenoCycler and PhenoImager platforms. Our sales process with customers is often long and involves multiple levels of approvals. As a result, the revenue for our platforms can vary significantly from period-to-period and has been, and may continue to be, concentrated in a small number of customers in any given period.

We sell our instruments directly to customers and through distributors. Each of our instrument sales drives various streams of recurring revenue comprised of consumable product sales and instrument services.

Service and Other Revenue

We primarily generate service and other revenue from instrument service, which generally consists of sales of extended service contracts, in addition to installation and training, as well as from our laboratory services operations, where we provide sample testing services to customers utilizing our in-house lab operation, and revenue generated from companion diagnostic development.

We offer our customers extended warranty and service plans for our platforms. Our extended warranty and service plans are offered for periods beyond the standard one-year warranty that all customers receive. These extended warranty and service plans generally have fixed fees and terms ranging from one to four additional years. We recognize revenue from the sale of extended warranty and service plans over the respective coverage period, which approximates the service effort provided by us.

We record shipping and handling billed to customers as service and other revenue and the related costs in cost of service and other revenue in the consolidated statement of operations.

During the years ended December 31, 2022 and 2021, respectively, our revenue was comprised of the following sources:

(\$ in thousands)	Year ended December 31,	
	2022	2021
Revenue:		
Product revenue	\$ 57,650	\$ 44,477
Service and other revenue	17,209	10,440
Total revenue	<u>\$ 74,859</u>	<u>\$ 54,917</u>

We sell our products globally. We sell directly to end customers in North America and EMEA and we sell through third-party distributors and dealers in the APAC region.

Cost of Goods Sold, Gross Profit and Gross Margin

Product cost of revenue primarily consists of costs for finished goods (both instruments and reagents) produced by our contract manufacturers, and associated freight, shipping and handling costs for products shipped to customers, salaries and other personnel costs, and other direct costs related to those sales recognized as product revenue in the

period. Cost of goods sold for services and other revenue primarily consists of salaries and other personnel costs, travel related to services provided, costs of servicing equipment at customer sites, and all personnel and related costs for our laboratory services operation.

We expect that our cost of goods sold will increase or decrease to the extent that our revenue increases and decreases and depending on the mix of revenue in any specific period.

Gross profit is calculated as revenue less cost of goods sold. Gross margin is gross profit expressed as a percentage of revenue. Our gross profit in future periods will depend on a variety of factors, including market conditions that may impact our pricing, sales mix among instruments, sales mix changes among consumables, excess and obsolete inventories, costs we pay our contract manufacturers for their services, our cost structure for lab service operations relative to volume, product warranty obligations, and inflationary cost pressures. Our gross profit in future periods will also vary based upon our channel mix and may decrease based upon our distribution channels.

Gross profit was \$43.4 million compared to \$34.2 million for the years ended December 31, 2022 and 2021, respectively.

Operating expenses

Research and development. Research and development costs primarily consist of salaries, benefits, engineering/design costs, laboratory supplies, and materials expenses for employees and third parties engaged in research and product development. We expense all research and development costs in the period in which they are incurred.

We plan to continue to invest in our research and development efforts, including hiring additional employees, to enhance existing products and develop new products. As a result, we expect that our research and development expenses will continue to increase in absolute dollars in future periods. We expect these expenses to vary from period to period as a percentage of revenue.

Selling, general and administrative. Our selling, general and administrative expenses primarily consist of salaries and benefits for employees in our executive, accounting and finance, legal expenses related to intellectual property, sales and marketing, operations, and human resource functions as well as professional services fees, such as consulting, audit, tax and legal fees, general corporate costs, commercial sales functions, marketing, travel expenses, facilities, and IT. We expect that our sales, general and administrative expenses will continue to increase in absolute dollars, primarily due to increased headcount to support anticipated growth in the business and due to incremental costs associated with operating as a public company. Additionally, we expect an increase in absolute dollars as we expand our commercial sales, marketing and business development teams, increase our presence globally and increase marketing activities to drive awareness and adoption of our platform. We expect these expenses to vary from period to period as a percentage of revenue.

Change in fair value of contingent consideration. On September 28, 2018, the Company acquired substantially all the assets of the QPS division of PKI. As part of the acquisition, on September 28, 2018, the Company entered into a License Agreement with PKI. Under the terms of the License Agreement, the Company agreed to pay PKI certain royalties as a percentage of future sales of products from the QPS division, in exchange for a perpetual license of the right to produce and sell QPS products. This contingent consideration is subject to remeasurement.

Depreciation and amortization. Depreciation and amortization expenses primarily consist of depreciation of property and equipment and amortization of acquired intangibles.

Other income (expense)

Interest expense. Interest expense consists primarily of interest related to borrowings under our debt obligations.

Change in fair value of warrant liability. Prior to our IPO, we classified our outstanding warrant to purchase shares of our Series D redeemable convertible preferred stock as a liability on our balance sheets at its estimated fair value since the underlying redeemable convertible preferred stock was classified as temporary equity. At the end of each reporting period, changes in the estimated fair value during the period were recorded as a component of other income (expense). In connection with our IPO, this warrant was adjusted to become a warrant to purchase shares of our common stock and met the criteria to be classified within stockholders' equity; therefore, the warrant was no longer subject to liability accounting. Accordingly, the fair value of the warrant liability was reclassified to stockholders' equity.

Gain on extinguishment of debt. Gain on extinguishment of debt relates to forgiveness of our Payroll Protection Program loan, (the "PPP Loan").

Interest income. Interest income consists of interest earned on cash, cash equivalents, and marketable securities.

Other expense, net. Other expense, net consists primarily of franchise tax and foreign currency exchange gains and losses.

Benefit (provision) for income taxes

Our benefit (provision) for income taxes consists primarily of foreign taxes and minimal state taxes in the United States. As we expand the scale and scope of our international business activities, any changes in the United States and foreign taxation of such activities may increase our overall provision for income taxes in the future.

Results of operations

The results of operations presented below should be reviewed in conjunction with the consolidated financial statements and notes included elsewhere in the Annual Report on Form 10-K. The following tables set forth our results of operations for the periods presented:

(\$ in thousands)	Year ended December 31,	
	2022	2021
Product revenue	\$ 57,650	\$ 44,477
Service and other revenue	17,209	10,440
Total revenue	74,859	54,917
Cost of goods sold:		
Cost of product revenue	20,947	14,471
Cost of service and other revenue	10,522	6,228
Total cost of goods sold	31,469	20,699
Gross profit	43,390	34,218
Operating expenses:		
Selling, general and administrative	79,653	51,016
Research and development	23,211	15,701
Change in fair value of contingent consideration	(102)	2,073
Depreciation and amortization	6,734	4,726
Total operating expenses	109,496	73,516
Loss from operations	(66,106)	(39,298)
Other income (expense):		
Interest expense	(4,554)	(3,115)
Change in fair value of warrant liability	—	(2,728)
Gain on extinguishment of debt	—	2,476
Interest income	777	91
Other expense, net	(635)	(501)
Loss before benefit (provision) for income taxes	(70,518)	(43,075)
Benefit (provision) for income taxes	(123)	140
Net loss	\$ (70,641)	\$ (42,935)

Comparison of the years ended December 31, 2022 and 2021

Revenue

(\$ in thousands, except percentages)	Year ended December 31,		Change	
	2022	2021	Amount	%
Product revenue	\$ 57,650	\$ 44,477	\$ 13,173	30 %
Service and other revenue	17,209	10,440	6,769	65 %
Total revenue	\$ 74,859	\$ 54,917	\$ 19,942	36 %

Product revenue increased by \$13.2 million, or 30%, for the year ended December 31, 2022, compared to the year ended December 31, 2021. The increase was primarily driven by a \$9.9 million increase in instrument revenue resulting from 237 new system placements during the year ended December 31, 2022, compared to 147 new system placements for the year ended December 31, 2021, and a \$4.1 million increase in consumable revenue resulting from a larger installed base of 934 systems as of December 31, 2022, as compared to 697 systems as of December 31, 2021.

Service and other revenue increased by \$6.8 million, or 65%, for the year ended December 31, 2022, compared to the year ended December 31, 2021. The increase was primarily due to an increase relating to lab services operations, revenue generated from companion diagnostic development, and other immaterial changes.

Costs of Goods Sold, Gross Profit and Gross Margin

(\$ in thousands, except percentages)	Year ended December 31,		Change	
	2022	2021	Amount	%
Cost of product revenue	\$ 20,947	\$ 14,471	\$ 6,476	45 %
Cost of service and other revenue	10,522	6,228	4,294	69 %
Total cost of goods sold	\$ 31,469	\$ 20,699	\$ 10,770	52 %
Gross profit	\$ 43,390	\$ 34,218	\$ 9,172	27 %
Gross margin	58 %	62 %		

Cost of product revenue increased by \$6.5 million, or 45%, for the year ended December 31, 2022, compared to the year ended December 31, 2021. The increase in cost of product revenue was primarily driven by costs associated with increased instrument and consumable sales. Cost of service and other revenue increased by \$4.3 million, or 69%, for the year ended December 31, 2022, compared to the year ended December 31, 2021. The increase was primarily due to increases in costs for lab services driven by an increase in activity, as well as an increase in extended warranty costs as there were higher customer renewals due to the maturity of the installed base. Additionally, a \$0.4 million reduction to cost of goods sold in the year ended December 31, 2021 was recorded, which was associated with the employee retention credit.

Gross profit increased by \$9.2 million, or 27%, and gross margin decreased by 4% for the year ended December 31, 2022, as compared to the year ended December 31, 2021. The decline in gross margin was primarily due to the costs increases noted above, which includes the impact of inflationary cost pressures, as well as promotional pricing offered during the launch of the Fusion instrument.

Operating Expenses

Selling, General and Administrative

(\$ in thousands, except percentages)	Year ended December 31,		Change	
	2022	2021	Amount	%
Selling, general and administrative	\$ 79,653	\$ 51,016	\$ 28,637	56 %

Selling, general and administrative expense increased by \$28.6 million, or 56%, for the year ended December 31, 2022, compared to the year ended December 31, 2021. The increase was partially due to \$20.4 million in personnel-related expenses due to an increase in headcount to support the growth in overall operations subsequent to the IPO, net of the impact of the employee retention credit of \$2.6 million recognized during 2021. Additionally, there was a \$2.7 million increase in professional fees and other third-party fees, which are largely incremental costs of operating a public company, including increased marketing, legal, accounting, insurance, and other consulting costs. Remaining increases are due to higher costs in recruiting, facilities, supplies, software licenses and subscriptions, and other related costs.

Research and development

(\$ in thousands, except percentages)	Year ended December 31,		Change	
	2022	2021	Amount	%
Research and development	\$ 23,211	\$ 15,701	\$ 7,510	48 %

Research and development expense increased by \$7.5 million, or 48%, for the year ended December 31, 2022, compared to the year ended December 31, 2021. The increase was primarily due to a \$5.1 million increase in personnel-related expenses due to an increased headcount, net of the impact of the employee retention credit of \$1.3 million recognized in 2021. Additionally, there was a \$1.8 million increase in third-party consulting and lab supplies consumed as research and development efforts ramped up subsequent to the IPO.

Change in fair value of contingent consideration

(\$ in thousands, except percentages)	Year ended December 31,		Change	
	2022	2021	Amount	%
Change in fair value of contingent consideration	\$ (102)	\$ 2,073	\$ (2,175)	(105)%

Change in fair value of contingent consideration decreased by \$2.2 million, or 105%, for the year ended December 31, 2022, compared to the year ended December 31, 2021, due to current period remeasurement.

Depreciation and amortization

(\$ in thousands, except percentages)	Year ended December 31,		Change	
	2022	2021	Amount	%
Depreciation and amortization	\$ 6,734	\$ 4,726	\$ 2,008	42 %

The \$2.0 million increase in depreciation and amortization expense was primarily related to an increase in property and equipment as of December 31, 2022, as compared to December 31, 2021.

Interest expense

(\$ in thousands, except percentages)	Year ended December 31,		Change	
	2022	2021	Amount	%
Interest expense	\$ 4,554	\$ 3,115	\$ 1,439	46 %

Interest expense increased by \$1.4 million, or 46%, for the year ended December 31, 2022, compared to the year ended December 31, 2021. The increase was primarily due to increased debt levels in 2022 as compared to 2021.

Change in fair value of warrant liability

(\$ in thousands, except percentages)	Year ended December 31,		Change	
	2022	2021	Amount	%
Change in fair value of warrant liability	\$ —	\$ 2,728	\$ (2,728)	100 %

Change in fair value of warrant liability decreased by \$2.7 million, or 100%, for the year ended December 31, 2022, compared to the year ended December 31, 2021. In connection with the IPO, this warrant was adjusted to become a warrant to purchase shares of our common stock and met the criteria to be classified within stockholders' equity; therefore, the warrant is no longer subject to liability accounting, and thus no further remeasurement.

Gain on extinguishment of debt

(\$ in thousands, except percentages)	Year ended December 31,		Change	
	2022	2021	Amount	%
Gain on extinguishment of debt	\$ —	\$ 2,476	\$ (2,476)	(100)%

Gain on extinguishment of debt decreased by \$2.5 million, or 100%, for the year ended December 31, 2022, compared to the year ended December 31, 2021, due to forgiveness of the PPP Loan in the second quarter of 2021.

Interest income

(\$ in thousands, except percentages)	Year ended December 31,		Change	
	2022	2021	Amount	%
Interest income	\$ 777	\$ 91	\$ 686	754 %

Interest income increased by \$0.7 million, or 754%, for the year ended December 31, 2022, compared to the year ended December 31, 2021, due to higher interest rates earned on cash, cash equivalents, and marketable securities.

Other expense, net

(\$ in thousands, except percentages)	Year ended December 31,		Change	
	2022	2021	Amount	%
Other expense, net	\$ 635	\$ 501	\$ 134	27 %

Other expense, net increased by \$134 thousand for the year ended December 31, 2022, compared to the year ended December 31, 2021.

Liquidity and Capital Resources

As of December 31, 2022, we had approximately \$81.2 million in cash, cash equivalents, and marketable securities.

Since our inception, we have experienced losses and negative cash flows from operations, and incurred a consolidated net loss of \$70.6 million for the year ended December 31, 2022 and had an accumulated deficit of \$166.7 million as of December 31, 2022. We have historically relied on equity and debt financings to fund our operations to date. We may in the future sell shares of our common stock pursuant to the Equity Distribution Agreement or draw the remaining tranche pursuant to Amendment No. 3 to the Midcap Trust Term Loan to help fund our operations.

We expect to incur additional operating losses in the foreseeable future as we continue to invest in the research and development of our product offerings, commercialize and launch platforms, and expand into new markets. Based on our current business plan, we believe the net proceeds from the IPO, together with our existing cash, cash equivalents, marketable securities and anticipated cash flows from operations will be sufficient to meet our working capital and capital expenditure needs over at least the next 12 months following the date of the filing of this Annual Report on Form 10-K.

Our future capital requirements will depend on many factors, including, but not limited to our ability to successfully commercialize and launch products, and to achieve a level of sales adequate to support our cost structure. If we are unable to execute on our business plan and adequately fund operations, or if the business plan requires a level of spending in excess of cash resources, we will have to seek additional equity or debt financing. If additional financings are required from outside sources, we may not be able to raise it on terms acceptable to us or at all. If we are unable to raise additional capital when desired, our business, financial condition, results of operations and prospects could be adversely affected.

Sources of Liquidity

Since our inception, we have financed our operations primarily from the issuance and sale of our convertible preferred stock and borrowings under long-term debt agreements. In April 2021, we completed our IPO, resulting in the receipt of aggregate proceeds of \$138.6 million, net of offering costs, underwriter discounts and commissions of \$12.8 million.

Convertible preferred stock financings

Through December 31, 2022, we have raised a total of \$60.5 million from the issuance and sale of convertible preferred stock, net of costs associated with such financings. Most recently, in 2019 we issued shares of Series D convertible preferred stock for gross proceeds of \$25.0 million. All preferred stock converted to common stock immediately prior to our IPO.

Payroll Protection Program loan

During April 2020, we received a \$2.48 million small business loan under the Payroll Protection Program, part of the Coronavirus Aid, Relief and Economic Security Act (the “CARES Act”). The PPP Loan was forgiven in full in June 2021.

Midcap Trust Term Loan

In October 2020, we entered into the Midcap Trust Term Loan for a \$37.5 million credit facility, consisting of a senior, secured term loan. We realized \$32.5 million in aggregate proceeds as a result of the debt financing. On June 1, 2022, we entered into Amendment No. 2, which permitted the draw of a second tranche of \$10.0 million, which was drawn on June 1, 2022. Additionally, Amendment No. 2 provides us with a new third tranche pursuant to which we may draw \$10.0 million any time after September 30, 2022 until September 30, 2023. Amendment No. 2 also delayed the amortization start dates for the outstanding loan amounts from November 1, 2023 until April 1, 2025, at which point we will repay the principal amounts in seven equal monthly installments until the maturity date. Finally, Amendment No. 2 amended the interest rate payable on the term loan to apply an interest rate equal to the SOFR rate (with a floor of 1.61448%) plus 6.35%. On September 30, 2022, we drew the third tranche of \$10,000 related to Amendment No. 2. On November 7, 2022, we entered into Amendment No. 3 to the Midcap Trust Term Loan, which permitted the draw of two additional tranches, each totaling \$11,250, the first of which was drawn on November 7, 2022. The remaining tranche will become available for draw after June 30, 2023 but before December 31, 2023, and is subject to us achieving certain trailing twelve month revenue targets. Amendment No. 3 also delayed the amortization start dates for the outstanding loan amounts from April 1, 2025 until December 1, 2025 (subject to further extension upon certain conditions), at which point we will repay the principal amounts in equal monthly installments until the new maturity date of November 1, 2027. In addition, Amendment No. 3 amended the interest rate payable on the term loan to apply an interest rate equal to the SOFR rate (with a floor of 2.50%) plus 6.80%, and reset the call protection to begin as of November 7, 2025. Finally, Amendment No. 3 provides for a commitment fee of \$74 payable on November 7, 2022 on the new tranche amounts and an exit fee of 4.75%. Substantially all other terms and conditions, and covenants of the credit agreement remain unchanged.

The Midcap Trust Term Loan is subject to a minimum revenue financial covenant measuring our last twelve months trailing revenue, tested on a monthly basis.

The Midcap Trust Term Loan is collateralized by substantially all of our assets. The agreement contains customary negative covenants that limit our ability to, among other things, incur additional indebtedness, grant liens, make investments, repurchase stock, pay dividends, transfer assets and merge or consolidate with any other entity or to acquire all or substantially all the capital stock or property of another entity. The agreement also contains customary affirmative covenants, including requirements to, among other things, deliver audited financial statements. If we default under the Midcap Trust Term Loan and if the default is not cured or waived, the lender could cause any amounts outstanding to be payable immediately. Under certain circumstances, the lender could also exercise its rights with respect to the collateral securing such loans. Moreover, any such default would limit our ability to obtain additional financing, which may have an adverse effect on our cash flow and liquidity.

We were in compliance with all covenants under the Midcap Trust Term Loan as of December 31, 2022.

At-the-Market Offering

On November 7, 2022, we entered into an Equity Distribution Agreement (the “Equity Distribution Agreement”) with Piper Sandler & Co. (“Piper Sandler”) with respect to an at-the-market (“ATM”) offering program under which we may offer and sell, from time to time at our sole discretion, shares of our common stock, par value \$0.00001 per share (the “Common Stock”), having an aggregate offering price of up to \$50.0 million (the “Placement Shares”) through Piper Sandler as our sales agent. As of December 31, 2022, we have not sold any shares of common stock under the ATM program.

Cash flows

The following table summarizes our cash flows for the periods presented:

(\$ in thousands)	Year ended December 31,	
	2022	2021
Net cash provided by (used in):		
Operating activities	\$ (53,496)	\$ (36,068)
Investing activities	(14,079)	(5,094)
Financing activities	28,726	137,035
Net (decrease) increase in cash, cash equivalents, and restricted cash	<u>\$ (38,849)</u>	<u>\$ 95,873</u>

Operating activities

Net cash used in operating activities increased by \$17.4 million to \$53.5 million in the year ended December 31, 2022 compared to \$36.1 million in the year ended December 31, 2021. This increase is attributable to a net loss of \$70.6 million, offset by non-cash charges of \$15.0 million and a change in our net operating assets and liabilities of \$2.2 million. The change in our net operating assets and liabilities was due to increases in accounts payable, accrued expenses and other liabilities of \$4.4 million, increases in deferred revenue of \$2.6 million, and decreases in prepaid expenses and other assets of \$0.8 million, offset by increased inventory levels of \$5.4 million, and increases in accounts receivable of \$0.3 million. Non-cash charges primarily consisted of \$7.4 million of stock-based compensation expense, \$7.1 million of depreciation and amortization, and \$0.6 million of non-cash interest expense, offset by \$0.2 million in net accretion of marketable securities, and \$0.1 million in change in fair value of contingent consideration.

Investing activities

Net cash used in investing activities was \$14.1 million in the year ended December 31, 2022 compared to \$5.1 million during the year ended December 31, 2021. The increase was primarily driven by purchases of marketable securities of \$40.8 million and purchases of property and equipment of \$7.4 million, offset by \$34.0 million in maturities of marketable securities.

Financing activities

Net cash provided by financing activities was \$28.7 million for the year ended December 31, 2022 compared with \$137.0 million for the year ended December 31, 2021. This amount was driven by \$31.3 million in debt proceeds and \$0.4 million in proceeds from stock option exercises, partially offset by \$1.2 million in payments of consideration, \$0.6 million in principal payments on financing leases, \$0.8 million in payment of accrued final fee, \$0.2 million in payments of debt issuance costs, and \$0.1 million in payments of deferred offering costs.

Qualitative and Quantitative Disclosures About Market Risk

Interest rate risk

Customer financing exposure. We are indirectly exposed to interest rate risk because many of our customers depend on debt financings to purchase our platforms and systems. An increase in interest rates could make it challenging for our customers to obtain the capital necessary to make such purchases on favorable terms, or at all. Such factors could reduce demand or lower the price we can charge for our platforms and systems, thereby reducing our net sales and gross profit.

Variable rate debt. In October 2020, we entered into the Midcap Trust Term Loan, which as amended, is due in November 2027, and carries variable interest equal to the SOFR rate (with a floor of 2.50%) plus 6.80% per annum. If we refinance the Midcap Trust Term Loan or enter into new debt arrangements, interest rates could increase and thereby increase our financing costs and increase our net loss. A hypothetical 100 basis point change in interest rates would not have a material impact on interest expense for the year ended December 31, 2022.

Bank deposit, money market, and note receivable exposure. As of December 31, 2022, we had cash and cash equivalents, including restricted cash, and marketable securities of \$81.5 million. The primary objective of our investment is to preserve principal and provide liquidity. A hypothetical 100 basis point decrease in interest rates would not have a material impact on interest income or net loss.

Foreign currency risk

As we expand our presence in international markets, to the extent we are required to enter into agreements denominated in a currency other than the U.S. dollar, our results of operations and cash flows may increasingly be subject to fluctuations due to changes in foreign currency exchange rates and may be adversely affected in the future due to changes in foreign exchange rates. To date, we have not entered into any hedging arrangements with respect to foreign currency risk. As our international operations grow, we will continue to reassess our approach to manage our risk relating to fluctuations in currency rates.

Critical accounting policies and estimates

We have prepared our consolidated financial statements in accordance with GAAP. Our preparation of these consolidated financial statements requires us to make estimates, assumptions and judgments that affect the reported amounts of assets, liabilities, revenue, expenses and related disclosures. We evaluate our estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results could therefore differ materially from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in Note 2 to our audited consolidated financial statements, we believe the following accounting policies to be critical to the judgments and estimates used in the preparation of our consolidated financial statements.

Impairment of long-lived assets and goodwill

We evaluate our long-lived assets, including demo inventory, for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If indications of impairment exist, projected future undiscounted cash flows associated with the asset or asset group are compared to the carrying amount to determine whether the asset's value is recoverable. During this analysis, we reevaluate the significant assumptions used in determining the original cost and estimated lives of long-lived assets. Although the assumptions may vary from asset to asset, they generally include operating results, changes in the use of the asset or asset group, cash flows and other indicators of value. We then determine whether the remaining useful life continues to be appropriate or whether there has been an impairment of long-lived assets based primarily upon whether expected future undiscounted cash flows are

sufficient to support the assets' or asset groups recovery. If impairment exists, we would adjust the carrying value of the asset to fair value, generally determined by a discounted cash flow analysis. If the carrying value of the asset or asset group exceeds such projected undiscounted cash flows, the asset or asset group will be written down to its estimated fair value.

We test goodwill for impairment annually and test intangible assets for impairment whenever events or changes in circumstances indicate that the carrying value of the asset may not be recoverable (i.e., upon occurrence of a triggering event). We perform our annual impairment review of goodwill on November 1 of each calendar year (and if and when triggering events occur between annual impairment tests).

Revenue recognition

We follow ASC 606, *Revenue from Contracts with Customers* ("ASC 606").

We derive revenue from two primary sources, product revenue, which is comprised primarily of instrument sales revenue, consumables revenue, and software revenue, as well as service revenue, which is comprised of, service and warranty, and laboratory services revenue. Revenue is recognized net of applicable taxes imposed on the related transaction.

We recognize revenue when we satisfy the performance obligations under the terms of a contract and control of our products and services is transferred to our customers in an amount that reflects the consideration we expect to receive from our customers in exchange for those products and services. This process involves identifying the contract with a customer, determining the performance obligations in the contract, determining the contract price, allocating the contract price to the distinct performance obligations in the contract based on standalone selling price, and recognizing revenue when the performance obligations have been satisfied. A performance obligation is considered distinct from other obligations in a contract when it provides a benefit to the customer either on its own or together with other resources that are readily available to the customer and is separately identified in the contract. We consider a performance obligation satisfied once we have transferred control of a good or service to the customer, meaning the customer has the ability to use and obtain the benefit of the good or service.

Our agreements with customers often include multiple performance obligations, which can sometimes be included in separate contracts entered into within a reasonably short period of time. We consider an entire customer arrangement to determine if separate contracts should be considered combined for the purposes of revenue recognition.

In order to determine the stand-alone selling price, we conduct a periodic analysis to determine whether various goods or services have an observable stand-alone selling price as well as to identify significant changes to current stand-alone selling prices. If we do not have an observable stand-alone selling price for a particular good or service, then the stand-alone selling price for that particular good or service is estimated using an approach that maximizes the use of observable inputs. Our process for determining stand-alone selling price requires judgment and considers multiple factors that are reasonably available and maximizes the use of observable inputs that may vary over time depending upon the unique facts and circumstances related to each performance obligation. We believe that this method results in an estimate that represents the price we would charge for the product offerings if they were sold separately.

Taxes, such as sales, value-added and other taxes, collected from customers concurrent with revenue generating activities and remitted to governmental authorities are not included in revenue. Shipping and handling costs associated with outbound freight are accounted for as a fulfillment cost and are included in cost of sales.

The following describes the nature of our primary types of revenue and the revenue recognition policies and significant payment terms as they pertain to the types of transactions we enter into with our customers.

Product revenue

Product revenue is comprised of three major revenue streams, instrument sales, consumables, and standalone software products. Instrument sales revenue is comprised of sales of PhenoCycler and PhenoImager platforms. Consumables revenue is comprised of reagent kits. We also sell software licenses, both internally developed as well as third-party software. Our standard arrangement with our customers is generally a purchase order or an executed contract. Revenue is recognized upon transfer of title. Payment terms are generally thirty to ninety days from the date of invoicing.

Service and other revenue

Service and other revenue primarily consists of instrument service and warranty, instrument installation and training, and revenue generated by our ABS operation, which provides sample testing services to customers. Our services are provided primarily on a fixed fee basis; from time to time these fixed fee contracts may be invoiced at the outset of the arrangements. We recognize revenue from the sale of an extended warranty, enhanced service warranty arrangements over the respective period, while revenue on installation, training and laboratory services is recognized as the services are performed. For laboratory services, we generally use the cost-to-cost approach to measure the extent of progress towards completion of the performance obligation because we believe it best depicts the transfer of assets to the customer. Under the cost-to-cost measure approach, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. Revenues are recorded proportionally as costs are incurred. Payment terms are generally thirty to ninety days from the date of invoicing.

We record shipping and handling billed to customers as service and other revenue and the related costs in cost of other revenue in our consolidated statement of operations.

Contract assets and contract liabilities

Our contract liabilities consist of upfront payments for service-based warranties on instrument sales, as well as lab services. We classify contract liabilities associated with service-based warranties in deferred revenue, and contract liabilities associated with lab services in accrued expenses. Contract liabilities are classified as current or noncurrent based on the timing of when we expect to service the warranty, or complete the lab services contract.

Costs to obtain or fulfill a contract

Under ASC 606, we are required to capitalize certain costs to obtain customer contracts and costs to fulfill customer contracts. These costs are required to be amortized to expense on a systemic basis that is consistent with the transfer to the customer of the goods or services to which the asset relates, compared to previously being expensed as incurred. As a practical expedient, we recognize any incremental costs to obtain a contract as an expense when incurred if the amortization period of the asset is one year or less.

Stock-based compensation

We maintain an incentive compensation plan under which incentive stock options and nonqualified stock options are granted primarily to employees, non-employee consultants, and board members. Stock-based compensation cost is measured at the grant date, based on the fair value of the award, and is recognized as expense over the requisite service period. The fair value of stock-based awards to employees is estimated using the Black-Scholes option pricing model. We record forfeitures as they occur.

Off-balance sheet arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined in the rules and regulations of the Securities and Exchange Commission.

Recent accounting pronouncements

For information on recently issued accounting pronouncements, see Note 2 to our consolidated financial statements in this Annual Report on Form 10-K.

JOBS Act accounting election

We are an “emerging growth company,” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We have elected to avail ourselves of this extended transition period, and, as a result, we will not be required to adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies. We intend to rely on other exemptions provided by the JOBS Act, including without limitation, not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act of 2002.

Smaller reporting company status

We are also a “smaller reporting company,” meaning that the market value of our stock held by non-affiliates is less than \$700 million as of the last trading day of our second quarter and our annual revenue is less than \$100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company if either (i) the market value of our stock held by non-affiliates is less than \$250 million as of the last trading day of our second quarter or (ii) our annual revenue is less than \$100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than \$700 million as of the last trading day of our second quarter. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. For example, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We are a smaller reporting company, as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, for this reporting period and are not required to provide the information required under this item.

Item 8. Financial Statements and Supplementary Data

AKOYA BIOSCIENCES, INC. AND SUBSIDIARY

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Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Akoya Biosciences, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Akoya Biosciences, Inc. and its subsidiary (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, redeemable convertible preferred stock and stockholders' equity (deficit) and cash flows for the years then ended, and the related notes to the consolidated financial statements (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Change in Accounting Principle

As discussed in Note 1 to the financial statements, the Company has changed its method of accounting for leases in 2022.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ RSM US LLP

We have served as the Company's auditor since 2019.

Boston, Massachusetts
March 6, 2023

AKOYA BIOSCIENCES, INC. AND SUBSIDIARY

CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share data)

	December 31, 2022	December 31, 2021
Assets		
Current assets		
Cash and cash equivalents	\$ 74,229	\$ 113,079
Marketable securities	6,989	—
Accounts receivable, net	9,729	9,444
Inventories, net	14,486	9,014
Prepaid expenses and other current assets	6,764	9,277
Total current assets	112,197	140,814
Property and equipment, net	10,174	7,487
Restricted cash	303	302
Demo inventory, net	2,084	2,548
Intangible assets, net	20,048	21,150
Goodwill	18,262	18,262
Operating lease right of use assets, net	10,785	—
Financing lease right of use assets, net	1,490	—
Other assets	688	344
Total assets	<u>\$ 176,031</u>	<u>\$ 190,907</u>
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	\$ 10,628	\$ 9,435
Accrued expenses and other current liabilities	16,519	13,491
Current portion of operating lease liabilities	3,009	—
Current portion of financing lease liabilities	620	—
Current portion of capital lease liabilities	—	272
Deferred revenue	6,279	4,484
Total current liabilities	37,055	27,682
Deferred revenue, net of current portion	2,114	1,330
Long-term debt, net of debt discount	63,277	32,471
Deferred tax liability, net	87	26
Capital lease liabilities, net of current portion	—	197
Operating lease liabilities, net of current portion	8,203	—
Financing lease liabilities, net of current portion	675	—
Contingent consideration liability (Note 4), net of current portion	6,039	7,850
Total liabilities	117,450	69,556
Stockholders' equity:		
Preferred Stock, \$0.00001 par value; 10,000,000 shares authorized; 0 shares issued and outstanding at December 31, 2022 and December 31, 2021, respectively	—	—
Common Stock, \$0.00001 par value; 500,000,000 shares authorized at December 31, 2022 and December 31, 2021; 38,288,188 and 37,424,101 shares issued and outstanding at December 31, 2022 and December 31, 2021, respectively	2	2
Additional paid in capital	225,333	217,456
Accumulated deficit	(166,748)	(96,107)
Accumulated other comprehensive loss	(6)	—
Total stockholders' equity	<u>58,581</u>	<u>121,351</u>
Total liabilities and stockholders' equity	<u>\$ 176,031</u>	<u>\$ 190,907</u>

See accompanying notes to consolidated financial statements.

AKOYA BIOSCIENCES, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands except share & per share data)

	Year ended	
	December 31, 2022	December 31, 2021
Revenue:		
Product revenue	\$ 57,650	\$ 44,477
Service and other revenue	17,209	10,440
Total revenue	74,859	54,917
Cost of goods sold:		
Cost of product revenue	20,947	14,471
Cost of service and other revenue	10,522	6,228
Total cost of goods sold	31,469	20,699
Gross profit	43,390	34,218
Operating expenses:		
Selling, general and administrative	79,653	51,016
Research and development	23,211	15,701
Change in fair value of contingent consideration	(102)	2,073
Depreciation and amortization	6,734	4,726
Total operating expenses	109,496	73,516
Loss from operations	(66,106)	(39,298)
Other income (expense):		
Interest expense	(4,554)	(3,115)
Change in fair value of warrant liability	—	(2,728)
Gain on extinguishment of debt	—	2,476
Interest income	777	91
Other expense, net	(635)	(501)
Loss before benefit (provision) for income taxes	(70,518)	(43,075)
Benefit (provision) for income taxes	(123)	140
Net loss	\$ (70,641)	\$ (42,935)
Dividends accrued on redeemable convertible preferred stock	—	(1,435)
Adjusted net loss attributable to common stockholders	(70,641)	(44,370)
Net loss per share attributable to common stockholders, basic and diluted	\$ (1.87)	\$ (1.65)
Weighted-average shares outstanding, basic and diluted	37,746,915	26,896,976

See accompanying notes to consolidated financial statements.

AKOYA BIOSCIENCES, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(in thousands)

	Year ended	
	December 31, 2022	December 31, 2021
Net loss	\$ (70,641)	\$ (42,935)
Other comprehensive loss:		
Unrealized loss on marketable securities	(6)	—
Total other comprehensive loss	(6)	—
Comprehensive loss	<u>\$ (70,647)</u>	<u>\$ (42,935)</u>

See accompanying notes to consolidated financial statements.

AKOYA BIOSCIENCES, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF REDEEMABLE CONVERTIBLE PREFERRED
STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)
(in thousands, except share data)

	Series B Redeemable Convertible Preferred Stock		Series C Redeemable Convertible Preferred Stock		Series D Redeemable Convertible Preferred Stock		Series A Convertible Preferred Stock		Class A Common Stock		Class B Common Stock		Additional Paid in Capital	Accumulated Deficit	Accumulated other comprehensive loss	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount				
Balance at December 31, 2020	13,715,330	\$ 11,500	26,732,361	\$ 30,107	16,390,217	\$ 27,500	5,013,333	\$ 1,253	—	\$ —	2,563,765	\$ 1	\$ —	\$ (52,280)	\$ —	\$ (51,026)
Conversion of Class B shares	—	—	—	—	—	—	—	—	2,835,099	1	(2,835,099)	(1)	—	—	—	—
Exercise of stock options	—	—	—	—	—	—	—	—	476,423	—	271,334	—	394	—	—	394
Accrued dividends	—	217	—	615	—	603	—	—	—	—	—	—	(543)	(892)	—	(1,435)
Initial public offering of common stock	—	—	—	—	—	—	—	—	7,567,000	—	—	—	138,553	—	—	138,553
Conversion of preferred stock into common stock in connection with the IPO	(13,715,330)	(11,717)	(26,732,361)	(30,722)	(16,390,217)	(28,103)	(5,013,333)	(1,253)	26,545,579	1	—	—	71,794	—	—	70,542
Reclassification of warrant liability to equity	—	—	—	—	—	—	—	—	—	—	—	—	3,219	—	—	3,219
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	(42,935)	—	(42,935)
Stock-based compensation	—	—	—	—	—	—	—	—	—	—	—	—	4,039	—	—	4,039
Balance at December 31, 2021	—	\$ —	—	\$ —	—	\$ —	—	\$ —	37,424,101	\$ 2	—	\$ —	\$ 217,456	\$ (96,107)	\$ —	\$ 121,351
Exercise of stock options	—	—	—	—	—	—	—	—	745,991	—	—	—	447	—	—	447
Exercise of stock warrant	—	—	—	—	—	—	—	—	118,096	—	—	—	—	—	—	—
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	(70,641)	—	(70,641)
Other comprehensive loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(6)	(6)
Stock-based compensation	—	—	—	—	—	—	—	—	—	—	—	—	7,430	—	—	7,430
Balance at December 31, 2022	—	\$ —	—	\$ —	—	\$ —	—	\$ —	38,288,188	\$ 2	—	\$ —	\$ 225,333	\$ (166,748)	\$ (6)	\$ 58,581

See accompanying notes to consolidated financial statements.

AKOYA BIOSCIENCES INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year ended	
	December 31, 2022	December 31, 2021
Operating activities		
Net loss	\$ (70,641)	\$ (42,935)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	7,149	4,792
Non-cash interest expense	608	427
Stock-based compensation expense	7,430	4,039
Deferred taxes	35	(155)
Change in fair value of contingent consideration	(102)	2,073
Net accretion of marketable securities	(221)	—
Change in fair value of warrant liability	—	2,728
Loss on sale of property and equipment	82	—
Gain on extinguishment of debt	—	(2,476)
Changes in operating assets and liabilities:		
Accounts receivable, net	(285)	(2,974)
Prepaid expenses and other assets	798	(8,789)
Inventories, net	(5,374)	(4,628)
Accounts payable	1,193	4,361
Accrued expenses and other liabilities	3,253	6,507
Deferred revenue	2,579	962
Net cash used in operating activities	<u>(53,496)</u>	<u>(36,068)</u>
Investing activities		
Purchases of property and equipment	(7,360)	(5,094)
Proceeds from sale of property and equipment	55	—
Purchase of marketable securities	(40,774)	—
Maturities of marketable securities	34,000	—
Net cash used in investing activities	<u>(14,079)</u>	<u>(5,094)</u>
Financing activities		
Proceeds from initial public offering, net of underwriting discounts and commissions	—	138,553
Proceeds from debt	31,250	—
Payment of accrued final fee	(779)	—
Proceeds from stock option exercises	447	394
Payments of debt issuance costs	(240)	—
Principal payments on capital leases	—	(322)
Principal payments on financing leases	(621)	—
Payments of contingent consideration	(1,207)	(1,590)
Payments of deferred offering costs	(124)	—
Net cash provided by financing activities	<u>28,726</u>	<u>137,035</u>
Net (decrease) increase in cash, cash equivalents, and restricted cash	(38,849)	95,873
Cash, cash equivalents, and restricted cash at beginning of year	113,381	17,508
Cash, cash equivalents, and restricted cash at end of year	<u>\$ 74,532</u>	<u>\$ 113,381</u>
Supplemental disclosures of cash flow information		
Cash paid for interest	<u>\$ 3,477</u>	<u>\$ 2,668</u>
Cash paid for income taxes	<u>\$ —</u>	<u>\$ —</u>
Supplemental disclosures of non-cash activities		
Purchases of property and equipment included in accounts payable and accrued expenses	<u>\$ 229</u>	<u>\$ 1,105</u>
Accretion of dividends on Series B, C, and D Preferred Stock	<u>\$ —</u>	<u>\$ 1,435</u>
Conversion of convertible preferred stock into common stock upon completion of initial public offering	<u>\$ —</u>	<u>\$ 71,795</u>
Reclassification of warrant liability to equity	<u>\$ —</u>	<u>\$ 3,219</u>

See accompanying notes to consolidated financial statements.

AKOYA BIOSCIENCES INC. AND SUBSIDIARY
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands, except share and per share data)

(1) The company and basis of presentation

Description of business

Akoya Biosciences, Inc. (“Akoya” or the “Company”) is a life sciences technology company, founded on November 13, 2015 as a Delaware corporation with operations based in Marlborough, Massachusetts and Menlo Park, California, delivering spatial biology solutions focused on transforming discovery and clinical research. Spatial biology refers to an evolving technology that enables academic and biopharma scientists to detect and map the distribution of cell types and biomarkers across whole tissue samples at single cell resolution, enabling advancements in their understanding of disease progression and patient response to therapy. Through Akoya’s PhenoCycler™ (formerly CODEX®) and PhenoImager™ (formerly Phenoptics™) platforms, reagents, software and services, the Company offers end-to-end solutions to perform tissue analysis and spatial phenotyping across the full continuum from discovery through translational and clinical research.

On September 28, 2018, the Company acquired the commercial QPS division of PerkinElmer, Inc. (“PKI”) for multiplex immunofluorescence, with the aim of providing consumers with a full suite of end-to-end solutions for high parameter tissue analysis. The QPS technology offers pathology solutions for cancer immunology and immunotherapy research, including advanced multiplex immunocytochemistry staining kits, multispectral imaging and whole slide scanning instruments, and image analysis software. The Company’s combined portfolio of complementary technologies aims to fuel groundbreaking advancements in cancer immunology, immunotherapy, neurology and a wide range of other applications. The Company sells into three main regions across the world: North America, Asia-Pacific (“APAC”), and Europe-Middle East-Africa (“EMEA”).

On April 8, 2021, the Board of Directors of the Company (the “Board”) approved a 1-for-2.33 reverse stock split of its issued and outstanding common stock and a proportional adjustment to the existing conversion ratios for each series of the Company’s convertible preferred stock, which was effected on April 9, 2021. The par value of the authorized stock was not adjusted as a result of the reverse stock split. Other than the par value, all issued and outstanding shares of common stock and related per share data shown in the accompanying financial statements and related notes have been retroactively revised to reflect the reverse stock split and adjustment of the Preferred Stock conversion ratios.

In April 2021, the Company completed the initial public offering of its common stock (the “IPO”). In the IPO, the Company issued and sold 7,567,000 shares of its common stock at a price to the public of \$20.00 per share, including the exercise by the underwriters of their option to purchase an additional 987,000 shares. The Company received \$138.6 million in net proceeds, after deducting underwriting discounts and commissions and other offering expenses.

Immediately prior to completing the IPO, all preferred stock converted into 26,545,579 shares of common stock, and all outstanding shares of the Company’s Class B common stock converted on a 1 for 1 basis into 2,835,099 shares of the Company’s Class A common stock.

On April 20, 2021, in connection with the closing of the IPO, the Company’s amended and restated certificate of incorporation, as filed with the Secretary of State of the State of Delaware, and the Company’s amended and restated bylaws became effective. Refer to Note 9 for further details.

Liquidity and going concern

At December 31, 2022, the Company had cash, cash equivalents, and marketable securities of \$81,218 and an accumulated deficit of \$166,748. The future success of the Company is dependent on its ability to successfully commercialize its products, successfully launch future products, obtain additional capital and ultimately attain profitable

operations. The Company has funded its operations primarily through its preferred stock issuances, debt financing arrangements, and the IPO.

The Company is subject to a number of risks similar to other newly commercial life sciences companies, including, but not limited to, development and market acceptance of the Company's product candidates, development by its competitors of new technological innovations, protection of proprietary technology, and raising additional capital.

The Company has incurred losses since its inception and has used cash from operations of \$53,496 during the year ended December 31, 2022. However, the Company believes that its existing cash, cash equivalents, and marketable securities will be adequate to satisfy our current operating plans for at least the next twelve months from the issuance of these financial statements.

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the ordinary course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of the uncertainties described above.

(2) Summary of significant accounting policies

Principles of consolidation

The Company's financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"). Any reference in these notes to applicable guidance is meant to refer to the authoritative United States generally accepted accounting principles as found in the Accounting Standards Codification ("ASC") and Accounting Standards Updates ("ASU") of the Financial Accounting Standards Board ("FASB"). The Company's consolidated financial statements include the accounts of the Company and its wholly-owned subsidiary, Akoya Biosciences UK Ltd. ("Akoya UK"). All intercompany balances and transactions have been eliminated in consolidation.

Foreign currency remeasurement

Akoya UK's subsidiary's activities are recorded in British Pound Sterling and are remeasured using the United States Dollar as the functional currency. The balance sheet is remeasured into U.S. dollars at the exchange rate as of the balance sheet date. Revenues, expenses, and cash flows are remeasured at average rates during each reporting period. Net exchange gains and losses resulting from the remeasurement of the United Kingdom subsidiary balances are charged directly to operations and are included in other income (expense), net and were determined to be immaterial for the years ended December 31, 2022 and 2021.

Foreign exchange transaction gains and losses are included in other income (expense), net in the accompanying consolidated statements of operations and were determined to be immaterial for the years ended December 31, 2022 and 2021.

Use of estimates

The preparation of the Company's consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. The Company utilizes certain estimates in the determination of the fair value of its stock options and warrant, the useful lives of property and equipment, revenue recognition, determining the fair value of intangible assets, marketable securities, accrued expenses, income tax accounting, the value of purchase consideration paid and identifiable assets acquired and assumed in acquisitions, contingent consideration, goodwill and intangible asset impairment review, and other contingencies. The Company bases its estimates on historical experience and other market-specific or other relevant assumptions that it believes to be reasonable under the circumstances. Actual results could differ from such estimates.

Reclassifications

Certain amounts in the prior years' consolidated financial statements have been reclassified to conform to the current year's presentation.

Segment information

Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision-maker in deciding how to allocate resources and assess performance. The Company's chief operating decision-maker, the Company's chief executive officer, views the Company's operations and manages its business as a single operating segment.

Concentrations of credit risk

Cash and cash equivalents are financial instruments that potentially subject the Company to concentrations of credit risk. The Company maintains its cash deposits, which at times may exceed federally insured limits, with large financial institutions and, accordingly, the Company believes their cash and cash equivalents are subject to minimal credit risk.

Cash and cash equivalents and restricted cash

The Company considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents.

The Company records cash and cash equivalents as restricted when it is unable to freely use such cash and cash equivalents for general operating purposes. As of December 31, 2022 and 2021, restricted cash is recorded as long term and consists of a security deposit in a financial institution that is restricted from use as collateral for our letter of credit associated with our office and laboratory space in Marlborough, MA (Note 13), as well as cash restricted from use for the Company's corporate credit card program.

Marketable securities

Marketable securities represent holdings of available-for-sale marketable debt securities in accordance with the Company's investment policy. Short-term marketable securities mature within one year from the balance sheet date while long-term marketable securities mature after one year. Investments in marketable securities are recorded at fair value, with any unrealized gains and losses reported within accumulated other comprehensive income as a separate component of stockholders' equity until realized or until a determination is made that an other-than-temporary decline in market value has occurred. The amortized cost of debt securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization and accretion are reflected as a component of other expense. Interest on securities sold is determined based on the specific identification method and reflected as interest income. Any realized gains or losses on the sale of investment are reflected as realized (loss) gain on investments.

Accounts receivable

The Company's accounts receivable consists of amounts due from sales to commercial customers. At each reporting period, management reviews all outstanding balances to determine if the facts and circumstances of each customer relationship indicate the need for a reserve. The Company does not require collateral and had an allowance for doubtful accounts of \$45 and \$45 at December 31, 2022 and 2021, respectively.

Inventory

Inventories are stated at the lower of cost or net realizable value. The Company determines the cost of its inventories, which includes amounts related to materials, direct labor and manufacturing overhead, using the average cost method. The Company performs an assessment of the recoverability of capitalized inventory during each reporting period and writes down any excess and obsolete inventories to their realizable value in the period in which the

impairment is first identified. Shipping and handling costs incurred for inventory purchases are capitalized and recorded upon sale within the cost of goods sold in the consolidated statements of operations. Inventory is primarily raw materials as the Company utilizes contract manufacturers to produce the final products, which are typically drop-shipped directly to customers.

Fair value measurements

Certain assets and liabilities are reported on a recurring basis at fair value. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. ASC 820, Fair Value Measurements (“ASC 820”), establishes a hierarchy of inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the observable inputs be used when available.

Observable inputs are inputs that market participants would use in pricing the asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company’s assumptions about the inputs that market participants would use in pricing the asset or liability and are developed based on the best information available in the circumstances. The hierarchy defines three levels of valuation inputs:

Level 1 — Quoted unadjusted prices for identical instruments in active markets.

Level 2 — Quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-derived valuations in which all observable inputs and significant value drivers are observable in active markets.

Level 3 — Model derived valuations in which one or more significant inputs or significant value drivers are unobservable, including assumptions developed by the Company.

The fair value hierarchy prioritizes valuation inputs based on the observable nature of those inputs. Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company’s assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and consider factors specific to the asset or liability (Note 4).

For certain financial instruments, including accounts receivable, prepaid expenses and other current assets, accounts payable, and accrued expenses, the carrying amounts approximate their fair values as of December 31, 2022 and 2021 because of their short-term nature. At December 31, 2022 and 2021, the carrying value of the Company’s debt approximated fair value.

Property and equipment

Property and equipment are recorded at cost and depreciated over their estimated useful lives using the straight-line method. Repairs and maintenance costs are expensed as incurred, whereas major improvements are capitalized as additions to property and equipment.

Demo inventory

Demo inventory is considered a hybrid between fixed asset and regular inventory as the Company occasionally sells the demo product to customers upon request. Potential customers and key opinion leaders use demo inventory in the field for a trial period and on occasion purchase the inventory within a few months of usage. Demo inventory that is not purchased by the potential customer or key opinion leader is returned to the Company. Demo inventory is recorded at cost and depreciated over their estimated useful lives using the straight-line method. Repairs and maintenance costs are expensed as incurred, whereas major improvements are capitalized as additions to demo inventory. Upon sale, Demo

inventory, if and when sold, is recorded as product revenue and the remaining carrying value is booked through cost of goods sold.

Business combinations – intangible assets and contingent consideration

The Company bases the fair value of identifiable intangible assets acquired in a business combination on detailed valuations that use information and assumptions provided by management, which consider management's best estimates of inputs and assumptions that a market participant would use. The Company's intangible assets are amortized on a straight-line basis over their estimated useful lives ranging from 4 to 15 years.

For those arrangements which arise from a business combination that involve potential future contingent consideration, the Company records on the date of acquisition a liability equal to the fair value of the estimated additional consideration the Company may be obligated to make in the future. The Company re-measures this liability each reporting period and records changes in the fair value through changes in fair value of contingent consideration within the Company's consolidated statements of operations. The Company records amounts currently due as it relates to contingent consideration within accrued expenses. Increases or decreases in the fair value of the contingent consideration liability can result from changes in discount rates, periods, timing and amount of projected revenue or timing or likelihood of achieving regulatory, revenue or commercialization-based milestones. The use of alternative valuation assumptions, including estimated revenue projections, growth rates, cash flows, discount rates, useful life or probability of achieving regulatory or revenue-based milestones could result in different purchase price allocations and recognized amortization expense and contingent consideration expense or benefit in current and future periods.

Impairment of long-lived assets and goodwill

The Company evaluates its long-lived assets, including demo inventory, for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If indications of impairment exist, projected future undiscounted cash flows associated with the asset or asset group are compared to the carrying amount to determine whether the asset's value is recoverable. During this analysis, the Company reevaluates the significant assumptions used in determining the original cost and estimated lives of long-lived assets. Although the assumptions may vary from asset to asset, they generally include operating results, changes in the use of the asset or asset group, cash flows and other indicators of value. The Company then determines whether the remaining useful life continues to be appropriate or whether there has been an impairment of long-lived assets based primarily upon whether expected future undiscounted cash flows are sufficient to support the assets' or asset groups recovery. If the carrying value of the asset or asset group exceeds such projected undiscounted cash flows, the asset or asset group will be written down to its estimated fair value.

The Company tests goodwill for impairment annually and tests intangible assets for impairment whenever events or changes in circumstances indicate that the carrying value of the asset may not be recoverable (i.e., upon occurrence of a triggering event). The Company performs its annual impairment review of goodwill at November 1 (and if and when triggering events occur between annual impairment tests). Upon completion of its quantitative assessment as of November 1, 2022, the Company has concluded that goodwill is not impaired. No events or changes in circumstances have indicated that the Company's intangible assets with useful lives are impaired as of December 31, 2022.

Debt issuance costs

Debt issuance costs represent fees paid to or on behalf of the Company's lenders to obtain debt financing. Debt issuance costs are recorded as a discount of the related debt. The costs are accreted over the term of the debt through interest expense using the straight line method which approximates the effective interest method.

Revenue recognition

The Company follows ASC 606, *Revenue from Contracts with Customers* ("ASC 606").

The Company generates revenue from the sale and installation of instruments, related warranty services, reagents and software (both company-owned and with third parties). Pursuant to ASC 606, revenue is recognized when a customer obtains control of promised goods or services. The amount of revenue recognized reflects the consideration the Company expects to be entitled to receive in exchange for these goods and services.

To determine the appropriate amount of revenue to be recognized for arrangements determined to be within the scope of Topic 606, the Company performs the following five steps: (i) identification of the customer contract; (ii) identification of the performance obligations; (iii) measurement of the transaction price, including the constraint on variable consideration; (iv) allocation of the transaction price to the performance obligations; and (v) recognition of revenue when (or as) the Company satisfies each performance obligation. The Company only applies the five-step model to contracts when it is probable that the Company will collect consideration it is entitled to in exchange for the goods or services it transfers to the customer.

The Company evaluates all promised goods and services within a customer contract and determines which of those are separate performance obligations. This evaluation includes an assessment of whether the good or service is capable of being distinct and whether the good or service is separable from other promises in the contract. Promised goods or services are considered distinct when (i) the customer can benefit from the good or service on its own or together with other readily available resources and (ii) the promised good or service is separately identifiable from other promises in the contract.

Most of the Company's contracts with customers contain multiple performance obligations (i.e., sale of an instrument and warranty services). For these contracts, the Company accounts for individual performance obligations separately if they are distinct (i.e. capable of being distinct and separable from other promises in the contract). The transaction price is allocated to the separate performance obligations on a relative standalone selling price basis. Excluded from the transaction price are sales tax and other similar taxes which are presented on a net basis.

Product Revenue

Product revenue is generated by the sale of instruments and consumable reagents predominantly through the Company's direct sales force in the United States and in geographic regions outside the United States. The Company does not offer product return or exchange rights (other than those relating to defective goods under warranty) or price protection allowances to its customers. When an instrument is purchased by a customer, the Company recognizes revenue when the related performance obligation is satisfied (i.e. when the control of an instrument has passed to the customer). Revenue from the sale of consumables is recognized upon shipment to the customer. The Company's perpetual software licenses generally have significant stand-alone functionality to the customer upon delivery and are considered to be functional intellectual property. The Company's perpetual software licenses are considered distinct performance obligations, and revenue allocated to the software license is typically recognized upon provision of the license/software code to the customer (i.e., when the software is available for access and download by the customer).

Service and Other Revenue

Product sales of instruments include a service-based warranty typically for one year following the installation of the purchased instrument, with an extended warranty for an additional year sold in many cases. These are separate performance obligations as they are service-based warranties and are recognized on a straight-line basis over the service delivery period. After completion of the service period, customers have an option to renew or extend the warranty services, typically for additional one-year periods in exchange for additional consideration. The extended warranties are also service-based warranties that represent separate purchasing decisions. The Company recognizes revenue allocated to the extended warranty performance obligation on a straight-line basis over the service delivery period. Revenue from separately charged installation services is recognized upon completion of the installation process. Additionally, the Company provides laboratory services, in which revenue is recognized as services are performed. For laboratory services, the Company generally uses the cost-to-cost approach to measure the extent of progress towards completion of the performance obligation because the Company believes it best depicts the transfer of assets to the customer. Under the cost-to-cost measure approach, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. Revenues are recorded

proportionally as costs are incurred. The Company records shipping and handling billed to customers as service and other revenue and the related costs in cost of service and other revenue in the consolidated statements of operations.

In June 2022, the Company entered into a Companion Diagnostic Agreement with Acrivon Therapeutics, Inc. (the “Acrivon Agreement”) to co-develop, validate, and commercialize Acrivon’s OncoSignature® test. The Company will be paid through an upfront payment and at the achievement of certain developmental, commercial, and FDA milestones during the development, that could aggregate to \$10,850.

The Acrivon Agreement is in the scope of ASC 606, *Revenue from Contracts with Customers* and includes one performance obligation since the underlying elements are inputs to a single development service and are not distinct within the context of the contract. Accordingly, the Company will recognize revenue over time for the transaction price in an amount proportional to the expenses incurred and the total estimated expenses to satisfy its performance obligation. Due to the uncertainty in the achievement of certain developmental, commercial, and FDA milestones, the variable consideration associated with certain future milestone payments has been fully constrained from the transaction price until such time that the Company concludes that it is probable that a significant reversal of previously recognized revenue will not occur.

The costs incurred by the Company under this arrangement are included as research and development expenses in the Company’s Consolidated Statements of Operations as these costs are related to the development of new services and technology to be owned and offered by the Company.

Disaggregation of Revenue

The Company disaggregates revenue from contracts with customers by type of products, and between service and other revenue, as it best depicts how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors. The following table disaggregates the Company’s revenue by major source:

	Year ended	
	December 31, 2022	December 31, 2021
Revenue		
Product revenue		
Instruments	\$ 38,635	\$ 28,692
Consumables	18,379	14,298
Standalone software products	636	1,487
Total product revenue	\$ 57,650	\$ 44,477
Service and other revenue	\$ 17,209	\$ 10,440
Total revenue	\$ 74,859	\$ 54,917

Significant Judgments

The Company’s contracts with customers often include promises to transfer multiple products and services to a customer. Determining whether products and services are considered distinct performance obligations that should be accounted for separately versus together requires significant judgment. Once the Company determines the performance obligations, the Company determines the transaction price, which includes estimating the amount of variable consideration, based on the most likely amount, to be included in the transaction price, if any. The Company then allocates the transaction price to each performance obligation in the contract based on a relative standalone selling price method. The corresponding revenue is recognized as the related performance obligations are satisfied as discussed in the revenue categories above.

Judgment is required to determine the standalone selling price for each distinct performance obligation. The Company determines standalone selling price based on the price at which the performance obligation in the contract (i.e. instrument, service warranty, installation) would be sold separately. As the first-year warranty for each instrument is embedded in the instrument price, the amount allocated to the first-year warranty has been determined based on the separately identifiable price of the Company’s extended warranty offering when it is sold on a renewal basis.

If the standalone selling price is not observable through past transactions, the Company estimates the standalone selling price taking into account available information such as market conditions and the expected costs and margin related to the performance obligations. Contracts in which only one performance obligation is identified (i.e., consumables and standalone software products) do not require allocation of the transaction price.

Contract Assets and Liabilities

The Company did not record any contract assets at December 31, 2022 or December 31, 2021.

The Company's contract liabilities consist of upfront payments for service-based warranties on instrument sales, as well as lab services. The Company classifies contract liabilities associated with service-based warranties in deferred revenue, and contract liabilities associated with lab services in accrued expenses. Contract liabilities are classified as current or noncurrent based on the timing of when the Company expects to service the warranty, or complete the lab services contract.

Cost to Obtain and Fulfill a Contract

Under ASC 606, the Company is required to capitalize certain costs to obtain customer contracts and costs to fulfill customer contracts. These costs are required to be amortized to expense on a systemic basis that is consistent with the transfer to the customer of the goods or services to which the asset relates, compared to previously being expensed as incurred. As a practical expedient, the Company recognizes any incremental costs to obtain a contract as an expense when incurred if the amortization period of the asset is one year or less. Capitalizable costs to obtain contracts, such as commissions, and costs to fulfill customer contracts were determined to be immaterial for the years ended December 31, 2022 and 2021.

Cost of goods sold

Cost of product revenue includes the cost of materials, direct labor, and manufacturing overhead costs used in the manufacture of products sold to customers.

Cost of service and other revenue consists of personnel, facility costs associated with operating our laboratory testing on behalf of the customers, costs related to instrument maintenance, servicing equipment, training customers at customer sites, freight, other direct costs, and overhead.

Redeemable convertible preferred stock

The Company has classified redeemable convertible preferred stock as temporary equity on the accompanying consolidated balance sheets because it becomes redeemable due to the passage of time or could become redeemable due to certain change in control clauses that are outside of the Company's control. The redeemable convertible preferred stock is adjusted to the redemption value over time through the date of the earliest redemption date. These increases are recorded as charges against retained earnings, if any, and then to additional paid-in capital. Then, in the absence of additional paid-in capital, the accretion is charged to the accumulated deficit.

Research and development costs

Costs incurred in the research and development of the Company's product candidates are expensed as incurred. Research and development expenses consist of costs incurred in performing research and development activities, including activities associated with performing services under research revenue arrangements, costs associated with the manufacture of developing products and include salaries and benefits, stock compensation, research related facility and overhead costs, laboratory supplies, equipment and contract services.

Capitalized software development costs

Since the Company sells standalone licensed software products to its customers, the Company applies guidance related to accounting for the costs of such software to be sold, leased or otherwise marketed in accordance with ASC 985-20, Costs of Software to be Sold, Leased, or Marketed, or ASC 985-20. Such guidance requires capitalization of certain software development costs subsequent to the establishment of technological feasibility. Costs eligible for capitalization under ASC 985-20 during the years ended December 31, 2022 and 2021 were \$1,372 and \$600, respectively, and recorded as an intangible asset on our December 31, 2022 and 2021 consolidated balance sheets.

We account for costs to develop or obtain internal-use software in accordance with ASC 350-40, Internal-Use Software, or ASC 350-40. We also account for costs of significant upgrades and enhancements resulting in additional functionality under ASC 350-40. Costs incurred for maintenance, training, and minor modifications or enhancements are expensed as incurred. Internal-use software is amortized on a straight-line basis over its estimated useful life. Management evaluates the useful lives of these assets on an annual basis and tests for impairment whenever events or changes in circumstances occur that could impact the recoverability of these assets. Development costs related to internal-use software were immaterial during the years ended December 31, 2022 and 2021.

Advertising expenses

The cost of advertising, marketing and media is expensed as incurred. For the years ended December 31, 2022 and 2021, advertising costs totaled \$4.6 million and \$3.4 million, respectively.

Deferred offering costs

The Company capitalizes certain legal, professional accounting and other third-party fees that are directly associated with in-process equity financings as deferred offering costs until such financings are consummated. After consummation these costs are recorded in stockholders' equity (deficit) ratably as a reduction of additional paid in capital generated as a result of the offering. Should the in-process equity financing be abandoned, the deferred offering costs will be expensed as a charge to operating expenses. As of December 31, 2022, \$326 of deferred offering costs were included in other assets in the accompanying consolidated balance sheets. There were no deferred offering costs at December 31, 2021.

Stock-based compensation

The Company records stock-based compensation for awards granted to employees, non-employees, and to members of the Board for their services on the Board based on the grant date fair value of awards issued, and the expense is recorded on a straight-line basis over the requisite service period, which is generally four years.

The Company uses the Black-Scholes-Merton option pricing model to determine the fair value of stock options. The use of the Black-Scholes-Merton option-pricing model requires management to make assumptions with respect to the expected term of the option, the expected volatility of the common stock consistent with the expected life of the option, risk-free interest rates and expected dividend yields of the common stock. The expected term was determined according to the simplified method, which is the average of the vesting tranche dates and the contractual term. Due to the lack of company-specific historical and implied volatility, the Company bases its estimate of expected volatility on the historical volatility of a group of similar companies that are publicly traded. For these analyses, companies with comparable characteristics are selected, including enterprise value and position within the industry, and with historical price information sufficient to meet the expected life of the stock-based awards. The Company computes the historical volatility data using the daily closing prices for the selected companies' shares during the equivalent period of the calculated expected term of its stock-based awards. The risk-free interest rate is determined by reference to the U.S. Treasury zero-coupon issues with remaining maturities similar to the expected term of the options. The Company has not paid, and does not anticipate paying, cash dividends on shares of common stock; therefore, the expected dividend yield is assumed to be zero.

For restricted stock units ("RSUs") issued under the Company's stock-based compensation plans, the fair value of each grant is calculated based on the Company's stock price on the date of grant.

The Company has elected to account for forfeitures as they occur; any compensation cost previously recognized for an award that is forfeited because of a failure to satisfy a service or performance condition will be reversed in the period of the forfeiture.

Refer to Note 10 for further details on the Company's stock-based compensation plans.

Warrant to purchase common stock

Prior to completion of the IPO in April 2021, the Company had an outstanding warrant to purchase shares of its Series D redeemable convertible preferred stock. Since the underlying Series D redeemable convertible preferred stock was classified outside of permanent equity, the preferred stock warrant was classified as other long-term liabilities in the accompanying balance sheet. The preferred stock warrant liability was recorded at fair value utilizing the Black-Scholes model. The Black Scholes option pricing model is based on the estimated market value of the underlying redeemable convertible preferred stock at the valuation measurement date, the remaining contractual term of the warrant, risk-free interest rates, expected dividends, and expected volatility of the price of the underlying redeemable convertible preferred stock. The Company adjusted the carrying value of the preferred stock warrant to its estimated fair value at each reporting date, with any related increase or decrease in the fair value recorded as an increase or decrease to other income (expense) in the statements of operations. In connection with the IPO, the preferred stock warrant was converted to a warrant to purchase shares of the Company's common stock, pursuant to its preexisting terms. As such, the Company assessed the classification of the common stock warrant and determined it met the criteria to be classified within stockholders' equity. Accordingly, the fair value of the warrant liability was reclassified to stockholders' equity.

Income taxes

The Company provides for income taxes using the liability method. The Company provides deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the Company's financial statement carrying amounts and the tax basis of assets and liabilities using enacted tax rates expected to be in effect in the years in which the differences are expected to reverse. Deferred tax assets and liabilities are recorded net as long term. A valuation allowance is provided to reduce the deferred tax assets to the amount that will more likely than not be realized.

The Company applies ASC 740 Income Taxes ("ASC 740") in accounting for uncertainty in income taxes. The Company has identified an uncertain tax position, however this uncertain tax position has not created a liability for the years ending December 31, 2022 and 2021 as the reserve has been applied against the asset. The Company will recognize interest and penalties related to uncertain tax positions, if any, in income tax expense.

Commitments and contingencies

Indemnification obligations

The Company has entered into indemnification agreements with its officers and directors that require the Company to indemnify such individuals for certain events or occurrences while each such officer or director is, or was, serving at the Company's request in such capacity. The maximum potential amount of future payments the Company could be required to make is, in many cases, unlimited. The Company has directors' and officers' liability insurance coverage that limits its exposure and enables the Company to recover a portion of any future amounts paid.

The Company leases office and laboratory space under operating leases. The Company has standard indemnification arrangements under the leases that require it to indemnify the landlords against all costs, expenses, fines, suits, claims, demands, liabilities, and actions directly resulting from any breach, violation or nonperformance of any covenant or condition of the Company's leases.

In the ordinary course of business, the Company enters into indemnification agreements with certain suppliers and business partners where the Company has certain indemnification obligations limited to the costs, expenses, fines, suits, claims, demands, liabilities and actions directly resulting from the Company's gross negligence or willful misconduct, and in certain instances, breaches, violations or nonperformance of covenants or conditions under the agreements.

As of December 31, 2022 and 2021, the Company had not experienced any material losses related to these indemnification obligations, and no material claims with respect thereto were outstanding. The Company does not expect significant claims related to these indemnification obligations and, consequently, concluded that the fair value of these obligations is negligible, and no related reserves were established.

The Company is subject to the possibility of loss contingencies arising in the ordinary course of business. Management considers the likelihood of loss related to an asset, or the incurrence of a liability, as well as its ability to reasonably estimate the amount of the loss, in determining loss contingencies. An estimated loss contingency is accrued when it is probable that an asset has been impaired, or a liability has been incurred and the amount of loss can be reasonably estimated. The Company regularly evaluates current information available to determine whether such accruals should be adjusted and whether new accruals are required. Refer to Note 13 for the details of the Company's contingencies.

Legal proceedings

From time to time, the Company may become involved in litigation relating to claims arising from the ordinary course of business. Management believes that there are no claims or actions pending against the Company currently, the ultimate disposition of which would have a material adverse effect on the Company's consolidated results of operation, financial condition or cash flows.

Net loss per share attributable to common stockholders

Basic and diluted net loss per common share outstanding is determined by dividing net loss, as adjusted for accretion and accrued dividends on redeemable convertible preferred stock, by the weighted average common shares outstanding during the period. Diluted net loss per share reflects the potential dilution that would occur if securities or other contracts to issue common stock were exercised or converted into common stock; however, potential common equivalent shares are excluded if their effect is anti-dilutive. In computing diluted net loss per share, the Company utilizes the treasury stock method.

The Company applies the two-class method to compute basic and diluted net loss or income per share when it has issued shares that meet the definition of participating securities. The two-class method determines net (loss) or income per share for each class of common and participating securities according to dividends declared or accumulated and participation rights in undistributed earnings. The two-class method requires net (loss) income available to common stockholders for the period to be allocated between common and participating securities based upon their respective rights to share in the earnings as if all net (loss) income for the period had been distributed. The Company's convertible preferred stock participates in any dividends declared by the Company and are therefore considered to be participating securities. The participating securities are not required to participate in the losses of the Company, and therefore during periods of loss there is no allocation required under the two-class method.

Comprehensive loss

Components of comprehensive loss, including net loss, are reported in the financial statements in the period in which they are recognized. Other comprehensive income or loss is defined as the change in equity during a period from transactions and other events and circumstances from non-owner sources. Net loss and other comprehensive loss are reported net of any related tax effect to arrive at comprehensive loss. Comprehensive loss includes net loss as well as other changes in stockholders' equity that result from transactions and economic events other than those with stockholders which for the year ended December 31, 2022 consist of unrealized loss on marketable securities.

Recent Accounting Standards

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies and adopted by the Company as of the specified effective date. The Company is considered to be an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, as amended (Jobs Act). The Jobs Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or

revised accounting standards. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this extended transition period and, as a result, we will not be required to adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies.

Recently adopted accounting standards

In February 2016, the FASB issued ASU 2016-02, *Leases* (Topic 842) in order to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet for those leases classified as operating leases under previous generally accepted accounting principles. ASU 2016-02 requires a lessee to recognize a liability to make lease payments (the lease liability) and a right-of-use asset representing its right to use the underlying asset for the lease term on the balance sheet. In August 2018, the FASB issued ASU 2018-11, *Targeted Improvements to ASC 842*, which provides a new transition option in which an entity initially applies ASU 2016-02 at the adoption date and recognizes a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption.

On January 1, 2022, the Company adopted ASU No. 2016-02, *Leases* (Topic 842), (ASC 842), using the optional transition method allowing entities to recognize a cumulative effect adjustment to the opening balance sheet without restating comparative prior periods presented. ASC 842 requires a lessee to recognize assets and liabilities on the balance sheet for most leases and changes many key definitions, including the definition of a lease. Lessees will continue to differentiate between finance leases and operating, and classification will impact expense recognition.

The Company elected the following practical expedients for all lease asset classes, which must be elected as a package and applied consistently to all of its leases at the transition date: i) the Company did not reassess whether any expired or existing contracts are or contain leases; ii) the Company did not reassess the lease classification for any expired or existing leases; and iii) the Company did not reassess initial direct costs for any existing leases. Refer to Note 17 “Leases” for the adoption impact to our consolidated balance sheet.

Recently issued but not yet adopted accounting standards

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments — Credit Losses (Topic 326) — Measurement of Credit Losses on Financial Instruments*, which has been subsequently amended by ASU No. 2018-19, ASU No. 2019-04, ASU No. 2019-05, ASU No. 2019-10, ASU No. 2019-11 and ASU No. 2020-03 (“ASU 2016-13”). The provisions of ASU 2016-13 modify the impairment model to utilize an expected loss methodology in place of the currently used incurred loss methodology and require a consideration of a broader range of reasonable and supportable information to inform credit loss estimates. ASU 2016-13 is effective for the Company on January 1, 2023, with early adoption permitted. The Company does not expect impact of ASU 2016-13 to be material on its consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles-Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*, which simplifies the subsequent measurement of goodwill by eliminating Step 2 from the goodwill impairment test. Instead of determining a hypothetical purchase price allocation to measure goodwill impairment, the Company will compare the fair value of a reporting unit with its carrying amount. The update also includes a new requirement to disclose the amount of goodwill allocated to reporting units with zero or negative carrying amounts. ASU 2017-04 is effective for the Company on January 1, 2023, with early adoption permitted. The Company does not expect impact of ASU 2017-04 to be material on its consolidated financial statements.

(3) Significant risks and uncertainties including business and credit concentrations

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash equivalents, marketable securities, and receivables. The Company’s cash equivalents are held by large, credit worthy financial institutions. Marketable securities consist of short-term investments. The Company has established guidelines relative to credit ratings, diversification and maturities that seek to maintain safety and liquidity. Deposits in these banks

may exceed the amounts of insurance provided on such deposits. To date, the Company has not experienced any losses on its deposits of cash and cash equivalents.

The Company controls credit risk through credit approvals, credit limits, and monitoring procedures. The Company performs periodic credit evaluations of its customers and generally does not require collateral. Accounts receivable are recorded net of an allowance for doubtful accounts. The allowance for doubtful accounts is based on management’s assessment of the collectability of specific customer accounts and the aging of the related invoices and represents the Company’s best estimate of probable credit losses in its existing accounts receivable. The Company had an allowance for doubtful accounts of \$45 and \$45 at December 31, 2022 and December 31, 2021, respectively.

For the years ended December 31, 2022 and 2021, no customers accounted for greater than 10% of revenue. No customers accounted for greater than 10% of accounts receivable at December 31, 2022 and 2021.

(4) Fair value of financial instruments

The Company measures the following financial liabilities at fair value on a recurring basis. There were no transfers between levels of the fair value hierarchy during any of the periods presented.

The following tables set forth the Company’s financial assets and liabilities carried at fair value categorized using the lowest level of input applicable to each financial instrument as of December 31, 2022 and December 31, 2021:

	Balance at December 31, 2022	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Cash and cash equivalents	\$ 74,229	\$ 73,973	\$ 256	\$ —
U.S. Treasury securities	6,989	—	6,989	—
Total Assets	\$ 81,218	\$ 73,973	\$ 7,245	\$ —
Liabilities:				
Contingent consideration – Long term portion	\$ 6,039	\$ —	\$ —	\$ 6,039
Total Liabilities	\$ 6,039	\$ —	\$ —	\$ 6,039

	Balance at December 31, 2021	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Liabilities:				
Contingent consideration – Long term portion	\$ 7,850	\$ —	\$ —	\$ 7,850
Total Liabilities	\$ 7,850	\$ —	\$ —	\$ 7,850

The following is a summary of cash, cash equivalents and marketable securities:

	December 31, 2022			Estimated Fair Value
	Cost	Gross Unrealized Gains	Gross Unrealized Losses	
Cash and cash equivalents	\$ 74,229	\$ —	\$ —	\$ 74,229
Marketable securities:				
U.S. Treasury securities due in one year or less	6,995	—	(6)	6,989
Total marketable securities	6,995	—	(6)	6,989
Total cash, cash equivalents, and marketable securities	<u>\$ 81,224</u>	<u>\$ —</u>	<u>\$ (6)</u>	<u>\$ 81,218</u>

The Company held two debt securities at December 31, 2022 classified as marketable securities with original maturity dates greater than three months that were in an unrealized loss position for less than twelve months. The fair market value of these securities was \$6,989. The Company evaluated its securities for other-than-temporary impairments based on quantitative and qualitative factors. The Company considered the decline in market value for these securities to be primarily attributable to current economic and market conditions. It is not more likely than not that the Company will be required to sell these securities, and the Company does not intend to sell these securities before the recovery of their amortized cost basis. Based on its analysis, the Company does not consider these investments to be other-than-temporarily impaired as of December 31, 2022.

The Company had no material realized gains or losses on its available-for-sale securities for the year ended December 31, 2022. There were no other-than-temporary impairments recognized for the year ended December 31, 2022.

The Company's recurring fair value measurements using Level 3 inputs relate to the Company's contingent consideration liability and warrant liability. In those circumstances where an acquisition involves a contingent consideration arrangement, the Company recognizes a liability equal to the fair value of the contingent payments the Company expects to make as of the acquisition date. The Company re-measures this liability each reporting period and records changes in the fair value through changes in fair value of contingent consideration on the Company's consolidated statements of operations. Increases or decreases in the fair value of the contingent consideration liability can result from changes in discount rates, periods, timing and amount of projected revenue.

In September 2019, the Company entered into a Loan and Security Agreement with Innovatus Life Sciences Lending Fund I, LP ("Innovatus"), under which Innovatus agreed to make a term loan to the Company in an aggregate principal amount of \$25,000 (the "Innovatus Term Loan"). In connection with the Loan and Security Agreement, the Company also issued the lender a warrant to purchase 368,779 additional shares of Series D Preferred Stock, at a purchase price of \$1.53 per share. The expiration date of the warrant is September 27, 2029. The holder may at any time and from time to time exercise this warrant, in whole or in part, and on any exercise of the warrant, the holder may elect to receive shares equal to the full value of the warrant or a portion of its full value. Prior to the IPO, since the underlying Series D redeemable convertible preferred stock was classified outside of permanent equity, the preferred stock warrant was classified as other long-term liabilities in the accompanying balance sheet. The preferred stock warrant liability was recorded at fair value utilizing the Black-Scholes model. The Black Scholes option pricing model is based on the estimated market value of the underlying redeemable convertible preferred stock at the valuation measurement date, the remaining contractual term of the warrant, risk-free interest rates, expected dividends, and expected volatility of the price of the underlying redeemable convertible preferred stock. The Company adjusted the carrying value of the preferred stock warrant to its estimated fair value at each reporting date, with any related increase or decrease in the fair value recorded as an increase or decrease to other income (expense) in the statements of operations. In connection with the IPO, the preferred stock warrant was converted to a warrant to purchase shares of the Company's common stock, pursuant to its preexisting terms. As such, the Company assessed the classification of the common stock warrant and determined it met the criteria to be classified within stockholders' equity. Accordingly, the fair value of the warrant

liability was reclassified to stockholders' equity. In the third quarter of 2022, Innovatus exercised its warrant to purchase the Company's common stock.

Changes in the fair value of the Company's long-term portion of the contingent consideration liability during the years ended December 31, 2022 and 2021 were as follows:

Balance as of December 31, 2020	\$ 6,984
Reclassification of FY 2021 payment to accrued expenses	(1,207)
Change in contingent consideration value	<u>2,073</u>
Balance as of December 31, 2021	<u>\$ 7,850</u>
Balance as of December 31, 2021	\$ 7,850
Reclassification of FY 2022 payment to accrued expenses	(1,709)
Change in contingent consideration value	<u>(102)</u>
Balance as of December 31, 2022	<u>\$ 6,039</u>

The recurring Level 3 fair value measurements of the Company's contingent consideration liability include the following significant unobservable inputs:

Contingent Consideration Liability	Fair Value as of December 31, 2022	Valuation Technique	Unobservable Inputs
Revenue-based Payments	\$ 6,039	Discounted Cash Flow Analysis under the Income Approach	Revenue discount factor, discount rate

Change in the fair value of the Company's warrant liability during the year ended December 31, 2021 was as follows:

Balance as of December 31, 2020	\$ 490
Change in fair value of warrant liability	2,728
Reclassification of warrant liability to stockholders' equity	<u>(3,218)</u>
Balance as of December 31, 2021	<u>\$ —</u>

(5) Property and equipment, net

Property and equipment consists of the following:

	Estimated Useful Life (Years)	December 31, 2022	December 31, 2021
Furniture and fixtures	7	\$ 452	\$ 488
Computers, laptop and peripherals	5	4,762	3,590
Laboratory equipment	5	7,302	5,906
Leasehold improvements	Shorter of the lease life or 7	3,983	1,571
Total property and equipment		<u>16,499</u>	<u>11,555</u>
Less: Accumulated depreciation		(6,325)	(4,068)
Property and equipment, net		<u>\$ 10,174</u>	<u>\$ 7,487</u>

Total depreciation expense relating to property and equipment charged to operations for the year ended December 31, 2022 was \$2,372. Total depreciation expense relating to property and equipment charged to operations for the year

ended December 31, 2021 was \$1,804. Depreciation expense of \$232 relating to property and equipment was charged to cost of sales for the year ended December 31, 2022. Depreciation expense of \$0 relating to property and equipment was charged to cost of sales for the year ended December 31, 2021.

Demo inventory consists of the following:

	<u>Estimated Life (Years)</u>	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Demo inventory – gross	3	\$ 4,453	\$ 3,733
Less: Accumulated depreciation		(2,369)	(1,185)
Demo inventory, net		<u>\$ 2,084</u>	<u>\$ 2,548</u>

Total depreciation expense relating to demo equipment charged to operations for the year ended December 31, 2022 was \$1,223. Total depreciation expense relating to demo equipment charged to operations for the year ended December 31, 2021 was \$824.

(6) Intangible assets and goodwill

Intangible assets as of December 31, 2022 are summarized as follows:

	<u>Cost</u>	<u>Accumulated Amortization</u>	<u>Net</u>	<u>Useful Life (in years)</u>
Customer relationships	\$ 11,800	\$ (3,348)	\$ 8,452	15
Developed technology	8,300	(2,943)	5,357	12
Licenses	213	(36)	177	15
Trade names and trademarks	6,300	(2,550)	3,750	12
Capitalized software	2,631	(319)	2,312	5
Non-compete agreements	300	(300)	—	4
Total intangible assets	<u>\$ 29,544</u>	<u>\$ (9,496)</u>	<u>\$ 20,048</u>	

Intangible assets as of December 31, 2021 are summarized as follows:

	<u>Cost</u>	<u>Accumulated Amortization</u>	<u>Net</u>	<u>Useful Life (in years)</u>
Customer relationships	\$ 11,800	\$ (2,561)	\$ 9,239	15
Developed technology	8,300	(2,252)	6,048	12
Licenses	63	(25)	38	15
Trade names and trademarks	6,300	(1,722)	4,578	12
Capitalized software	1,259	(68)	1,191	5
Non-compete agreements	300	(244)	56	4
Total intangible assets	<u>\$ 28,022</u>	<u>\$ (6,872)</u>	<u>\$ 21,150</u>	

Total amortization expense charged to operations for the year ended December 31, 2022 was \$2,624. Total amortization expense charge to cost of sales for the year ended December 31, 2022 was \$0. Total amortization expense charged to operations for the year ended December 31, 2021 was \$2,098. Total amortization expense charged to cost of sales for the year ended December 31, 2021 was \$66.

As of December 31, 2022, the amortization expense related to identifiable intangible assets in future periods is expected to be as follows:

2023	\$	2,797
2024		2,846
2025		2,846
2026		2,815
2027		1,831
Thereafter		6,913
Total	\$	<u>20,048</u>

As of December 31, 2022 and December 31, 2021, the goodwill balance is \$18,262.

(7) Accrued expenses and other current liabilities

Accrued expenses and other current liabilities consist of the following:

	December 31, 2022	December 31, 2021
Payroll and compensation	\$ 8,288	\$ 6,502
Current portion of contingent consideration	1,709	1,207
Inventory purchases	488	1,877
Other accrued expenses	6,034	3,905
Total accrued expenses and other current liabilities	<u>\$ 16,519</u>	<u>\$ 13,491</u>

(8) Debt

Term Loan Agreements

In October 2020, the Company entered into a debt financing arrangement with Midcap Financial Trust (the "Midcap Trust Term Loan"), for a \$37,500 credit facility, consisting of a senior, secured term loan. The Company received \$32,500 in aggregate proceeds as a result of the debt financing.

The term of the Midcap Trust Term Loan is interest only for 36 months followed by 24 months of straight-line amortization. Interest on the outstanding balance of the Midcap Trust Term Loan shall be payable monthly in arrears at an annual rate of one-month LIBOR plus 6.35%, subject to a LIBOR floor of 1.50%. At the time of final payment under the Midcap Trust Term Loan, the Company is required to pay Midcap Financial Trust a final payment fee of 5.00% of the amount borrowed under the Midcap Trust Term Loan. If the Midcap Trust Term Loan is prepaid prior to the end of the term, the Company shall pay to Midcap Financial Trust a fee as compensation for the costs of being prepared to make funds available in an amount determined by multiplying the amount being prepaid by (i) three percent (3.00%) in the first year, two percent, (2.00%) in the second year and one percent (1.00%) in the third year and thereafter.

On March 21, 2022, the Company entered into Amendment No. 1 to the Midcap Trust Term Loan, which amended certain provisions to permit certain additional debt and capital leases.

On June 1, 2022, the Company entered into Amendment No. 2 ("Amendment No. 2") to the Midcap Trust Term Loan, which permitted the draw of a second tranche of \$10,000, which was drawn on June 1, 2022. Additionally, the amendment provides the Company with a new third tranche pursuant to which the Company may draw \$10,000 any time after September 30, 2022 until September 30, 2023. The amendment also delayed the amortization start dates for the outstanding loan amounts from November 1, 2023 until April 1, 2025, at which point the Company will repay the principal amounts in seven equal monthly installments until the maturity date. Finally, Amendment No. 2 amended the interest rate payable on the term loan to apply an interest rate equal to the Secured Overnight Financing Rate ("SOFR") rate (with a floor of 1.61448%) plus 6.35%. Substantially all other terms and conditions, and covenants of the credit agreement remain unchanged. In connection with Amendment No. 2, the Company agreed to pay a \$75 commitment fee

as well as a 0.25% fee upon the funding of each of the second tranche and third tranche amounts. The Company accounted for Amendment No. 2 as a modification pursuant to ASC 470-50. On September 30, 2022, the Company drew the third tranche of \$10,000 related to Amendment No. 2.

On November 7, 2022, the Company entered into Amendment No. 3 (“Amendment No. 3”) to the Midcap Trust Term Loan, which permitted the draw of two additional tranches, each totaling \$11,250, the first of which was drawn on November 7, 2022. The remaining tranche will become available for draw after June 30, 2023 but before December 31, 2023, and is subject to the Company achieving certain trailing twelve month revenue targets. Amendment No. 3 also delayed the amortization start dates for the outstanding loan amounts from April 1, 2025 until December 1, 2025 (subject to further extension upon certain conditions), at which point the Company will repay the principal amounts in equal monthly installments until the new maturity date of November 1, 2027, which was extended pursuant to Amendment No. 3. In addition, Amendment No. 3 amended the interest rate payable on the term loan to apply an interest rate equal to the SOFR rate (with a floor of 2.50%) plus 6.80%, and reset the call protection to begin as of November 7, 2025. Finally, Amendment No. 3 provides for a commitment fee of \$74 payable on November 7, 2022 on the new tranche amounts and an exit fee of 4.75%. As part of Amendment No. 3, the Company paid \$779 for the accrued amount of the final payment fee. Substantially all other terms and conditions, and covenants of the credit agreement remain unchanged. The Company accounted for Amendment No. 3 as a modification pursuant to ASC 470-50.

The interest rate was 11.04% at December 31, 2022. A final payment fee of \$3,028 is due upon the earlier to occur of the maturity date or prepayment of such borrowings. For the years ended December 31, 2022 and December 31, 2021, the Company recorded \$487 and \$325, respectively, related to the amortization of the final payment fee associated with the Midcap Trust Term Loan.

Debt consists of the following:

	December 31, 2022	December 31, 2021
Midcap Trust Term Loan	\$ 63,750	\$ 32,500
Unamortized debt discount	(565)	(413)
Accretion of final fee	92	384
Total debt, net	<u>\$ 63,277</u>	<u>\$ 32,471</u>

As of December 31, 2022, future principal payments due under the Midcap Trust Term Loan, excluding the \$3,028 final payment fee, are as follows:

Year ended:	Midcap Trust Term Loan
December 31, 2023	\$ —
December 31, 2024	—
December 31, 2025	2,656
December 31, 2026	31,875
December 31, 2027	29,219
Total minimum principal payments	<u>\$ 63,750</u>

(9) Stockholder’s equity (deficit)

The Company’s Amended and Restated Certificate of Incorporation authorizes it to issue 500,000,000 shares of common stock, \$0.00001 par value per share, and 10,000,000 shares of preferred stock, par value \$0.00001 per share. Each share of Class A common stock is entitled to one vote. The holders of common stock are also entitled to receive dividends whenever funds are legally available and when declared by the Board, subject to the prior rights of holders of all classes of stock outstanding. As of December 31, 2022 and December 31, 2021, a total of 38,288,188 and 37,424,101 shares of common stock were issued and outstanding, respectively, and 7,834,432 and 6,709,218 shares of common stock were reserved for issuance upon the exercise of stock options and vesting of restricted stock, respectively.

On November 7, 2022, the Company entered into an Equity Distribution Agreement (the “Equity Distribution Agreement”) with Piper Sandler & Co. (“Piper Sandler”) with respect to an at-the-market offering program under which the Company may offer and sell, from time to time at its sole discretion, shares of its common stock, par value \$0.00001 per share (the “Common Stock”), having an aggregate offering price of up to \$50.0 million (the “Placement Shares”) through Piper Sandler as its sales agent. Subject to the terms and conditions of the Equity Distribution Agreement, Piper Sandler may sell the shares by methods deemed to be an “at the market offering” as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, including sales made through The Nasdaq Global Select Market, on any other existing trading market for the Common Stock, to or through a market maker, or, if expressly authorized by the Company, in privately negotiated transactions. The Company or Piper Sandler may terminate the Equity Distribution Agreement upon notice to the other party and subject to other conditions. The Company will pay Piper Sandler a commission equal to 3.0% of the gross proceeds of any Common Stock sold through Piper Sandler under the Equity Distribution Agreement and has provided Piper Sandler with customary indemnification rights.

Issuance costs incurred related to the Equity Distribution Agreement are classified as long-term assets on the balance sheet at December 31, 2022.

(10) Stock compensation plans

2021 Equity Incentive Plan

On March 24, 2021, the Board and on April 8, 2021, its stockholders approved and adopted the 2021 Equity Incentive Award Plan (the “2021 Plan”). The 2021 Plan became effective immediately prior to the closing of the IPO. Under the 2021 Plan, the Company may grant stock options, stock appreciation rights, restricted stock, restricted stock units, and other stock or cash-based awards to individuals who are then employees, officers, directors or consultants of the Company. A total of 1,727,953 shares of common stock were approved to be initially reserved for issuance under the 2021 Plan. The number of shares under the Company’s 2015 Equity Incentive Plan (the “2015 Plan”) subject to outstanding awards as of the effective date of the 2021 Plan that are subsequently canceled, forfeited or repurchased by the Company were added to the shares reserved under the 2021 Plan. In addition, the number of shares of common stock available for issuance under the 2021 Plan will be automatically increased on the first day of each calendar year during the ten-year term of the 2021 Plan, beginning with January 1, 2022 and ending with January 1, 2030, by an amount equal to 5% of the outstanding number of shares of the Company’s common stock on December 31st of the preceding calendar year or such lesser amount as determined by the Board.

2015 Equity Incentive Plan

The 2015 Plan was established for granting stock incentive awards to directors, officers, employees and consultants to the Company. The 2015 Plan provided for the grant of incentive and non-qualified stock options, stock appreciation rights, restricted stock and restricted stock units as determined by the Board. Under the 2015 Plan, stock options were generally granted with exercise prices equal to or greater than the fair value of the common stock as determined by the Board, expired no later than 10 years from the date of grant, and vested over various periods not exceeding four years. While no shares are available for future issuance under the 2015 Plan, it continues to govern outstanding equity awards granted thereunder.

Stock Options

During the years ended December 31, 2022 and 2021, the Company granted options with an aggregate fair value of \$9,978 and \$21,224, respectively, which are being recorded as compensation expense over the requisite service period. The Company uses the Black-Scholes option pricing model to determine the fair value of stock options. The valuation model for stock compensation expense requires the Company to make assumptions and judgments about the variables used in the calculation including the expected term (weighted-average period of time that the options granted are expected to be outstanding), volatility of the Company’s common stock and an assumed-risk-free interest rate.

Expected Volatility. The Company uses an average historical stock price volatility of comparable public companies within a group of similar entities that were deemed to be representative of future stock price trends as the Company does

not have sufficient trading history for its common stock. The Company will continue to apply this process until a sufficient amount of historical information regarding volatility of its own stock price options becomes available.

Expected Term. The Company derived the expected term using the “simplified” method (the expected term is determined as the average of the time-to-vesting and the contractual life of the options), as the Company had limited historical information to develop expectations about future exercise patterns and post vesting employment termination behavior.

Risk-Free Interest Rate. The risk-free interest rate is based on U.S. Treasury zero-coupon issues with remaining terms similar to the expected term on the options.

Dividend Yield. The Company has never paid any dividends and does not plan to pay dividends in the foreseeable future, and, therefore, used an expected dividend yield of zero in the valuation model.

The following is a summary of option activity:

	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2021	5,727,747	\$ 7.29	8.1	\$ 48,447
Granted	1,851,188	10.71		
Exercised	(745,991)	0.60		
Canceled	(621,724)	11.34		
Outstanding at December 31, 2022	6,211,220	8.71	7.8	\$ 20,228
Exercisable at December 31, 2022	2,967,491	\$ 5.47	6.6	\$ 17,943

The weighted-average grant date fair value of options granted in the years ended December 31, 2022 and 2021 was \$5.39 and \$7.45 per share, respectively, and was calculated using the Black-Scholes valuation model based on the following weighted-average assumptions:

	Year ended December 31, 2022	Year ended December 31, 2021
Weighted-average risk-free interest rate	2.6 %	1.1 %
Expected dividend yield	0 %	0 %
Expected volatility	50.4 %	50.9 %
Expected term	6.0 years	6.0 years

Restricted Stock Units

During the year ended December 31, 2022, the Company granted RSUs with an aggregate fair value of \$4,339, which are being recorded as compensation expense over the requisite service period. The fair value of each grant is calculated based on the Company’s stock price on the date of grant.

The following is a summary of RSU activity:

	Number of Shares	Weighted-Average Grant Date Fair Value Per Share	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Unvested RSUs at December 31, 2021	—	\$ —	—	\$ —
Granted	396,355	10.95		
Vested	—	—		
Canceled	(16,850)	9.91		
Unvested RSUs at December 31, 2022	<u>379,505</u>	<u>10.99</u>	<u>1.91</u>	<u>\$ 3,632</u>

Stock-Based Compensation

Stock-based compensation related to the Company's stock-based awards was recorded as an expense and allocated as follows:

	Year ended December 31,	
	2022	2021
Cost of goods sold	\$ 233	\$ 118
Selling, general and administrative	5,934	3,339
Research and development	1,263	582
Total stock-based compensation	<u>\$ 7,430</u>	<u>\$ 4,039</u>

As of December 31, 2022, and 2021, there was \$16,509 and \$16,355, respectively, of total unrecognized compensation cost related to non-vested stock options. The Company expects to recognize that cost over a remaining weighted-average period of 2.7 and 3.3 years as of December 31, 2022 and 2021, respectively.

As of December 31, 2022 there was \$3,551 of total unrecognized compensation cost related to non-vested RSUs. The Company expects to recognize that cost over a remaining weighted-average period of 3.4 years as of December 31, 2022.

(11) Employee stock purchase plan

On March 24, 2021, the Board and on April 8, 2021, its stockholders approved and adopted the 2021 Employee Stock Purchase Plan (the "ESPP"). The ESPP became effective in connection with the closing of the Company's IPO. The ESPP permits participants to purchase common stock through payroll deductions of up to 15% of their eligible compensation. A total of 172,795 shares of common stock were approved to be initially reserved for issuance under the ESPP. In addition, the number of shares of common stock available for issuance under the ESPP will be automatically increased on the first day of each calendar year during the first ten-years of the term of the ESPP, beginning with January 1, 2022 and ending with January 1, 2030, by an amount equal to 0.5% of the outstanding number of shares of the Company's common stock on December 31st of the preceding calendar year or such lesser amount as determined by the Board. No shares have been issued under the ESPP at December 31, 2022 and 2021, respectively.

(12) Income taxes

The components of net income (loss) before income taxes for the years ending December 31, 2022 and 2021 is as follows:

	December 31, 2022	December 31, 2021
Domestic	(70,736)	(43,241)
Foreign	218	166
Total	<u>\$ (70,518)</u>	<u>\$ (43,075)</u>

The Company's income tax provision (benefit) for the years ending December 31, 2022 and 2021 is as follows:

	December 31, 2022	December 31, 2021
Federal	—	—
State	4	5
Foreign	84	10
Total current tax provision	\$ 88	\$ 15
Federal	30	(58)
State	32	(86)
Foreign	(27)	(11)
Total deferred tax provision (benefit)	\$ 35	\$ (155)
Total tax provision (benefit)	<u>\$ 123</u>	<u>\$ (140)</u>

A reconciliation between income tax benefit and the expected tax benefit at the statutory rate for the years ended December 31, 2022 and 2021 is as follows:

	2022		2021	
Federal statutory rate	21.00	%	21.00	%
State rate, net of federal benefit	3.54	%	3.60	%
Permanent differences	(0.62)	%	0.25	%
Tax credits generated	3.86	%	3.80	%
Non-deductible financing costs	—	%	(1.33)	%
Change in valuation allowance	(24.28)	%	(23.22)	%
Uncertain tax positions	(3.86)	%	(3.80)	%
Foreign rate differential	(0.02)	%	0.00	%
Other items	0.21	%	0.03	%
Effective tax rate	<u>(0.17)</u>	%	<u>0.32</u>	%

The significant components of the Company's net deferred tax liability consist of the following at December 31, 2022 and 2021:

Deferred tax assets (liabilities):	December 31,	December 31,
	2022	2021
<i>Deferred tax assets</i>		
Net operating losses	\$ 26,854	\$ 18,105
Capitalized R&D costs	5,122	—
Accruals & reserves	1,033	1,127
Intangibles	528	358
Interest	1,653	723
Stock	1,522	466
Inventory	1,164	—
Lease liabilities	2,776	—
Other	431	385
Gross deferred tax assets	41,083	21,164
Valuation Allowance	(37,873)	(20,754)
Net deferred tax assets	3,210	410
<i>Deferred tax liabilities</i>		
Depreciation	(261)	(327)
Goodwill	(329)	(98)
Right of use asset	(2,670)	—
Net deferred tax liability	\$ (50)	\$ (15)

ASC 740 requires a valuation allowance to reduce the deferred tax assets reported if, based on the weight of available evidence, it is more likely than not that some portion or all the deferred tax assets will not be realized. Based upon the level of historical U.S. losses and future projections over the period in which the net deferred tax assets are deductible, at this time, management believes it is more likely than not that the Company will not realize the benefits of these deductible differences, and as a result the Company continues to maintain a valuation allowance for the full amount of the 2022 U.S. deferred tax assets. The increase in the 2022 valuation allowance is primarily attributable to the current year loss.

As of December 31, 2022 and 2021, for federal income tax purposes the Company had total net operating loss carryforwards of approximately \$107,446 and \$72,454, respectively. As of December 31, 2022, approximately \$2,567 will begin to expire in 2036 and approximately \$104,880 of the net operating losses will have an indefinite carryforward as a result of the Tax Cuts and Jobs Act. For state income tax purposes, as of December 31, 2022 and December 31, 2021 the Company had net operating loss carryforwards of approximately \$67,173 and \$44,360, respectively, which begin to expire in 2036.

As of December 31, 2022 and 2021, the Company has available federal research development tax credit carryforwards of approximately \$3,998 and \$2,272, respectively. The federal research credits will begin to expire in 2036. As of December 31, 2022 and December 31, 2021, the Company has available state research development tax credit carryforwards of approximately \$3,457 and \$1,955, respectively. The state tax credit carryforwards consist of credits with both a limited carryforward period and unlimited carryforward period. Unused credits with a limited carryforward period will begin to expire in 2034.

Under the provisions of the Internal Revenue Code, the net operating loss and tax credit carryforwards are subject to review and possible adjustment by the Internal Revenue Service and state tax authorities. Net operating loss and tax credit carryforwards may become subject to an annual limitation in the event of certain cumulative changes in the ownership interest of significant shareholders over a three-year period in excess of 50%, as defined under Sections 382 and 383 of the Internal Revenue Code, respectively, as well as similar state provisions. This could limit the amount of tax attributes that can be utilized annually to offset future taxable income or tax liabilities. The amount of the annual limitation is determined based on the value of the Company immediately prior to the ownership change. Subsequent

ownership changes may further affect the limitation in future years. The Company has completed equity financings transactions which may have resulted in a change in control as defined by Sections 382 and 383 of the Internal Revenue Code, or could result in a change in control in the future. The Company does not believe the impact of any limitation on the use of its net operating loss or credit carryforwards will have a material impact on the Company's consolidated financial statements since the Company has a full valuation allowance against its deferred tax assets due to the uncertainty regarding future taxable income for the foreseeable future.

The Company has not yet completed a study of its research and development credit carryforwards. Once completed, this study may result in an adjustment to the research and development credit carryforwards claimed on the tax returns. Until such time a research credit study is completed, the Company will not record an asset for research credits claimed on the tax returns. If an adjustment is required at the time the study is completed, this adjustment would be recorded as an adjustment to the deferred tax asset for the research and development credit carryforward and the valuation allowance.

A rollforward of the uncertain tax position that was primarily related to our research and development tax credits is as follows (in thousands):

Uncertain tax positions at December 31, 2020	\$	2,763
Increase in uncertain tax positions		1,463
Uncertain tax positions at December 31, 2021		4,226
Increase in uncertain tax positions		3,228
Uncertain tax positions at December 31, 2022		7,454

Uncertain tax positions of \$7.5 million will impact our tax rate if realized.

Interest and penalty charges, if any, related to uncertain tax positions would be classified as income tax expenses in the accompanying Consolidated statements of operations. At December 31, 2022 and 2021, the Company had no accrued interest or penalties related to uncertain tax positions.

The Company files income tax returns in the U.S. federal tax jurisdiction and various state jurisdictions. Since the Company is in a loss carryforward position, the Company is generally subject to examination by the U.S. federal, state and local income tax authorities for all years in which a loss carryforward is available. The statute of limitations for assessment by federal and state tax jurisdictions in which the Company has business operations is open for tax years ending December 31, 2018 and after. The tax years subject to examination vary by jurisdiction.

In response to the COVID-19 pandemic, the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") was signed into law on March 27, 2020. The CARES Act included several provisions that provide economic relief for individuals and businesses. The CARES Act, among other things, included tax provisions relating to refundable payroll tax credits, the deferral of employer's social security payments, and modifications to net operating loss carryback provisions. On December 27, 2020, the Consolidated Appropriations Act of 2021 (the "CAA"), which includes the Economic Aid to Hard-Hit Small Businesses, Nonprofits, and Venues Act and the American Rescue Plan Act of 2021, was signed into law and provided further COVID-19 economic relief with an expansion of the employee retention credit. In March 2021, the Internal Revenue Service ("IRS") released Notice 2021-20, which retroactively eliminated the restriction that prevented employers who received a PPP loan from qualifying for the Employee Retention Credit ("ERC"), which is a refundable tax credit against certain employment taxes. Upon determination that the employer has complied with all of the conditions required to receive the credit, a receivable is recognized and the credit reduces salaries and wages. In connection with the CARES Act, the Company adopted a policy to recognize the employee retention credit when earned. For the year ended December 31, 2021, we determined that we qualify for the employee retention credit as it relates to wages paid during the twelve months ended December 31, 2020, as well as wages paid during the first, second, and third fiscal quarters of 2021. As a result, we recorded a net benefit of \$4,321 related to the employee retention credit as a reduction to payroll expense for the year ended December 31, 2021 and recorded a gross receivable of \$5,093 within Prepaid expenses and other current assets as of December 31, 2021.

(13) Commitments and contingencies

License Agreements

In September 2018, in connection with the acquisition of the QPS division of PKI, the Company entered into a License Agreement with PKI, pursuant to which PKI granted the Company an exclusive, nontransferable, sublicensable license under certain patent rights to make, use, import and commercialize QPS products and services. The Company is required to pay royalties on net sales of products and services that are covered by patent rights under the agreement at a rate ranging from 1.0% to 7.0%. The Company recorded approximately \$1,709 and \$1,207 of accrued royalties in connection with this agreement as of December 31, 2022 and December 31, 2021, respectively, payable in the first quarter of 2023 and 2022, respectively.

(14) Net loss per share attributable to common stockholders

Potentially issuable shares of common stock include shares issuable upon the exercise of outstanding employee stock option awards. Awards granted with performance conditions are excluded from the shares used to compute diluted earnings per share until the performance conditions associated with the awards are met.

The following table sets forth the computation of basic and diluted earnings per common share:

	Year ended December 31,	
	2022	2021
Net loss	\$ (70,641)	\$ (42,935)
Dividends accrued on redeemable convertible preferred stock	—	(1,435)
Adjusted net loss attributable to common stockholders	<u>\$ (70,641)</u>	<u>\$ (44,370)</u>
Weighted average common shares used in net loss per share attributable to common stockholders, basic and diluted	37,746,915	26,896,976
Basic and diluted net loss per common share outstanding	<u>\$ (1.87)</u>	<u>\$ (1.65)</u>

The Company's potential dilutive securities, which include stock options, unvested restricted stock units, convertible preferred stock, and the outstanding warrant, have been excluded from the computation of diluted net loss per share attributable to common stockholders whenever the effect of including them would be to reduce the net loss per share. In periods where there is a net loss, the weighted average number of common shares outstanding used to calculate both basic and diluted net loss per share attributable to common stockholders is the same. The following potential common shares, presented based on amounts outstanding at each period end, were excluded from the calculation of diluted net loss per share attributable to common stockholders for the periods indicated because including them would have had an anti-dilutive effect:

	December 31,	
	2022	2021
Outstanding stock options	6,211,220	5,727,747
Unvested restricted stock units	379,505	—
Warrant to purchase common stock	—	158,274
Total	<u>6,590,725</u>	<u>5,886,021</u>

(15) Segments

Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision maker, or decision-making group, in deciding how to allocate resources and in assessing performance. The Company's chief operating decision maker is its Chief Executive Officer. The Company has one business activity and there are no segment managers who are held accountable for

operations. Accordingly, the Company has a single reportable segment structure. The Company’s principal operations and decision-making functions are located in the United States.

The following table provides the Company’s revenues by geographical market based on the location where the services were provided or to which product was shipped:

	Year ended December 31,	
	2022	2021
North America	\$ 42,046	\$ 28,028
APAC	15,058	12,530
EMEA	17,755	14,359
Total Revenue	\$ 74,859	\$ 54,917

	Year ended December 31,	
	2022	2021
North America	56 %	51 %
APAC	20 %	23 %
EMEA	24 %	26 %
Total Revenue	100 %	100 %

North America includes the United States and related territories, as well as Canada. APAC also includes Australia. For the year ended December 31, 2022, we had one country outside of the United States with 11% of total revenue. For the year ended December 31, 2021, we had one country outside of the United States with 14% of total revenue.

As of December 31, 2022 and December 31, 2021, substantially all of the Company’s long-lived assets are located in the United States.

(16) Related party transactions

Argonaut Manufacturing Services Inc. (“AMS”) is a portfolio company of Telegraph Hill Partners, which holds greater than 5% of our total outstanding shares. During the years ended December 31, 2022 and 2021, the Company incurred costs of goods sold of approximately \$5,684 and \$3,433, respectively, related to sales of consumables manufactured by AMS. As of December 31, 2022 and 2021, \$7,545 and \$4,263, respectively, is included in inventory related to consumables manufactured by AMS. As of December 31, 2022 and 2021, the Company had \$1,271 and \$1,700 in accounts payable, respectively, due to AMS.

(17) Leases

On January 1, 2022, the Company adopted ASU No. 2016-02, Leases (Topic 842), (ASC 842), using the modified retrospective method. The Company chose to apply the transition provisions as of the period of adoption. Results for reporting periods beginning on or after January 1, 2022 are presented under ASC 842 while prior period amounts are not adjusted and continue to be reported in accordance with our historical accounting under ASC 840.

Adoption of the new standard resulted in the recording of \$10,409 of operating lease right of use assets, \$673 of financing lease right of use assets, \$2,741 of short-term operating lease liabilities, \$272 of short-term financing operating lease liabilities, \$7,968 of long-term operating lease liabilities, and \$197 of long-term financing lease liabilities. The difference between the operating lease liabilities and operating right of use assets is associated with existing deferred rent under ASC 840. The following table summarizes the amount by which each financial statement line item was affected in the current reporting period due to the adoption of ASC 842 as compared with the guidance that was in effect before the change.

	December 31, 2021	ASC 842 Adjustment	January 1, 2022
Assets			
Operating lease right of use assets, net	\$ —	\$ 10,409	\$ 10,409
Financing lease right of use assets, net	—	673	673
Property and equipment, net	673	(673)	—
Total assets	\$ 190,907	\$ 10,409	\$ 201,316
Liabilities and stockholders' equity			
Deferred rent	\$ 300	\$ (300)	\$ —
Current portion of capital lease liabilities	272	(272)	—
Current portion of operating lease liabilities	—	2,741	2,741
Current portion of financing lease liabilities	—	272	272
Total current liabilities	27,682	2,441	30,123
Capital lease liabilities, net of current portion	197	(197)	—
Operating lease liabilities, net of current portion	—	7,968	7,968
Financing lease liabilities, net of current portion	—	197	197
Total liabilities	69,556	10,409	79,965
Stockholders' equity			
Total stockholders' equity	121,351	—	121,351
Total liabilities and stockholders' equity	\$ 190,907	\$ 10,409	\$ 201,316

The Company considers a lease to be a contract, or part of a contract, that conveys the right to control the use of identified property or equipment (an identified asset) for a period of time in exchange for consideration. The Company leases office, lab, and warehouse spaces as follows:

In July 2019, the Company entered into a seven-year office lease agreement for office and laboratory space in Marlborough, MA. In connection with this agreement, the Company paid a security deposit totaling \$450 in the form of a letter of credit. On June 18, 2021, the Company entered into an amendment to reduce its letter of credit to \$300. The Company's letter of credit is recorded as restricted cash in the consolidated balance sheet.

In July 2019, the Company signed a seven-year lease agreement for office and laboratory space in Menlo Park, CA. In connection with this agreement, the Company paid a security deposit totaling \$181, which is recorded as a component of long-term assets in the consolidated balance sheet; the lease commencement date was May 2020. In July of 2021, the Company signed a 70-month amendment to its lease in Menlo Park, CA to expand its existing space. In connection with this agreement, the Company paid a security deposit totaling \$92, in addition to the existing security deposit, which is recorded as a component of long-term assets in the consolidated balance sheet; the lease commencement date was August 2021.

In August 2021, the Company signed a 30-month lease with MTP Equity Partners, LLC for office space in Marlborough, MA. In connection with this agreement, the Company paid a security deposit totaling \$43, which is recorded as a component of long-term assets in the consolidated balance sheet; The lease commencement date was August 2021.

In March 2022, the Company signed a 96-month lease with Atlantic-Fulcrum Realty LLC for warehouse space in Marlborough, MA. The lease commencement date was April 2022.

The Company holds various auto leases which have an initial term of 48 months.

For the year ended December 31, 2022, the Company entered into five financing leases for staining equipment. The Company also holds financing leases for computer equipment, and furniture which the Company was accounting for as capital leases prior to its adoption of ASC 842.

Leases with an initial term of 12 months or less are not recorded on the balance sheet; the Company recognizes lease expense for these leases on a straight-line basis over the lease term. For these lease agreements, the Company has elected the practical expedient to not separate non-lease and lease components and instead to account for them as a single lease component.

Under Topic 842, lease payments include: fixed payments, including in-substance fixed payments, less any lease incentives paid or payable to the lessee; variable lease payments that depend on an index or a rate; exercise price of a purchase option reasonably certain to be exercised; penalties for terminating a lease; and amounts where it is probable that the Company will owe under a residual value guarantee. Refundable deposits are not considered to be a fixed payment. Variable lease costs that are not based on an index or a rate are recorded to expenses in the period incurred. Lease term is determined at lease commencement. The initial determination of a lease liability is calculated as the net present value of the lease payments not yet paid.

Some leases include an option to renew, with renewal terms that can extend the lease term by five years. The exercise of lease renewal options is at the Company's sole discretion. None of these options to renew are recognized as part of the Company's right-to-use asset or lease liability as of December 31, 2022, as renewal was determined to not be reasonably assured. The depreciable life of assets and leasehold improvements are limited by the expected lease term. The Company recognizes lease expense for operating leases on a straight-line basis over the lease term. The Company recognizes amortization expense for finance leases over the lease term based on the terms of the lease agreement.

The Company's lease agreements do not contain any material residual value guarantees or material restrictive covenants.

As most of the Company's leases do not provide an implicit rate, the Company used its incremental borrowing rate based on the information available at the adoption or commencement date, in determining the present value of lease payments.

The table below summarizes the Company's lease costs for the year ended December 31, 2022:

Lease Costs	Classification	Year Ended December 31, 2022
Finance lease cost:		
Amortization of right-of-use assets	Cost of service and other revenue	\$ 183
Amortization of right-of-use assets	Depreciation and amortization	515
Interest on lease liabilities	Interest expense, net	60
Operating lease cost	Selling, general and administrative	3,163
Total lease cost		<u>\$ 3,921</u>

As of December 31, 2022, future minimum commitments under ASC 842 under the Company's operating leases were as follows:

Maturity of operating lease liabilities	As of December 31, 2022	
2023	\$	3,119
2024		2,760
2025		2,822
2026		2,619
2027		1,105
Thereafter		998
Total lease payments	\$	13,423
Less: discount to lease payments		(2,211)
Total operating lease liabilities	<u>\$</u>	<u>11,212</u>

As of December 31, 2022, future minimum commitments under ASC 842 under the Company's financing leases were as follows:

Maturity of financing lease liabilities	As of December 31, 2022	
2023	\$	687
2024		558
2025		205
2026		—
2027		—
Thereafter		—
Total lease payments	\$	1,450
Less: discount to lease payments		(155)
Total financing lease liabilities	\$	1,295

The table below summarizes the weighted-average remaining lease term (in years), the weighted-average incremental borrowing rate (in percentages), as well as supplemental cash flow information related to leases for the year ended December 31, 2022:

Lease Term, Discount Rates, and Other	Year Ended December 31, 2022	
Weighted average remaining lease term		
Operating leases		4.6 years
Financing leases		2.3 years
Weighted average incremental borrowing rate		
Operating leases		7.85 %
Financing leases		6.73 %
Cash payments of amounts included in lease liabilities		
Operating cash flows from operating leases	\$	3,009
Operating cash flows from finance leases		60
Financing cash flows from finance leases		621

(18) Subsequent events

The Company has evaluated subsequent events from the consolidated balance sheet date through March 6, 2023, which is the date the consolidated financial statements were issued.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

(a) **Evaluation of Disclosure Controls and Procedures.** Our principal executive officer and principal financial officer, after evaluating the effectiveness of our disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) as of the end of the period covered by this Form 10-K, have concluded that, based on such evaluation, our disclosure controls and procedures were effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms, and is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

(b) **Changes in Internal Controls.** There were no changes in our internal control over financial reporting, identified in connection with the evaluation of such internal control that occurred during the fourth quarter of our last fiscal year that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

(c) **Management's Annual Report on Internal Control Over Financial Reporting.** Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act, as a process designed by, or under the supervision of, our principal executive officer and principal financial officer and effected by our board of directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Our internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of management and our directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the 2013 framework in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under that framework, our management concluded that our internal controls over financial reporting were effective as of December 31, 2022.

Item 9B. Other Information

Not applicable.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

Part III

Item 10. Directors, Executive Officers, and Corporate Governance

The information required by this Item 10 of Form 10-K will be included in our 2023 Proxy Statement and is incorporated herein by reference.

Item 11. Executive Compensation

The information required by this Item 11 of Form 10-K will be set forth in our 2023 Proxy Statement and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this Item 12 of Form 10-K will be set forth in our 2023 Proxy Statement and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this Item 13 of Form 10-K will be set forth in our 2023 Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accountant's Fees and Services

The information required by this Item 14 will be set forth in our 2023 Proxy Statement and is incorporated herein by reference.

Part IV

Item 15. Exhibits and Financial Statement Schedules

(a) The following documents are filed as part of this Annual Report on Form 10-K:

(1) All Financial Statements

See Index to Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

(2) Financial Statement Schedules

Financial statement schedules have been omitted in this Annual Report because they are not applicable, not required under the instructions or the information requested is set forth in the financial statements or related notes thereto.

(3) Exhibits

The exhibits listed in the following Exhibit Index are filed, furnished or incorporated by reference as part of this Annual Report on Form 10-K

Exhibit Index

Exhibit Number	Exhibit Title	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
3.1	Amended and Restated Certificate of Incorporation	S-1	333-254760	3.3	3/26/2021	
3.2	Amended and Restated Bylaws	S-1	333-254760	3.4	3/26/2021	
4.1	Amended and Restated Investors' Rights Agreement, dated September 27, 2019, by and among the Registrant and certain of its stockholders	S-1	333-254760	10.15	3/26/2021	
4.2	Description of the Registrant's capital stock					X
10.1+	Akoya Biosciences, Inc. 2015 Equity Incentive Plan, as amended, and form of stock option agreement thereunder	S-1	333-254760	10.1	3/26/2021	
10.2+	Akoya Biosciences, Inc. 2021 Equity Incentive Plan and form of stock option agreement thereunder	S-1/A	333-254760	10.2	4/12/2021	
10.3+	Akoya Biosciences, Inc. 2021 Employee Stock Purchase Plan	S-1/A	333-254760	10.3	4/12/2021	
10.4+	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers	S-1	333-254760	10.4	3/26/2021	
10.5+	Offer Letter, dated June 28, 2017, by and between the Registrant and Brian McKelligon	S-1	333-254760	10.5	3/26/2021	
10.6+	Letter Amendment, dated October 8, 2018, by and between the Registrant and Brian McKelligon	S-1	333-254760	10.6	3/26/2021	
10.7+	Offer Letter, dated January 28, 2019, by and between the Registrant and Joseph Driscoll	S-1	333-254760	10.7	3/26/2021	
10.8+	Offer Letter, dated July 14, 2020, by and between the Registrant and Nirosan Ramachandran	S-1	333-254760	10.8	3/26/2021	
10.9†	Exclusivity (Equity) Agreement, dated November 17, 2015, by and between the Registrant and The Board of Trustees of the Leland Stanford Junior University	S-1	333-254760	10.9	3/26/2021	
10.10†	Amendment No. 1 to the License Agreement, dated November 18, 2016, by and between the Registrant and The Board of Trustees of the Leland Stanford Junior University	S-1	333-254760	10.10	3/26/2021	
10.11†	License and Royalty Agreement, dated September 28, 2018, by and among the Registrant, PerkinElmer Health Sciences, Inc., Cambridge Research & Instrumentation, Inc. and VisEn Medical Inc.	S-1	333-254760	10.11	3/26/2021	
10.12†	Transition Services Agreement, dated September 28, 2018, by and between the Registrant and PerkinElmer Health Sciences, Inc., as amended by First Amendment to the Transition Services Agreement, dated September 27, 2019	S-1	333-254760	10.12	3/26/2021	
10.13†	Exclusive Patent License Agreement, dated June 26, 2018, by and between the Registrant and the University of Washington	S-1	333-254760	10.13	3/26/2021	
10.14	Credit and Security Agreement, dated October 27, 2020, by and between the Registrant and Midcap Financial Trust	S-1	333-254760	10.14	3/26/2021	
10.15	Amended and Restated Investors' Rights Agreement, dated September 27, 2019, by and among the Registrant and certain of its stockholders	S-1	333-254760	10.15	3/26/2021	
10.16+	Offer Letter, dated March 2, 2021, by and between Registrant and Frederic Pla	S-1/A	333-254760	10.16	4/12/2021	

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10.17+	Offer Letter, dated December 2, 2021, by and between the Registrant and Marilee Moy	10-K	001-40344	10.17	3/15/2022	
10.18	Amendment No. 1 to Credit and Security Agreement, dated March 21, 2022, by and between the Registrant and Midcap Financial Trust	10-Q	001-40344	10.1	8/9/2022	
10.19	Amendment No. 2 to Credit and Security Agreement, dated June 1, 2022, by and between the Registrant and Midcap Financial Trust	8-K	001-40344	10.1	6/2/2022	
10.20+	Offer Letter, dated April 1, 2022, by and between Registrant and Ehab El-Gabry	10-Q	001-40344	10.3	8/9/2022	
10.21	Equity Distribution Agreement dated November 7, 2022, by and between the Registrant and Piper Sandler & Co.	S-3	333-268214	1.2	11/7/2022	
10.22	Amendment No. 3 to Credit and Security Agreement, dated November 7, 2022, by and between the Registrant and Midcap Financial Trust					X
10.23+	Executive Severance Plan, effective March 23, 2022.	8-K	001-40344	10.1	3/29/2022	
23.1	Consent of Independent Registered Public Accounting Firm.					X
31.1	Certification of Principal Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X
31.2	Certification of Principal Financial and Accounting Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X
32.1 *	Certifications of the Principal Chief Executive Officer and Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					X
101.INS	Inline XBRL Instance Document (the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document)					X
101.SCH	Inline XBRL Taxonomy Extension Schema Document					X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document					X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document					X
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document					X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document					X
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)					X

+ Management contract or compensatory plan or arrangement.

† Portions of this exhibit have been omitted pursuant to Item 601 of Regulation S-K promulgated under the Securities Act because the information is not material and would be competitively harmful if publicly disclosed.

* This certification is deemed not filed for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act.

Item 16. Form 10-K Summary

Not applicable.

Signatures

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Akoya Biosciences, Inc.

Date: March 6, 2023

By: /s/ Brian McKelligon
Brian McKelligon
President and Chief Executive Officer
(Principal Executive Officer)

Date: March 6, 2023

By: /s/ Joseph Driscoll
Joseph Driscoll
Chief Financial Officer
(Principal Financial and Accounting Officer)

Power of Attorney

KNOW BY ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Brian McKelligon and Joseph Driscoll, and each of them, as such person's true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for such person and in such person's name, place and stead, in any and all capacities, to sign any and all Amendments hereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, this report has been signed by the following persons in the capacities and on the dates indicated.

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Brian McKelligon</u> Brian McKelligon	President, Chief Executive Officer and Director (Principal Executive Officer)	March 6, 2023
<u>/s/ Joseph Driscoll</u> Joseph Driscoll	Chief Financial Officer	March 6, 2023
<u>/s/ Robert G. Shepler</u> Robert G. Shepler	Chair of the Board	March 6, 2023
<u>/s/ Garry Nolan, PhD</u> Garry Nolan, PhD	Director	March 6, 2023
<u>/s/ Thomas Raffin, MD</u> Thomas Raffin, MD	Director	March 6, 2023
<u>/s/ Thomas P. Schnettler</u> Thomas P. Schnettler	Director	March 6, 2023

Name	Title	Date
<u>/s/ Scott Mendel</u> Scott Mendel	Director	March 6, 2023
<u>/s/ Matthew Winkler, PhD</u> Matthew Winkler, PhD	Director	March 6, 2023
<u>/s/ Myla Lai-Goldman, MD</u> Myla Lai-Goldman, MD	Director	March 6, 2023

AMENDMENT NO. 3 TO CREDIT AND SECURITY AGREEMENT (TERM LOAN)

This **AMENDMENT NO. 3 TO CREDIT AND SECURITY AGREEMENT (TERM LOAN)** (this “**Agreement**”) is made as of the 7th day of November, 2022, by and among **AKOYA BIOSCIENCES, INC.**, a Delaware corporation (“**Borrower**”), **MIDCAP FINANCIAL TRUST**, a Delaware statutory trust, as Agent (in such capacity, together with its successors and assigns, “**Agent**”) and the Lenders (as defined in the Credit Agreement referenced below) party hereto.

RECITALS

A. Agent, Lenders and Borrower have entered into that certain Credit and Security Agreement (Term Loan), dated as of October 27, 2020 (as amended by that certain Amendment No. 1 to Credit and Security Agreement (Term Loan), dated as of March 21, 2022, as amended by that certain Amendment No. 2 to Credit and Security Agreement (Term Loan), dated as of June 1, 2022 and as further amended, restated, supplemented or otherwise modified prior to the date hereof, the “**Existing Credit Agreement**”, and as the same is amended hereby and as it may be further amended, modified, supplemented and restated from time to time, the “**Credit Agreement**”), pursuant to which the Lenders have agreed to make certain advances of money and to extend certain financial accommodations to Borrower in the amounts and manner set forth in the Credit Agreement.

B. Borrower has requested that that Agent and Lenders amend certain provisions of the Existing Credit Agreement to, among other things, extend the maturity date, add additional term loan tranches, amend the Applicable Margin, amend certain financial covenants and adjust the amortization.

C. Agent and the Lenders party hereto have agreed, on and subject to the terms and conditions set forth in this Agreement, to amend the Existing Credit Agreement to, among other things, accommodate the Borrowers’ requests set forth in such Recitals.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing, the terms and conditions set forth in this Agreement, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Agent, the Lenders party hereto and Borrower hereby agree as follows:

1. **Recitals**. This Agreement shall constitute a Financing Document and each reference to the Credit Agreement, unless otherwise expressly noted, will be deemed to reference the Credit Agreement as amended hereby. The Recitals set forth above shall be construed as part of this Agreement as if set forth fully in the body of this Agreement and capitalized terms used but not otherwise defined herein shall have the meanings ascribed to them in the Credit Agreement (including those capitalized terms used in the Recitals hereto).

2. **Amendments to the Existing Credit Agreement**. Subject to the terms and conditions of this Agreement, including, without limitation, the satisfaction of the conditions set forth in Section 4 hereof, the Existing Credit Agreement is hereby amended as set forth on Exhibit A attached hereto such that all of the newly inserted and underscored provisions and any formatting

changes reflected therein shall be deemed inserted or made, as applicable, and all of the ~~stricken~~ provisions shall be deemed to be deleted therefrom, which Credit Agreement shall immediately and automatically become effective upon the effectiveness of this Agreement in accordance with Section 4 below. Schedules, Exhibits and Annexes to the Existing Credit Agreement shall remain as in effect under the Existing Credit Agreement, except with respect to the Schedules, Exhibits and Annexes set forth on Exhibit B attached hereto, which shall replace the corresponding Schedules, Exhibits and Annexes to the Existing Credit Agreement in their entirety.

3. **Representations and Warranties; Reaffirmation of Security Interest.** Borrower hereby (a) confirms that all of the representations and warranties set forth in the Credit Agreement are true and correct in all material respects (without duplication of any materiality qualifier in the text of such representation or warranty) with respect to Borrower as of the date hereof, except to the extent that any such representation or warranty relates to a specific date in which case such representation or warranty shall be true and correct as of such earlier date and (b) covenants to perform its respective obligations under the Credit Agreement. Borrower confirms and agrees that all security interests and Liens granted to Agent continue in full force and effect, and all Collateral remains free and clear of any Liens, other than Permitted Liens. Nothing herein is intended to impair or limit the validity, priority or extent of Agent's security interests in and Liens on the Collateral. Borrower acknowledges and agrees that the Credit Agreement, the other Financing Documents and this Agreement constitute the legal, valid and binding obligation of Borrower, and are enforceable against Borrower in accordance with its terms, except as the enforceability thereof may be limited by bankruptcy, insolvency or other similar laws relating to the enforcement of creditors' rights generally and by general equitable principles.

4. **Conditions to Effectiveness.** This Agreement shall become effective as of the date on which each of the following conditions has been satisfied, as determined by Agent in its sole discretion:

(a) Agent shall have received (including by way of electronic transmission) a duly authorized, executed and delivered counterpart of the signature page to this Agreement from Borrower, the Agent and the Lenders;

(b) Agent shall have received a duly executed copy of the Second Amended and Restated Fee Letter;

(c) Agent shall have received an updated Perfection Certificate, in form and substance reasonably satisfactory to Agent;

(d) Agent shall have received a duly authorized, executed and delivered secretary's certificate from Borrower certifying as to (i) the names and signatures of each officer of Borrower authorized to execute and deliver this Agreement and all documents executed in connection therewith, (ii) the organizational documents of Borrower attached to such certificate are complete and correct copies of such organizational documents as in effect on the date of such certification, (iii) the resolutions of Borrower's board of directors or other appropriate governing body approving and authorizing the execution, delivery and performance of this Agreement and

the other documents executed in connection therewith, and (iv) certificates attesting to the good standing of Borrower in its jurisdiction of organization;

(e) Agent shall have received, with respect to Borrower, (i) current UCC searches from the Secretary of State of its jurisdiction of organization; and (ii) judgment, pending litigation, federal tax lien, personal property tax lien, and corporate and partnership tax lien searches, in each applicable jurisdiction, in each case, with results reasonably acceptable to the Agent;

(f) Agent shall have received an opinion of counsel to Borrower, addressed to the Agent and the Lenders, addressing such matters that the Agent may reasonably request;

(g) Agent shall have received a duly executed Notice of Borrowing as required pursuant to Section 2.1(a)(i)(F) of the Credit Agreement;

(h) all representations and warranties set forth in the Credit Agreement shall be true and correct in all material respects (without duplication of any materiality qualifier in the text of such representation or warranty) as of the date hereof, except to the extent that any such representation or warranty relates to a specific date in which case such representation or warranty shall be true and correct in all material respects as of such earlier date (and such parties' delivery of their respective signatures hereto shall be deemed to be its certification thereof); and

(i) immediately prior to and after giving effect to the agreements set forth herein, no Default or Event of Default shall exist under any of the Financing Documents.

5. Post-Closing Obligations.

(a) Borrowers shall by the date that is ninety (90) days after the date hereof (or such later date as Agent may agree, in its sole discretion), deliver to Agent a duly executed Securities Account Control Agreement in form and substance reasonably satisfactory to Agent, with respect to the Securities Account ending in x4339 maintained at U.S. Bank.

(b) Borrowers shall by the date that is thirty (30) days after the date hereof (or such later date as Agent may agree, in its sole discretion), deliver to Agent a duly executed intellectual property security agreement supplement in the form of Annex A to the Intellectual Property Security Agreement.

(c) Borrower hereby agrees that failure to comply with the requirements set forth in this Section 5 shall constitute an immediate and automatic Event of Default.

6. Releases. In consideration of the agreements of Agent and Lenders contained herein and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Borrower, voluntarily, knowingly, unconditionally and irrevocably, with specific and express intent, for and on behalf of itself and all of its respective parents, subsidiaries, affiliates, members, managers, predecessors, successors, and assigns, and each of its respective current and former directors, officers, shareholders, agents, and employees, and each of its

respective predecessors, successors, heirs, and assigns (individually and collectively, the “**Releasing Parties**”) does hereby fully and completely release, acquit and forever discharge each of Agent, Lenders, and each their respective parents, subsidiaries, affiliates, members, managers, shareholders, directors, officers and employees, and each of their respective predecessors, successors, heirs, and assigns (individually and collectively, the “**Released Parties**”), of and from any and all actions, causes of action, suits, debts, disputes, damages, claims, obligations, liabilities, costs, expenses and demands of any kind whatsoever, at law or in equity, whether matured or unmatured, liquidated or unliquidated, vested or contingent, choate or inchoate, known or unknown that the Releasing Parties (or any of them) has against the Released Parties or any of them (whether directly or indirectly), based in whole or in part on facts, whether or not now known, existing on or before the date hereof, that relate to, arise out of or otherwise are in connection with: (i) any or all of the Financing Documents or transactions contemplated thereby or any actions or omissions in connection therewith or (ii) any aspect of the dealings or relationships between or among any Borrower, on the one hand, and any or all of the Released Parties, on the other hand, relating to any or all of the documents, transactions, actions or omissions referenced in clause (i) hereof, in each case, based in whole or in part on facts, whether or not now known, existing before the date hereof. Borrower acknowledges that the foregoing release is a material inducement to Agent’s and each Lender’s decision to enter into this Agreement and agree to the modifications contemplated hereunder, and has been relied upon by Agent and Lenders in connection therewith.

7. **No Waiver or Novation.** The execution, delivery and effectiveness of this Agreement shall not, except as expressly provided in this Agreement, operate as a waiver of any right, power or remedy of Agent, nor constitute a waiver of any provision of the Credit Agreement, the Financing Documents or any other documents, instruments and agreements executed or delivered in connection with any of the foregoing. Nothing herein is intended or shall be construed as a waiver of any existing Defaults or Events of Default under the Credit Agreement or the other Financing Documents or any of Agent’s rights and remedies in respect of such Defaults or Events of Default. This Agreement (together with any other document executed in connection herewith) is not intended to be, nor shall it be construed as, a novation of the Credit Agreement.

8. **Affirmation.** Except as specifically amended pursuant to the terms hereof, Borrower hereby acknowledges and agrees that the Credit Agreement and all other Financing Documents (and all covenants, terms, conditions and agreements therein) shall remain in full force and effect, and are hereby ratified and confirmed in all respects by Borrower. Borrower covenants and agrees to comply with all of the terms, covenants and conditions of the Credit Agreement and the Financing Documents, notwithstanding any prior course of conduct or other actions or inactions on Agent’s or any Lender’s part which might otherwise constitute or be construed as a waiver of or amendment to such terms, covenants and conditions.

9. **Miscellaneous.**

(a) **Reference to the Effect on the Credit Agreement.** Upon the effectiveness of this Agreement, each reference in the Credit Agreement to “this Agreement,” “hereunder,” “hereof,” “herein,” or words of similar import shall mean and be a reference to the Credit Agreement, as modified by this Agreement. Except as specifically set forth above, the Credit

Agreement, and all other Financing Documents (and all covenants, terms, conditions and agreements therein), shall remain in full force and effect, and are hereby ratified and confirmed in all respects by Borrower.

(b) **GOVERNING LAW.** THIS AGREEMENT AND ALL DISPUTES AND OTHER MATTERS RELATING HERETO OR THERETO OR ARISING THEREFROM (WHETHER SOUNDING IN CONTRACT LAW, TORT LAW OR OTHERWISE), SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK, WITHOUT REGARD TO CONFLICTS OF LAWS PRINCIPLES (OTHER THAN SECTION 5-1401 OF THE GENERAL OBLIGATIONS LAW).

(c) **WAIVER OF JURY TRIAL.** BORROWER, AGENT AND THE LENDERS PARTY HERETO HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY AND AGREES THAT ANY SUCH ACTION OR PROCEEDING SHALL BE TRIED BEFORE A COURT AND NOT BEFORE A JURY. BORROWER, AGENT AND EACH LENDER ACKNOWLEDGES THAT THIS WAIVER IS A MATERIAL INDUCEMENT TO ENTER INTO A BUSINESS RELATIONSHIP, THAT EACH HAS RELIED ON THE WAIVER IN ENTERING INTO THIS AGREEMENT, AND THAT EACH WILL CONTINUE TO RELY ON THIS WAIVER IN THEIR RELATED FUTURE DEALINGS. BORROWER, AGENT AND EACH LENDER WARRANTS AND REPRESENTS THAT IT HAS HAD THE OPPORTUNITY OF REVIEWING THIS JURY WAIVER WITH LEGAL COUNSEL, AND THAT IT KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS.

(d) **Incorporation of Credit Agreement Provisions.** The provisions contained in Section 11.6 (Indemnification), and Section 12.8(b) (Submission to Jurisdiction) of the Credit Agreement are incorporated herein by reference to the same extent as if reproduced herein in their entirety.

(e) **Headings.** Section headings in this Agreement are included for convenience of reference only and shall not constitute a part of this Agreement for any other purpose.

(f) **Counterparts.** This Agreement may be signed in any number of counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same instrument. Delivery of an executed counterpart of this Agreement by facsimile or by electronic mail delivery of an electronic version (e.g., .pdf or .tif file) of an executed signature page shall be effective as delivery of an original executed counterpart hereof and shall bind the parties hereto. In furtherance of the foregoing, the words "execution", "signed", "signature", "delivery" and words of like import in or relating to any document to be signed in connection with this Agreement and the transactions contemplated hereby or thereby shall be deemed to include Electronic Signatures, deliveries or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature, physical delivery thereof or the use of a paper-based recordkeeping system, as the case

may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act. As used herein, “**Electronic Signature**” means an electronic sound, symbol, or process attached to, or associated with, a contract or other record and adopted by a Person with the intent to sign, authenticate or accept such contract or other record.

(g) Entire Agreement. This Agreement constitutes the entire agreement and understanding among the parties hereto and supersedes any and all prior agreements and understandings, oral or written, relating to the subject matter hereof.

(h) Severability. In case any provision of or obligation under this Agreement shall be invalid, illegal or unenforceable in any applicable jurisdiction, the validity, legality and enforceability of the remaining provisions or obligations, or of such provision or obligation in any other jurisdiction, shall not in any way be affected or impaired thereby.

(i) Successors/Assigns. This Agreement shall bind, and the rights hereunder shall inure to, the respective successors and assigns of the parties hereto, subject to the provisions of the Credit Agreement and the other Financing Documents.

[SIGNATURES APPEAR ON FOLLOWING PAGES]

IN WITNESS WHEREOF, intending to be legally bound, the undersigned have executed this Agreement as of the day and year first hereinabove set forth.

AGENT:

MIDCAP FINANCIAL TRUST,
as Agent

By: Apollo Capital Management, L.P.,
its investment manager

By: Apollo Capital Management GP, LLC,
its general partner

By: /s Maurice Amsellem

Name: Maurice Amsellem

Title: Authorized Signatory

LENDERS:

MIDCAP FINANCIAL TRUST,

By: Apollo Capital Management, L.P.,
its investment manager

By: Apollo Capital Management GP, LLC,
its general partner

By: s/ Maurice Amsellem

Name: Maurice Amsellem

Title: Authorized Signatory

LENDERS:

MIDCAP FUNDING XIII TRUST,

By: Apollo Capital Management, L.P.,
its investment manager

By: Apollo Capital Management GP, LLC,
its general partner

By: /s/ Maurice Amsellem

Name: Maurice Amsellem

Title: Authorized Signatory

LENDERS:

ELM 2020-3 TRUST

By: MidCap Financial Services Capital
Management, LLC, as Servicer

By: s/ John O'Dea

Name: John O'Dea

Title: Authorized Signatory

LENDERS:

ELM 2020-4 TRUST

By: MidCap Financial Services Capital
Management, LLC, as Servicer

By: s/ John O'Dea

Name: John O'Dea

Title: Authorized Signatory

LENDER:

**MIDCAP FINANCIAL INVESTMENT
CORPORATION** (formerly known as Apollo
Investment Corporation)

By: s/ Kristin Hester

Name: Kristin Hester

Title: Chief Legal Officer

LENDERS:

APOLLO ALSTER LENDING FUND (LUX)

SCSP, an alternative investment fund in the form of a Luxembourg special limited partnership (societe en commandite speciale), acting through its managing general partner Alster Lending GP (Lux) S.ar.l. and represented by its delegate portfolio manager Apollo Alster Management, LLC

By: Apollo Alster Management, LLC, acting through its sole member

By: Apollo Capital Management, L.P., acting through its general partner

By: Apollo Capital Management GP, LLC

By: /s William Keusel

Name: William Keusel

Title: Authorized Signatory

BORROWER:

AKOYA BIOSCIENCES, INC.

By: /s Joe Driscoll

Name: Joe Driscoll

Title: CFO

EXHIBIT A

AMENDED CREDIT AGREEMENT

See attached.

CREDIT AND SECURITY AGREEMENT (TERM LOAN)

dated as of October 27, 2020

by and among

AKOYA BIOSCIENCES, INC.,

and any additional borrower that hereafter becomes party hereto, each as Borrower, and
collectively as Borrowers,

and

MIDCAP FINANCIAL TRUST,

as Agent and as a Lender,

and

THE ADDITIONAL LENDERS

FROM TIME TO TIME PARTY HERETO



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CREDIT AND SECURITY AGREEMENT (TERM LOAN)

This CREDIT AND SECURITY AGREEMENT (TERM LOAN) (as the same may be amended, supplemented, restated or otherwise modified from time to time, the "Agreement") is dated as of October 27, 2020 by and among AKOYA BIOSCIENCES, INC., a Delaware corporation, and each additional borrower that may hereafter be added to this Agreement (each individually as a "Borrower", and collectively with any entities that become party hereto as Borrower and each of their successors and permitted assigns, the "Borrowers"), MIDCAP FINANCIAL TRUST, a Delaware statutory trust, individually as a Lender, and as Agent, and the financial institutions or other entities from time to time parties hereto, each as a Lender.

RECITALS

Borrowers have requested that Lenders make available to Borrowers the financing facilities as described herein. Lenders are willing to extend such credit to Borrowers under the terms and conditions herein set forth.

AGREEMENT

NOW, THEREFORE, in consideration of the premises and the agreements, provisions and covenants herein contained, Borrowers, Lenders and Agent agree as follows:

ARTICLE 1 - DEFINITIONS

Section 1.1 Certain Defined Terms. The following terms have the following meanings: "Acceleration Event" means the occurrence of an Event of Default (a) in respect of which Agent has declared all or any portion of the Obligations to be immediately due and payable pursuant to Section 10.2, (b) pursuant to Section 10.1(a), and in respect of which Agent has suspended or terminated the Term Loan Commitment pursuant to Section 10.2, and/or (c) pursuant to either Section 10.1(e) and/or Section 10.1(f).

"Account Debtor" means "account debtor", as defined in Article 9 of the UCC, and any other obligor in respect of an Account.

"Accounts" means, collectively, (a) any right to payment of a monetary obligation, whether or not earned by performance, (b) without duplication, any "account" (as defined in the UCC), any accounts receivable (whether in the form of payments for services rendered or goods sold, rents, license fees or otherwise), any "health-care-insurance receivables" (as defined in the UCC), any "payment intangibles" (as defined in the UCC) and all other rights to payment and/or reimbursement of every kind and description, whether or not earned by performance, (c) all accounts, "general intangibles" (as defined in the UCC), Intellectual Property, rights, remedies, Guarantees, "supporting obligations" (as defined in the UCC), "letter-of-credit rights" (as defined in the UCC) and security interests in respect of the foregoing, all rights of enforcement and collection, all books and records evidencing or related to the foregoing, and all rights under the Financing Documents in respect of the foregoing, and (d) all proceeds of any of the foregoing.

"Acquisition" means any transaction or series of related transactions for the purpose of or resulting, directly or indirectly, in (a) the acquisition (including through licensing) of all or substantially all of the assets of a Person, or of any business, line of business or division or other unit of operation of a Person, (b) the acquisition of fifty percent (50%) or more of the Equity Interests of any Person, whether

or not involving a merger or consolidation with such other Person, or otherwise causing any Person to become a Subsidiary of a Borrower, (c) any merger or consolidation or any other combination with another Person or (d) the acquisition (including through licensing) of any Product, Product line or Intellectual Property of or from any other Person (but in each case excluding in-bound licenses and purchases of over-the-counter and other software that is commercially available to the public, open source licenses and enabling licenses in the Ordinary Course of Business).

“Additional Titled Agents” has the meaning set forth in Section 11.15.

“Affiliate” means, with respect to any Person, (a) any Person that directly or indirectly controls such Person, (b) any Person which is controlled by or is under common control with such controlling Person, and (c) each of such Person’s (other than, with respect to any Lender, any Lender’s) officers or directors (or Persons functioning in substantially similar roles). As used in this definition, the term “control” of a Person means the possession, directly or indirectly, of the power to vote twenty percent (20%) or more of any class of voting securities of such Person or to direct or cause the direction of the management or policies of a Person, whether through the ownership of voting securities, by contract or otherwise.

“Agent” means MCF, in its capacity as administrative agent for itself and for Lenders hereunder, as such capacity is established in, and subject to the provisions of, Article 11, and the successors and assigns of MCF in such capacity.

“Anti-Terrorism Laws” means any Laws relating to terrorism or money laundering, including, without limitation, Executive Order No. 13224 (effective September 24, 2001), the USA PATRIOT Act, the Laws comprising or implementing the Bank Secrecy Act and the Laws administered by OFAC.

“Applicable Margin” means six and ~~thirty-five one hundredths~~ four fifths of one percent (~~6.35~~6.80%).

“Approved Fund” means any (a) investment company, fund, trust, securitization vehicle or conduit that is (or will be) engaged in making, purchasing, holding or otherwise investing in commercial loans and similar extensions of credit in the ordinary course of business, or (b) any Person (other than a natural person) which temporarily warehouses loans for any Lender or any entity described in the preceding clause (a) and that, with respect to each of the preceding clauses (a) and (b), is administered or managed by (i) a Lender, (ii) an Affiliate of a Lender, or (iii) a Person (other than a natural person) or an Affiliate of a Person (other than a natural person) that administers or manages a Lender.

“Asset Disposition” means any sale, lease, license, transfer, assignment or other consensual disposition (including by merger, allocation of assets (including allocation of assets to any series of a limited liability company), division, consolidation or amalgamation) by any Credit Party or any Subsidiary thereof of any asset of such Credit Party or such Subsidiary.

“Assignment Agreement” means an assignment agreement in form and substance acceptable to Agent.

“Available Tenor” means, as of any date of determination with respect to the then-current Benchmark, (a) if such Benchmark is a term rate, any tenor for such Benchmark (or component thereof) that is or may be used for determining the length of an interest period pursuant to this Agreement or (b) otherwise, any payment period for interest calculated with reference to such Benchmark (or component thereof) that is or may be used for determining any frequency of making payments of interest calculated

with reference to such Benchmark, in each case, as of such date and not including, for the avoidance of doubt, any tenor for such Benchmark that is then-removed from the definition of “Interest Period” or similar term pursuant to Section 2.2(k).

“Bail-In Action” means the exercise of any Write-Down and Conversion Powers by the applicable EEA Resolution Authority in respect of any liability of an EEA Financial Institution.

“Bail-In Legislation” means, with respect to any EEA Member Country implementing Article 55 of Directive 2014/59/EU of the European Parliament and of the Council of the European Union, the implementing law for such EEA Member Country from time to time which is described in the EU Bail-In Legislation Schedule

“Bankruptcy Code” means Title 11 of the United States Code entitled “Bankruptcy”, as the same may be amended, modified or supplemented from time to time, and any successor statute thereto.

“Base Rate” means a per annum rate of interest equal to the greater of (a) ~~one~~two and one half percent (~~+50~~2.50%) per annum and (b) a per annum rate of interest equal to the rate of interest announced, from time to time, within Wells Fargo Bank, National Association (“Wells Fargo”) at its principal office in San Francisco as its “prime rate,” with the understanding that the “prime rate” is one of Wells Fargo’s base rates (not necessarily the lowest of such rates) and serves as the basis upon which effective rates of interest are calculated for those loans making reference thereto and is evidenced by the recording thereof after its announcement in such internal publications as Wells Fargo may designate; *provided, however*, that Agent may, upon prior written notice to Borrower, choose a reasonably comparable index or source to use as the basis for the Base Rate.

“Benchmark” means, initially, Term SOFR; provided that if a Benchmark Transition Event and its related Benchmark Replacement Date have occurred with respect to Term SOFR or the then-current Benchmark, then “Benchmark” means the applicable Benchmark Replacement to the extent that such Benchmark Replacement has replaced such prior benchmark rate pursuant to Section 2.2(k).

“Benchmark Replacement” means, with respect to any Benchmark Transition Event, the sum of: (a) the alternate benchmark rate that has been selected by Agent giving due consideration to (i) any selection or recommendation of a replacement benchmark rate or the mechanism for determining such a rate by the Relevant Governmental Body or (ii) any evolving or then-prevailing market convention for determining a benchmark rate as a replacement to the then-current Benchmark for Dollar-denominated syndicated credit facilities and (b) the related Benchmark Replacement Adjustment; provided that, if such Benchmark Replacement as so determined would be less than the Floor, such Benchmark Replacement will be deemed to be the Floor for the purposes of this Agreement and the other Financing Documents.

“Benchmark Replacement Adjustment” means, with respect to any replacement of the then-current Benchmark with an Unadjusted Benchmark Replacement for any applicable Available Tenor, the spread adjustment, or method for calculating or determining such spread adjustment (which may be a positive or negative value or zero) that has been selected by Agent giving due consideration to any selection or recommendation by the Relevant Governmental Body, or any evolving or then-prevailing market convention at such time, for determining a spread adjustment, or method for calculating or determining such spread adjustment, for such type of replacement for U.S. dollar-denominated syndicated credit facilities.

“Benchmark Replacement Date” means the earlier of the following events with respect to the then-current Benchmark: (a) in the case of clause (a) or (b) of the definition of “Benchmark Transition Event”, the later of (i) the date of the public statement or publication of information referenced therein and (ii) the date on which the administrator of such Benchmark (or the published component used in the calculation thereof) permanently or indefinitely ceases to provide all Available Tenors of such Benchmark (or such component thereof); or (b) in the case of clause (c) of the definition of “Benchmark Transition Event”, the first date on which such Benchmark (or the published component used in the calculation thereof) has been determined and announced by the regulatory supervisor for the administrator of such Benchmark (or such component thereof) to be no longer representative; *provided*, that such non-representativeness will be determined by reference to the most recent statement or publication referenced in such clause (c) even if any Available Tenor of such Benchmark (or such component thereof) continues to be provided on such date. For the avoidance of doubt, the “Benchmark Replacement Date” will be deemed to have occurred in the case of clause (a) or (b) with respect to any Benchmark upon the occurrence of the applicable event or events set forth therein with respect to all then-current Available Tenors of such Benchmark (or the published component used in the calculation thereof).

“Benchmark Transition Event” means the occurrence of one or more of the following events with respect to the then-current Benchmark: (a) a public statement or publication of information by or on behalf of the administrator of such Benchmark (or the published component used in the calculation thereof) announcing that such administrator has ceased or will cease to provide all Available Tenors of such Benchmark (or such component thereof), permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide any Available Tenor of such Benchmark (or such component thereof); (b) a public statement or publication of information by the regulatory supervisor for the administrator of such Benchmark (or the published component used in the calculation thereof), the Federal Reserve Board, the Federal Reserve Bank of New York, an insolvency official or resolution authority with jurisdiction over the administrator for such Benchmark (or such component), or a court or an entity with similar insolvency or resolution authority, which states that the administrator of such Benchmark (or such component) has ceased or will cease to provide all Available Tenors of such Benchmark (or such component thereof) permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide any Available Tenor of such Benchmark (or such component thereof); or (c) a public statement or publication of information by the regulatory supervisor for the administrator of such Benchmark (or the published component used in the calculation thereof) announcing that all Available Tenors of such Benchmark (or such component thereof) are no longer, or as of a specified future date will no longer be, representative. For the avoidance of doubt, a “Benchmark Transition Event” will be deemed to have occurred with respect to any Benchmark if a public statement or publication of information set forth above has occurred with respect to each then-current Available Tenor of such Benchmark (or the published component used in the calculation thereof).

“Benchmark Transition Start Date” means, in the case of a Benchmark Transition Event, the earlier of (a) the applicable Benchmark Replacement Date and (b) if such Benchmark Transition Event is a public statement or publication of information of a prospective event, the 90th day prior to the expected date of such event as of such public statement or publication of information (or if the expected date of such prospective event is fewer than 90 days after such statement or publication, the date of such statement or publication).

“Benchmark Unavailability Period” means the period (if any) (a) beginning at the time that a Benchmark Replacement Date pursuant to clauses (a) or (b) of that definition has occurred if, at such time, no Benchmark Replacement has replaced the then-current Benchmark for all purposes hereunder

and under any Loan Document in accordance with Section 2.2(k) and (b) ending at the time that a Benchmark Replacement has replaced the then-current Benchmark for all purposes hereunder and under any Loan Document in accordance with Section 2.2(k).

“Blocked Person” means any Person: (a) listed in the annex to, or is otherwise subject to the provisions of, Executive Order No. 13224, (b) owned or controlled by, or acting for or on behalf of, any Person that is listed in the annex to, or is otherwise subject to the provisions of, Executive Order No. 13224, (c) with which any Lender is prohibited from dealing or otherwise engaging in any transaction by any Anti-Terrorism Law, (d) that commits, threatens or conspires to commit or supports “terrorism” as defined in Executive Order No. 13224, or (e) that is named a “specially designated national” or “blocked person” on the most current list published by OFAC or other similar list or is named as a “listed person” or “listed entity” on other lists made under any Anti-Terrorism Law. “Borrower” and “Borrowers” has the meaning set forth in the introductory paragraph hereto. “Borrower Representative” means Akoya Biosciences, Inc., in its capacity as Borrower Representative pursuant to the provisions of Section 2.9, or any successor Borrower Representative selected by Borrowers and approved by Agent.

“Borrower Unrestricted Cash” means unrestricted cash and Cash Equivalents of Borrowers that are (a) subject to a first priority perfected lien in favor of Agent for the benefit of Lenders, (b) held in the name of a Borrower in a Deposit Account or Securities Account located in the United States that, in each case, is subject to a Deposit Account Control Agreement or Securities Account Control Agreement (as applicable), and (c) not funds for the payment of a drawn or committed but unpaid draft, ACH or EFT transaction.

“Business Day” means any day except a Saturday, Sunday or other day on which either the New York Stock Exchange is closed, or on which commercial banks in New York, New York are authorized by Law to close; *provided, however*, that when used in the context of a SOFR Loan, the term “Business Day” shall also exclude any day that is not also a SOFR Business Day.

“Capital Lease” of any Person means any lease of any property by such Person as lessee which would, in accordance with GAAP, be required to be accounted for as a capital lease on the balance sheet of such Person.

“Cash Equivalents” means, as of any date of determination, any of the following: (a) marketable securities (i) issued or directly and unconditionally guaranteed as to interest and principal by the United States government, or (ii) issued by any agency of the United States the obligations of which are backed by the full faith and credit of the United States, in each case maturing within one (1) year after such date; (b) marketable direct obligations issued by any state of the United States or any political subdivision of any such state or any public instrumentality thereof, in each case maturing within one (1) year after such date and having, at the time of the acquisition thereof, a rating of at least A-1 from S&P or at least P-1 from Moody’s; (c) commercial paper maturing no more than one (1) year from the date of creation thereof and having, at the time of the acquisition thereof, a rating of at least A-1 from S&P or at least P-1 from Moody’s, or carrying an equivalent rating by a nationally recognized rating agency, if both of the two named rating agencies cease publishing ratings of commercial paper issuers generally; (d) certificates of deposit or bankers’ acceptances maturing within one (1) year after such date and issued or accepted by any Lender or by any commercial bank organized under the laws of the United States or any state thereof or the District of Columbia that (i) is at least “adequately capitalized” (as defined in the regulations of its primary federal banking regulator), and (ii) has Tier 1 capital (as defined in such

regulations) of not less than \$100,000,000; and (e) shares of any money market mutual fund that (i) has substantially all of its assets invested continuously in the types of investments referred to in clauses (a) and (b) above, (ii) has net assets of not less than \$500,000,000, and (iii) has the highest rating obtainable from either S&P or Moody's.

"CERCLA" means the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C.A. § 9601 *et seq.*, as the same may be amended from time to time.

"Change in Control" means an event or series of events by which: (a) except for THP and its controlled Affiliates, any "person" or "group" (as such terms are used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934) becomes the "beneficial owner" (as defined in Rules 13d-3 and 13d-5 under the Securities Exchange Act of 1934, except that a person or group shall be deemed to have "beneficial ownership" of all securities that such person or group has the right to acquire, whether such right is exercisable immediately or only after the passage of time (such right, an "option right")), directly or indirectly, of fifty percent (50%) or more of the combined voting power of all voting stock of Akoya Biosciences, Inc., or any other Borrower (as applicable) on a fully-diluted basis (and taking into account all such securities that such person or group has the right to acquire pursuant to any option right); (b) during any period of twelve (12) consecutive months, a majority of the members of the board of directors or other equivalent governing body of Borrower cease to be composed of individuals (i) who were members of that board or equivalent governing body on the first day of such period, (ii) whose election or nomination to that board or equivalent governing body was approved by individuals referred to in clause (i) above constituting at the time of such election or nomination at least a majority of that board or equivalent governing body or (iii) whose election or nomination to that board or other equivalent governing body was approved by individuals referred to in clauses (i) and (ii) above constituting at the time of such election or nomination at least a majority of that board or equivalent governing body; (c) Borrower ceases to own and control, directly or indirectly, all of the economic and voting rights associated with the outstanding securities of each of its Subsidiaries (except as otherwise permitted by this Agreement), or (d) the occurrence of a "Change of Control", "Fundamental Change", "Change in Control", "Deemed Liquidation Event" or terms of similar import under any document or instrument governing or relating to Debt of or Equity Interests of such Person, as such documents may be amended or otherwise modified from time to time in accordance with the terms of this Agreement.

"Closing Date" means the date of this Agreement.

"Code" means the Internal Revenue Code of 1986, as amended from time to time.

"Collateral" means all property, other than Excluded Property, now existing or hereafter acquired, mortgaged or pledged to, or purported to be subjected to a Lien in favor of, Agent, for the benefit of Agent and Lenders, pursuant to this Agreement and the Security Documents, including, without limitation, all of the property described in Schedule 9.1 hereto.

"Commitment Annex" means Annex A to this Agreement.

"Competitor" means, at any time of determination, (a) any Person that is directly engaged in the same or substantially the same line of business as the Borrower or any of its material Subsidiaries and (b) each Person identified as a competitor on the list delivered to Agent by the Borrowers prior to the Closing Date. For the purposes of clarification, only a Person that is described in clause (a) above or a Person that either directly owns more than 50% of the voting securities of a Person described in clause (a) above or is wholly owned direct or indirect subsidiary of such a Person will be considered to be a Competitor for the purposes of this Agreement. Furthermore, notwithstanding anything herein to the

contrary, under no circumstances will a Person that is primarily in the business of lending money or extending credit be considered a Competitor regardless of whether or not any of its Affiliates may be deemed to be a Competitor.

“Compliance Certificate” means a certificate, duly executed by a Responsible Officer of Borrower Representative, appropriately completed and substantially in the form of Exhibit B hereto.

“Conforming Changes” means, with respect to Term SOFR or any Benchmark Replacement, any technical, administrative or operational changes (including (a) changes to the definition of “Business Day”, “Reference Time” or other definitions, (b) the addition of concepts such as “interest period”, (c) changes to timing and/or frequency of determining rates, making interest payments, giving borrowing requests, prepayment, conversion or continuation notices, or length of lookback periods, (d) the applicability of Section 2.8 (Taxes; Capital Adequacy; Increased Costs; Inability to Determine Rates; Illegality) and (e) other technical, administrative or operational matters) that Agent decides may be appropriate to reflect the adoption and implementation of Term SOFR or such Benchmark Replacement and to permit the administration thereof by Agent in a manner substantially consistent with market practice (or, if Agent decides that adoption of any portion of such market practice is not administratively feasible or determines that no such market practice exists, in such other manner as Agent decides is reasonably necessary in connection with the administration of this Agreement and the other Financing Documents).

“Connection Income Taxes” means Other Connection Taxes that are imposed on or measured by net income (however denominated) or that are franchise Taxes or branch profits Taxes.

“Consolidated Subsidiary” means, at any date, any Subsidiary the accounts of which would be consolidated with those of “parent” Borrower (or any other Person, as the context may require hereunder) in its consolidated financial statements if such statements were prepared as of such date.

“Contingent Obligation” means, with respect to any Person, any direct or indirect liability of such Person: (a) with respect to any Debt of another Person (a “Third Party Obligation”) if the purpose or intent of such Person incurring such liability, or the effect thereof, is to provide assurance to the obligee of such Third Party Obligation that such Third Party Obligation will be paid or discharged, or that any agreement relating thereto will be complied with, or that any holder of such Third Party Obligation will be protected, in whole or in part, against loss with respect thereto; (b) with respect to any undrawn portion of any letter of credit issued for the account of such Person or as to which such Person is otherwise liable for the reimbursement of any drawing; (c) under any Swap Contract, to the extent not yet due and payable; (d) to make take-or-pay or similar payments if required regardless of nonperformance by any other party or parties to an agreement; or (e) for any obligations of another Person pursuant to any Guarantee or pursuant to any agreement to purchase, repurchase or otherwise acquire any obligation or any property constituting security therefor, to provide funds for the payment or discharge of such obligation or to preserve the solvency, financial condition or level of income of another Person. The amount of any Contingent Obligation shall be equal to the amount of the obligation so Guaranteed or otherwise supported or, if not a fixed and determinable amount, the maximum amount so Guaranteed or otherwise supported.

“Controlled Group” means all members of a group of corporations and all members of a group of trades or businesses (whether or not incorporated) under common control which, together with the Credit Parties, are treated as a single employer under Section 414(b), (c), (m) or (o) of the Code or

Section 4001(b) of ERISA and, solely for purposes of Section 412 and 436 of the Code, Section 414(m) or (o) of the Code.

“Correction” means repair, modification, adjustment, relabeling, destruction or inspection (including patient monitoring) of a Product without its physical removal to some other location.

“Credit Card Cash Collateral Account” means, collectively, each segregated Deposit Account from time to time identified to Agent in writing established by Borrower for the sole purpose of securing Borrower’s obligations under clause (h) of the definition Permitted Debt and containing only such cash or Cash Equivalents that have been required to be pledged to secure such obligations of Borrower; *provided*, that the aggregate amount of cash or Cash Equivalents deposited in all such Credit Card Cash Collateral Account(s) does not, at any time, exceed \$500,000 in the aggregate.

“Credit Party” means each Borrower and each Guarantor and “Credit Parties” means all such Persons, collectively; *provided*, *however*, that in no event shall a Restricted Foreign Subsidiary be a “Credit Party” for purposes of this Agreement or the other Financing Documents.

“DEA” means the Drug Enforcement Administration of the United States of America, any comparable state or local Governmental Authority, any comparable Governmental Authority in any non-United States jurisdiction, and any successor agency of any of the foregoing.

“Debt” of a Person means at any date, without duplication, (a) all obligations of such Person for borrowed money, (b) all obligations of such Person evidenced by bonds, debentures, notes or other similar instruments, (c) all obligations of such Person to pay the deferred purchase price of property or services, except trade accounts payable arising and paid on a timely basis and in the Ordinary Course of Business, (d) all capital leases of such Person, (e) all non-contingent obligations of such Person to reimburse any bank or other Person in respect of amounts paid under a letter of credit, banker’s acceptance or similar instrument, (f) all Disqualified Equity Interests, (g) all obligations secured by a Lien on any asset of such Person, whether or not such obligation is otherwise an obligation of such Person, (h) “earnouts”, purchase price adjustments, profit sharing arrangements, deferred purchase money amounts and similar payment obligations or continuing obligations of any nature of such Person arising out of purchase and sale contracts entered into in connection with an Acquisition or any other material commercial or licensing transaction (*provided* that the amount of such indebtedness shall be deemed to be the amount that is required to be reflected on the balance sheet of such Person in accordance with GAAP), (i) all Debt of others Guaranteed by such Person, and (j) obligations in respect of litigation settlement agreements or similar arrangements. Without duplication of any of the foregoing, Debt of Borrowers shall include any and all Loans.

“Default” means any condition or event which with the giving of notice or lapse of time or both would, unless cured or waived, become an Event of Default.

“Defaulted Lender” means, so long as such failure shall remain in existence and uncured, any Lender which shall have failed to make any Loan or other credit accommodation, disbursement, settlement or reimbursement required pursuant to the terms of any Financing Document.

“Defined Period” means for any given calendar month, the immediately preceding twelve (12) month period ending on the last day of such calendar month.

“Deposit Account” means a “deposit account” (as defined in Article 9 of the UCC), an investment account, or other account in which funds are held or invested for credit to or for the benefit of any Credit Party.

“Deposit Account Control Agreement” means an agreement, in form and substance reasonably satisfactory to Agent, among Agent, any Borrower and each financial institution in which such Borrower maintains a Deposit Account, pursuant to which Agent obtains control (within the meaning of the UCC, as applicable) for the benefit of the Lenders over such Deposit Account and which agreement provides that (a) such financial institution shall comply with instructions originated by Agent directing disposition of the funds in such Deposit Account without further consent by the applicable Borrower, and (b) such financial institution shall agree that it shall have no Lien on, or right of setoff or recoupment against, such Deposit Account or the contents thereof, other than in respect of usual and customary service fees and returned items for which Agent has been given value, in each case expressly consented to by Agent, and containing such other terms and conditions as Agent may reasonably require.

“Disqualified Equity Interests” means, with respect to any Person, any Equity Interest in such Person that within less than 91 days after the Termination Date, either by its terms (or by the terms of any security or any other Equity Interest into which it is convertible or for which it is exchangeable) or upon the happening of any event or condition, (a) matures or is mandatorily redeemable (other than solely for Permitted Debt or other Equity Interests in such Person or of Akoya Biosciences, Inc. that do not constitute Disqualified Equity Interests and cash in lieu of fractional shares of such Equity Interests), pursuant to a sinking fund obligation or otherwise, (b) is redeemable at the option of the holder thereof, in whole or in part (other than solely for Permitted Debt or other Equity Interests in such Person or of Akoya Biosciences, Inc. that do not constitute Disqualified Equity Interests and cash in lieu of fractional shares of such Equity Interests), (c) provides for the scheduled payments of dividends or distributions in cash, or (d) is or becomes convertible into or exchangeable for Debt (other than Permitted Debt) or any other Equity Interest that would constitute Disqualified Equity Interests.

“Distribution” means as to any Person (a) any dividend or other distribution or payment (whether in cash, securities or other property) on, or in respect of, any Equity Interest in such Person (except those payable solely in its Equity Interests other than Disqualified Equity Interests), (b) any payment by such Person on account of (i) the purchase, redemption, retirement, defeasance, surrender, cancellation, termination or acquisition of any Equity Interests in such Person or any claim respecting the purchase or sale of any Equity Interest in such Person, or (ii) any option, warrant or other right to acquire any Equity Interests in such Person, (c) any management fees, salaries or other fees or compensation to any Person holding an Equity Interest in a Borrower or a Subsidiary of a Borrower (other than reasonable and customary (i) payments of salaries to individuals, (ii) directors fees, and (iii) advances and reimbursements to employees or directors, all in the Ordinary Course of Business), an Affiliate of a Borrower or an Affiliate of any Subsidiary of a Borrower, or (d) repayments of or debt service on loans or other indebtedness (other than conversion to Equity Interests other than Disqualified Equity Interests) held by an Affiliate of a Borrower (other than any Credit Party) unless permitted under and made pursuant to a Subordination Agreement applicable to such loans or other indebtedness.

“Dollars” or “\$” means the lawful currency of the United States of America.

“EEA Financial Institution” means (a) any credit institution or investment firm established in any EEA Member Country which is subject to the supervision of an EEA Resolution Authority, (b) any entity established in an EEA Member Country which is a parent of an institution described in clause (a) of this definition, or (c) any financial institution established in an EEA Member Country which is a

subsidiary of an institution described in clauses (a) or (b) of this definition and is subject to consolidated supervision with its parent.

“EEA Member Country” means any of the member states of the European Union, Iceland, Liechtenstein, and Norway.

“EEA Resolution Authority” means any public administrative authority or any person entrusted with public administrative authority of any EEA Member Country (including any delegee) having responsibility for the resolution of any EEA Financial Institution.

“Eligible Assignee” means (a) a Lender, (b) an Affiliate of a Lender, (c) an Approved Fund, and (d) any other Person (other than a natural person) approved by Agent; *provided, however*, that notwithstanding the foregoing, (x) “Eligible Assignee” shall not include (i) any Credit Party or any of a Credit Party’s Subsidiaries or (ii) any Competitor; *provided* that the restrictions on assignment set forth in this clause (ii) shall not apply if an Event of Default has occurred and is continuing under Section 10.1(a)(i) (Payment), 10.1(a)(ii) (solely with respect to a breach of Section 6 (financial covenants)), 10.1(e) & (f) (bankruptcy) or Section 10.1(o) (Material Adverse Effect), and (y) no proposed assignee intending to assume any unfunded portion of the Term Loan Commitment shall be an Eligible Assignee unless such proposed assignee either already holds a portion of such Term Loan Commitment, or has been approved as an Eligible Assignee by Agent.

“Environmental Laws” means any present and future federal, state and local laws, statutes, ordinances, rules, regulations, standards, policies and other governmental directives or requirements, as well as common law, pertaining to the environment, natural resources, pollution, health (including any environmental clean-up statutes and all regulations adopted by any local, state, federal or other Governmental Authority, and any statute, ordinance, code, order, decree, law rule or regulation all of which pertain to or impose liability or standards of conduct concerning medical waste or medical products, equipment or supplies), safety or clean-up that apply to any Borrower and relate to Hazardous Materials, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. § 9601 *et seq.*), the Resource Conservation and Recovery Act of 1976 (42 U.S.C. § 6901 *et seq.*), the Federal Water Pollution Control Act (33 U.S.C. § 1251 *et seq.*), the Hazardous Materials Transportation Act (49 U.S.C. § 5101 *et seq.*), the Clean Air Act (42 U.S.C. § 7401 *et seq.*), the Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. § 136 *et seq.*), the Emergency Planning and Community Right-to-Know Act (42 U.S.C. § 11001 *et seq.*), the Occupational Safety and Health Act (29 U.S.C. § 651 *et seq.*), the Residential Lead-Based Paint Hazard Reduction Act (42 U.S.C. § 4851 *et seq.*), any analogous state or local laws, any amendments thereto, and the regulations promulgated pursuant to said laws, together with all amendments from time to time to any of the foregoing and judicial interpretations thereof.

“Equity Interests” means, with respect to any Person, all shares of capital stock, partnership interests, membership interests in a limited liability company or other ownership in participation or equivalent interests (however designated, whether voting or non-voting) of such Person’s equity capital (including any warrants, options or other purchase rights with respect to the foregoing), whether now outstanding or issued after the Closing Date

“ERISA” means the Employee Retirement Income Security Act of 1974, as the same may be amended, modified or supplemented from time to time, and any successor statute thereto, and any and all rules or regulations promulgated from time to time thereunder.

“ERISA Plan” means any “employee benefit plan”, as such term is defined in Section 3(3) of ERISA (other than a Multiemployer Plan), which any Credit Party or any Subsidiary maintains, sponsors or contributes to, or, in the case of an employee benefit plan which is subject to Section 412 of the Code or Title IV of ERISA, to which any Credit Party or any Subsidiary has any liability, including on account of any member of the Controlled Group, including any liability by reason of having been a substantial employer within the meaning of Section 4063 of ERISA, or by reason of being deemed to be a contributing sponsor under Section 4069 of ERISA.

“EU Bail-In Legislation Schedule” means the EU Bail-In Legislation Schedule published by the Loan Market Association (or any successor person), as in effect from time to time.

“Event of Default” has the meaning set forth in Section 10.1. “Excluded Accounts” has the meaning set forth in Section 5.14(b). “Excluded Property” means, collectively:

(a) any lease, license, contract, permit, letter of credit, purchase money arrangement, instrument or agreement to which any Credit Party is a party or any of its rights or interests thereunder if and to the extent that the grant of such security interest shall constitute a result in (i) the abandonment, invalidation or unenforceability of any right, title or interest of any Credit Party therein or (ii) result in a breach or termination pursuant to the terms of, or default under, any such lease, license, contract, permit, letter of credit, purchase money arrangement, instrument or agreement;

(b) any governmental licenses or state or local franchises, charters and authorizations, to the extent that Agent may not validly possess a security interest in any such license, franchise, charter or authorization under applicable Law;

(c) more than 65% the voting capital stock of any Restricted Foreign Subsidiary to the extent that the grant of a security interest in excess of such percentage to secure the Obligations would cause material adverse tax consequences for such Borrower under the Code; *provided* that immediately upon any amendment of the Code that would allow the pledge of a greater percentage of such voting stock without material adverse tax consequences to such Borrower, “Collateral” shall automatically and without further action required by, and without notice to, any Person include such greater percentage of voting stock of such Restricted Foreign Subsidiary from that time forward;

(d) any asset which is subject to a purchase money Lien or Capital Lease permitted hereunder to the extent the granting of a security interest in such asset is prohibited pursuant to the terms of the contract governing such purchase money Lien or Capital Lease; and

(e) any “intent-to-use” trademarks or service mark applications for which an amendment to allege use or statement of use has not been filed under 15 U.S.C. § 1051 Section 1(c) or Section 1(d), respectively or if filed, has not been deemed in conformance with 15 U.S.C. § 1051(a) or examined and accepted, respectively by the United States Patent and Trademark Office;

provided that (x) any such limitation described in the foregoing clauses (a) and (b) on the security interests granted hereunder shall apply only to the extent that any such prohibition could not be rendered ineffective pursuant to the UCC or any other applicable Law (including Sections 9-406, 9-407 and 9-408 of the UCC) or principles of equity, (y) in the event of the termination or elimination of any such prohibition or the requirement for any consent contained in such contract, agreement, permit, lease or

license or in any applicable Law, to the extent sufficient to permit any such item to become Collateral hereunder, or upon the granting of any such consent, or waiving or terminating any requirement for such consent, a security interest in such contract, agreement, permit, lease, license, franchise, authorization or asset shall be automatically and simultaneously granted hereunder and shall be included as Collateral hereunder, and (z) all rights to payment of money due or to become due pursuant to, and all proceeds (and rights to the proceeds) from the sale of, any Excluded Property shall be and at all times remain subject to the security interests created by this Agreement (unless such proceeds would independently constitute Excluded Property).

“Excluded Taxes” means any of the following Taxes imposed on or with respect to Agent, any Lender or any other recipient of any payment to be made by or on behalf of any obligation of the Credit Parties hereunder or the Obligations or required to be withheld or deducted from a payment to Agent, such Lender or such recipient (including any interest and penalties thereon): (a) Taxes to the extent imposed on or measured by Agent’s, any Lender’s or such recipient’s net income (however denominated), branch profits Taxes, and franchise Taxes and similar Taxes, in each case, (i) imposed by the jurisdiction (or any political subdivision thereof) under which Agent, such Lender or such recipient is organized, has its principal office or conducts business with respect to entering into any of the Financing Documents or taking any action thereunder or (ii) that are Other Connection Taxes; (b) in the case of a Lender, United States withholding Taxes imposed on amounts payable to or for the account of such Lender with respect to an applicable interest in the Loans pursuant to a Law in effect on the date on which (i) such Lender becomes a party to this Agreement other than as a result of an assignment requested by a Credit Party under Section 2.8(i) or Section 11.17(c) or (ii) such Lender changes its lending office, except in each case to the extent that, pursuant to Section 2.8, amounts with respect to such Taxes were payable either to such Lender’s assignor immediately before such Lender acquired the applicable interest in a Loan or Term Loan Commitment or to such Lender immediately before it changed its lending office; (c) Taxes attributable to Agent’s, such Lender’s or such recipient’s failure to comply with Section 2.8(c); and (d) any U.S. federal withholding taxes imposed under FATCA.

“FATCA” means Sections 1471 through 1474 of the Code as of the date of this Agreement (or any amended or successor version that is substantively comparable and not materially more onerous to comply with), any current or future U.S. Treasury regulations or official interpretations thereof and any agreement entered into pursuant to the implementation of Section 1471(b)(1) of the Code, and any intergovernmental agreement, treaty or convention between the United States Internal Revenue Service, the U.S. Government and any governmental or taxation authority under any other jurisdiction implementing such sections of the Code.

“FDA” means the Food and Drug Administration of the United States of America, any comparable state or local Governmental Authority, any comparable Governmental Authority in any non-United States jurisdiction, and any successor agency of any of the foregoing.

“FDCA” means the Federal Food, Drug and Cosmetic Act, as amended, 21 U.S.C. Section 301 et seq., and all regulations promulgated thereunder.

“Federal Funds Rate” means, for any day, the rate of interest per annum (rounded upwards, if necessary, to the nearest whole multiple of 1/100 of 1%) equal to the weighted average of the rates on overnight Federal funds transactions with members of the Federal Reserve System, as published by the Federal Reserve Bank of New York on the Business Day next succeeding such day, *provided, however*, that (a) if such day is not a Business Day, the Federal Funds Rate for such day shall be such rate on such transactions on the next preceding Business Day, and (b) if no such rate is so published on such next

preceding Business Day, the Federal Funds Rate for such day shall be the average rate quoted to Agent on such day on such transactions as determined by Agent in a commercially reasonable manner.

“Fee Letter” means each agreement between Agent and Borrower relating to fees payable to Agent and/or Lenders in connection with this Agreement.

“Financing Documents” means this Agreement, any Notes, the Security Documents, each Fee Letter, each subordination or intercreditor agreement pursuant to which any Debt and/or any Liens securing such Debt is subordinated to all or any portion of the Obligations and all other documents, instruments and agreements related to the Obligations and heretofore executed, executed concurrently herewith or executed at any time and from time to time hereafter, as any or all of the same may be amended, supplemented, restated or otherwise modified from time to time.

“Floor” means the rate per annum of interest equal to ~~1.61448250~~2.50%. “Foreign Lender” has the meaning set forth in Section 2.8(c)(i). “GAAP” means generally accepted accounting principles set forth from time to time in the opinions and pronouncements of the Accounting Principles Board and the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board (or agencies with similar functions of comparable stature and authority within the United States accounting profession), which are applicable to the circumstances as of the date of determination.

“General Intangible” means any “general intangible” as defined in Article 9 of the UCC, and any personal property, including things in action, other than accounts, chattel paper, commercial tort claims, deposit accounts, documents, goods, instruments, investment property, letter-of-credit rights, letters of credit, money, and oil, gas or other minerals before extraction, but including payment intangibles and software.

“Governmental Authority” means any nation or government, any state, local or other political subdivision thereof, and any agency, department or Person exercising executive, legislative, judicial, regulatory or administrative functions of or pertaining to government and any corporation or other Person owned or controlled (through stock or capital ownership or otherwise) by any of the foregoing, whether domestic or foreign.

“Guarantee” by any Person means any obligation, contingent or otherwise, of such Person directly or indirectly guaranteeing any Debt or other obligation of any other Person and, without limiting the generality of the foregoing, any obligation, direct or indirect, contingent or otherwise, of such Person (a) to purchase or pay (or advance or supply funds for the purchase or payment of) such Debt or other obligation (whether arising by virtue of partnership arrangements, by agreement to keep-well, to purchase assets, goods, securities or services, to take-or-pay, or to maintain financial statement conditions or otherwise), or (b) entered into for the purpose of assuring in any other manner the obligee of such Debt or other obligation of the payment thereof or to protect such obligee against loss in respect thereof (in whole or in part), *provided, however*, that the term Guarantee shall not include endorsements for collection or deposit in the Ordinary Course of Business. The term “Guarantee” used as a verb has a corresponding meaning.

“Guarantor” means any Credit Party that has executed or delivered, or shall in the future execute or deliver, any Guarantee of any portion of the Obligations.

“Hazardous Materials” means petroleum and petroleum products and compounds containing them, including gasoline, diesel fuel and oil; explosives, flammable materials; radioactive materials; polychlorinated biphenyls and compounds containing them; lead and lead-based paint; asbestos or asbestos-containing materials; underground or above-ground storage tanks, whether empty or containing any substance; any substance the presence of which is prohibited by any Environmental Laws; toxic mold, any substance that requires special handling; and any other material or substance now or in the future defined as a “hazardous substance,” “hazardous material,” “hazardous waste,” “toxic substance,” “toxic pollutant,” “contaminant,” “pollutant” or other words of similar import within the meaning of any Environmental Law, including: (a) any “hazardous substance” defined as such in (or for purposes of) CERCLA, or any so-called “superfund” or “superlien” Law, including the judicial interpretation thereof; (b) any “pollutant or contaminant” as defined in 42 U.S.C.A. § 9601(33); (c) any material now defined as “hazardous waste” pursuant to 40 C.F.R. Part 260; (d) any petroleum or petroleum by-products, including crude oil or any fraction thereof; (e) natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel; (f) any “hazardous chemical” as defined pursuant to 29 C.F.R. Part 1910; (g) any toxic or harmful substances, wastes, materials, pollutants or contaminants (including, without limitation, asbestos, polychlorinated biphenyls, flammable explosives, radioactive materials, infectious substances, materials containing lead-based paint or raw materials which include hazardous constituents); and (h) any other toxic substance or contaminant that is subject to any Environmental Laws or other past or present requirement of any Governmental Authority.

“Hazardous Materials Contamination” means contamination (whether now existing or hereafter occurring) of the improvements, buildings, facilities, personalty, soil, groundwater, air or other elements on or of the relevant property by Hazardous Materials, or any derivatives thereof, or on or of any other property as a result of Hazardous Materials, or any derivatives thereof, generated on, emanating from or disposed of in connection with the relevant property.

“Healthcare Laws” means all applicable Laws relating to the procurement, development, provision, clinical and non-clinical evaluation or investigation, product approval or clearance, manufacture, production, analysis, distribution, dispensing, importation, exportation, use, handling, quality, reimbursement, sale, labeling, advertising, promotion, or postmarket requirements of any drug, medical device, clinical laboratory service, food, dietary supplement, or other product (including, without limitation, any ingredient or component of, or accessory to, the foregoing products) subject to regulation under the FDCA, Clinical Laboratory Improvement Amendments of 1988 (42 U.S.C. §263a et seq) and its implementing regulations (42 C.F.R. Part 493), as enforced by CMS, and similar state or foreign laws, controlled substances laws, pharmacy laws, consumer product safety laws, Medicare, Medicaid, TRICARE, HIPAA, the Patient Protection and Affordable Care Act (P.L. 111-1468), all federal and state fraud and abuse laws, including, without limitation, the federal Anti-Kickback Statute (42 U.S.C. §1320a-7b(6)), the Stark Law (42 U.S.C. §1395nn), the civil False Claims Act (31 U.S.C. §3729 et seq.) and all laws, policies, procedures, requirements and regulations pursuant to which Permits are issued, in each case, as the same may be amended from time to time.

“HIPAA” means the Health Insurance Portability and Accountability Act of 1996, as the same may be amended, modified or supplemented from time to time, and any successor statute thereto, and any and all rules or regulations promulgated from time to time thereunder.

“Indemnified Taxes” means (a) Taxes, other than Excluded Taxes, imposed on or with respect to any payment made by or on account of any obligation of Borrowers or any other Credit Party under any Financing Documents and (b) to the extent not otherwise described in (a), Other Taxes.

“Instrument” means “instrument”, as defined in Article 9 of the UCC.

“Intellectual Property” means all copyright rights, copyright applications, copyright registrations and like protections in each work of authorship and derivative work, whether published or unpublished, any patents, patent applications and like protections, including improvements, divisions, continuations, renewals, reissues, extensions, and continuations-in-part of the same, trademarks, trade names, service marks, mask works, rights of use of any name, domain names, or any other similar rights, any applications therefor, whether registered or not, know-how, operating manuals, trade secret rights, clinical and non-clinical data, rights to unpatented inventions, and any claims for damage by way of any past, present, or future infringement of any of the foregoing.

“Interest Period” means any period commencing on the first day of a calendar month and ending on the last day of such calendar month.

“Inventory” means “inventory” as defined in Article 9 of the UCC.

“Investment” means, with respect to any Person, directly or indirectly, (a) to purchase or acquire any stock or stock equivalents, or any obligations or other securities of, or any interest in, any Person, including the establishment or creation of a Subsidiary, (b) to make or otherwise consummate any Acquisition, or (c) make or purchase any advance, loan, extension of credit or capital contribution to or in, or any other investment in, any Person. The amount of any Investment shall be the original cost of such Investment plus the cost of all additions thereto, without any adjustments for increases or decreases in value, or write-ups, write-downs or write-offs with respect thereto.

“IRS” has the meaning set forth in Section 2.8(c)(i).

“Joinder Requirements” has the meaning set forth in Section 4.11(c).

“Laws” means any and all federal, state, provincial, territorial, local and foreign statutes, laws, judicial decisions, regulations, ordinances, rules, judgments, orders, decrees, codes, injunctions, permits, governmental agreements and governmental restrictions, whether now or hereafter in effect, which are applicable to any Credit Party in any particular circumstance. “Laws” includes, without limitation, Healthcare Laws and Environmental Laws.

“L/C Cash Collateral Accounts” means, collectively, each segregated Deposit Account from time to time identified to Agent in writing established by Borrower for the sole purpose of securing Borrower’s obligations under clause (h) of the definition Permitted Contingent Obligations and containing only such cash or Cash Equivalents that have been required to be pledged to secure such obligations of Borrower; *provided*, that the aggregate amount of cash or Cash Equivalents deposited in all such L/C Cash Collateral Account(s) does not, at any time, exceed \$450,000 in the aggregate

“Lender” means each of (a) MCF, in its capacity as a lender hereunder, (b) each other Person party hereto in its capacity as a lender hereunder, (c) each other Person that becomes a party hereto as Lender pursuant to Section 11.17, and (d) the respective successors of all of the foregoing, and “Lenders” means all of the foregoing.

“Lien” means, with respect to any asset, any mortgage, lien, pledge, charge, security interest or encumbrance of any kind, in respect of such asset. For the purposes of this Agreement and the other Financing Documents, any Borrower or any Subsidiary shall be deemed to own subject to a Lien any

asset which it has acquired or holds subject to the interest of a vendor or lessor under any conditional sale agreement, Capital Lease or other title retention agreement relating to such asset.

“Litigation” means any action, suit or proceeding before any court, mediator, arbitrator or Governmental Authority.

“Loan Account” has the meaning set forth in Section 2.6(b).

“Loan(s)” means the Term Loan and each and every advance under the Term Loan. All references herein to the “making” of a Loan or words of similar import mean, with respect to the Term Loan, the making of any advance in respect of a Term Loan.

“Margin Stock” means “margin stock” as such term is defined in Regulation T, U, or X of the Board of Governors of the Federal Reserve System.

“Market Withdrawal” means a Person’s Removal or Correction of a distributed product which involves a minor violation that would not be subject to legal action by the FDA or which involves no violation, e.g., normal stock rotation practices, routine equipment adjustments and repairs, etc.

“Material Adverse Effect” means with respect to any event, act, condition or occurrence of whatever nature (including any adverse determination in any litigation, arbitration, or governmental investigation or proceeding), whether singly or in conjunction with any other event or events, act or acts, condition or conditions, occurrence or occurrences, whether or not related, a material adverse change in, or a material adverse effect upon, any of (a) the condition (financial or otherwise), operations, business or properties of the Credit Parties taken as a whole, (b) the rights and remedies of Agent or Lenders under any Financing Document, or the ability of any Credit Party to perform any of its obligations under any Financing Document to which it is a party, (c) the legality, validity or enforceability of any Financing Document, (d) the existence, perfection or priority of any security interest granted to Agent or the Lenders in any Financing Document, except solely as a result of any action or inaction of Agent or any Lender (provided that such action or inaction is not caused by a Credit Party’s failure to comply with the terms of the Financing Documents), (e) the value of any material Collateral, or (f) a material impairment of the prospect of repayment of any portion of the Obligations.

“Material Contracts” means (a) the Financing Documents, (b) the agreements listed on Schedule 3.17, and (c) any other agreement or contract to which such Credit Party or its Subsidiaries is a party the termination of which could reasonably be expected to result in a Material Adverse Effect.

“Material Intangible Assets” means all of (a) Intellectual Property owned by the Credit Parties or their Subsidiaries and (b) license or sublicense agreements or other agreements with respect to rights in Intellectual Property not owned by a Credit Party or a Subsidiary thereof, in each case, that are material to the condition (financial or other), business or operations of Credit Parties and their Subsidiaries (taken as a whole) as determined by Agent in its reasonable discretion.

“Maturity Date” means ~~October 27~~ November 1, 2025 ~~2027~~.

“Maximum Lawful Rate” has the meaning set forth in Section 2.7.

“MCF” means MidCap Financial Trust, a Delaware statutory trust, and its successors and assigns.

“Minimum Net Revenue Threshold” means, for each Defined Period, the minimum amount set forth on Schedule 6.1 for such Defined Period.

“Monthly Cash Burn Amount” means, with respect to Borrowers and their Subsidiaries (on a consolidated basis), an amount equal to (a) the Borrowers’ and their Subsidiaries change in cash and cash equivalents, without giving effect to any increase resulting from the proceeds of financings, the sale or issuance of Equity Interests or any other extraordinary receipts, for either (i) the immediately preceding six (6) month period as determined as of the last day of the month immediately preceding the proposed consummation of the applicable Permitted Acquisition and based upon the financial statements delivered to Agent in accordance with this Agreement for such period, or (ii) the immediately succeeding six (6) month period based upon the Transaction Projections delivered with respect to such proposed Permitted Acquisition, using whichever calculation as between clause (i) and clause (ii) demonstrates a higher burn rate (or, in other words, more cash used), in both cases, *divided* by (b) six (6).

“Multiemployer Plan” means a multiemployer plan within the meaning of Section 4001(a)(3) of ERISA to which any Borrower or any other member of the Controlled Group (or any Person who in the last five years was a member of the Controlled Group) is making or accruing an obligation to make contributions or has within the preceding five plan years (as determined on the applicable date of determination) made contributions.

“Net Revenue” means, for any applicable Defined Period, the consolidated revenue of Borrowers and its Subsidiaries, as determined in accordance with GAAP, generated during such Defined Period through the commercial sale of Products or software or the provision of maintenance services or laboratory services by Borrowers or their Subsidiaries, in all case, in the Ordinary Course of Business.

“Notes” has the meaning set forth in Section 2.3.

“Notice of Borrowing” means a notice of a Responsible Officer of Borrower Representative, appropriately completed and substantially in the form of Exhibit D hereto.

“Obligations” means all obligations, liabilities and indebtedness (monetary (including, without limitation, the payment of interest and other amounts arising after the commencement of any case with respect to any Credit Party under the Bankruptcy Code or any similar statute which would accrue and become due but for the commencement of such case, whether or not such amounts are allowed or allowable in whole or in part in such case) or otherwise) of each Credit Party under this Agreement or any other Financing Document, in each case howsoever created, arising or evidenced, whether direct or indirect, absolute or contingent, now or hereafter existing, or due or to become due.

“OFAC” means the U.S. Department of Treasury Office of Foreign Assets Control.

“OFAC Lists” means, collectively, the Specially Designated Nationals and Blocked Persons List maintained by OFAC pursuant to Executive Order No. 13224, 66 Fed. Reg. 49079 (Sept. 25, 2001) and/or any other list of terrorists or other restricted Persons maintained pursuant to any of the rules and regulations of OFAC or pursuant to any other applicable Executive Orders.

“Ordinary Course of Business” means, in respect of any transaction involving any Credit Party or any Subsidiary, the ordinary course of business of such Credit Party or Subsidiary, as conducted by such Credit Party or Subsidiary in accordance with past practices.

“Organizational Documents” means, with respect to any Person other than a natural person, the documents by which such Person was organized (such as a certificate of incorporation, articles of incorporation, certificate of limited partnership or articles of organization, and including, without limitation, any certificates of designation for preferred stock or other forms of preferred equity) and which relate to the internal governance of such Person (such as by-laws, a partnership agreement or an operating agreement, joint venture agreement, limited liability company agreement or members agreement), including any and all shareholder agreements or voting agreements relating to the capital stock or other Equity Interests of such Person.

“Other Connection Taxes” means taxes imposed as a result of a present or former connection between Agent or any Lender and the jurisdiction imposing such tax (other than connections arising from Agent or such Lender having executed, delivered, become a party to, performed its obligations under, received payments under, engaged in any other transaction pursuant to or enforced any Financing Document, or sold or assigned an interest in any Loans or any Financing Document).

“Other Taxes” means all present or future stamp, court or documentary, intangible, recording, filing or similar taxes that arise from any payment made under, from the execution, delivery, performance, enforcement or registration of, from the receipt or perfection of a security interest under, or otherwise with respect to, any Financing Document, except any such taxes that are Other Connection Taxes imposed with respect to an assignment (other than an assignment made pursuant to Section 2.8(i)).

“Participant Register” has the meaning set forth in Section 11.17(a)(iii).

“Payment Account” means the account specified on the signature pages hereof into which all payments by or on behalf of each Borrower to Agent under the Financing Documents shall be made, or such other account as Agent shall from time to time specify by notice to Borrower Representative.

“PBG” means the Pension Benefit Guaranty Corporation and any Person succeeding to any or all of its functions under ERISA.

“Pension Plan” means any ERISA Plan that is subject to Section 412 of the Code or Title IV of ERISA.

“Perfection Certificate” means the Perfection Certificate delivered to Agent as of the Closing Date, together with any amendments thereto required under this Agreement.

“Permit” means all licenses, certificates, accreditations, product clearances or approvals, provider numbers or provider authorizations, supplier numbers, marketing authorizations, drug or device authorizations and approvals, other authorizations, franchises, qualifications, accreditations, registrations, permits, consents and approvals of a Credit Party issued or required under Laws applicable to the business of Borrowers or any of their Subsidiaries or necessary in the manufacturing, importing, exporting, possession, ownership, warehousing, marketing, promoting, sale, labeling, furnishing, distribution or delivery of goods or services under Laws applicable to the business of Borrower or any of its Subsidiaries. Without limiting the generality of the foregoing, “Permit” includes any Regulatory Required Permit.

“Permitted Acquisition” means any Acquisition by a Borrower, in each case, to the extent that each of the following conditions shall have been satisfied:

- (a) the Borrower Representative shall have delivered to Agent at least ten (10) Business Days (or such shorter period as may be agreed by Agent) prior to the closing of the proposed Acquisition: (i) a description of the proposed Acquisition; (ii) to the extent available in the case of an Acquisition for cash consideration in excess of \$1,000,000, a due diligence package (including, to the extent available, a quality of earnings report); and (iii) copies of the respective agreements, documents or instruments pursuant to which such Acquisition is to be consummated (or substantially final drafts thereof), any schedules to such agreements, documents or instruments and all other material ancillary agreements, instruments and documents to be executed or delivered in connection therewith, and, to the extent required to be completed prior to the closing of such Acquisition under the related acquisition agreement and reasonably requested by Agent, all material regulatory and third party approvals and copies of any environmental assessments, if applicable;
- (b) the Credit Parties (including any new Subsidiary to the extent required by Section 4.11) shall execute and deliver the agreements, instruments and other documents to the extent required by Section 4.11 hereof, including such agreements, instruments and other documents necessary to ensure that Agent receives a first priority perfected Lien in all entities and assets acquired in connection with the Acquisition to the extent required by this Agreement;
- (c) at the time of such Acquisition and after giving effect thereto, no Event of Default has occurred and is continuing;
- (d) the Acquisition would not result in a Change in Control and each Borrower remains a surviving legal entity after such Acquisition;
- (e) with respect to any Acquisition involving an in-license to a Credit Party, all such in-licenses or agreements related thereto shall constitute "Collateral" and Agent to have the ability in the event of a liquidation of any Collateral to dispose of such Collateral in accordance with Agent's rights and remedies under this Agreement and the other Financing Documents;
- (f) all transactions in connection with such Acquisition shall be consummated in all material respects in accordance with applicable Laws;
- (g) the assets acquired in such Acquisition are for use in the same, similar, related or complementary lines of business as the Credit Parties are currently engaged or a similar, related or complementary line of business reasonably related, ancillary or supplemental thereto or incidental thereto or reasonably expansive thereof;
- (h) if required, such Acquisition shall have been approved by the board of directors (or other similar body) and/or the stockholders or other equity holders of any Person being acquired in such Acquisition;
- (i) no Debt or Liens are assumed or created (other than Permitted Liens and Permitted Debt) in connection with such Acquisition;
- (j) Agent shall have received a certificate of a Responsible Officer of the Borrower Representative demonstrating, on a pro forma basis after giving effect to the consummation of such Acquisition, that Credit Parties are in compliance with the financial covenants set forth in Article 6 hereof;

- (k) unless Agent shall otherwise consent in writing (in its sole discretion), (x) if the Acquisition is an equity purchase or merger, the target and its Subsidiaries must have as their jurisdiction of formation a state within the United States or the District of Columbia, and (y) if the Acquisition is an asset purchase, not less than 90% of the fair market value of all of the assets so acquired shall be located within (or in the case of Registered Intellectual Property, registered in) the United States;
- (l) the consideration payable by the Credit Parties and their Subsidiaries in connection with such Acquisition shall consist solely of (x) noncash equity interests (other than Disqualified Stock) in Akoya, Inc. and/or (y) cash and Cash Equivalents not to exceed in the aggregate the cap set forth in clause (m) below;
- (m) the sum of all cash amounts (including Cash Equivalents) paid or payable in connection with all Permitted Acquisitions (including all Debt, liabilities and Contingent Obligations (in each case to the extent otherwise permitted hereunder) incurred or assumed and the maximum amount of any royalties, earn-outs or comparable payment obligation in connection therewith, regardless of when due or payable and whether or not reflected on a consolidated balance sheet of Borrowers) (all such consideration, the "Acquisition Consideration") shall not exceed \$5,000,000 in the aggregate in during the term of this Agreement; *provided* that such Acquisition Consideration cap shall not apply to any Acquisition (or series of related Acquisitions) to the extent that, prior to the consummation of each such Acquisition, Borrower has provided evidence reasonably satisfactory to Agent demonstrating that following the consummation of such Acquisition and after giving pro forma effect to the payment of all Acquisition Consideration in connection therewith (including all deferred Acquisition Consideration as if such amounts were payable upon the closing of such Acquisition), Borrowers will have Borrower Unrestricted Cash in an amount equal to or greater than the greater of (x) an amount equal to the product of (I) 1.25 *multiplied* by (II) the aggregate outstanding principal amount of the Obligations as of the date such Acquisition is consummated and (y) an amount equal to positive value of the product of (I) 12 *multiplied* by (y) the Monthly Cash Burn Amount.
- (n) Agent has received, prior to the consummation of such Acquisition, updated financial projections, in form and substance reasonably satisfactory to Agent, for the immediately succeeding twelve (12) months following the proposed consummation of the Acquisition beginning with the month during which the Acquisition is to be consummated (the "Transaction Projections").

"Permitted Asset Dispositions" means the following Asset Dispositions, *provided, however*, that at the time of such Asset Disposition, no Default or Event of Default exists or would result from such Asset Disposition:

- (a) dispositions of Inventory in the Ordinary Course of Business and not pursuant to any bulk sale;
- (b) dispositions of furniture, fixtures and equipment in the Ordinary Course of Business that the applicable Credit Party or Subsidiary determines in good faith is no longer used or useful in the business of such Credit Party and its Subsidiaries;
- (c) expiration, forfeiture, invalidation, cancellation, abandonment or lapse (including, without limitation, the narrowing of claims) of Intellectual Property (other than Material

Intangible Assets) that is, in the reasonable good faith judgment of a Credit Party, no longer useful in the conduct of the business of the Credit Parties or any of their Subsidiaries;

- (d) the granting of Permitted Licenses and the use of cash and Cash Equivalents to make Permitted Investments;
- (e) (i) Asset Dispositions by any Borrower to another Borrower, (ii) Asset Dispositions by any Guarantor or other Subsidiary to a Borrower or another Credit Party, and (iii) Asset Dispositions among Restricted Foreign Subsidiaries;
- (f) sales, forgiveness or discounting, on a non-recourse basis and in the Ordinary Course of Business, of past due Accounts in connection with the settlement of delinquent Accounts or in connection with the bankruptcy or reorganization of suppliers or customers in accordance with the applicable terms of this Agreement;
- (g) to the extent constituting an Asset Disposition, the granting of Permitted Liens;
- (h) dispositions consisting of the use or payment of cash or Cash Equivalents in the Ordinary Course of Business and in a manner that is not prohibited by the terms of this Agreement or the other Financing Documents;
- (i) dispositions of tangible personal property (and not, for the avoidance of doubt, any Intellectual Property or other intangible assets) so long as (i) the assets subject to such Asset Dispositions are sold for fair value, as determined by the Borrowers in good faith,
 - (ii) at least 75% of the consideration therefor is cash or Cash Equivalents and (ii) the aggregate amount of such Asset Dispositions in any twelve (12) month period does not exceed \$500,000;
- (j) Asset Dispositions (i) by any Borrower to any other Borrower and (ii) by any Guarantor to any Borrower; and
- (k) other dispositions approved by Agent from time to time in its sole discretion.

“Permitted Contest” means, with respect to any tax obligation or other obligation allegedly or potentially owing from any Credit Party or its Subsidiary to any governmental tax authority or other third party, a contest maintained in good faith by appropriate proceedings promptly instituted and diligently conducted and with respect to which such reserve or other appropriate provision, if any, as shall be required in conformity with GAAP shall have been made on the books and records and financial statements of the applicable Credit Party(ies); *provided, however*, that (a) compliance with the obligation that is the subject of such contest is effectively stayed during such challenge; (b) Credit Parties’ and their Subsidiaries’ title to, and its right to use, the Collateral is not adversely affected thereby and Agent’s Lien and priority on the Collateral are not adversely affected, altered or impaired thereby; (c) the Collateral or any part thereof or any interest therein shall not be in any danger of being sold, forfeited or lost by reason of such contest by Credit Parties or their Subsidiaries; and (d) upon a final determination of such contest, Credit Parties and their Subsidiaries shall promptly comply with the requirements thereof.

“Permitted Contingent Obligations” means

- (a) Contingent Obligations arising in respect of the Debt under the Financing Documents;
- (b) Contingent Obligations resulting from endorsements for collection or deposit in the Ordinary Course of Business;
- (c) Contingent Obligations outstanding on the date of this Agreement and set forth on Schedule 5.1 (but not including any refinancings, extensions, increases or amendments to the indebtedness underlying such Contingent Obligations other than extensions of the maturity thereof without any other change in terms);
- (d) Contingent Obligations incurred in the Ordinary Course of Business with respect to surety and appeal bonds, performance bonds and other similar obligations not to exceed \$500,000 in the aggregate at any time outstanding;
- (e) Contingent Obligations arising under indemnity agreements with title insurers to cause such title insurers to issue to Agent mortgagee title insurance policies;
- (f) Contingent Obligations arising with respect to customary indemnification obligations in favor of purchasers in connection with dispositions of personal property assets permitted under Section 5.6, or in connection with any other commercial agreement entered into by a Borrower or a Subsidiary thereof in the Ordinary Course of Business;
- (g) so long as there exists no Event of Default both immediately before and immediately after giving effect to any such transaction, Contingent Obligations existing or arising under any Swap Contract, *provided, however*, that such obligations are (or were) entered into by Borrower or a Subsidiary thereof in the Ordinary Course of Business for the purpose of directly mitigating risks associated with liabilities, commitments, investments, assets, or property held or reasonably anticipated by such Person and not for purposes of speculation;
- (h) Contingent Obligations existing or arising in connection with any letter of credit for the primary purpose of securing a lease of real property in the Ordinary Course of Business, provided that the aggregate amount of all such letter of credit reimbursement obligations does not at any time exceed \$450,000 outstanding;
- (i) unsecured Contingent Obligations arising with respect to customary indemnification obligations, adjustment of purchase price or similar obligations of any Credit Party, to the extent such Contingent Obligations arise in connection with a Permitted Acquisition and do not cause the Borrowers or their Subsidiaries to exceed the cap on Acquisition Consideration set forth in clause (m) of the definition of Permitted Acquisition; and
- (j) other Contingent Obligations not to exceed \$500,000 in the aggregate at any time outstanding.

“Permitted Debt” means:

- (a) Borrowers’ and its Subsidiaries’ Debt to Agent and each Lender under this Agreement and the other Financing Documents;

- (b) Debt incurred as a result of endorsing negotiable instruments received in the Ordinary Course of Business;
- (c) purchase money Debt and Capital Leases not to exceed ~~\$2,500,000~~ \$4,000,000 in the aggregate at any time (whether in the form of a loan or a lease) used solely to acquire equipment and secured only by such equipment and any Permitted Refinancing thereof;
- (d) Debt existing on the date of this Agreement and described on Schedule 5.1 (but not including any refinancings, extensions, increases or amendments to such Debt other than extensions of the maturity thereof without any other change in terms);
- (e) so long as there exists no Event of Default both immediately before and immediately after giving effect to any such transaction, Debt existing or arising under any Swap Contract, provided, however, that such obligations are (or were) entered into by Borrower or an Affiliate in the Ordinary Course of Business for the purpose of directly mitigating risks associated with liabilities, commitments, investments, assets, or property held or reasonably anticipated by such Person and not for purposes of speculation;
- (f) Debt not to exceed \$250,000 in the aggregate at any time outstanding owed to any Person providing property, casualty, liability, or other insurance to the Credit Parties, including to finance insurance premiums, so long as the amount of such Debt is not in excess of the amount of the unpaid cost of, and shall be incurred only to defer the cost of, such insurance for the policy year in which such Debt is incurred and such Debt is outstanding only during such policy year;
- (g) Debt consisting of unsecured intercompany loans and advances incurred by (1) any Borrower owing to any other Borrower, (2) any Borrower or any Guarantor owing to any Guarantor, (3) any Restricted Foreign Subsidiary owing to any other Restricted Foreign Subsidiary, or (4) any Restricted Foreign Subsidiary owing to any Borrower or any Guarantor so long as such Debt constitutes a Permitted Investment of the applicable Credit Party pursuant to clause (j) of the definition of Permitted Investments; *provided* that any such Indebtedness owed by a Credit Party shall, at the request of Agent, be subordinated to the payment in full of the Obligations pursuant to documentation in form and substance reasonably satisfactory to Agent.
- (h) Debt secured solely by cash collateral held in a Credit Card Cash Collateral Account, in an aggregate amount not to exceed \$500,000 at any time outstanding, in respect of credit cards, credit card processing services, debit cards, stored value cards, purchase cards (including so-called “procurement cards” or “P-cards”) or other similar cash management or merchant services, in each case, incurred in the Ordinary Course of Business;
- (i) Unsecured loans incurred by Borrower from Pacific Western Bank prior to the Closing Date in reliance on the Small Business Administration’s Paycheck Protection Program under the Coronavirus Aid, Relief, and Economic Stability Act (P.L. 116-136 (the “Paycheck Protection Program”) in an aggregate principal amount of \$2,478,000 (the “SBA Loan”); *provided* that not less than 75% of the SBA Loan shall be forgiven in accordance with the terms of the Paycheck Protection Program and Borrowers shall not

be required to make any payments in respect of the portion of the SBA Loan that is forgiven;

- (j) trade accounts payable arising in the Ordinary Course of Business;
- (k) to the extent also constituting Permitted Debt (without duplication), Permitted Contingent Obligations;
- (l) unsecured earn-out obligations and other similar contingent purchase price obligations constituting Acquisition Consideration and incurred in connection with a Permitted Acquisition (and not including any seller notes or other non-contingent Debt unless otherwise constituting Permitted Debt), in an amount not to exceed the cap set forth in clause (m) of the definition of Permitted Acquisitions after taking into account all other Acquisition Consideration paid or payable by Borrowers during the term of this Agreement; *provided* that no payment shall be made in respect of such obligations if an Event of Default has occurred and is continuing or would result from such payment;
- (m) Subordinated Debt;
- (n) unsecured obligations in respect of litigation settlement agreements or similar arrangements in an aggregate amount not exceeding \$500,000 outstanding at any time; and
- (o) other Debt not to exceed \$100,000 in the aggregate at any time at any time outstanding.

“Permitted Distributions” means the following Distributions: (a) Distributions by any Subsidiary of a Credit Party to its direct parent; (b) dividends payable solely in capital stock (other than Disqualified Equity Interests); (c) repurchases of stock of current or former employees, directors or consultants pursuant to stock purchase agreements so long as an Event of Default does not exist at the time of such repurchase and would not exist after giving effect to such repurchase, provided, however, that such repurchase does not exceed Two Hundred Fifty Thousand Dollars (\$250,000) in the aggregate per fiscal year, (d) distributions of Equity Interests (other than Disqualified Equity Interests) upon the conversion or exchange of Equity Interest (including options and warrants) or Subordinated Debt (and payments in respect of fractional shares), (e) payments in lieu of fractional shares of equity securities arising out of stock dividends, splits, combinations or conversions in an aggregate amount not to exceed One Hundred Thousand Dollars (\$100,000) during the term of this Agreement; (f) the issuance of its Equity Interests (other than Disqualified Stock) upon the exercise of warrants or options to purchase Equity Interests of Akoya, Inc.; *provided* that no cash payments are made in connection therewith except for de minimis cash payable in lieu of fractional shares; (g) the distribution of rights pursuant to a stockholder rights plan or redemption of such rights for no or nominal consideration (including, for the avoidance of doubt, cash consideration); *provided* that such redemption is in accordance with the terms of such plan; (h) Distributions in connection with the retention of equity interests in payment of withholding taxes in connection with equity-based compensation plans in an aggregate amount not to exceed \$500,000 in any twelve (12) month period; and (i) payments or distributions to dissenting stockholders pursuant to applicable Law in connection with any Permitted Acquisition, provided that such amounts when taken together with the aggregate Acquisition Consideration paid or payable for all Permitted Acquisitions shall not exceed the amounts permitted by clause (m) of the definition of Permitted Acquisition.

“Permitted Investments” means:

- (a) Investments shown on Schedule 5.7 and existing on the Closing Date;
- (b) to the extent constituting an Investment, the holding by a Person of cash and Cash Equivalents owned by such Person;
- (c) Investments consisting of the endorsement of negotiable instruments for deposit or collection or similar transactions in the Ordinary Course of Business;
- (d) Investments consisting of (i) travel advances and employee relocation loans and other employee loans and advances in the Ordinary Course of Business, and (ii) loans to employees, officers or directors relating to the purchase of equity securities of Borrowers or their Subsidiaries pursuant to employee stock purchase plans or agreements approved by Borrowers’ Board of Directors (or other governing body), but the aggregate of all such loans and advances outstanding pursuant to this clause (d) may not exceed \$250,000 at any time;
- (e) Investments (including debt obligations) received in connection with the bankruptcy or reorganization of customers or suppliers and in settlement of delinquent obligations of, and other disputes with, customers or suppliers arising in the Ordinary Course of Business;
- (f) Investments consisting of notes receivable of, or prepaid royalties and other credit extensions, to customers and suppliers who are not Affiliates, in the Ordinary Course of Business, *provided, however*, that this subpart (f) shall not apply to Investments of any Credit Party in any Subsidiary;
- (g) Investments consisting of Deposit Accounts or Securities Accounts;
- (h) Investments by any Borrower in (1) any other Borrower, or (2) any other Credit Party organized under the laws of the United States or any State thereof that has provided a Guarantee of the Obligations of the Borrowers which Guarantee is secured by a Lien granted by such Subsidiary to Agent in all or substantially all of its property of the type described in Schedule 9.1 hereto and otherwise made in compliance with Section 4.11(c);
- (i) the granting of Permitted Licenses;
- (j) Investments of cash and Cash Equivalents in Restricted Foreign Subsidiaries the proceeds of which will be used by such Restricted Foreign Subsidiaries solely for the payment of compensation and benefits of employees of Borrower and Subsidiaries and for administrative expenses; *provided* that the aggregate amount of Investments made pursuant to this clause (j) does not exceed ~~\$5,500,000~~ 7,000,000 (or the equivalent thereof in any foreign currency) during any fiscal year;
- (k) Investments constituting Permitted Acquisitions;
- (l) (i) Non-cash Investments by Borrowers and their Subsidiaries in joint ventures or strategic alliances in the Ordinary Course of Business consisting of the non-exclusive

licensing of technology, the development of technology or the providing of technical support; *provided* that no Asset Dispositions are made by Borrowers or their Subsidiaries in connection with such Investments other than Permitted Asset Dispositions and (ii) Investments of cash and Cash Equivalents in joint ventures and strategic alliance in an aggregate amount not to exceed \$500,000 in any fiscal year; and

- (m) so long as no Event of Default exists at the time of such Investment or after giving effect to such Investment, other Investments of cash and Cash Equivalents in an amount not exceeding Three Hundred Fifty Thousand Dollars (\$350,000) in the aggregate at any time outstanding.

“Permitted License” means:

- (a) any non-exclusive license or sublicense of rights to Intellectual Property (other than any source code licenses or sublicenses thereto thereto) of Borrower or its Subsidiaries so long as all such licenses (i) are granted in the Ordinary Course of Business, (ii) do not result in a legal transfer of title to the licensed property, and (iii) have been granted in exchange for fair consideration;
- (b) any exclusive license or sublicense of rights to Intellectual Property (other than any source code licenses or sublicenses thereto thereto) of Borrower or its Subsidiaries so long as such licenses or sublicenses (i) are granted to third parties in the Ordinary Course of Business, (ii) do not result in a legal transfer of title to the licensed property, (iii) have been granted in exchange for fair consideration, (iii) are exclusive solely as to discrete geographical areas outside of the United States (and are not exclusive in any other respect), (iv) Borrowers or such Subsidiary has given Agent at least ten (10) days’ written notice prior to entering in such license, and (v) no Event of Default has occurred and is continuing at the time such license or sublicense is granted or would arise from the granting of such license or sublicense;
- (c) any exclusive license or sublicense of rights to Intellectual Property of Borrower or its Subsidiaries so long as such Permitted Licenses have been approved in advance in writing by Agent, in its sole discretion; and
- (d) non-exclusive intercompany licenses and sublicenses among Credit Parties and their respective Subsidiaries in connection with transfer pricing arrangements.

“Permitted Liens” means:

- (a) deposits or pledges of cash arising in the Ordinary Course of Business to secure obligations under workmen’s compensation, social security or similar laws, or under unemployment insurance (but excluding Liens arising under ERISA or, with respect to any Pension Plan or Multiemployer Plan, the Code) pertaining to a Borrower’s or its Subsidiary’s employees, if any;
- (b) deposits or pledges of cash and Cash Equivalents in the Ordinary Course of Business to secure leases and other obligations of like nature arising in the Ordinary Course of Business;

- (c) carrier's, warehousemen's, mechanic's, workmen's, landlord's, materialmen's or other like Liens on Collateral, other than any Material Intangible Assets, arising in the Ordinary Course of Business with respect to obligations which are not due, or which are being contested pursuant to a Permitted Contest;
- (d) Liens for taxes or other governmental charges not at the time delinquent or thereafter payable without penalty or the subject of a Permitted Contest;
- (e) attachments, stay or appeal bonds, judgments and other similar Liens on Collateral for sums not exceeding \$500,000 in the aggregate arising in connection with court proceedings; *provided, however*, that the execution or other enforcement of such Liens is effectively stayed and the claims secured thereby are the subject of a Permitted Contest;
- (f) Liens with respect to real estate, easements, rights of way, restrictions, minor defects or irregularities of title, none of which, individually or in the aggregate, materially interfere with the benefits of the security intended to be provided by the Security Documents, materially affect the value or marketability of the Collateral, impair the use or operation of the Collateral for the use currently being made thereof or impair Borrowers' ability to pay the Obligations in a timely manner or impair the use of the Collateral or the ordinary conduct of the business of any Borrower or any Subsidiary and which, in the case of any real estate that is part of the Collateral, are set forth as exceptions to or subordinate matters in the title insurance policy accepted by Agent insuring the lien of the Security Documents;
- (g) Liens and encumbrances in favor of Agent under the Financing Documents;
- (h) Liens existing on the date hereof and set forth on Schedule 5.2 and Liens incurred in a Permitted Refinancing of the obligations or liabilities secured by such Liens;
- (i) any Lien on any equipment securing Debt permitted under subpart (c) of the definition of Permitted Debt, *provided, however*, that such Lien attaches concurrently with or within one hundred twenty (120) days after the acquisition thereof and Liens incurred in a Permitted Refinancing of such Debt secured by such Liens;
- (j) Liens that are rights of set-off, bankers' liens or similar non-consensual Liens relating to deposit or securities accounts in favor of banks, other depository institutions and securities intermediaries solely to secure payment of fees and similar costs and expenses and arising in the Ordinary Course of Business;
- (k) purported Liens evidenced by the filing of precautionary UCC financing statements relating solely to operating leases or consignments of personal property entered into the Ordinary Course of Business;
- (l) Liens granted in the Ordinary Course of Business on the unearned portion of insurance premiums securing the financing of insurance premiums to the extent the financing is permitted clause (f) of the definition of Permitted Debt;

- (m) Liens in favor of customs and revenue authorities arising as a matter of Law to secure payment of customs duties in connection with the importation of goods in the Ordinary Course of Business;
- (n) Leases or subleases of real property granted in the Ordinary Course of Business;
- (o) Liens solely in respect of the Credit Card Cash Collateral Accounts and amounts deposited therein to the extent securing obligations permitted pursuant to clause (h) of the definition of Permitted Debt;
- (p) Liens solely in respect of the L/C Cash Collateral Accounts and amounts deposited therein to the extent securing obligations permitted pursuant to clause (h) of the definition of Permitted Contingent Obligations;
- (q) Liens, deposits and pledges encumbering cash, Cash Equivalents with a value not to exceed Five Hundred Thousand Dollars (\$500,000) in the aggregate at any time, to secure the performance of bids, tenders, contracts (other than contracts for the payment of money), public or statutory obligations, surety, indemnity, performance or other similar bonds or other similar obligations arising in the Ordinary Course of Business; and
- (r) to the extent constituting a Lien, the granting of a Permitted License.

“Permitted Modifications” means (a) such amendments or other modifications to a Borrower’s or Subsidiary’s Organizational Documents as are required under this Agreement or by applicable Law, and (b) such amendments or modifications to a Borrower’s or Subsidiary’s Organizational Documents (other than those involving a change in the name of a Borrower or Subsidiary or involving a reorganization of a Borrower or Subsidiary under the laws of a different jurisdiction) that would not adversely affect the rights and interests of Agent or Lenders in any material respect.

“Permitted Refinancing” means Debt constituting a refinancing, extension or renewal of Debt; provided that the refinanced, extended, or renewed Debt (a) has an aggregate outstanding principal amount not greater than the aggregate principal amount of the Debt being refinanced or extended (plus any reasonable and customary interest, fees, premiums and costs and expenses) (b) has a weighted average maturity (measured as of the date of such refinancing or extension) and maturity no shorter than that of the Debt being refinanced or extended, (c) is not entered into as part of a sale leaseback transaction, (d) is not secured by a Lien on any assets other than the collateral securing the Debt being refinanced or extended, (e) the obligors of which are the same as the obligors of the Debt being refinanced or extended and (f) is otherwise on terms no less favorable to Credit Parties and their Subsidiaries, taken as a whole, than those of the Debt being refinanced or extended.

“Person” means any natural person, corporation, limited liability company, professional association, limited partnership, general partnership, joint stock company, joint venture, association, company, trust, bank, trust company, land trust, business trust or other organization, whether or not a legal entity, and any Governmental Authority.

“Prepayment Fee” has the meaning set forth in Section 2.2

“Products” means, from time to time, any products currently manufactured, sold, developed, tested or marketed by any Borrower or any of its Subsidiaries, including without limitation, those

products set forth on Schedule 4.17; provided, that, for the avoidance of doubt, any new Product not disclosed on Schedule 4.17 shall still constitute a “Product” as herein defined; *provided* that, except with respect to the definition of Net Revenue, the term “Product” shall not include the Keyence BZ-X 700/800 microscope product.

“Pro Rata Share” means (a) with respect to a Lender’s obligation to make advances in respect of a Term Loan, the Term Loan Commitment Percentage of such Lender in respect of such Term Loan, and (b) for all other purposes, as determined by Agent, with respect to each tranche of the Term Loan and Lender holding a Term Loan Commitment or Term Loan in respect of such tranche, a percentage (expressed as a decimal, rounded to the ninth decimal place) determined by *dividing* (i) in the case of fully-funded tranches of the Term Loan, the amount of the applicable tranche of the Term Loan held by such Lender *by* the aggregate amount of all outstanding Term Loans in such tranche, and (ii) in the case of tranches of the Term Loan that are not fully-funded, the amount of Term Loans and unfunded Term Loan Commitments in respect of such tranche held by such Lender in such tranche *by* the aggregate amount of all outstanding Term Loans and unfunded Term Loan Commitments for such tranche.

“Recall” means a Person’s Removal or Correction of a marketed Product that the FDA considers to be in violation of the laws it administers and against which the FDA would initiate legal action, e.g., seizure.

“Reference Time” means approximately a time substantially consistent with market practice two (2) SOFR Business Days prior to the first day of each calendar month. If by 5:00 pm (New York City time) on any interest lookback day, Term SOFR in respect of such interest lookback day has not been published on the SOFR Administrator’s Website, then Term SOFR for such interest lookback day will be Term SOFR as published in respect of the first preceding SOFR Business Day for which Term SOFR was published on the SOFR Administrator’s Website; provided that such first preceding SOFR Business Day is not more than three (3) SOFR Business Days prior to such interest lookback day.

“Registered Intellectual Property” means any patent, registered trademark or servicemark, registered copyright, registered mask work, or any pending application for any of the foregoing.

“Regulatory Reporting Event” has the meaning set forth in Section 4.1.

“Regulatory Required Permit” means any and all licenses, approvals and permits issued by the FDA, DEA, CMS or any other applicable Governmental Authority, necessary for the testing, manufacture, marketing or sale of any Product by any applicable Borrower(s) and its Subsidiaries as such activities are being conducted by such Borrower and its Subsidiaries with respect to such Product at such time and any drug listings and drug establishment registrations under 21 U.S.C. Section 510, registrations issued by DEA under 21 U.S.C. Section 823 (if applicable to any Product), and those issued by State governments for the conduct of Borrower’s or any Subsidiary’s business.

“Relevant Governmental Body” means the Federal Reserve Board and/or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board and/or the Federal Reserve Bank of New York or any successor thereto.

“Removal” means the physical removal of a product from its point of use to some other location for repair, modification, adjustment, relabeling, destruction, or inspection.

“Required Lenders” means at any time Lenders holding (a) fifty percent (50%) or more of the sum of the Term Loan Commitment (taken as a whole), or (b) if the applicable Term Loan Commitments

have been terminated or expired, fifty percent (50%) or more of the then aggregate outstanding principal balance of the applicable tranche of Term Loans.

“Responsible Officer” means any of the President, Chief Executive Officer, Chief Financial Officer or any other officer of the applicable Borrower acceptable to Agent.

“Restricted Foreign Subsidiary” means (a) Akoya Biosciences UK Ltd. and (b) each other each direct and indirect Subsidiary of a Borrower not organized under the laws of United States or any state thereof to the extent that such Subsidiary is established primarily to create a sales office, technical support office or provide research and development services in its jurisdiction of incorporation (or region) and Agent expressly agrees, in writing, that such Subsidiary constitutes a Restricted Foreign Subsidiary.

“SEC” means the United States Securities and Exchange Commission.

“Second Amendment” means that certain Amendment No. 2 to Credit and Security Agreement (Term Loan), dated as of the Second Amendment Effective Date, by and among Borrowers, Agent and Lenders.

“Second Amendment Effective Date” means June 1, 2022.

“Securities Account” means a “securities account” (as defined in Article 9 of the UCC), an investment account, or other account in which investment property or securities are held or invested for credit to or for the benefit of any Borrower.

“Securities Account Control Agreement” means an agreement, in form and substance satisfactory to Agent, among Agent, any applicable Borrower and each securities intermediary in which such Borrower maintains a Securities Account pursuant to which Agent shall obtain “control” (as defined in Article 9 of the UCC) over such Securities Account.

“Security Document” means this Agreement and each other agreement, document or instrument executed concurrently herewith or at any time hereafter pursuant to which one or more Credit Parties or any other Person either (a) Guarantees payment or performance of all or any portion of the Obligations, and/or (b) provides, as security for all or any portion of the Obligations, a Lien on any of its assets in favor of Agent for its own benefit and the benefit of the Lenders, as any or all of the same may be amended, supplemented, restated or otherwise modified from time to time.

“SOFR” means, with respect to any SOFR Business Day, a rate per annum equal to the secured overnight financing rate for such SOFR Business Day.

“SOFR Administrator” means CME Group Benchmark Administration Limited (CBA) (or a successor administrator of Term SOFR selected by Agent in its reasonable discretion).

“SOFR Administrator’s Website” means the website of the SOFR Administrator, currently at <https://www.cmegroup.com/market-data/cme-group-benchmark-administration/term-sofr.html>, or any successor source for Term SOFR identified by the SOFR Administrator from time to time.

“SOFR Business Day” means any day other than a Saturday or Sunday or a day on which the Securities Industry and Financial Markets Association recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in United States government securities.

“SOFR Interest Rate” means, with respect to each day during which interest accrues on a Loan, the rate per annum (expressed as a percentage) equal to (a) Term SOFR for the applicable Interest Period for such day; or (b) if the then-current Benchmark has been replaced with a Benchmark Replacement pursuant to Section 2.2(k), such Benchmark Replacement for such day. Notwithstanding the foregoing, the SOFR Interest Rate shall not at any time be less the Floor.

“SOFR Loan” means a Loan that bears interest at a rate based on Term SOFR.

“Solvent” means, with respect to any Person, that such Person (a) owns and will own assets the fair saleable value of which are (i) greater than the total amount of its debts and liabilities (including subordinated and Contingent Obligations), and (ii) greater than the amount that will be required to pay the probable liabilities of its then existing debts as they become absolute and matured considering all financing alternatives and potential asset sales reasonably available to it; (b) has capital that is not unreasonably small in relation to its business as presently conducted or after giving effect to any contemplated transaction; and (c) does not intend to incur and does not believe that it will incur debts beyond its ability to pay such debts as they become due.

“Stated Rate” has the meaning set forth in Section 2.7.

“Subordinated Debt” means any Debt of Borrowers incurred pursuant to the terms of the Subordinated Debt Documents and with the prior written consent of Agent, all of which documents must be in form and substance acceptable to Agent in its sole discretion. As of the Closing Date, there is no Subordinated Debt.

“Subordinated Debt Documents” means any documents evidencing and/or securing Debt governed by a Subordination Agreement, all of which documents must be in form and substance acceptable to Agent in its sole discretion. As of the Closing Date, there are no Subordinated Debt Documents.

“Subordination Agreement” means each agreement between Agent and another creditor of the Credit Parties, as the same may be amended, supplemented, restated or otherwise modified from time to time in accordance with the terms thereof, pursuant to which the Debt owing from any Credit Party and/or the Liens securing such Debt granted by any Credit Party to such creditor are subordinated in any way to the Obligations and the Liens created under the Security Documents, the terms and provisions of such Subordination Agreements to have been agreed to by and be acceptable to Agent in the exercise of its sole discretion.

“Subsidiary” means, with respect to any Person, (a) any corporation (or any foreign equivalent thereof) of which an aggregate of more than fifty percent (50%) of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, capital stock of any other class or classes of such corporation shall have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, owned legally or beneficially by such Person or one or more Subsidiaries of such Person, or with respect to which any such Person has the right to vote or designate the vote of more than fifty percent (50%) of such capital stock whether by proxy, agreement, operation of law or otherwise, and (b) any partnership or limited liability company (or any foreign equivalent thereof) in which such Person and/or one or more

Subsidiaries of such Person shall have an interest (whether in the form of voting or participation in profits or capital contribution) of more than fifty percent (50%) or of which any such Person is a general partner or may exercise the powers of a general partner. Unless the context otherwise requires, each reference to a Subsidiary shall be a reference to a Subsidiary of a Borrower.

“Swap Contract” means any “swap agreement”, as defined in Section 101 of the Bankruptcy Code, that is obtained by Borrower to provide protection against fluctuations in interest or currency exchange rates, but only if Agent provides its prior written consent to the entry into such “swap agreement”.

“Taxes” means all present or future taxes, levies, imposts, duties, deductions, withholdings (including backup withholding), assessments, fees or other charges imposed by any Governmental Authority, including any interest, additions to tax or penalties applicable thereto.

“Termination Date” means the earliest to occur of (a) the Maturity Date, (b) any date on which the maturity of the Loans is accelerated pursuant to Section 10.2, or (c) the termination date stated in any notice of termination of this Agreement provided by Borrowers in accordance with Section 2.12.

“Term Loan” means, collectively, the Term Loan Tranche 1, Term Loan Tranche 2 ~~and~~, Term Loan Tranche 3, Term Loan Tranche 4 and Term Loan Tranche 5.

“Term Loan Commitment” means the sum of each Lender’s Term Loan Commitment Amount.

“Term Loan Commitment Amount” means, with respect to each Lender, the sum of such Lender’s Term Loan Tranche 1 Commitment Amount, Term Loan Tranche 2 Commitment Amount ~~and~~, Term Loan Tranche 3 Commitment Amount, Term Loan Tranche 4 Commitment Amount and Term Loan Tranche 5 Commitment Amount.

“Term Loan Commitment Percentage” means, as to any Lender with respect to each of such Lender’s Term Loan Commitments, (a) on the ~~Second~~Third Amendment Effective Date, with respect to each tranche of the Term Loan, the applicable percentage set forth opposite such Lender’s name on the Commitment Annex under the column “Term Loan Tranche 1 Commitment Percentage”, “Term Loan Tranche 2 Commitment Percentage” ~~and~~, “Term Loan Tranche 3 Commitment Percentage”, “Term Loan Tranche 4 Commitment Percentage” and “Term Loan Tranche 5 Commitment Percentage” (if such Lender’s name is not so set forth thereon, then, on the ~~Second~~Third Amendment Effective Date, such percentage for such Lender shall be deemed to be zero), and (b) on any date following the ~~Second~~Third Amendment Effective Date, as applicable to each tranche of Term Loan, the percentage equal to (i) the Term Loan Tranche 1 Commitment of such Lender on such date *divided by* the aggregate Term Loan Tranche 1 Commitments on such date, (ii) the Term Loan Tranche 2 Commitment of such Lender of such date *divided by* the aggregate Term Loan Tranche 2 Commitments on such date ~~or~~, (iii) the Term Loan Tranche 3 Commitment of such Lender of such date *divided by* the aggregate Term Loan Tranche 3 Commitments on such date, (iv) the Term Loan Tranche 4 Commitment of such Lender of such date *divided by* the aggregate Term Loan Tranche 4 Commitments on such date or (v) the Term Loan Tranche 5 Commitment of such Lender of such date *divided by* the aggregate Term Loan Tranche 5 Commitments on such date.

“Term Loan Tranche 1” has the meaning set forth in Section 2.1(a)(i)(A).

“Term Loan Tranche 1 Commitment Amount” means, with respect to each Lender, the amount set forth opposite such Lender’s name on Annex A hereto under the caption “Term Loan Tranche

1 Commitment Amount”, as amended from time to time to reflect any permitted and effective assignments and as such amount may be reduced or terminated pursuant to this Agreement.

“Term Loan Tranche 1 Commitments” means the sum of each Lender’s Term Loan Tranche 1 Commitment Amount.

“Term Loan Tranche 2” has the meaning set forth in Section 2.1(a)(i)(B).

“Term Loan Tranche 2 Commitment Amount” means, with respect to each Lender, the amount set forth opposite such Lender’s name on Annex A hereto under the caption “Term Loan Tranche 2 Commitment Amount”, as amended from time to time to reflect any permitted and effective assignments and as such amount may be reduced or terminated pursuant to this Agreement.

“Term Loan Tranche 2 Commitments” means the sum of each Lender’s Term Loan Tranche 2 Commitment Amount.

“Term Loan Tranche 3” has meaning set forth in Section 2.1(a)(i)(C).

“Term Loan Tranche 3 Activation Date” means September 30, 2022 unless the Term Loan Tranche 3 Commitment Termination Date occurs prior thereto.

“Term Loan Tranche 3 Commitment Amount” means, with respect to each Lender, the amount set forth opposite such Lender’s name on Annex A hereto under the caption “Term Loan Tranche 3 Commitment Amount”, as amended from time to time to reflect any permitted and effective assignments and as such amount may be reduced or terminated pursuant to this Agreement.

“Term Loan Tranche 3 Commitment Termination Date” means the earlier of (a) September 30, 2023 and (b) the date on which Agent provides notice to the Credit Parties, following the occurrence of an Event of Default (which has not been waived or cured as of the date such notice is given), that the Term Loan Tranche 3 Commitments have been terminated.

“Term Loan Tranche 3 Commitments” means the sum of each Lender’s Term Loan Tranche 3 Commitment Amount.

“Term Loan Tranche 4” has the meaning set forth in Section 2.1(a)(i)(D).

“Term Loan Tranche 4 Commitment Amount” means, with respect to each Lender, the amount set forth opposite such Lender’s name on Annex A hereto under the caption “Term Loan Tranche 4 Commitment Amount”, as amended from time to time to reflect any permitted and effective assignments and as such amount may be reduced or terminated pursuant to this Agreement.

“Term Loan Tranche 4 Commitments” means the sum of each Lender’s Term Loan Tranche 4 Commitment Amount.

“Term Loan Tranche 5” has meaning set forth in Section 2.1(a)(i)(E).

“Term Loan Tranche 5 Activation Date” means June 30, 2023 unless the Term Loan Tranche 5 Commitment Termination Date occurs prior thereto.

“Term Loan Tranche 5 Commitment Amount” means, with respect to each Lender, the amount set forth opposite such Lender’s name on Annex A hereto under the caption “Term Loan Tranche 5 Commitment Amount”, as amended from time to time to reflect any permitted and effective assignments and as such amount may be reduced or terminated pursuant to this Agreement.

“Term Loan Tranche 5 Commitment Termination Date” means the earlier of (a) December 31, 2023 and (b) the date on which Agent provides notice to the Credit Parties, following the occurrence of an Event of Default (which has not been waived or cured as of the date such notice is given), that the Term Loan Tranche 5 Commitments have been terminated.

“Term Loan Tranche 5 Commitments” means the sum of each Lender’s Term Loan Tranche 5 Commitment Amount.

“Term SOFR” means the greater of (a) the forward-looking term rate for a period comparable to such Interest Period based on SOFR that is published by the SOFR Administrator and is displayed on the SOFR Administrator’s Website at approximately the Reference Time for such Interest Period plus 0.11448% and (b) the Floor. Unless otherwise specified in any amendment to this Agreement entered into in accordance with Section 2.2(k), in the event that a Benchmark Replacement with respect to Term SOFR is implemented, then all references herein to Term SOFR shall be deemed references to such Benchmark Replacement.

“Third Amendment” means that certain Amendment No. 3 to Credit and Security Agreement (Term Loan), dated as of the Third Amendment Effective Date, by and among Borrowers, Agent and Lenders.

“Third Amendment Effective Date” means November 7, 2022.

“THP” means, collectively, Telegraph Hill Partners III, L.P. and Telegraph III Affiliates LLC. “Unadjusted Benchmark Replacement” means the applicable Benchmark Replacement excluding the related Benchmark Replacement Adjustment.

“UCC” means the Uniform Commercial Code of the State of New York or of any other state the laws of which are required to be applied in connection with the perfection of security interests in any Collateral.

“United States” means the United States of America.

“U.S. Tax Compliance Certificate” has the meaning set forth in Section 2.8(c)(i). “Withholding Agent” means any Borrower or Agent.

“Write-Down and Conversion Powers” means, with respect to any EEA Resolution Authority, the write-down and conversion powers of such EEA Resolution Authority from time to time under the Bail-In Legislation for the applicable EEA Member Country, which write-down and conversion powers are described in the EU Bail-In Legislation Schedule.

Section 1.2 Accounting Terms and Determinations. Unless otherwise specified herein, all accounting terms used herein shall be interpreted, all accounting determinations hereunder (including, without limitation, determinations made pursuant to the exhibits hereto) shall be made, and all financial

statements required to be delivered hereunder shall be prepared on a consolidated basis in accordance with GAAP applied on a basis consistent with the most recent audited consolidated financial statements of each Borrower and its Consolidated Subsidiaries delivered to Agent and each of the Lenders on or prior to the Closing Date, except with respect to unaudited financial statements (i) for non-compliance with FAS 123R, and (ii) for the absence of footnotes and subject to year-end audit adjustments; provided that (x) all obligations of any Person that are or would have been treated as operating leases for purposes of GAAP prior to the issuance by the Financial Accounting Standards Board on February 25, 2016 of an Accounting Standards Update (the "ASU") shall continue to be accounted for as operating leases for purposes of all financial definitions, calculations and covenants for purposes of this Agreement (whether or not such operating lease obligations were in effect on such date), notwithstanding the fact that such obligations are required in accordance with the ASU (on a prospective or retroactive basis or otherwise) to be treated as capitalized lease obligations in accordance with GAAP. If at any time any change in GAAP would affect the computation of any financial ratio or financial requirement set forth in any Financing Document, and either Borrowers or the Required Lenders shall so request, Agent, the Lenders and Borrowers shall negotiate in good faith to amend such ratio or requirement to preserve the original intent thereof in light of such change in GAAP (subject to the approval of the Required Lenders); *provided, however*, that until so amended, (a) such ratio or requirement shall continue to be computed in accordance with GAAP prior to such change therein and (b) Borrowers shall provide to Agent and the Lenders financial statements and other documents required under this Agreement which include a reconciliation between calculations of such ratio or requirement made before and after giving effect to such change in GAAP. Notwithstanding any other provision contained herein, all terms of an accounting or financial nature used herein shall be construed, and all computations of amounts and ratios referred to herein shall be made, without giving effect to any election under Statement of Financial Accounting Standards 159 (or any other Financial Accounting Standard having a similar result or effect) to value any Debt or other liabilities of any Credit Party or any Subsidiary of any Credit Party at "fair value", as defined therein.

Section 1.3 Other Definitional and Interpretive Provisions. References in this Agreement to "Articles", "Sections", "Annexes", "Exhibits", or "Schedules" shall be to Articles, Sections, Annexes, Exhibits or Schedules of or to this Agreement unless otherwise specifically provided. Any term defined herein may be used in the singular or plural. "Include", "includes" and "including" shall be deemed to be followed by "without limitation". Except as otherwise specified or limited herein, references to any Person include the successors and assigns of such Person. References "from" or "through" any date mean, unless otherwise specified, "from and including" or "through and including", respectively. References to any statute or act shall include all related current regulations and all amendments and any successor statutes, acts and regulations. All amounts used for purposes of financial calculations required to be made herein shall be without duplication. References to any statute or act, without additional reference, shall be deemed to refer to federal statutes and acts of the United States. References to any agreement, instrument or document shall include all schedules, exhibits, annexes and other attachments thereto. References to capitalized terms that are not defined herein, but are defined in the UCC, shall have the meanings given them in the UCC. All references herein to times of day shall be references to daylight or standard time, as applicable. All references herein to a merger, transfer, consolidation, amalgamation, assignment, sale or transfer, or analogous term, will be construed to mean also a division of or by a limited liability company, as if it were a merger, transfer, consolidation, amalgamation, assignment, sale or transfer, or similar term, as applicable. Any series of limited liability company shall be considered a separate Person.

Section 1.4 Settlement and Funding Mechanics. Unless otherwise specified herein, the settlement of all payments and fundings hereunder between or among the parties hereto shall be made in lawful money of the United States and in immediately available funds.

Section 1.5 Time is of the Essence. Time is of the essence in Borrower's and each other Credit Party's performance under this Agreement and all other Financing Documents.

Section 1.6 Time of Day. Unless otherwise specified, all references herein to times of day shall be references to Eastern time (daylight savings or standard, as applicable).

ARTICLE 2 - LOANS

Section 2.1 Loans.

(a) Term Loans.

(i) Term Loan Amounts.

(A) On the terms and subject to the conditions set forth herein and in the other Financing Documents, each Lender with a Term Loan Tranche 1 Commitment Amount severally hereby agrees to make to Borrowers a Term Loan on the Closing Date in an original aggregate principal amount equal to the Term Loan Tranche 1 Commitments (the "Term Loan Tranche 1"). Each such Lender's obligation to fund the Term Loan Tranche 1 shall be limited to such Lender's Term Loan Tranche 1 Commitment Percentage, and no Lender shall have any obligation to fund any portion of any Term Loan required to be funded by any other Lender, but not so funded.

(B) On the terms and subject to the conditions set forth herein and in the other Financing Documents, each Lender with a Term Loan Tranche 2 Commitment Amount severally hereby agrees to make to Borrowers a Term Loan on the Second Amendment Effective Date in an original aggregate principal amount equal to the Term Loan Tranche 2 Commitments (the "Term Loan Tranche 2"). Each such Lender's obligation to fund the Term Loan Tranche 2 shall be limited to such Lender's Term Loan Tranche 2 Commitment Percentage, and no Lender shall have any obligation to fund any portion of any Term Loan required to be funded by any other Lender, but not so funded.

(C) On the terms and subject to the conditions set forth herein and in the other Financing Documents, each Lender with a Term Loan Tranche 3 Commitment Amount severally hereby agrees to make to Borrowers a Term Loan on a Business Day occurring on or after the Term Loan Tranche 3 Activation Date and on or prior to the Term Loan Tranche 3 Commitment Termination Date (the "Term Loan Tranche 3 Funding Date") in an original aggregate principal amount equal to the Term Loan Tranche 3 Commitments (the "Term Loan Tranche 3"). Each such Lender's obligation to fund the Term Loan Tranche 3 shall be limited to such Lender's Term Loan Tranche 3 Commitment Percentage, and no Lender shall have any obligation to fund any portion of any Term Loan required to be funded by any other Lender, but not so funded. Unless previously terminated, upon the Term Loan Tranche 3 Commitment Termination Date, the Term Loan Tranche 3 Commitments shall thereupon automatically be terminated and the Term Loan Tranche 3 Commitment Amount of each Lender as of such date shall be reduced by such Lender's Pro Rata Share of such total reduction in the Term Loan

Commitments. Without limiting the foregoing, until the Term Loan Tranche 3 Activation Date has occurred, no Borrower shall be entitled to request and no Lender shall be required to advance any principal amount in respect of the Term Loan Tranche 3.

(D) On the terms and subject to the conditions set forth herein and in the other Financing Documents, each Lender with a Term Loan Tranche 4 Commitment Amount severally hereby agrees to make to Borrowers a Term Loan on the Third Amendment Effective Date in an original aggregate principal amount equal to the Term Loan Tranche 4 Commitments (the "Term Loan Tranche 4"). Each such Lender's obligation to fund the Term Loan Tranche 4 shall be limited to such Lender's Term Loan Tranche 4 Commitment Percentage, and no Lender shall have any obligation to fund any portion of any Term Loan required to be funded by any other Lender, but not so funded.

(E) On the terms and subject to the conditions set forth herein and in the other Financing Documents, each Lender with a Term Loan Tranche 5 Commitment Amount severally hereby agrees to make to Borrowers a Term Loan on a Business Day occurring on or after the Term Loan Tranche 5 Activation Date and on or prior to the Term Loan Tranche 5 Commitment Termination Date (the "Term Loan Tranche 5 Funding Date") in an original aggregate principal amount equal to the Term Loan Tranche 5 Commitments (the "Term Loan Tranche 5"). Each such Lender's obligation to fund the Term Loan Tranche 5 shall be limited to such Lender's Term Loan Tranche 5 Commitment Percentage, and no Lender shall have any obligation to fund any portion of any Term Loan required to be funded by any other Lender, but not so funded. Unless previously terminated, upon the Term Loan Tranche ~~3~~5 Commitment Termination Date, the Term Loan Tranche ~~3~~5 Commitments shall thereupon automatically be terminated and the Term Loan Tranche ~~3~~5 Commitment Amount of each Lender as of such date shall be reduced by such Lender's Pro Rata Share of such total reduction in the Term Loan Commitments. Without limiting the foregoing, until the Term Loan Tranche 5 Activation Date has occurred, no Borrower shall be entitled to request and no Lender shall be required to advance any principal amount in respect of the Term Loan Tranche 5.

(F) ~~⊕~~ No Borrower shall have any right to reborrow any portion of the Term Loan that is repaid or prepaid from time to time. Borrowers shall deliver to Agent a Notice of Borrowing with respect to each proposed Term Loan advance, such Notice of Borrowing to be delivered, (i) in the case of a Term Loan Tranche 1 borrowing, no later than 12:00 P.M. (Eastern time) on the Closing Date, (ii) in the case of a Term Loan Tranche 2 borrowing, no later than 12:00 P.M. (Eastern time) on the Second Amendment Effective Date ~~or~~, (iii) in the case of a Term Loan Tranche 3 borrowing, no later than 1:00 P.M. (Eastern time) ten (10) Business Days (or such shorter period as may be agreed by Agent and the Lenders) prior to such proposed borrowing, (iv) in the case of a Term Loan Tranche 4 borrowing, no later than 12:00 P.M. (Eastern time) on the Third Amendment Effective Date, or (v) in the case of a Term Loan Tranche 5 borrowing, no later than 1:00 P.M. (Eastern time) ten (10) Business Days (or such shorter period as may be agreed by Agent and the Lenders) prior to such proposed borrowing.

Notwithstanding anything to the contrary contained in this Section 2.1(a)(i), the parties hereto hereby acknowledge, confirm and agree that (A) immediately prior to the ~~Second~~Third Amendment Effective Date, the Term Loan Tranche 1 Loans in aggregate principal amount of \$32,500,000 (the "Existing

Tranche 1 Term Loans) were outstanding, the Term Loan Tranche 2 Loans in an aggregate principal amount of \$10,000,000 (the “Existing Tranche 2 Term Loans”) were outstanding, and the Term Loan Tranche 3 Loans in an aggregate principal amount of \$10,000,000 (the “Existing Tranche 3 Term Loans” and together with the Existing Tranche 1 Term Loans and Existing Tranche 2 Term Loans, the “Existing Term Loans”) were outstanding, (B) such Existing Term Loans shall not be repaid on the ~~Second~~Third Amendment Effective Date, but rather shall be re-evidenced by this Agreement as the Existing Term Loans outstanding hereunder, (C) the Term Loan Tranche ~~2~~4 Loans made on the ~~Second~~Third Amendment Effective Date shall be in an aggregate principal amount equal to ~~\$10,000,000~~\$11,250,000 and (D) for all purposes of this Agreement and the other Financing Documents, the sum of the Existing Term Loans and the Term Loan Tranche ~~2~~4 Loans made on the ~~Second~~Third Amendment Effective Date shall constitute the Term Loans outstanding on the ~~Second~~Third Amendment Effective Date in the aggregate principal amount of ~~\$42,500,000~~\$63,750,000.

(ii) Scheduled Repayments; Mandatory Prepayments; Optional Prepayments.

(A) There shall become due and payable, and Borrowers shall repay each Term Loan through, scheduled principal payments as set forth on Schedule 2.1 attached hereto. Notwithstanding the payment schedule set forth above, the outstanding principal amount of each Term Loan shall become immediately due and payable in full on the Termination Date.

(B) There shall become due and payable and Borrowers shall prepay the Term Loan in the following amounts and at the following times:

(i) Unless Agent shall otherwise consent in writing, subject to Borrower’s option to apply casualty proceeds in accordance with the last sentence of this Section 2.1(a)(ii), within five (5) Business Days of the date on which any Credit Party (or Agent as loss payee or assignee) receives any casualty proceeds in excess of \$500,000 with respect to assets upon which Agent maintained a Lien, an amount equal to one hundred percent (100%) of such proceeds (net of out-of-pocket expenses and repayment of secured debt permitted under clause (c) of the definition of Permitted Debt and encumbering the property that suffered such casualty), or such lesser portion of such proceeds as Agent shall elect to apply to the Obligations;

(ii) an amount equal to any interest that is deemed to be in excess of the Maximum Lawful Rate (as defined below) and is required to be applied to the reduction of the principal balance of the Loans by any Lender as provided for in Section 2.7; and

(iii) without limiting Section 5.6(b), unless Agent shall otherwise consent in writing, within five (5) Business Days of receipt by any Credit Party of the proceeds of any Asset Disposition that is not made in the Ordinary Course of Business, an amount equal to one hundred percent (100%) of the net cash proceeds of such asset disposition (net of out of pocket expenses and repayment of secured debt permitted under clause (c) of the definition of Permitted Debt and encumbering such asset and any and all fees, costs, expenses

and taxes incurred in connection with such Asset Disposition), or such lesser portion as Agent shall elect to apply to the Obligations.

Notwithstanding the foregoing and so long as no Event of Default or Default then exists: (1) any such casualty proceeds in excess of \$500,000 may be used by Borrowers within one hundred eighty (180) days from the receipt of such proceeds to replace or repair any assets in respect of which such proceeds were paid so long as such proceeds are deposited into a Deposit Account that is subject to a Deposit Account Control Agreement promptly upon receipt by such Borrower; and (2) proceeds of personal property asset dispositions that are not made in the Ordinary Course of Business may be used by Borrowers within one hundred eighty (180) days from the receipt of such proceeds to purchase new or replacement assets of comparable value, provided, however, that such proceeds are deposited into a Deposit Account that is subject to a Deposit Account Control Agreement promptly upon receipt by such Borrower. All sums held by Agent pending reinvestment as described in subsections (1) and (2) above shall be deemed additional collateral for the Obligations and may be commingled with the general funds of Agent.

(C) Borrowers may from time to time, with at least five (5) Business Days prior irrevocable written notice (which notice may be conditioned on the closing of a refinancing or other applicable transaction) to Agent, prepay the Term Loans in whole but not in part (other than mandatory partial prepayments required under this Agreement); *provided*, that such prepayment shall be accompanied by all prepayment fees or other fees required hereunder and any fees required under the Fee Letter or any Financing Document in connection with such prepayments.

(iii) All Prepayments. Except as this Agreement may specifically provide otherwise, all prepayments of the Term Loan shall be applied by Agent to the Obligations in inverse order of maturity. The monthly payments required under Schedule 2.1 shall continue in the same amount (for so long as the Term Loan and/or (if applicable) any advance thereunder shall remain outstanding) notwithstanding any partial prepayment, whether mandatory or optional, of the Term Loan. Notwithstanding anything to the contrary contained in the foregoing, in the event that there have been multiple advances under the Term Loan each of which such advances has a separate amortization schedule of principal payments under Schedule 2.1 attached hereto, each prepayment of the Term Loan shall be applied by Agent to reduce and prepay the principal balance of the earliest-made advance then outstanding in the inverse order of maturity of the scheduled payments with respect to such advance until such earliest-made advance is paid in full (and to the extent the total amount of any such partial prepayment shall exceed the outstanding principal balance of such earliest-made advance, the remainder of such prepayment shall be applied successively to the remaining advances under the Term Loan in the direct order of the respective advance dates in the manner provided for in this sentence).

(b) Reserved.

Section 2.2 Interest, Interest Calculations and Certain Fees.

(a) Interest.

(i) From and following the Closing Date, except as expressly set forth in this Agreement, Loans and the other Obligations shall bear interest at the sum of the SOFR Interest Rate *plus* the Applicable Margin. Interest on the Loans shall be paid monthly in arrears

on the first (1st) day of each month and on the maturity of such Loans, whether by acceleration or otherwise. Interest on all other Obligations shall be payable upon demand.

(ii) In the event one or more of the following events occurs with respect to Term SOFR: (a) a public statement or publication of information by or on behalf of the SOFR Administrator announcing that the SOFR Administrator has ceased or will cease to provide Term SOFR for a 1-month period, permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide Term SOFR for a 1-month period; (b) a public statement or publication of information by the regulatory supervisor for the SOFR Administrator, the Federal Reserve Board, the Federal Reserve Bank of New York, an insolvency official or resolution authority with jurisdiction over the SOFR Administrator, or a court or an entity with similar insolvency or resolution authority, which states that the SOFR Administrator has ceased or will cease to provide Term SOFR for a 1-month period permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide Term SOFR for a 1-month period; or (c) a public statement or publication of information by the regulatory supervisor for the SOFR Administrator announcing that Term SOFR for a 1-month period is no longer, or as of a specified future date will no longer be, representative and Agent has provided Borrower Representative with notice of the same, any outstanding affected SOFR Loans will be deemed to have been converted to Base Rate Loan at the end of the applicable Interest Period.

(iii) In connection with Term SOFR, Agent will have the right to make Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in any other Financing Document, any amendments implementing such Conforming Changes will become effective without any further action or consent of any other party to this Agreement or any other Financing Document. Agent will promptly notify Borrower Representative and the Lenders of the effectiveness of any Conforming Changes.

(b) Fee Letter. In addition to the other fees set forth herein, the Borrowers agree to pay Agent the fees set forth in the Fee Letter.

(c) Origination Fee. Contemporaneous with Borrowers execution of this Agreement, Borrowers shall pay Agent, for the pro rata benefit of all Lenders committed to make Term Loans on the Closing Date, a fee in an amount equal to \$187,500. All fees payable pursuant to this paragraph shall be deemed fully earned when due and payable and non-refundable as of the Closing Date.

(d) Incremental Facility Commitment Fee.

(i) Contemporaneous with Borrowers execution of the Second Amendment, Borrowers shall pay Agent, for the pro rata benefit of all Lenders committed to make the Term Loan Tranche 2 and Term Loan Tranche 3 on the Second Amendment Effective Date, a fee in an amount equal to \$75,000. All fees payable pursuant to this paragraph shall be deemed fully earned when due and payable as of the Second Amendment Effective Date and non-refundable once paid.

(ii) Contemporaneous with Borrowers execution of the Third Amendment, Borrowers shall pay Agent, for the pro rata benefit of all Lenders committed to make the Term Loan Tranche 4 and Term Loan Tranche 5 on the Third Amendment Effective Date, a fee in an amount equal to \$73,995.88. All fees payable pursuant to this paragraph shall be deemed fully

(e) Prepayment Fee. If any advance under the Term Loan is prepaid at any time, in whole or in part, for any reason (whether by voluntary prepayment by Borrower, by mandatory prepayment by Borrower, by reason of the occurrence of an Event of Default or otherwise, or if the Term Loan shall become accelerated (including any automatic acceleration due to the occurrence of an Event of Default described in Section 10.1(f) or otherwise) and due and payable in full, Borrowers shall pay to Agent, for the benefit of all Lenders committed to make Term Loan advances, as compensation for the costs of such Lenders making funds available to Borrowers under this Agreement, a prepayment fee (the "Prepayment Fee") calculated in accordance with this subsection. The Prepayment Fee shall be equal to an amount determined by *multiplying* the amount being prepaid (or required to be prepaid, if such amount is greater) by the following applicable percentage amount: (x) three percent (3.0%) for the first year following the Second/Third Amendment Effective Date, (y) two percent (2.0%) for the second year following the Second/Third Amendment Effective Date and (z) one percent (1.0%) thereafter. The Prepayment Fee shall not apply to or be assessed upon any prepayment made by Borrowers if such payments were required by Agent to be made pursuant to Section 2.1(a)(ii)(B) subpart (i) (relating to casualty proceeds), or subpart (ii) (relating to payments exceeding the Maximum Lawful Rate). All fees payable pursuant to this paragraph shall be deemed fully-earned and non-refundable as of the Closing Date.

(f) Audit Fees. Subject to the limitations set forth in Section 4.6, Borrowers shall pay to Agent, for its own account and not for the benefit of any other Lenders, all reasonable out-of-pocket fees and expenses in connection with audits and inspections of Borrowers' books and records, audits, valuations or appraisals of the Collateral, audits of Borrowers' compliance with applicable Laws and such other matters as Agent shall deem appropriate, which shall be due and payable on the first Business Day of the month following the date of issuance by Agent of a written request for payment thereof to Borrowers.

(g) Wire Fees. Borrowers shall pay to Agent, for its own account and not for the account of any other Lenders, on written demand, fees for incoming and outgoing wires made for the account of Borrowers, such fees to be based on Agent's then current wire fee schedule (available upon written request of the Borrowers).

(h) Late Charges. If payments of principal (other than a final installment of principal upon the Termination Date), interest due on the Obligations, or any other amounts due hereunder or under the other Financing Documents are not timely made and remain overdue for a period of five (5) days, Borrowers, without notice or demand by Agent, promptly shall pay to Agent, for its own account and not for the benefit of any other Lenders, as additional compensation to Agent in administering the Obligations, an amount equal to two percent (2.0%) of each delinquent payment.

(i) Computation of Interest and Related Fees. All interest and fees under each Financing Document shall be calculated on the basis of a three hundred sixty (360) day year for the actual number of days elapsed. The date of funding of a Loan shall be included in the calculation of interest. The date of payment of a Loan shall be excluded from the calculation of interest. If a Loan is repaid on the same day that it is made, one (1) day's interest shall be charged.

(j) Automated Clearing House Payments. If Agent (or its designated servicer or trustee on behalf of a securitization vehicle) so elects, monthly payments of principal, interest, fees, expenses or any other amounts due and owing from Borrower to Agent hereunder shall be paid to Agent

by Automated Clearing House debit of immediately available funds from the financial institution account designated by Borrower Representative in the Automated Clearing House debit authorization executed by Borrowers or Borrower Representative in connection with this Agreement, and shall be effective upon receipt. Borrowers shall execute any and all forms and documentation necessary from time to time to effectuate such automatic debiting. In no event shall any such payments be refunded to Borrowers.

(k) Benchmark Replacement Setting; Conforming Changes.

(i) Upon the occurrence of a Benchmark Transition Event, Agent and Borrowers may amend this Agreement to replace the then-current Benchmark with a Benchmark Replacement. Any such amendment will become effective at 5:00 p.m. (New York City time) on the fifth (5th) Business Day after Agent has posted such proposed amendment to all Lenders and Borrower so long as Agent has not received, by such time, written notice of objection thereto from Lenders comprising the Required Lenders. No such replacement will occur prior to the applicable Benchmark Transition Start Date. In connection with the implementation of a Benchmark Replacement, Agent will have the right to make Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in any other Financing Document, any amendments implementing such Conforming Changes will become effective without any further action or consent of any other party to this Agreement or any other Financing Document. Agent will promptly notify Borrower Representative and the Lenders of the implementation of any Benchmark Replacement and the effectiveness of any Conforming Changes.

(ii) Any determination, decision or election that may be made by Agent or, if applicable, any Lender (or group of Lenders) pursuant to this Section will be conclusive and binding absent manifest error and may be made in its or their sole discretion and without consent from any other party to this Agreement or any other Financing Document, except, in each case, as expressly required pursuant to this Section. Notwithstanding anything to the contrary herein or in any other Financing Document, at any time, (a) if the then-current Benchmark is a term rate (including Term SOFR) and either (i) any tenor for such Benchmark is not displayed on a screen or other information service that publishes such rate from time to time as selected by Agent in its reasonable discretion or (ii) the regulatory supervisor for the administrator of such Benchmark has provided a public statement or publication of information announcing that any tenor for such Benchmark is or will be no longer representative, then Agent may modify the definition of "Interest Period" (or any similar or analogous definition) for any Benchmark settings at or after such time to remove such unavailable or non-representative tenor, and (b) if a tenor that was removed pursuant to clause (a) above either (i) is subsequently displayed on a screen or information service for a Benchmark or (ii) is not, or is no longer, subject to an announcement that it is or will no longer be representative for a Benchmark, then Agent may modify the definition of "Interest Period" (or any similar or analogous definition) for all Benchmark settings at or after such time to reinstate such previously removed tenor. Agent will promptly notify Borrower Representative of the removal or reinstatement of any tenor of a Benchmark pursuant to this Section.

(iii) Upon Borrower Representative's receipt of notice of the commencement of a Benchmark Unavailability Period, any outstanding affected Loans will be deemed to have been converted into Base Rate Loans at the end of the applicable Interest Period.

Section 2.3 Notes. The portion of the Loans made by each Lender shall be evidenced, if so requested by such Lender, by one or more promissory notes executed by Borrowers on a joint and several basis (each, a “Note”) in an original principal amount equal to such Lender’s Term Loan Commitments.

Section 2.4 Reserved.

Section 2.5 Reserved.

Section 2.6 General Provisions Regarding Payment; Loan Account.

(a) All payments to be made by each Borrower under any Financing Document, including payments of principal and interest made hereunder and pursuant to any other Financing Document, and all fees, expenses, indemnities and reimbursements, shall be made without set-off, recoupment or counterclaim. If any payment hereunder becomes due and payable on a day other than a Business Day, such payment shall be extended to the next succeeding Business Day and, with respect to payments of principal, interest thereon shall be payable at the then applicable rate during such extension (it being understood and agreed that, solely for purposes of calculating financial covenants and computations contained herein and determining compliance therewith, if payment is made, in full, on any such extended due date, such payment shall be deemed to have been paid on the original due date without giving effect to any extension thereto). Any payments received in the Payment Account before 12:00 Noon (Eastern time) on any date shall be deemed received by Agent on such date, and any payments received in the Payment Account at or after 12:00 Noon (Eastern time) on any date shall be deemed received by Agent on the next succeeding Business Day.

(b) Agent shall maintain a loan account (the “Loan Account”) on its books to record Loans and other extensions of credit made by the Lenders hereunder or under any other Financing Document, and all payments thereon made by each Borrower. All entries in the Loan Account shall be made in accordance with Agent’s customary accounting practices as in effect from time to time. The balance in the Loan Account, as recorded in Agent’s books and records at any time shall be conclusive and binding evidence of the amounts due and owing to Agent by each Borrower absent manifest error; *provided, however*, that any failure to so record or any error in so recording shall not limit or otherwise affect any Borrower’s duty to pay all amounts owing hereunder or under any other Financing Document. Agent shall endeavor to provide Borrowers with a monthly statement regarding the Loan Account (but neither Agent nor any Lender shall have any liability if Agent shall fail to provide any such statement). Unless any Borrower notifies Agent of any objection to any such statement (specifically describing the basis for such objection) within ninety (90) days after the date of receipt thereof, it shall be deemed final, binding and conclusive upon Borrowers in all respects as to all matters reflected therein.

Section 2.7 Maximum Interest. In no event shall the interest charged with respect to the Loans or any other Obligations of any Borrower under any Financing Document exceed the maximum amount permitted under the laws of the State of New York or of any other applicable jurisdiction. Notwithstanding anything to the contrary herein or elsewhere, if at any time the rate of interest payable hereunder or under any Note or other Financing Document (the “Stated Rate”) would exceed the highest rate of interest permitted under any applicable law to be charged (the “Maximum Lawful Rate”), then for so long as the Maximum Lawful Rate would be so exceeded, the rate of interest payable shall be equal to the Maximum Lawful Rate; *provided, however*, that if at any time thereafter the Stated Rate is less than the Maximum Lawful Rate, each Borrower shall, to the extent permitted by law, continue to pay interest at the Maximum Lawful Rate until such time as the total interest received is equal to the total interest which would have been received had the Stated Rate been (but for the operation of this

provision) the interest rate payable. Thereafter, the interest rate payable shall be the Stated Rate unless and until the Stated Rate again would exceed the Maximum Lawful Rate, in which event this provision shall again apply. In no event shall the total interest received by any Lender exceed the amount which it could lawfully have received had the interest been calculated for the full term hereof at the Maximum Lawful Rate. If, notwithstanding the prior sentence, any Lender has received interest hereunder in excess of the Maximum Lawful Rate, such excess amount shall be applied to the reduction of the principal balance of the Loans or to other amounts (other than interest) payable hereunder, and if no such principal or other amounts are then outstanding, such excess or part thereof remaining shall be paid to Borrowers. In computing interest payable with reference to the Maximum Lawful Rate applicable to any Lender, such interest shall be calculated at a daily rate equal to the Maximum Lawful Rate *divided by* the number of days in the year in which such calculation is made.

Section 2.8 Taxes; Capital Adequacy; Increased Costs; Inability to Determine Rates; Illegality.

(a) All payments of principal and interest on the Loans and all other amounts payable hereunder shall be made free and clear of and without deduction for any present or future Taxes, except as required by applicable Law. If any applicable Law (as determined in the good faith discretion of an applicable Withholding Agent) requires the deduction or withholding of any Tax from any such payment by a Withholding Agent, then the applicable Withholding Agent shall be entitled to make such deduction or withholding and shall timely pay the full amount deducted or withheld to the relevant Governmental Authority in accordance with applicable Law and if any such withholding or deduction is in respect of an Indemnified Tax, then the Borrowers shall pay such additional amount or amounts as is necessary to ensure that the net amount actually received by the applicable recipient will equal the full amount such recipient would have received had no such withholding or deduction been required (including, without limitation, such withholdings and deductions applicable to additional sums payable under this Section 2.8). After payment of any Tax by a Borrower to a Governmental Authority pursuant to this Section 2.8, such Borrower shall promptly forward to Agent the original or a certified copy of an official receipt, a copy of the return reporting such payment, or other documentation satisfactory to Agent evidencing such payment to such authority. Borrowers shall timely pay to the relevant Governmental Authority in accordance with applicable Law, or at the option of Agent timely reimburse Agent for the payment of, any Other Taxes.

(b) The Borrowers shall indemnify Agent and Lenders, within ten (10) days after demand thereof, for the full amount of any Indemnified Taxes (including Indemnified Taxes imposed or asserted on or attributable to amounts payable under this Section 2.8) payable or paid by Agent or any Lender or required to be withheld or deducted from a payment to Agent or any Lender and any expenses arising therefrom or with respect thereto, whether or not such Indemnified Taxes and Other Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate in reasonable detail as to the amount of such payment or liability delivered to Borrowers by a Lender (with a copy to Agent), or by Agent on its own behalf or on behalf of a Lender, shall be conclusive absent manifest error.

(c) Any Lender that is entitled to an exemption from or reduction of withholding Tax with respect to payments made under any Financing Document shall deliver to Borrower Representative and Agent, at the time or times prescribed by applicable Law or reasonably requested by Borrower Representative or Agent, such properly completed and executed documentation reasonably requested by Borrower Representative or Agent as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, any Lender, if reasonably requested by Borrower Representative or Agent, shall deliver such other documentation prescribed by applicable Law

or reasonably requested by Borrowers or Agent as will enable Borrowers or Agent to determine whether or not such Lender is subject to backup withholding or information reporting requirements. Notwithstanding anything to the contrary in the preceding two sentences, the completion, execution and submission of such documentation (other than such documentation set forth in Sections 2.8(c)(i), 2.8(c)(ii) and 2.8(e) below) shall not be required if in such Lender's reasonable judgment such completion, execution or submission would subject such Lender to any material unreimbursed cost or expense or would materially prejudice the legal or commercial position of such Lender.

(i) Each Lender that is not a "United States person" (as such term is defined in Section 7701(a)(30) of the Code) for U.S. federal income tax purposes and is a party hereto on the Closing Date or purports to become an assignee of an interest pursuant to Section 11.17(a) after the Closing Date (unless such Lender was already a Lender hereunder immediately prior to such assignment) (each such Lender a "Foreign Lender") shall, to the extent permitted by Law, execute and deliver to Borrower Representative and Agent (in such number of copies as shall be requested by the recipient) on or prior to the date on which such Foreign Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower Representative or Agent) whichever of the following is applicable: (A) in the case of a Foreign Lender claiming the benefits of an income tax treaty to which the United States is a party, (x) with respect to payments of interest under any Financing Document, two (2) properly completed and executed originals of United States Internal Revenue Service ("IRS") Forms W-8BEN or W-8BEN-E (or successor form) establishing an exemption from, or reduction of, U.S. federal withholding tax pursuant to the "interest" article of such tax treaty and (y) with respect to any other applicable payments under any Financing Documents, two (2) properly completed and executed originals of IRS Forms W-8BEN or W-8BEN-E (or successor form) establishing an exemption from, or reduction of, U.S. federal withholding tax pursuant to the "business profits" or "other income" article of such tax treaty; (B) two (2) executed originals of IRS Form W-8ECI (or successor form); (C) in the case of a Foreign Lender claiming the benefits of the exemption for portfolio interest under Section 881(c) of the Code, (x) a certificate substantially in the form of Exhibit E-1 to the effect that such Foreign Lender is not a "bank" within the meaning of Section 881(c)(3)(A) of the Code, a "10 percent shareholder" of any Borrower within the meaning of Section 881(c)(3)(B) of the Code, or a "controlled foreign corporation" described in Section 881(c)(3)(C) of the Code (a "U.S. Tax Compliance Certificate") and (y) two (2) executed originals of IRS Forms W-8BEN or W-8BEN-E (or successor form); (D) to the extent a Foreign Lender is not the beneficial owner, two (2) executed originals of IRS Form W-8IMY, accompanied by IRS Form W-8ECI, IRS Form W-8BEN or W-8BEN-E (or successor form), a U.S. Tax Compliance Certificate substantially in the form of Exhibit E-2 or Exhibit E-3, IRS Form W-9 (or successor form), and/or other certification documents from each beneficial owner, as applicable; *provided* that if the Foreign Lender is a partnership and one or more direct or indirect partners of such Foreign Lender are claiming the portfolio interest exemption, such Foreign Lender may provide a U.S. Tax Compliance Certificate substantially in the form of Exhibit E-4 on behalf of each such direct and indirect partner; or (E) other applicable forms, certificates or documents prescribed by the IRS. Each Lender agrees that if any form or certification it previously delivered expires or becomes obsolete or inaccurate in any respect, it shall update such form or certification or promptly notify Borrower Representative and Agent in writing of its legal inability to do so. In addition, to the extent permitted by applicable Law, such forms shall be delivered by each Foreign Lender upon the obsolescence or invalidity of any form previously delivered by such Foreign Lender. Each Foreign Lender shall promptly notify Borrower Representative at any time it determines that it is

no longer in a position to provide any previously delivered certificate to Borrower Representative (or any other form of certification adopted by the U.S. taxing authorities for such purpose).

(ii) Each Lender that is a “United States person” (as such term is defined in Section 7701(a)(30) of the Code) for U.S. federal income tax purposes and is a party hereto on the Closing Date or purports to become an assignee of an interest pursuant to Section 11.17(a) after the Closing Date (unless such Lender was already a Lender hereunder immediately prior to such assignment) shall, to the extent permitted by Law, provide to Borrower Representative and Agent on or prior to the date on which such Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower Representative or Agent), a properly completed and executed IRS Form W-9 or any successor form certifying as to such Lender’s entitlement to an exemption from U.S. backup withholding and other applicable forms, certificates or documents prescribed by the IRS or reasonably requested by Borrower Representative or Agent. Each such Lender shall promptly notify Borrowers at any time it determines that any certificate previously delivered to Borrower Representative (or any other form of certification adopted by the U.S. governmental authorities for such purposes) is no longer valid.

(iii) Any Foreign Lender shall, to the extent it is legally entitled to do so, deliver to Borrower Representative and Agent (in such number of copies as shall be requested by the recipient) on or prior to the date on which such Foreign Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower Representative or Agent), executed copies of any other form prescribed by applicable Law as a basis for claiming exemption from or a reduction in U.S. Federal withholding Tax, duly completed, together with such supplementary documentation as may be prescribed by applicable law to permit Borrowers or Agent to determine the withholding or deduction required to be made.

(d) If any Lender determines, in its reasonable discretion, that it has received a refund in respect of any Taxes as to which it has been indemnified by any Borrower pursuant to this Section 2.8 (including by the payment of additional amounts pursuant to this Section 2.8), then it shall promptly pay an amount equal to such refund to Borrowers, net of all reasonable out-of-pocket expenses of such Lender or of Agent with respect thereto, including any Taxes; *provided, however*, that Borrowers, upon the written request of such Lender or Agent, agree to repay any amount paid over to Borrowers to such Lender or to Agent (plus any related penalties, interest or other charges imposed by the relevant Governmental Authority) in the event such Lender or Agent is required, for any reason, to repay such refund to such Governmental Authority. Notwithstanding anything to the contrary in this Section 2.8, in no event will the indemnified party be required to pay any amount to an indemnifying party pursuant to this Section 2.8(d) the payment of which would place the indemnified party in a less favorable net after-Tax position than the indemnified party would have been in if the Tax subject to indemnification and giving rise to such refund had not been deducted, withheld or otherwise imposed and the indemnification payments or additional amounts with respect to such Tax had never been paid. This Section 2.8 shall not be construed to require any indemnified party to make available its Tax returns (or any other information relating to its Taxes that it deems confidential) to the indemnifying party or any other Person.

(e) If a payment made to a Lender under any Financing Document would be subject to U.S. federal withholding tax imposed by FATCA if such Lender were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Code, as applicable), such Lender shall deliver to Borrower Representative and Agent at the time

or times prescribed by Law and at such time or times reasonably requested by Borrower Representative or Agent such documentation prescribed by applicable Law (including as prescribed by Section 1471(b)(3)(C)(i) of the Code) and such additional documentation reasonably requested by Borrower Representative or Agent as may be necessary for Borrowers and Agent to comply with their obligations under FATCA and to determine that such Lender has complied with such Lender's obligations under FATCA or to determine the amount to deduct and withhold from such payment. Solely for purposes of this clause (e), "FATCA" shall include any amendments made to FATCA after the date of this Agreement.

(f) Each Lender shall severally indemnify Agent, within ten (10) days after demand therefor, for (i) any Indemnified Taxes attributable to such Lender (but only to the extent that any Credit Party has not already indemnified Agent for such Indemnified Taxes and without limiting the obligation of the Credit Parties to do so), (ii) any Taxes attributable to such Lender's failure to comply with the provisions of Section 11.17 relating to the maintenance of a Participant Register and (iii) any Excluded Taxes attributable to such Lender, in each case, that are payable or paid by Agent in connection with any Financing Document, and any reasonable expenses arising therefrom or with respect thereto, whether or not such Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to any Lender by Agent shall be conclusive absent manifest error. Each Lender hereby authorizes Agent to set off and apply any and all amounts at any time owing to such Lender under any Financing Document or otherwise payable by Agent to such Lender from any other source against any amount due to Agent under this paragraph (f).

(g) If any Lender shall reasonably determine that the adoption or taking effect of, or any change in, any applicable Law regarding capital adequacy, in each instance, after the Closing Date, or any change after the Closing Date in the interpretation, administration or application thereof by any Governmental Authority, central bank or comparable agency charged with the interpretation, administration or application thereof, or the compliance by any Lender or any Person controlling such Lender with any request, guideline or directive regarding capital adequacy (whether or not having the force of Law) of any such Governmental Authority, central bank or comparable agency adopted or otherwise taking effect after the Closing Date, has or would have the effect of reducing the rate of return on such Lender's or such controlling Person's capital as a consequence of such Lender's obligations hereunder to a level below that which such Lender or such controlling Person could have achieved but for such adoption, taking effect, change, interpretation, administration, application or compliance (taking into consideration such Lender's or such controlling Person's policies with respect to capital adequacy) then from time to time, upon demand by such Lender (which demand shall be accompanied by a certificate setting forth the basis for such demand and a calculation of the amount thereof in reasonable detail, a copy of which shall be furnished to Agent), Borrowers shall promptly pay to such Lender such additional amount as will compensate such Lender or such controlling Person for such reduction, so long as such amounts have accrued on or after the day which is two hundred seventy (270) days prior to the date on which such Lender first made demand therefor; *provided* that notwithstanding anything in this Agreement to the contrary, (i) the Dodd-Frank Wall Street Reform and Consumer Protection Act and all requests, rules, guidelines or directives thereunder or issued in connection therewith and (ii) all requests, rules, guidelines or directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar authority) or the United States or foreign regulatory authorities, in each case pursuant to Basel III, shall in each case be deemed to be a "change in applicable Law", regardless of the date enacted, adopted or issued; *provided; further;* that this Section 2.8(h) shall apply only to Taxes that are not (A) Indemnified Taxes, (B) Taxes

described in clauses (b) through (d) of the definition of Excluded Taxes, or (c) Connection Income Taxes.

(h) If any Lender shall reasonably determine that the adoption or taking effect of, or any change in, any applicable Law shall (i) impose, modify or deem applicable any reserve, special deposit, compulsory loan, insurance charge or similar requirement against assets of, deposits with or for the account of, or credit extended or participated in by, any Lender, (ii) subject any Lender to any tax of any kind whatsoever with respect to this Agreement, or any SOFR Loan made by it, or change the basis of taxation of payments to such Lender in respect thereof (except for Taxes covered by Section 2.8); or (iii) impose on any Lender any other condition, cost or expense affecting this Agreement or SOFR Loans made by such Lender, and the result of any of the foregoing shall be to increase the cost to such Lender of making or maintaining any Loan the interest on which is determined by reference to Term SOFR (or of maintaining its obligation to make any such Loan), or to reduce the amount of any sum received or receivable by such Lender (whether of principal, interest or any other amount) then, upon request of such Lender, the Borrowers will pay to such Lender such additional amount or amounts as will compensate such Lender for such additional costs incurred or reduction suffered.

(i) If any Lender requests compensation under the clauses of this Section 2.8, or requires Borrowers to pay any additional amount to any Lender or any Governmental Authority for the account of any Lender pursuant to Section 2.8, then, upon the written request of Borrower Representative, such Lender shall use reasonable efforts to designate a different lending office for funding or booking its Loans hereunder or to assign its rights and obligations hereunder (subject to the provisions of Section 11.17) to another of its offices, branches or affiliates, if, in the reasonable judgment of such Lender, such designation or assignment (i) would eliminate or materially reduce amounts payable pursuant to any such Section, as the case may be, in the future, (ii) would not subject such Lender to any unreimbursed cost or expense and (iii) would not otherwise be disadvantageous to such Lender (as determined in its sole good faith discretion). Without limitation of the provisions of Section 12.14, each Borrower hereby agrees to pay all reasonable and documented, out-of-pocket costs and expenses incurred by any Lender in connection with any such designation or assignment.

(j) Subject to Section 2.2(k), if Agent determines (which determination shall be conclusive and binding absent manifest error) that Term SOFR cannot be determined pursuant to the definition thereof on or prior to the first day of any Interest Period, Agent will promptly so notify the Borrowers and each Lender. Upon notice thereof by Agent to Borrowers, any obligation of the Lenders to make SOFR Loans shall be suspended until Agent revokes such notice. Upon receipt of such notice, any outstanding affected SOFR Loans will be deemed to have been converted into Base Rate Loans at the end of the applicable Interest Period. Upon any such conversion, Borrower shall also pay any additional amounts required pursuant to this Agreement.

(k) If any Lender determines that any Law has made it unlawful, or that any Governmental Authority has asserted that it is unlawful, for any Lender or its applicable lending office to make, maintain or fund SOFR Loans, or to determine or charge interest rates based upon Term SOFR, then, upon notice thereof by such Lender to Borrowers (through Agent), any obligation of such Lender to make SOFR Loans shall be suspended, in each case until such Lender notifies Agent and Borrower that the circumstances giving rise to such determination no longer exist. Upon receipt of such notice, all SOFR Loans shall become Base Rate Loans. Upon any such conversion, Borrower shall also pay any additional amounts required pursuant to this Agreement.

(l) Each party's obligations under this Section 2.8 shall survive the resignation or replacement of Agent or any assignment of rights by, or the replacement of, a Lender, and the repayment, satisfaction or discharge of all Obligations hereunder.

Section 2.9 Appointment of Borrower Representative.

(a) Each Borrower hereby irrevocably appoints and constitutes Borrower Representative as its agent and attorney-in-fact to request and receive Loans in the name or on behalf of such Borrower and any other Borrowers, deliver Notices of Borrowing, give instructions with respect to the disbursement of the proceeds of the Loans, giving and receiving all other notices and consents hereunder or under any of the other Financing Documents and taking all other actions (including in respect of compliance with covenants) in the name or on behalf of any Borrower or Borrowers pursuant to this Agreement and the other Financing Documents. Agent and Lenders may disburse the Loans to such bank account of Borrower Representative or a Borrower or otherwise make such Loans to a Borrower, in each case as Borrower Representative may designate or direct, without notice to any other Borrower. Notwithstanding anything to the contrary contained herein, Agent may at any time and from time to time require that Loans to or for the account of any Borrower be disbursed directly to an operating account of such Borrower.

(b) Borrower Representative hereby accepts the appointment by Borrowers to act as the agent and attorney-in-fact of Borrowers pursuant to this Section 2.9. Borrower Representative shall ensure that the disbursement of any Loans that are at any time requested by or to be remitted to or for the account of a Borrower, shall be remitted or issued to or for the account of such Borrower.

(c) Each Borrower hereby irrevocably appoints and constitutes Borrower Representative as its agent to receive statements on account and all other notices from Agent, Lenders with respect to the Obligations or otherwise under or in connection with this Agreement and the other Financing Documents.

(d) Any notice, election, representation, warranty, agreement or undertaking made or delivered by or on behalf of any Borrower by Borrower Representative shall be deemed for all purposes to have been made or delivered by such Borrower, as the case may be, and shall be binding upon and enforceable against such Borrower to the same extent as if made or delivered directly by such Borrower.

(e) No resignation by or termination of the appointment of Borrower Representative as agent and attorney-in-fact as aforesaid shall be effective, except after ten (10) Business Days' prior written notice to Agent. If the Borrower Representative resigns under this Agreement, Borrowers shall be entitled to appoint a successor Borrower Representative (which shall be a Borrower and shall be reasonably acceptable to Agent as such successor). Upon the acceptance of its appointment as successor Borrower Representative hereunder, such successor Borrower Representative shall succeed to all the rights, powers and duties of the retiring Borrower Representative and the term "Borrower Representative" means such successor Borrower Representative for all purposes of this Agreement and the other Financing Documents, and the retiring or terminated Borrower Representative's appointment, powers and duties as Borrower Representative shall be thereupon terminated.

Section 2.10 Joint and Several Liability; Rights of Contribution; Subordination and Subrogation.

(a) Borrowers are defined collectively to include all Persons named as one of the Borrowers herein; *provided, however,* that any references herein to "any Borrower", "each Borrower" or

similar references, shall be construed as a reference to each individual Person named as one of the Borrowers herein. Each Person so named shall be jointly and severally liable for all of the obligations of Borrowers under this Agreement. Each Borrower, individually, expressly understands, agrees and acknowledges, that the credit facilities would not be made available on the terms herein in the absence of the collective credit of all of the Persons named as the Borrowers herein, the joint and several liability of all such Persons, and the cross-collateralization of the collateral of all such Persons. Accordingly, each Borrower individually acknowledges that the benefit to each of the Persons named as one of the Borrowers as a whole constitutes reasonably equivalent value, regardless of the amount of the credit facilities actually borrowed by, advanced to, or the amount of collateral provided by, any individual Borrower. In addition, each entity named as one of the Borrowers herein hereby acknowledges and agrees that all of the representations, warranties, covenants, obligations, conditions, agreements and other terms contained in this Agreement shall be applicable to and shall be binding upon and measured and enforceable individually against each Person named as one of the Borrowers herein as well as all such Persons when taken together. By way of illustration, but without limiting the generality of the foregoing, the terms of Section 10.1 of this Agreement are to be applied to each individual Person named as one of the Borrowers herein (as well as to all such Persons taken as a whole), such that the occurrence of any of the events described in Section 10.1 of this Agreement as to any Person named as one of the Borrowers herein shall constitute an Event of Default even if such event has not occurred as to any other Persons named as the Borrowers or as to all such Persons taken as a whole.

(b) Notwithstanding any provisions of this Agreement to the contrary, it is intended that the joint and several nature of the liability of each Borrower for the Obligations and the Liens granted by Borrowers to secure the Obligations not constitute a Fraudulent Conveyance (as defined below). Consequently, Agent, Lenders and each Borrower agree that if the liability of a Borrower for the Obligations or any Liens granted by such Borrower securing the Obligations would, but for the application of this sentence, constitute a Fraudulent Conveyance, the liability of such Borrower and the Liens securing such liability shall be valid and enforceable only to the maximum extent that would not cause such liability or such Lien to constitute a Fraudulent Conveyance, and the liability of such Borrower and this Agreement shall automatically be deemed to have been amended accordingly. For purposes hereof, the term "Fraudulent Conveyance" means a fraudulent conveyance under Section 548 of Chapter 11 of Title II of the Bankruptcy Code or a fraudulent conveyance or fraudulent transfer under the applicable provisions of any fraudulent conveyance or fraudulent transfer law or similar law of any state, nation or other governmental unit, as in effect from time to time.

(c) Agent is hereby authorized, without notice or demand (except as otherwise specifically required under this Agreement) and without affecting the liability of any Borrower hereunder, at any time and from time to time, to (i) renew, extend or otherwise increase the time for payment of the Obligations; (ii) with the written agreement of any Borrower, change the terms relating to the Obligations or otherwise modify, amend or change the terms of any Note or other agreement, document or instrument now or hereafter executed by any Borrower and delivered to Agent for any Lender; (iii) accept partial payments of the Obligations; (iv) take and hold any Collateral for the payment of the Obligations or for the payment of any guaranties of the Obligations and exchange, enforce, waive and release any such Collateral; (v) apply any such Collateral and direct the order or manner of sale thereof as Agent, in its reasonable discretion, may determine; and (vi) settle, release, compromise, collect or otherwise liquidate the Obligations and any Collateral therefor in any manner, all guarantor and surety defenses being hereby waived by each Borrower. Except as specifically provided in this Agreement or any of the other Financing Documents, Agent shall have the exclusive right to determine the time and manner of application of any payments or credits, whether received from any Borrower or any other source, and such determination shall be binding on all Borrowers. All such payments and credits may be applied, reversed and reapplied, in whole or in part, to any of the

Obligations that Agent shall determine, in its reasonable discretion, without affecting the validity or enforceability of the Obligations of any other Borrower.

(d) Each Borrower hereby agrees that, except as hereinafter provided, its obligations hereunder shall be unconditional, irrespective of (i) the absence of any attempt to collect the Obligations from any obligor or other action to enforce the same; (ii) the waiver or consent by Agent with respect to any provision of any instrument evidencing the Obligations, or any part thereof, or any other agreement heretofore, now or hereafter executed by a Borrower and delivered to Agent; (iii) failure by Agent to take any steps to perfect and maintain its security interest in, or to preserve its rights to, any security or collateral for the Obligations; (iv) the institution of any proceeding under the Bankruptcy Code or any similar proceeding, by or against a Borrower or Agent's election in any such proceeding of the application of Section 1111(b)(2) of the Bankruptcy Code; (v) any borrowing or grant of a security interest by a Borrower as debtor-in-possession, under Section 364 of the Bankruptcy Code; (vi) the disallowance, under Section 502 of the Bankruptcy Code, of all or any portion of Agent's claim(s) for repayment of any of the Obligations; or (vii) any other circumstance other than payment in full of the Obligations which might otherwise constitute a legal or equitable discharge or defense of a guarantor or surety.

(e) Borrowers hereby agree, as between themselves, that to the extent that Agent, on behalf of Lenders, shall have received from any Borrower any Recovery Amount (as defined below), then the paying Borrower shall have a right of contribution against each other Borrower in an amount equal to such other Borrower's contributive share of such Recovery Amount; *provided, however,* that in the event any Borrower suffers a Deficiency Amount (as defined below), then the Borrower suffering the Deficiency Amount shall be entitled to seek and receive contribution from and against the other Borrowers in an amount equal to the Deficiency Amount; and *provided, further,* that in no event shall the aggregate amounts so reimbursed by reason of the contribution of any Borrower equal or exceed an amount that would, if paid, constitute or result in Fraudulent Conveyance. Until all Obligations have been paid and satisfied in full (other than inchoate indemnification obligations for which no claim has yet been made), no payment made by or for the account of a Borrower including, without limitation, (i) a payment made by such Borrower on behalf of the liabilities of any other Borrower, or (ii) a payment made by any other Guarantor under any Guarantee, shall entitle such Borrower, by subrogation or otherwise, to any payment from such other Borrower or from or out of such other Borrower's property. The right of each Borrower to receive any contribution under this Section 2.10(e) or by subrogation or otherwise from any other Borrower shall be subordinate in right of payment to the Obligations and such Borrower shall not exercise any right or remedy against such other Borrower or any property of such other Borrower by reason of any performance of such Borrower of its joint and several obligations hereunder, until the Obligations (other than inchoate indemnification obligations for which no claim has yet been made) have been indefeasibly paid and satisfied in full, and no Borrower shall exercise any right or remedy with respect to this Section 2.10(e) until the Obligations (other than inchoate indemnification obligations for which no claim has yet been made) have been indefeasibly paid and satisfied in full. As used in this Section 2.10(e), the term "Recovery Amount" means the amount of proceeds received by or credited to Agent from the exercise of any remedy of the Lenders under this Agreement or the other Financing Documents, including, without limitation, the sale of any Collateral. As used in this Section 2.10(e), the term "Deficiency Amount" means any amount that is less than the entire amount a Borrower is entitled to receive by way of contribution or subrogation from, but that has not been paid by, the other Borrowers in respect of any Recovery Amount attributable to the Borrower entitled to contribution, until the Deficiency Amount has been reduced to Zero Dollars (\$0) through contributions and reimbursements made under the terms of this Section 2.10(e) or otherwise

Section 2.11 [Reserved].

Section 2.12 Termination; Restriction on Termination.

(a) Termination by Lenders. In addition to the rights set forth in Section 10.2, Agent may, and at the direction of Required Lenders shall, terminate this Agreement without notice upon or after the occurrence and during the continuance of an Event of Default.

(b) Termination by Borrowers. Upon at least five (5) Business Day' prior written notice and pursuant to payoff documentation in form and substance reasonably satisfactory to Agent and Lenders, Borrowers may, at its option, terminate this Agreement; *provided, however*, that no such termination shall be effective until Borrowers have complied with Section 2.12(c) and the Obligations are paid in full (other than inchoate indemnification obligations for which no claim has yet been made). Any notice of termination given by Borrowers shall be irrevocable unless all Lenders otherwise agree in writing and no Lender shall have any obligation to make any Loans on or after the termination date stated in such notice. Borrowers may elect to terminate this Agreement in its entirety only. No section of this Agreement or type of Loan available hereunder may be terminated singly.

(c) Effectiveness of Termination. All of the Obligations shall be immediately due and payable upon the Termination Date. All undertakings, agreements, covenants, warranties and representations of Borrowers contained in the Financing Documents shall survive any such termination and Agent shall retain its Liens in the Collateral and Agent and each Lender shall retain all of its rights and remedies under the Financing Documents notwithstanding such termination until all Obligations have been discharged or paid, in full, in immediately available funds, including, without limitation, all Obligations under Section 2.2 and the terms of any Fee Letter resulting from such termination (in each case, other than inchoate indemnification obligations for which no claim has yet been made). Notwithstanding the foregoing or the payment in full of the Obligations, Agent shall not be required to terminate its Liens in the Collateral unless, with respect to any loss or damage Agent may incur as a result of dishonored checks or other items of payment received by Agent from Borrower or any Account Debtor and applied to the Obligations, Agent shall, at its option, (a) have received a written agreement reasonably satisfactory to Agent, executed by Borrowers and by any Person whose loans or other advances to Borrowers are used in whole or in part to satisfy the Obligations, indemnifying Agent and each Lender from any such loss or damage or (b) have retained cash Collateral or other Collateral for such period of time as Agent, in its discretion, may deem necessary to protect Agent and each Lender from any such loss or damage. Upon the payment in full, in cash in immediately available funds, of all Obligations and the termination of the Term Loan Commitments, as Borrower may reasonably request, Agent shall, at Borrower's sole cost and expense, execute and deliver such documents evidencing the release and termination of the security interest in the Collateral granted under this Agreement and the other Financing Documents pursuant to and in accordance with the terms of any applicable payoff documentation.

ARTICLE 3 - REPRESENTATIONS AND WARRANTIES

To induce Agent and Lenders to enter into this Agreement and to make the Loans and other credit accommodations contemplated hereby, each Borrower hereby represents and warrants to Agent and each Lender that:

Section 3.1 Existence and Power. Each Credit Party (a) is an entity as specified on Schedule 3.1, (b) is duly organized, validly existing and in good standing under the laws of the jurisdiction of its organization and other jurisdictions specified on Schedule 3.1 and no other jurisdiction,

(c) has the same legal name as it appears in such Credit Party's Organizational Documents and an organizational identification number (if any), in each case as specified on Schedule 3.1, (d) has all powers to own its assets and has powers and all Permits necessary in the operation of its business as presently conducted or as proposed to be conducted, except where the failure to have such Permits would not reasonably be expected to have a Material Adverse Effect, and (e) is qualified to do business as a foreign entity in each jurisdiction in which it is required to be so qualified, which jurisdictions as of the Closing Date are specified on Schedule 3.1, except in the case of this clause (e) where the failure to be so qualified would not reasonably be expected to have a Material Adverse Effect. Except as set forth on Schedule 3.1, no Credit Party (x) has had, over the five (5) year period preceding the Closing Date, any name other than its current name, or (y) was incorporated or organized under the laws of any jurisdiction other than its current jurisdiction of incorporation or organization.

Section 3.2 Organization and Governmental Authorization; No Contravention. The execution, delivery and performance by each Credit Party of the Financing Documents to which it is a party (a) are within its powers, (b) have been duly authorized by all necessary action pursuant to its Organizational Documents, (c) require no further action by or in respect of, or filing with, any Governmental Authority other than (i) recordings, filings and other perfection actions in connection with the Liens granted to Agent under this Agreement or any Security Document and (ii) those obtained or made on or prior to the Closing Date and (d) do not violate, conflict with or cause a breach or a default under (i) any Law applicable to any Credit Party, (ii) any of the Organizational Documents of any Credit Party, or (iii) any agreement or instrument binding upon it, except for such violations, conflicts, breaches or defaults as would not, with respect to this clause (iii), reasonably be expected to have a Material Adverse Effect.

Section 3.3 Binding Effect. Each of the Financing Documents to which any Credit Party is a party constitutes a valid and binding agreement or instrument of such Credit Party, enforceable against such Credit Party in accordance with its respective terms, except as the enforceability thereof may be limited by bankruptcy, insolvency or other similar laws relating to the enforcement of creditors' rights generally and by general equitable principles. Each Financing Document has been duly executed and delivered by each Credit Party party thereto.

Section 3.4 Capitalization. The authorized equity securities of each of the Credit Parties as of the Closing Date are as set forth on Schedule 3.4. All issued and outstanding equity securities of each of the Credit Parties are duly authorized and validly issued, fully paid, nonassessable, free and clear of all Liens other than those in favor of Agent for the benefit of Agent and Lenders, and such equity securities were issued in compliance with all applicable Laws. The identity of the holders of the equity securities of each of the Credit Parties and the percentage of their fully-diluted ownership of the equity securities of each of the Credit Parties as of the Closing Date is set forth on Schedule 3.4. No shares of the capital stock or other Equity Interests of any Credit Party, other than as described above, are issued and outstanding as of the Closing Date. Except as set forth on Schedule 3.4, as of the Closing Date there are no preemptive or other outstanding rights, options, warrants, conversion rights or similar agreements or understandings for the purchase or acquisition from any Credit Party of any equity securities of any such entity.

Section 3.5 Financial Information. All information delivered to Agent and pertaining to the financial condition of any Credit Party fairly in all material respects presents the financial position of such Credit Party as of such date and for such period then ended in conformity with GAAP (and as to unaudited financial statements, subject to normal year-end adjustments and the absence of footnote disclosures). Since December 31, 2019, there has been (a) no material adverse change in the business,

operations, properties, or condition (financial or otherwise) of any Credit Party and (b) no fact, event or circumstance that could reasonably be expected to result in a Material Adverse Effect.

Section 3.6 Litigation. Except as set forth on Schedule 3.6 as of the Closing Date, and except as hereafter disclosed to Agent in writing, there is no Litigation pending against, or to such Borrower's knowledge threatened in writing against, any Credit Party or any of their Subsidiaries, which, if adversely determined, could reasonably be expected to result in any judgment or liability of more than One Million Dollars (\$1,000,000). There is no Litigation pending in which an adverse decision could reasonably be expected to have a Material Adverse Effect or which in any manner draws into question the validity of any of the Financing Documents.

Section 3.7 Ownership of Property. Each Borrower and each of its Subsidiaries is the lawful sole owner of, has good and marketable title to and is in lawful possession of, or has valid leasehold interests in, all material properties, accounts and other assets (real or personal, tangible, intangible or mixed) purported or reported to be owned or leased (as the case may be) by such Person.

Section 3.8 No Default. No Event of Default, or to such Borrower's knowledge, Default, has occurred and is continuing. No Credit Party is in breach or default under or with respect to any contract, agreement, lease or other instrument to which it is a party or by which its property is bound or affected, which breach or default could reasonably be expected to have a Material Adverse Effect.

Section 3.9 Labor Matters. As of the Closing Date, there are no strikes or other labor disputes pending or, to any Borrower's knowledge, threatened in writing against any Credit Party, which could reasonably be expected to have a Material Adverse Effect. Hours worked and payments made to the employees of the Credit Parties have not been in material violation of the Fair Labor Standards Act or any other applicable Law dealing with such matters. All payments due from the Credit Parties, or for which any claim may be made against any of them, on account of wages and employee and retiree health and welfare insurance and other benefits have been paid or accrued as a liability on their books, as the case may be. The consummation of the transactions contemplated by the Financing Documents will not give rise to a right of termination or right of renegotiation on the part of any union under any collective bargaining agreement to which it is a party or by which it is bound, the result of which could reasonably be expected to have a Material Adverse Effect.

Section 3.10 Investment Company Act. No Credit Party is an "investment company" or a company "controlled" by an "investment company" or a "subsidiary" of an "investment company," all within the meaning of the Investment Company Act of 1940.

Section 3.11 Margin Regulations.

(a) The Credit Parties and their Subsidiaries do not own any stock, partnership interest or other equity securities, except for Permitted Investments. Without limiting the foregoing, the Credit Parties and their Subsidiaries do not own or hold any Margin Stock.

(b) None of the proceeds from the Loans have been or will be used, directly or indirectly, for the purpose of purchasing or carrying any "margin stock" (as defined in Regulation U of the Federal Reserve Board), for the purpose of reducing or retiring any indebtedness which was originally incurred to purchase or carry any "margin stock" or for any other purpose which might cause any of the Loans to be considered a "purpose credit" within the meaning of Regulation T, U or X of the Federal Reserve Board.

Section 3.12 Compliance With Laws: Anti-Terrorism Laws.

(a) Each Credit Party is in compliance with the requirements of all applicable Laws, except for such Laws the noncompliance with which could not reasonably be expected to have a Material Adverse Effect.

(b) None of the Credit Parties and, to the knowledge of the Credit Parties, none of their Affiliates (i) is in violation of any Anti-Terrorism Law, (ii) engages in or conspires to engage in any transaction that evades or avoids, or has the purpose of evading or avoiding, or attempts to violate, any of the prohibitions set forth in any Anti-Terrorism Law, (iii) is a Blocked Person, or is controlled by a Blocked Person, (iv) is acting or will act for or on behalf of a Blocked Person, (v) is associated with, or will become associated with, a Blocked Person or (vi) is providing, or will provide, material, financial or technical support or other services to or in support of acts of terrorism of a Blocked Person. No Credit Party nor, to the knowledge of any Credit Party, any of its Affiliates or agents acting or benefiting in any capacity in connection with the transactions contemplated by this Agreement, (A) conducts any business or engages in making or receiving any contribution of funds, goods or services to or for the benefit of any Blocked Person, or (B) deals in, or otherwise engages in any transaction relating to, any property or interest in property blocked pursuant to Executive Order No. 13224, any similar executive order or other Anti-Terrorism Law.

Section 3.13 Taxes. All federal, state, and local income and all other material tax returns, reports and statements required to be filed by or on behalf of each Credit Party have been filed with the appropriate Governmental Authorities in all jurisdictions in which such returns, reports and statements are required to be filed and, except to the extent subject to a Permitted Contest, all federal, income and other material Taxes (including real property Taxes) and other charges shown to be due and payable in respect thereof have been timely paid prior to the date on which any fine, penalty, interest, late charge or loss may be added thereto for nonpayment thereof.

Section 3.14 Compliance with ERISA.

(a) Each ERISA Plan (and the related trusts and funding agreements) complies in form and in operation with, has been administered in compliance with, and the terms of each ERISA Plan satisfy, the applicable requirements of ERISA and the Code in all material respects. Each ERISA Plan which is intended to be qualified under Section 401(a) of the Code is so qualified, and the United States Internal Revenue Service has issued a favorable determination letter with respect to each such ERISA Plan which may be relied on currently. No Credit Party has incurred liability for any material excise tax under any of Sections 4971 through 5000 of the Code.

(b) Except as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, each Borrower and each Subsidiary is in compliance with the applicable provisions of ERISA and the provision of the Code relating to ERISA Plans and the regulations and published interpretations therein. During the thirty-six (36) month period prior to the Closing Date or the making of any Loan (i) no steps have been taken to terminate any Pension Plan, and (ii) no contribution failure has occurred with respect to any Pension Plan sufficient to give rise to a Lien under Section 303(k) of ERISA or Section 430(k) of the Code and no event has occurred that would give rise to a Lien under Section 4068 of ERISA. No condition exists or event or transaction has occurred with respect to any Pension Plan which would result in the incurrence by any Credit Party of any material liability, fine or penalty. No Credit Party has incurred liability to the PBGC (other than for current premiums) with respect to any employee Pension Plan. All contributions (if any) have been made on a timely basis to any Multiemployer Plan that are required to be made by any Credit Party or any other

member of the Controlled Group under the terms of the plan or of any collective bargaining agreement or by applicable Law; no Credit Party nor any member of the Controlled Group has withdrawn or partially withdrawn from any Multiemployer Plan, incurred any withdrawal liability with respect to any such plan or received notice of any claim or demand for withdrawal liability or partial withdrawal liability from any such plan, and no condition has occurred which, if continued, would result in a withdrawal or partial withdrawal from any such plan, and no Credit Party nor any member of the Controlled Group has received any notice that any Multiemployer Plan is in reorganization, that increased contributions may be required to avoid a reduction in plan benefits or the imposition of any excise tax, that any such plan is or has been funded at a rate less than that required under Section 412 of the Code, that any such plan is or may be terminated, or that any such plan is or may become insolvent.

Section 3.15 Consummation of Financing Documents; Brokers. Except for fees payable to Agent and/or Lenders, no broker, finder or other intermediary has brought about the obtaining, making or closing of the transactions contemplated by the Financing Documents, and no Credit Party has or will have any obligation to any Person in respect of any finder's or brokerage fees, commissions or other expenses in connection herewith or therewith.

Section 3.16 [Reserved].

Section 3.17 Material Contracts. Except for the Financing Documents and the agreements set forth on Schedule 3.17, as of the Closing Date there are no Material Contracts. The consummation of the transactions contemplated by the Financing Documents will not give rise to a right of termination in favor of any party to any Material Contract (other than any Credit Party), except for such Material Contracts the noncompliance with which would not reasonably be expected to have a Material Adverse Effect.

Section 3.18 Compliance with Environmental Requirements; No Hazardous Materials.
Except in each case as set forth on Schedule 3.18:

(a) no notice, notification, demand, request for information, citation, summons, complaint or order has been issued, no complaint has been filed, no penalty has been assessed and no investigation or review is pending, or to such Borrower's knowledge, threatened in writing by any Governmental Authority or other Person with respect to any (i) alleged violation by any Credit Party of any Environmental Law, (ii) alleged failure by any Credit Party to have any Permits required in connection with the conduct of its business or to comply with the terms and conditions thereof, (iii) any generation, treatment, storage, recycling, transportation or disposal of any Hazardous Materials, or (iv) release of Hazardous Materials, in each case except where the failure to obtain such document could not reasonably be expected to have a Material Adverse Effect; and

(b) no property now owned or leased by any Credit Party and, to the knowledge of each Borrower, no such property previously owned or leased by any Credit Party, to which any Credit Party has, directly or indirectly, transported or arranged for the transportation of any Hazardous Materials in violation of any Applicable Law, is listed or, to such Borrower's knowledge, proposed for listing, on the National Priorities List promulgated pursuant to CERCLA, or CERCLIS (as defined in CERCLA) or any similar state list or is the subject of federal, state or local enforcement actions or, to the knowledge of such Borrower, other investigations which may lead to claims against any Credit Party for clean-up costs, remedial work, damage to natural resources or personal injury claims, including, without limitation, claims under CERCLA, which claims could reasonably be expected to have a Material Adverse Effect.

For purposes of this Section 3.18, each Credit Party shall be deemed to include any business or business entity (including a corporation) that is, in whole or in part, a predecessor of such Credit Party.

Section 3.19 Intellectual Property and License Agreements. A list of all Registered Intellectual Property of each Credit Party and all material in-bound license or sublicense agreements and exclusive out-bound license or sublicense agreements (but in each case excluding in-bound licenses of over-the-counter and other software that is commercially available to the public, open source licenses and enabling licenses in the Ordinary Course of Business), as of the Closing Date and, as updated pursuant to Section 4.15, is set forth on Schedule 3.19. Schedule 3.19 shall be prepared by Borrower in the form provided by Agent and contain all information required in such form. Except for Permitted Licenses and Permitted Liens arising by operation of law, each Credit Party is the sole owner of its material Intellectual Property free and clear of any Liens. Each granted material patent owned by any Credit Party is valid and enforceable in all material respects and no part of the Material Intangible Assets has been judged invalid or unenforceable, in whole or in part, and to the best of Borrower's knowledge, no claim has been made that any part of the Material Intangible Assets violates the rights of any third party in any material respect. Except as set forth on Schedule 3.19 on the Closing Date, each Borrower possesses the object code and user manuals for all software used by it, and the source code and all documentation required for effective use of it.

Section 3.20 Solvency. After giving effect to the Loan advance and the liabilities and obligations of each Borrower under the Financing Documents, each Borrower and each additional Credit Party is Solvent.

Section 3.21 Full Disclosure. None of the written information (financial or otherwise) furnished by or on behalf of any Credit Party to Agent or any Lender in connection with the consummation of the transactions contemplated by the Financing Documents, contains any untrue statement of a material fact or omits to state a material fact necessary to make the statements contained herein or therein not misleading in light of the circumstances under which such statements were made. All financial projections delivered to Agent and the Lenders by Borrowers (or their agents) have been prepared on the basis of the assumptions stated therein. Such projections represent each Borrower's best estimate of such Borrower's future financial performance and such assumptions are believed by such Borrower to be fair and reasonable in light of current business conditions; *provided, however*, that Borrowers can give no assurance that such projections will be attained. Agent and each Lender acknowledges and agrees that all financial performance projections delivered to Agent represent Borrowers' best good faith estimate of future financial performance and are based on assumptions believed by Borrowers to be fair and reasonable in light of current market conditions, it being acknowledged and agreed by Agent and Lenders that projections as to future events are not to be viewed as facts and that the actual results during the period or periods covered by such projections may differ from the projected results.

Section 3.22 [Reserved].

Section 3.23 Subsidiaries. Borrowers do not own any stock, partnership interests, limited liability company interests or other equity securities or Subsidiaries except for Permitted Investments.

Section 3.24 Regulatory Matters.

(a) All of Borrowers' and their Subsidiaries' material Products and material Regulatory Required Permits (limited to those Regulatory Required Permits the loss of which would reasonably be expected to have a Material Adverse Effect) are listed on Schedule 4.17 on the Closing

Date (as updated from time to time as required under Section 4.15). With respect to each Product, (i) the Borrowers and their Subsidiaries have received, and such Product is the subject of, all Regulatory Required Permits needed in connection with the testing, manufacture, marketing or sale of such Product as currently being conducted by or on behalf of Borrower, in each case except where the failure to obtain such Regulatory Required Permits could not reasonably be expected to have a Material Adverse Effect and (ii) such Product is being tested, manufactured, marketed or sold, as the case may be, by Borrowers (or to the Borrowers' knowledge, by any applicable third parties) in compliance with all applicable Laws and Regulatory Required Permits in each case except where the failure to do so could not reasonably be expected to have a Material Adverse Effect.

(b) None of the Borrowers or any Subsidiary thereof are in violation of any Healthcare Law, except where any such violation would not reasonably be expected to have a Material Adverse Effect.

(c) No Borrower or any Subsidiary thereof receives any material payments directly (including through any third party payment processor) from Medicare, Medicaid, or TRICARE.

(d) To the Borrowers' knowledge (after reasonable inquiry), none of the Borrowers or their Subsidiaries' officers, directors, employees, shareholders, their agents or affiliates has made an untrue statement of material fact or fraudulent statement to the FDA or failed to disclose a material fact required to be disclosed to the FDA, committed an act, made a statement, or failed to make a statement that could reasonably be expected to provide a basis for the FDA to invoke its policy respecting "Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities," set forth in 56 Fed. Regulation 46191 (September 10, 1991).

(e) Except as would not reasonably be expected to result in a Material Adverse Effect, each Product each Product has been and/or shall be manufactured, imported, possessed, owned, warehoused, marketed, promoted, sold, labeled, furnished, distributed and marketed and each service has been conducted in accordance with all applicable Permits and Laws.

(f) No Borrower, nor any Subsidiary thereof, is subject to any proceeding, suit or, to any Borrower's knowledge, investigation by any federal, state, provincial or local government or quasi-governmental body, agency, board or authority or any other administrative or investigative body (including the Office of the Inspector General of the United States Department of Health and Human Services), which could reasonably be expected to result in a Material Adverse Effect.

(g) As of the Closing Date, there have been no material Regulatory Reporting Events.

Section 3.25 [Reserved].

Section 3.26 Senior Indebtedness Status. The Obligations of each Credit Party under this Agreement and each of the other Financing Documents ranks and shall continue to rank at least senior in priority of payment to all Debt that is contractually subordinated to the Obligations of each such Person under this Agreement and is designated as "Senior Indebtedness" (or an equivalent term) under all instruments and documents, now or in the future, relating to all Debt that is contractually subordinated to the Obligations under this Agreement of each such Person.

Section 3.27 Accuracy of Schedules. All information set forth in the Schedules to this Agreement is true, accurate and complete as of the Closing Date. All information set forth in the Perfection Certificate is true, accurate and complete as of the Closing Date and any other subsequent date in which Borrower is requested to update such certificate.

ARTICLE 4 - AFFIRMATIVE COVENANTS

Each Borrower agrees that:

Section 4.1 Financial Statements and Other Reports and Notices. Each Borrower will deliver to Agent: as soon as available, but no later than thirty (30) days after the last day of each month, a company prepared consolidated (and upon Agent's reasonable request consolidating) balance sheet, cash flow and income statement (including year-to-date results) covering Borrowers' and its Consolidated Subsidiaries' consolidated and consolidating operations during the period, prepared under GAAP (subject to normal year-end adjustments and the absence of footnote disclosures), consistently applied, setting forth in comparative form the corresponding figures as at the end of the corresponding calendar month of the previous fiscal year and the projected figures for such period based upon the projections required hereunder, all in reasonable detail, certified by a Responsible Officer and in a form reasonably acceptable to Agent;

(b) upon Agent's reasonable request, together with the financial reporting package described in (a) above, evidence of payment and satisfaction of all payroll, withholding and similar taxes due and owing by all Borrowers with respect to the payroll period(s) occurring during such month;

(c) as soon as available, but no later than one hundred fifty (150) days after the last day of Borrower's fiscal year, audited consolidated (and upon Agent's reasonable request consolidating) financial statements prepared under GAAP, consistently applied, together with an unqualified opinion (other than a going concern qualification based solely on a determination that any Borrower has less than 12 months liquidity) on the financial statements from an independent certified public accounting firm acceptable to Agent in its reasonable discretion;

(d) in the event that such Credit Party is or becomes subject to the reporting requirements under the Securities Exchange Act of 1934, within ten (10) days of delivery or filing thereof, copies of all statements, reports and notices made available to Borrower's security holders or to any holders of Subordinated Debt and copies of all reports and other filings made by Borrower with any stock exchange on which any securities of any Borrower are traded and/or the SEC;

(e) [reserved];

(f) prompt written notice of an event that materially and adversely affects the value of any Material Intangible Assets;

(g) within sixty (60) days after the start of each fiscal year, projections for the forthcoming two fiscal years, on a quarterly basis for the current year and on an annual basis for the subsequent year;

(h) promptly (but in any event within ten (10) days of any request therefor) such readily available other budgets, sales projections, operating plans and other financial information and

information, reports or statements regarding the Borrowers, their business and the Collateral as Agent may from time to time reasonably request;

(i) together with each delivery of financial statements pursuant to clause (a) above, deliver to Agent, a duly completed Compliance Certificate signed by a Responsible Officer setting forth calculations showing monthly cash and Cash Equivalents of (i) Borrowers, (ii) Borrowers and their Consolidated Subsidiaries and (iii) the Restricted Foreign Subsidiaries, and compliance with the financial covenants set forth in this Agreement;

(j) written notice to Agent promptly, but in any event within ten (10) Business Days of a Responsible Officer of a Borrower receiving written notice or otherwise becoming aware that:

(i) any material Regulatory Required Permit has been revoked or withdrawn;

(ii) any Governmental Authority, including without limitation the FDA, has commenced against a Credit Party or a Subsidiary thereof, any action to enjoin a Credit Party or a Subsidiary thereof from conducting their businesses at any facility owned or used by them or for any material civil penalty, injunction, seizure or criminal action;

(iii) receipt by a Borrower or any Subsidiary thereof from the FDA a warning letter, Form FDA-483, "Untitled Letter," other material correspondence or material notice setting forth alleged violations of laws and regulations enforced by the FDA, or any comparable material correspondence from any state or local authority responsible for regulating drug or medical device products and establishments, or any comparable material correspondence from any foreign counterpart of the FDA, or any comparable material correspondence from any foreign counterpart of any state or local authority with regard to any material Product or the manufacture, processing, packing, or holding thereof; or

(iv) any Borrower or any Subsidiary thereof engaging in any Recalls (other than discrete batches or lots that are not material in quantity or amount and are not made in conjunction with a larger Recall of material Products) (each of the events set forth in clauses (i)-(iv) a "Regulatory Reporting Event");

(k) promptly after the request by any Lender, all documentation and other information that such Lender reasonably requests in order to comply with its ongoing obligations under applicable "know your customer" and anti-money laundering rules and regulations, including, without limitation, the USA PATRIOT Act; and

(l) promptly, but in any event within five (5) Business Days, after any Responsible Officer of any Borrower obtains knowledge of the occurrence of any event or change (including, without limitation, any notice of any violation of applicable Healthcare Laws) that has resulted or could reasonably be expected to result in, either in any case or in the aggregate, a Material Adverse Effect, a certificate of a Responsible Officer specifying the nature and period of existence of any such event or change, or specifying the notice given or action taken by such holder or Person and the nature of such event or change, and what action the applicable Credit Party or Subsidiary has taken, is taking or proposes to take with respect thereto.

Section 4.2 Payment and Performance of Obligations. Each Borrower (a) will pay and discharge, and cause each Subsidiary to pay and discharge, on a timely basis as and when due, all of their

respective obligations and liabilities, except for such obligations and/or liabilities (i) that may be the subject of a Permitted Contest, and (ii) the nonpayment or nondischarge of which could not reasonably be expected to have a Material Adverse Effect or result in a Lien against any Collateral, except for Permitted Liens, (b) without limiting anything contained in the foregoing clause (a), (i) pay all amounts due and owing in respect of all federal Taxes (including without limitation, payroll and withholdings tax liabilities) and (ii) pay all material amounts due and owing in respect of all foreign and state Taxes and other local Taxes (including without limitation, payroll and withholdings tax liabilities), in each case, on a timely basis as and when due, and in any case prior to the date on which any fine, penalty, interest, late charge or loss may be added thereto for nonpayment thereof, in each case, except for such Taxes that may be the subject of a Permitted Contest; provided that for purposes of this Section 4.2(b)(ii) any tax assessment, deposit or contribution shall be considered “material” if it exceeds Five Hundred Thousand Dollars (\$500,000), (c) will maintain, and cause each Subsidiary to maintain, in accordance with GAAP, appropriate reserves for the accrual of all of their respective obligations and liabilities, and (d) will not breach or permit any Subsidiary to breach, or permit to exist any default under, the terms of any lease, commitment, contract, instrument or obligation to which it is a party, or by which its properties or assets are bound, except for such breaches or defaults which could not reasonably be expected to have a Material Adverse Effect.

Section 4.3 Maintenance of Existence. Each Borrower will preserve, renew and keep in full force and effect and in good standing, and will cause each Subsidiary to preserve, renew and keep in full force and effect and in good standing, (a) their respective existence and (b) their respective rights, privileges and franchises necessary or desirable in the normal conduct of business, unless, solely in the case of this clause (b), a failure to do so could not reasonably be expected to have a Material Adverse Effect.

Section 4.4 Maintenance of Property; Insurance.

(a) Each Borrower will keep, and will cause each Subsidiary to keep, all property useful and necessary in its business in good working order and condition, ordinary wear and tear excepted. If all or any part of the Collateral useful or necessary in its business becomes damaged or destroyed, each Borrower will, and will cause each Subsidiary to, promptly and completely repair and/or restore the affected Collateral in a good and workmanlike manner, regardless of whether Agent agrees to disburse insurance proceeds or other sums to pay costs of the work of repair or reconstruction.

(b) Upon completion of any Permitted Contest, Borrowers shall, and will cause each Subsidiary to, promptly pay the amount due, if any, and deliver to Agent proof of the completion of the contest and payment of the amount due, if any.

(c) Each Borrower will maintain (i) casualty insurance on all real and personal property on an all risks basis (including the perils of flood, windstorm and quake), covering the repair and replacement cost of all such property and coverage, business interruption and rent loss coverages with extended period of indemnity (for the period required by Agent from time to time) and indemnity for extra expense, in each case without application of coinsurance and with agreed amount endorsements, (ii) general and professional liability insurance (including products/completed operations liability coverage), and (iii) such other insurance coverage, in each case against loss or damage of the kinds customarily insured against by Persons engaged in the same or similar business, of such types and in such amounts as are customarily carried under similar circumstances by such other Persons; *provided, however*, that, in no event shall such insurance be in amounts or with coverage less than, or with carriers with qualifications inferior to, any of the insurance or carriers in existence as of the Closing Date (or

required to be in existence after the Closing Date under a Financing Document). All such insurance shall be provided by insurers having an A.M. Best policyholders rating reasonably acceptable to Agent.

(d) On or prior to the Closing Date, and at all times thereafter, each Borrower will cause Agent to be named as an additional insured, assignee and lender loss payee (which shall include, as applicable, identification as mortgagee), as applicable, on each insurance policy required to be maintained pursuant to this Section 4.4 pursuant to endorsements in form and substance reasonably acceptable to Agent. Borrowers shall deliver to Agent and the Lenders (i) on the Closing Date, a certificate from Borrowers' insurance broker dated such date showing the amount of coverage as of such date, and that such policies will include effective waivers (whether under the terms of any such policy or otherwise) by the insurer of all claims for insurance premiums against all loss payees and additional insureds and all rights of subrogation against all loss payees and additional insureds, and that if all or any part of such policy is canceled, terminated or expires, the insurer will forthwith give notice thereof to each additional insured, assignee and loss payee and that no cancellation, material reduction in amount or material change in coverage thereof shall be effective until at least thirty (30) days (or ten (10) days for nonpayment of premium) after receipt by each additional insured, assignee and loss payee of written notice thereof, (ii) on an annual basis, and upon the request of any Lender through Agent from time to time full information as to the insurance carried, (iii) within five (5) days of receipt of notice from any insurer, a copy of any notice of cancellation, nonrenewal or material change in coverage from that existing on the date of this Agreement, (iv) forthwith, notice of any cancellation or nonrenewal of coverage by any Borrower, and (v) at least thirty (30) days prior to expiration of any policy of insurance, evidence of renewal of such insurance upon the terms and conditions herein required.

(e) In the event any Borrower fails to provide Agent with evidence of the insurance coverage required by this Agreement, Agent may purchase insurance at Borrowers' expense to protect Agent's interests in the Collateral. This insurance may, but need not, protect such Borrower's interests. The coverage purchased by Agent may not pay any claim made by such Borrower or any claim that is made against such Borrower in connection with the Collateral. Such Borrower may later cancel any insurance purchased by Agent, but only after providing Agent with evidence that such Borrower has obtained insurance as required by this Agreement. If Agent purchases insurance for the Collateral, Borrowers will be responsible for the costs of that insurance to the fullest extent provided by law, including interest and other charges imposed by Agent in connection with the placement of the insurance, until the effective date of the cancellation or expiration of the insurance. The costs of the insurance may be added to the Obligations. The costs of the insurance may be more than the cost of insurance such Borrower is able to obtain on its own.

Section 4.5 Compliance with Laws and Material Contracts. Each Borrower will comply, and cause each Subsidiary to comply, with the requirements of all applicable Laws and Material Contracts, except to the extent that failure to so comply could not reasonably be expected to (a) have a Material Adverse Effect, or (b) result in any Lien upon a material portion of the assets of any such Person in favor of any Governmental Authority (other than any Permitted Lien).

Section 4.6 Inspection of Property, Books and Records. Each Borrower will keep, and will cause each Subsidiary to keep, proper books of record substantially in accordance with GAAP in which full, true and correct entries shall be made of all dealings and transactions in relation to its business and activities; and will permit, and will cause each Subsidiary to permit, during normal business hours at the sole cost of the applicable Borrower or any applicable Subsidiary, representatives of Agent to visit and inspect any of their respective properties, to examine and make abstracts or copies from any of their respective books and records, to conduct a collateral audit and analysis of their respective operations and

the Collateral, to evaluate and make physical verifications and appraisals of the Inventory and other Collateral in any manner and through any medium that Agent considers advisable, to verify the amount and age of the Accounts, the identity and credit of the respective Account Debtors, to review the billing practices of Borrowers and to discuss their respective affairs, finances and accounts with their respective officers, employees and independent public accountants as often as may reasonably be desired. In the absence of a Default or an Event of Default which is continuing (i) such inspections and audits shall be conducted no more often than two (2) times every twelve (12) months, and (ii) Agent exercising any rights pursuant to this Section 4.6 shall give the applicable Borrower or any applicable Subsidiary commercially reasonable prior notice of such exercise. No notice shall be required during the existence and during the continuance of any Default or any time during which Agent reasonably believes a Default exists.

Section 4.7 Use of Proceeds. Borrowers shall use the proceeds of the Term Loan solely for (a) transaction fees incurred in connection with the Financing Documents and the payment in full on the Closing Date of certain existing Debt and (b) for working capital needs and for operating expenditures and capital expenditures of Borrowers and their Subsidiaries. No portion of the proceeds of the Loans will be used for family, personal, agricultural or household use.

Section 4.8 Reserved.

Section 4.9 Notices of Material Contracts, Litigation and Defaults.

(a) (i) Borrowers shall promptly (but in any event within five (5) Business Days) provide written notice to Agent after any Borrower or Subsidiary receives or delivers any notice of termination or default or similar notice in connection with any Material Contract, and (ii) Borrower shall provide, together with the next quarterly Compliance Certificate required to be delivered under this Agreement, written notice to Agent after any Borrower or Subsidiary (1) executes and delivers any material amendment, consent, waiver or other modification to any Material Contract or (2) enters into new Material Contract and shall, upon request of Agent, promptly provide Agent a copy thereof.

(b) Borrowers shall promptly (but in any event within five (5) Business Days) provide written notice to Agent (i) of any litigation or governmental proceedings pending or threatened (in writing) against Borrowers or other Credit Party which, if adversely determined, would reasonably be expected to have a Material Adverse Effect with respect to Borrowers or any other Credit Party or which in any manner calls into question the validity or enforceability of any Financing Document, (ii) upon any Responsible Officer becoming aware of the existence of any Default or Event of Default, (iii) of any strikes or other labor disputes pending or, to any Borrower's knowledge, threatened against any Credit Party, in each case that would reasonably be expected to result in a Material Adverse Effect, (iv) if there is any infringement or claim of infringement by any other Person with respect to any Intellectual Property rights of any Credit Party that could reasonably be expected to have a Material Adverse Effect, and (v) of all returns, recoveries, disputes and claims that would reasonably be expected to result in liability of more than Seven Hundred Fifty Thousand Dollars (\$750,000). Borrowers represent and warrant that Schedule 4.9 sets forth a complete list of all material matters existing as of the Closing Date for which notice could be required under this Section 4.9.

(c) Borrower shall, and shall cause each Credit Party, to provide such further information (including copies of such documentation) as Agent or any Lender shall reasonably request with respect to any of the events or notices described in clauses (a) and (b) above and any notice given in respect of a Regulatory Reporting Event. From the date hereof and continuing through the termination of this Agreement, Borrower shall, and shall cause each Credit Party to, make available to

Agent, without expense to Agent, each Credit Party's officers, employees and agents and books, to the extent that Agent may deem them reasonably necessary to prosecute or defend any third-party suit or proceeding instituted by or against Agent with respect to any Collateral or relating to a Credit Party.

Section 4.10 Hazardous Materials; Remediation.

(a) If any release or disposal of Hazardous Materials that could reasonably be expected to result in a Material Adverse Effect shall occur or shall have occurred on any real property or any other assets of any Borrower or any other Credit Party, such Borrower will cause, or direct the applicable Credit Party to cause, the prompt containment and removal of such Hazardous Materials and the remediation of such real property or other assets as is necessary to comply with all applicable Environmental Laws and Healthcare Laws and to preserve the value of such real property or other assets. Without limiting the generality of the foregoing, each Borrower shall, and shall cause each other Credit Party to, comply with each applicable Environmental Law and Healthcare Law requiring the performance at any real property by any Borrower or any other Credit Party of activities in response to the release or threatened release of a Hazardous Material.

(b) Borrowers will provide Agent within thirty (30) days after written demand therefor with a bond, letter of credit or similar financial assurance evidencing to the reasonable satisfaction of Agent that sufficient funds are available to pay the cost of removing, treating and disposing of any Hazardous Materials or Hazardous Materials Contamination and discharging any assessment which may be established on any property as a result thereof, such demand to be made, if at all, upon Agent's reasonable business determination that the failure to remove, treat or dispose of any Hazardous Materials or Hazardous Materials Contamination, or the failure to discharge any such assessment could reasonably be expected to have a Material Adverse Effect.

Section 4.11 Further Assurances.

(a) Each Borrower will, and will cause each Subsidiary to, at its own cost and expense, promptly and duly take, execute, acknowledge and deliver all such further acts, documents and assurances as may from time to time be necessary or as Agent or the Required Lenders may from time to time reasonably request in order to carry out the intent and purposes of the Financing Documents and the transactions contemplated thereby, including all such actions to (i) establish, create, preserve, protect and perfect a first priority Lien (subject only to Permitted Liens) in favor of Agent for itself and for the benefit of the Lenders on the Collateral (including Collateral acquired after the date hereof), and (ii) unless Agent shall agree otherwise in writing, cause all Subsidiaries of Borrowers (other than Restricted Foreign Subsidiaries) to be jointly and severally obligated with the other Borrowers under all covenants and obligations under this Agreement, including the obligation to repay the Obligations.

(b) Upon receipt of an affidavit of an authorized representative of Agent or a Lender as to the loss, theft, destruction or mutilation of any Note or any other Financing Document which is not of public record, and, in the case of any such mutilation, upon surrender and cancellation of such Note or other applicable Financing Document, Borrowers will issue, in lieu thereof, a replacement Note or other applicable Financing Document, dated the date of such lost, stolen, destroyed or mutilated Note or other Financing Document in the same principal amount thereof and otherwise of like tenor.

(c) Borrower shall provide Agent with at least fifteen (15) days (or such shorter period as Agent may accept in its sole discretion) prior written notice of the creation (or to the extent permitted under this Agreement, acquisition) of a new Subsidiary. Upon the formation (or to the extent permitted under this Agreement, acquisition) of a new Subsidiary, Borrowers shall (i) pledge, have

pledged or cause or have caused to be pledged to Agent pursuant to a pledge agreement in form and substance satisfactory to Agent, all of the outstanding shares of Equity Interests or other Equity Interests of such new Subsidiary (other than any Equity Interests constituting Excluded Property) owned directly or indirectly by any Borrower, along with undated stock or equivalent powers for such certificates, executed in blank; (ii) unless Agent shall agree otherwise in writing, cause the new Subsidiary (other than a Restricted Foreign Subsidiary) to take such other actions (including entering into or joining any Security Documents) as are necessary or advisable in the reasonable opinion of Agent in order to grant Agent, acting on behalf of the Lenders, a first priority Lien (subject to Permitted Liens which have priority by operation of Law) on all real and personal property (other than Excluded Property) of such Subsidiary in existence as of such date and in all after acquired property, which first priority Liens are required to be granted pursuant to this Agreement; (iii) unless Agent shall agree otherwise in writing, cause such new Subsidiary (other than a Restricted Foreign Subsidiary) to either (at the election of Agent) become a Borrower hereunder with joint and several liability for all obligations of Borrowers hereunder and under the other Financing Documents pursuant to a joinder agreement or other similar agreement in form and substance satisfactory to Agent or to become a Guarantor of the obligations of Borrowers hereunder and under the other Financing Documents pursuant to a guaranty and suretyship agreement in form and substance satisfactory to Agent; and (iv) cause the new Subsidiary (other than a Restricted Foreign Subsidiary) to deliver certified copies of such Subsidiary's certificate or articles of incorporation, together with good standing certificates, by-laws (or other operating agreement or governing documents), resolutions of the Board of Directors or other governing body, approving and authorize the execution and delivery of the Security Documents, incumbency certificates and to execute and/or deliver such other documents and legal opinions or to take such other actions as may be requested by Agent, in each case, in form and substance satisfactory to Agent (the requirements set forth in clauses (i)-(iv), collectively, the "Joinder Requirements").

(d) Notwithstanding anything contained herein or in any other Financing Document to the contrary, in no event shall any foreign law governed security or other foreign law governed loan documents be delivered in connection with the Equity Interests issued by Akoya Biosciences UK Ltd.

Section 4.12 Reserved.

Section 4.13 Power of Attorney. Each of the authorized representatives of Agent is hereby irrevocably made, constituted and appointed the true and lawful attorney for Borrowers (without requiring any of them to act as such) with full power of substitution, exercisable only upon the occurrence and during the continuance of an Event of Default, to do the following: (a) endorse the name of Borrowers upon any and all checks, drafts, money orders, and other instruments for the payment of money that are payable to Borrowers and constitute collections on Borrowers' Accounts; (b) so long as Agent has provided not less than three (3) Business Days' prior written notice to Borrower to perform the same and Borrower has failed to take such action, execute in the name of Borrowers any schedules, assignments, instruments, documents, and statements that Borrowers are obligated to give Agent under this Agreement; (c) take any action Borrowers are required to take under this Agreement; (d) so long as Agent has provided not less than three (3) Business Days' prior written notice to Borrower to perform the same and Borrower has failed to take such action, do such other and further acts and deeds in the name of Borrowers that Agent may deem necessary or desirable to enforce any Account or other Collateral or perfect Agent's security interest or Lien in any Collateral; and (e) do such other and further acts and deeds in the name of Borrowers that Agent may deem necessary or desirable to enforce its rights with regard to any Account or other Collateral. This power of attorney shall be irrevocable and coupled with an interest.

Section 4.14 Reserved.

Section 4.15 Reserved.

Section 4.16 Intellectual Property and Licensing.

(a) Together with each Compliance Certificate required to be delivered pursuant to Section 4.1 with respect to the last month of a fiscal quarter to the extent (i) Borrower acquires and/or develops any new Registered Intellectual Property, (ii) Borrower enters into or becomes bound by any additional material in-bound license or sublicense agreement, any additional exclusive out-bound license or sublicense agreement or other material agreement with respect to rights in Intellectual Property (other than over-the-counter software, software that is commercially available to the public and open source licenses), or (iii) there occurs any other material change in Borrower's Registered Intellectual Property, material in-bound licenses or sublicenses or exclusive out-bound licenses or sublicenses from that listed on Schedule 3.19 together with such Compliance Certificate, deliver to Agent an updated Schedule 3.19 reflecting such updated information. With respect to any updates to Schedule 3.19 involving exclusive out-bound licenses or sublicenses, such licenses shall be consistent with the definitions of and limitations herein pertaining to Permitted Licenses.

(b) If Borrower obtains any Registered Intellectual Property (other than copyrights, mask works and related applications, which are addressed below), Borrower shall promptly (and in any event within fifteen (15) days of obtaining same) notify Agent and execute such documents and provide such other information (including, without limitation, copies of applications) and take such other actions as Agent shall request in its good faith business judgment to perfect and maintain a first priority perfected security interest in favor of Agent, for the ratable benefit of Lenders, in such Registered Intellectual Property.

(c) Borrower shall take such commercially reasonable steps as Agent reasonably requests to obtain the consent of, or waiver by, any person whose consent or waiver is necessary for (x) all material licenses or material agreements to be deemed "Collateral" and for Agent to have a security interest in it that might otherwise be restricted or prohibited by Law or by the terms of any such material license or agreement, whether now existing or entered into in the future, and (y) Agent to have the ability in the event of a liquidation of any Collateral to dispose of such Collateral in accordance with Agent's rights and remedies under this Agreement and the other Financing Documents.

(d) Borrower shall own, or be licensed to use or otherwise have the right to use, all Material Intangible Assets subject to Permitted Liens. Borrower shall cause all Registered Intellectual Property to be duly and properly registered, filed or issued in the appropriate office and jurisdictions for such registrations, filings or issuances, except where the failure to do so would not reasonably be expected to result in a Material Adverse Effect. Borrower shall at all times conduct its business without material infringement or material claim of infringement of any valid Intellectual Property rights of others. Borrower shall (i) protect, defend and maintain the validity and enforceability of its Material Intangible Assets (ii) promptly advise Agent in writing of material infringements of its Material Intangible Assets, or of a material claim of infringement by Borrower on the Intellectual Property rights of others; and (iii) not allow any of Borrower's Material Intangible Assets to be abandoned, invalidated, forfeited or dedicated to the public or to become unenforceable. Borrower shall not become a party to, nor become bound by, any material license or other agreement with respect to which Borrower is the licensee (other than in-bound licenses of over-the-counter software and other software that is commercially available to

the public, and open source licenses) that prohibits or otherwise restricts Borrower from granting a security interest in Borrower's interest in such license or agreement or other property.

Section 4.17 Regulatory Covenants

(a) Borrowers shall have, and shall ensure that it and each of its Subsidiaries has, each necessary Permit and other material rights from, and have made all necessary declarations and filings with, all applicable Governmental Authorities, all self-regulatory authorities and all courts and other tribunals necessary to engage in all material respects in the ownership, management and operation of the business or the assets of any Borrower and Borrowers shall take such reasonable actions to ensure that no Governmental Authority has taken action to limit, suspend or revoke any such Permit. Borrowers shall ensure that all such necessary Permits are valid and in full force and effect and Borrowers are in material compliance with the terms and conditions of all such Permits.

(b) [Reserved].

(c) In connection with the development, testing, manufacture, marketing or sale of each and any material Product by any Borrower, each Borrower shall have obtained and comply in all material respects with all material Regulatory Required Permits at all times issued or required to be issued by any Governmental Authority, specifically including the FDA, with respect to such development, testing, manufacture, marketing or sales of such Product by such Borrower as such activities are at any such time being conducted by such Borrower.

(d) Borrowers will timely file or caused to be timely filed (after giving effect to any extension duly obtained), all material notifications, reports, submissions, material Permit renewals and reports required by applicable Healthcare Laws (which reports will be materially accurate and complete in all material respects and not misleading in any material respect).

ARTICLE 5 - NEGATIVE COVENANTS

Each Borrower agrees that:

Section 5.1 Debt; Contingent Obligations.

(a) No Borrower will, or will permit any Subsidiary to, directly or indirectly, create, incur, assume, guarantee or otherwise become or remain directly or indirectly liable with respect to, any Debt, except for Permitted Debt.

(b) No Borrower will, or will permit any Subsidiary to, directly or indirectly, create, assume, incur or suffer to exist any Contingent Obligations, except for Permitted Contingent Obligations.

(c) No Borrower will, or will permit any Subsidiary to, directly or indirectly, purchase, redeem, defease or prepay any principal of, premium, if any, interest or other amount payable in respect of any Debt prior to its scheduled maturity (except (i) with respect to the Debt permitted under this Agreement, (ii) for Capital Lease obligations and (iii) for Subordinated Debt solely to the extent permitted by Section 5.5).

Section 5.2 Liens. No Borrower will, or will permit any Subsidiary to, directly or indirectly, create, assume or suffer to exist any Lien on any asset now owned or hereafter acquired by it, except for Permitted Liens.

Section 5.3 Distributions. No Borrower will, or will permit any Subsidiary to, directly or indirectly, declare, order, pay, make or set apart any sum for any Distribution, except for Permitted Distributions.

Section 5.4 Restrictive Agreements. No Borrower will, or will permit any Subsidiary to, directly or indirectly (a) enter into or assume any agreement (other than the Financing Documents, and any agreements for purchase money debt and capital leases permitted under clause (c) of the definition of Permitted Debt) prohibiting the creation or assumption of any Lien upon its properties or assets, whether now owned or hereafter acquired, or (b) create or otherwise cause or suffer to exist or become effective any consensual encumbrance or restriction of any kind (except as provided by the Financing Documents) on the ability of any Subsidiary to: (i) pay or make Distributions to any Borrower or any Subsidiary; (ii) pay any Debt owed to any Borrower or any Subsidiary; (iii) make loans or advances to any Borrower or any Subsidiary; or (iv) transfer any of its property or assets to any Borrower or any Subsidiary, in each case under this Section 5.4 other than reasonable and customary anti-assignment provisions contained in licenses, contracts and other agreements so long as such anti-assignment provisions do not cause such licenses, contracts or other agreements to constitute Excluded Property.

Section 5.5 Payments and Modifications of Subordinated Debt. No Borrower will, or will permit any Subsidiary to, directly or indirectly:

(a) declare, pay, make or set aside any amount for payment in respect of Subordinated Debt, except for payments made in full compliance with and expressly permitted under the Subordination Agreement;

(b) amend or otherwise modify the terms of any Subordinated Debt, except for amendments or modifications made in full compliance with the Subordination Agreement;

(c) declare, pay, make or set aside any amount for payment in respect of any Debt hereinafter incurred that, by its terms, or by separate agreement, is subordinated to the Obligations, except for payments made in full compliance with and expressly permitted under the subordination provisions applicable thereto; or

(d) amend or otherwise modify the terms of any such Debt if the effect of such amendment or modification is to (i) increase the interest rate or fees on, or change the manner or timing of payment of, such Debt, (ii) accelerate or shorten the dates upon which payments of principal or interest are due on, or the principal amount of, such Debt, (iii) change in a manner adverse to any Credit Party or Agent any event of default or add or make more restrictive any covenant with respect to such Debt, (iv) change the prepayment or redemption provisions of such Debt or any of the defined terms related thereto, (v) change the subordination provisions thereof (or the subordination terms of any guaranty thereof), or (vi) change or amend any other term if such change or amendment would materially increase the obligations of the obligor or confer additional material rights on the holder of such Debt in a manner adverse to Borrowers, any Subsidiaries, Agent or Lenders.

Section 5.6 Consolidations, Mergers and Sales of Assets. No Borrower will, or will permit any Subsidiary to, directly or indirectly:

(a) consolidate or merge or amalgamate with or into any other Person other than (i) consolidations or mergers among Borrowers so long as (x) in any consolidation or merger involving Akoya Biosciences, Inc., Akoya Biosciences, Inc. is the surviving entity and (y) in any consolidation or merger involving a Borrower, a Borrower is the surviving entity, (ii) consolidations or mergers among a Guarantor and a Borrower so long as the Borrower is the surviving entity, (iii) consolidations or mergers among Guarantors, and (iv) consolidations or mergers among Subsidiaries that are not Credit Parties; or

(b) make or consummate any Asset Dispositions other than Permitted Asset Dispositions.

Section 5.7 Purchase of Assets, Investments. No Borrower will, or will permit any Subsidiary to, directly or indirectly:

(a) acquire, make, own, hold or otherwise consummate any Investment (including for the avoidance of doubt, any Acquisition) other than Permitted Investments or enter into any agreement to acquire, make, own or hold any Investment other than Permitted Investments,

(b) without limiting clause (a) above, acquire any other assets other than Permitted Investments or otherwise (i) in the Ordinary Course of Business, (ii) constituting capital expenditures, (iii) constituting replacement assets purchased with proceeds of property insurance policies, awards or other compensation with respect to any eminent domain, condemnation or similar proceeding and for which the requirements set forth in this Agreement have been satisfied and (iv) any acquisition by a Credit Party of assets of any other Credit Party to the extent not otherwise prohibited by Article 5 of this Agreement;

(c) engage or enter into any agreement to engage in any joint venture or partnership with any other Person except for Investments made pursuant to clause (I) of the definition of Permitted Investments.

(d) Without limiting the foregoing, no Borrower shall, nor will any Borrower permit any Subsidiary to, purchase or carry Margin Stock.

Section 5.8 Transactions with Affiliates. No Borrower will, or will permit any Subsidiary to, directly or indirectly, enter into or permit to exist any transaction (including the purchase, sale, lease or exchange of any property or the rendering of any service) with any Affiliate of any Borrower or any Subsidiary thereof, except for (a) transaction disclosed on Schedule 5.8 on the Closing Date, (b) transactions that are in the Ordinary Course of Business upon fair and reasonable terms, and, in each case, which contain terms that are no less favorable to the applicable Borrower or any Subsidiary, as the case may be, than those which might be obtained from a third party not an Affiliate of any Credit Party, (c) transactions among Credit Parties and Subsidiaries that are not otherwise prohibited by this Agreement, (d) transactions constituting (i) issuances of Subordinated Debt to investors and (ii) issuance of other equity securities, in each case, not otherwise in contravention of this Agreement; and (e) reasonable and customary director, officer and employee compensation (including bonuses) and other benefits (including retirement, health, stock option and other benefit plans and indemnification arrangements approved by the relevant board of directors, board managers or equivalent corporate body in the Ordinary Course of Business).

Section 5.9 Modification of Organizational Documents. No Borrower will, or will permit any Subsidiary to, directly or indirectly, amend or otherwise modify any Organizational Documents of such Person, except for Permitted Modifications.

Section 5.10 Modification of Certain Agreements. No Borrower will, or will permit any Subsidiary to, directly or indirectly, amend or otherwise modify any Material Contract, which amendment or modification in any case: (i) is contrary to the terms of this Agreement or any other Financing Document; (ii) would reasonably be expected to be adverse to the rights, interests or privileges of Agent or the Lenders or their ability to enforce the same; (iii) results in the imposition or expansion in any material respect of any obligation of or restriction or burden on any Credit Party or any Subsidiary; or (iv) reduces in any material respect any rights or benefits of any Credit Party or any Subsidiaries (it being understood and agreed that any such determination shall be in the discretion of Agent).

Section 5.11 Conduct of Business. No Borrower will, or will permit any Subsidiary to, directly or indirectly, engage in any line of business other than those businesses engaged in on the Closing Date and businesses reasonably related or incidental thereto. No Borrower will, or will permit any Subsidiary to, other than in the Ordinary Course of Business, change its normal billing payment and reimbursement policies and procedures with respect to its Accounts (including, without limitation, the amount and timing of finance charges, fees and write-offs).

Section 5.12 Reserved.

Section 5.13 Limitation on Sale and Leaseback Transactions. No Borrower will, or will permit any Subsidiary to, directly or indirectly, enter into any arrangement with any Person whereby, in a substantially contemporaneous transaction, any Borrower or any Subsidiaries sells or transfers all or substantially all of its right, title and interest in an asset and, in connection therewith, acquires or leases back the right to use such asset.

Section 5.14 Deposit Accounts and Securities Accounts; Payroll and Benefits Accounts.

(a) No Borrower will, or will permit any Credit Party to, directly or indirectly, establish any new Deposit Account or Securities Account unless such Borrower or such other Credit Party and the bank, financial institution or securities intermediary at which the account is to be opened enter into a Deposit Account Control Agreement or Securities Account Control Agreement prior to or concurrently with the establishment of such Deposit Account or Securities Account.

(b) Borrowers represent and warrant that Schedule 5.14 (as updated by the Compliance Certificates delivered to Agent from time to time after the Closing Date) lists all of the Deposit Accounts and Securities Accounts of each Borrower as of the Closing Date and as of the date on which each Compliance Certificate is delivered. The provisions of this Section requiring Deposit Account Control Agreements shall not apply to (i) Deposit Accounts exclusively used for payroll, payroll taxes and other employee wage and benefit payments to or for the benefit of Borrowers' employees and identified to Agent by Borrowers as such; *provided, however,* that the aggregate balance in such accounts does not exceed the amount necessary to make the two immediately succeeding payroll, payroll tax or benefit payments (or such minimum amount as may be required by any requirement of Law with respect to such accounts), (ii) escrow accounts and trust accounts, in each case entered into in the Ordinary Course of Business and consistent with prudent business practice conduct where the applicable Credit Party holds the funds exclusively for the benefit of one or more unaffiliated third parties in an aggregate amount not to exceed \$500,000 with respect to all such escrow accounts and trust accounts, (iii) Deposit Accounts or Securities constituting Credit Card Cash Collateral

Accounts or L/C Cash Collateral Accounts, and (iv) Deposit Accounts or Securities Accounts holding cash or Cash Equivalents described in clause (q) of the definition Permitted Liens (the accounts referenced in clauses (i)-(iv), the “Excluded Accounts”).

(c) If, as of the close of business on any day, Borrowers have Borrower Unrestricted Cash in an amount less than \$10,000,000 (a “Payroll Account Trigger Event”), then Borrowers shall promptly (but in any event within 15 days of the occurrence of the Payroll Account Trigger Event) establish, and at all times thereafter maintain, one or more separate Deposit Accounts to hold any and all amounts to be used for payroll, payroll taxes and other employee wage and benefit payments, and shall not commingle any monies allocated for such purposes with funds in any other Deposit Account.

Section 5.15 Compliance with Anti-Terrorism Laws. Agent hereby notifies Borrowers that pursuant to the requirements of Anti-Terrorism Laws, and Agent’s policies and practices, Agent is required to obtain, verify and record certain information and documentation that identifies Borrowers and its principals, which information includes the name and address of each Borrower and its principals and such other information that will allow Agent to identify such party in accordance with Anti-Terrorism Laws. No Borrower will, or will permit any Subsidiary to, directly or indirectly, knowingly enter into any Material Contracts with any Blocked Person or any Person listed on the OFAC Lists. Each Borrower shall immediately notify Agent if such Borrower has knowledge that any Borrower, any additional Credit Party or any of their respective Affiliates or agents acting or benefiting in any capacity in connection with the transactions contemplated by this Agreement is or becomes a Blocked Person or (a) is convicted on, (b) pleads nolo contendere to, (c) is indicted on, or (d) is arraigned and held over on charges involving money laundering or predicate crimes to money laundering. No Borrower will, or will permit any Subsidiary to, directly or indirectly, (i) conduct any business or engage in any transaction or dealing with any Blocked Person, including, without limitation, the making or receiving of any contribution of funds, goods or services to or for the benefit of any Blocked Person, (ii) deal in, or otherwise engage in any transaction relating to, any property or interests in property blocked pursuant to Executive Order No. 13224, any similar executive order or other Anti-Terrorism Law, or (iii) engage in or conspire to engage in any transaction that evades or avoids, or has the purpose of evading or avoiding, or attempts to violate, any of the prohibitions set forth in Executive Order No. 13224 or other Anti-Terrorism Law.

Section 5.16 Change in Accounting. No Borrower shall, and no Borrower shall suffer or permit any of its Subsidiaries to, (a) make any significant change in accounting treatment or reporting practices, except as required by GAAP or (b) change the fiscal year or method for determining fiscal quarters of any Credit Party or of any consolidated Subsidiary of any Credit Party.

Section 5.17 Investment Company Act. No Borrower shall, nor shall it permit any Subsidiary to, directly or indirectly, engage in any business, enter into any transaction, use any securities or take any other action or permit any of its Subsidiaries to do any of the foregoing, that would cause it or any of its Subsidiaries to become subject to the registration requirements of the Investment Company Act, by virtue of being an “investment company” or a company “controlled” by an “investment company” not entitled to an exemption within the meaning of the Investment Company Act.

Section 5.18 Restricted Foreign Subsidiaries.

(a) Borrower shall not permit, at any time, the aggregate amount of cash and Cash Equivalents held by all Restricted Foreign Subsidiaries to exceed \$500,000 (or the equivalent thereof in any foreign currency), in the aggregate.

(b) No Restricted Foreign Subsidiary shall own, or have an exclusive license in respect of, any Material Intangible Assets (including any source code).

(c) No Credit Party shall transfer any asset (including any Intellectual Property) to or make any Investment in any Restricted Foreign Subsidiary other than Investments of cash and Cash Equivalents permitted to be made pursuant to clause (j) of the definition of “Permitted Investment”.

(d) No Borrower will, or will permit any Subsidiary, to commingle any of its assets (including any bank accounts, cash or Cash Equivalents) with the assets of any Person other than a Credit Party.

(e) Following the occurrence and continuation of an Event of Default, Borrower shall promptly upon Agent’s request (but in any event within five (5) Business Days thereof) cause each Restricted Foreign Subsidiary to declare and pay to Borrower the maximum amount of dividends and other distributions in respect of its capital stock or other equity interest legally permitted to be paid by each such Restricted Foreign Subsidiary; *provided* that such Restricted Foreign Subsidiary shall be able to retain for working capital purposes such amounts used by such Restricted Foreign Subsidiaries in the Ordinary Course of Business and as are reasonably necessary for its current operations based on its current projections, as provided to Agent pursuant to Section 4.1.

ARTICLE 6 - FINANCIAL COVENANTS

Section 6.1 Minimum Net Revenue. Borrowers shall not permit its consolidated Net Revenue for any applicable Defined Period, as tested monthly on the last day of the applicable Defined Period, to be less than the Minimum Net Revenue Threshold for such Defined Period.

Section 6.2 Evidence of Compliance. Borrowers shall furnish to Agent, as required by Section 4.1, a Compliance Certificate as evidence of (a) the monthly cash and Cash Equivalents of Borrowers and Borrowers and their Consolidated Subsidiaries, (b) Borrowers’ compliance with the covenants in this Article, and (c) that no Event of Default specified in this Article has occurred. The Compliance Certificate shall include, without limitation, (x) a statement and report, in form and substance reasonably satisfactory to Agent, detailing Borrowers’ calculations, and (y) if requested by Agent, back-up documentation (including, without limitation, bank statements, invoices, receipts and other evidence of costs incurred during such quarter as Agent shall reasonably require) evidencing the propriety of the calculations.

ARTICLE 7 - CONDITIONS

Section 7.1 Conditions to Closing. The obligation of each Lender to make the initial Loans on the Closing Date shall be subject to the receipt by Agent of each agreement, document and instrument set forth on the closing checklist attached hereto as Exhibit F, each in form and substance satisfactory to Agent, and such other closing deliverables reasonably requested by Agent and Lenders, and to the satisfaction of the following conditions precedent, each to the satisfaction of Agent and Lenders in their reasonable discretion:

- (a) the payment of all fees, expenses and other amounts due and payable under each Financing Document; and

(b) since December 31, 2019, the absence of any material adverse change in any aspect of the business, operations, properties, or condition (financial or otherwise) of any Credit Party, or any event or condition which would reasonably be expected to result in such a material adverse change.

Each Lender, by delivering its signature page to this Agreement, shall be deemed to have acknowledged receipt of, and consented to and approved, each Financing Document and each other document, agreement and/or instrument required to be approved by Agent, Required Lenders or Lenders, as applicable, on the Closing Date.

Section 7.2 Conditions to Each Loan. The obligation of the Lenders to make a Loan or an advance in respect of any Loan (including the initial Loans), is subject to the satisfaction of the following additional conditions:

- (a) receipt by Agent of a Notice of Borrowing in accordance with Section 2.1(a)(i);
- (b) the fact that, immediately before and after such advance or issuance, no Default or Event of Default shall have occurred and be continuing;
- (c) for Loans made on the Closing Date, the fact that the representations and warranties of each Credit Party contained in the Financing Documents shall be true, correct and complete on and as of the Closing Date, except to the extent that any such representation or warranty relates to a specific date in which case such representation or warranty shall be true and correct as of such earlier date;
- (d) for Loans made after the Closing Date, the fact that the representations and warranties of each Credit Party contained in the Financing Documents shall be true, correct and complete in all material respects on and as of the date of such borrowing or issuance, except to the extent that any such representation or warranty relates to a specific earlier date in which case such representation or warranty shall be true and correct in all material respects as of such specific earlier date; *provided, however*, in each case, such materiality qualifier shall not be applicable to any representations and warranties that already are qualified or modified by materiality in the text thereof;
- (e) with respect to Term Loan Tranche 3 Loans, the Term Loan Tranche 3 Activation Date has occurred;
- (f) with respect to Term Loan Tranche 3 Loans, the most recent Compliance Certificate delivered (or required to be delivered) by Borrower pursuant to Section 4.1(i) prior to the proposed funding date for Term Loan Tranche 3 Loans demonstrates to Agent's and each Lender's satisfaction that Borrower is in compliance with the financial covenant set forth in Section 6.1 as of the most recently ended Defined Period; ~~and~~
- (g) with respect to Term Loan Tranche 5 Loans, the Term Loan Tranche 5 Activation Date has occurred;
- (h) with respect to Term Loan Tranche 5 Loans, the most recent Compliance Certificate delivered (or required to be delivered) by Borrower pursuant to Section 4.1(i) prior to the proposed funding date for Term Loan Tranche 5 Loans demonstrates to Agent's and each Lender's satisfaction that Net Revenue for the preceding twelve (12) calendar months (ending on the last day of

the calendar month for which such Compliance Certificate is delivered) is greater than or equal to \$90,000,000; and

(i) ~~(g)~~ the fact that no adverse change in the condition (financial or otherwise), properties, business, or operations of Borrowers or any other Credit Party shall have occurred and be continuing with respect to Borrowers or any Credit Party since the date of this Agreement.

Each giving of a Notice of Borrowing hereunder and each acceptance by any Borrower of the proceeds of any Loan made hereunder shall be deemed to be (y) a representation and warranty by each Borrower on the date of such notice or acceptance as to the facts specified in this Section, and (z) a restatement by each Borrower that each and every one of the representations made by it in any of the Financing Documents is true and correct as of such date (except to the extent that such representations and warranties expressly relate solely to an earlier date).

Section 7.3 Searches. Before the Closing Date, and thereafter (as and when determined by Agent in its discretion), Agent shall have the right to perform, all at Borrowers' expense, the searches described in clauses (a), (b), and (c) below against Borrowers and any other Credit Party, the results of which are to be consistent with Borrowers' representations and warranties under this Agreement and the satisfactory results of which shall be a condition precedent to all advances of Loan proceeds: (a) UCC searches with the Secretary of State of the jurisdiction in which the applicable Person is organized; (b) judgment, pending litigation, federal tax lien, personal property tax lien, and corporate and partnership tax lien searches, in each jurisdiction searched under clause (a) above; and (c) searches of applicable corporate, limited liability company, partnership and related records to confirm the continued existence, organization and good standing of the applicable Person and the exact legal name under which such Person is organized. Notwithstanding anything to the contrary herein, after the Closing Date, Borrowers shall not be liable for the expenses associated with such searches conducted more than once during each twelve month period unless an Event of Default has occurred and is continuing.

Section 7.4 Post-Closing Requirements. Unless Agent shall otherwise consent, Borrowers shall complete each of the post-closing obligations and/or provide to Agent each of the documents, instruments, agreements and information listed on Schedule 7.4 attached hereto on or before the date set forth for each such item thereon, each of which shall be completed or provided in form and substance reasonably satisfactory to Agent.

ARTICLE 8 – [RESERVED] ARTICLE 9 - SECURITY AGREEMENT

Section 9.1 Generally. As security for the payment and performance of the Obligations, and without limiting any other grant of a Lien and security interest in any Security Document, each Borrower hereby assigns, grants and pledges to Agent, for the benefit of itself and Lenders a continuing first priority Lien on and security interest in, upon, and to the property set forth on Schedule 9.1 attached hereto and made a part hereof.

Section 9.2 Representations and Warranties and Covenants Relating to Collateral.

(a) The security interest granted pursuant to this Agreement constitutes a valid and, to the extent such security interest is required to be perfected by this Agreement and any other Financing Document, continuing perfected security interest in favor of Agent in all Collateral subject, for the following Collateral, to the occurrence of the following: (i) in the case of all Collateral in which

a security interest may be perfected by filing a financing statement under the UCC, the completion of the filings and other actions specified on Schedule 9.2(b) (which, in the case of all filings and other documents referred to on such schedule, have been delivered to Agent in completed and duly authorized form), (ii) with respect to any Deposit Account, the execution of Deposit Account Control Agreements,

(iii) in the case of letter-of-credit rights that are not supporting obligations of Collateral, the execution of a contractual obligation granting control to Agent over such letter-of-credit rights, (iv) in the case of electronic chattel paper, the completion of all steps necessary to grant control to Agent over such electronic chattel paper, (v) in the case of all certificated stock, debt instruments and investment property, the delivery thereof to Agent of such certificated stock, debt instruments and investment property consisting of instruments and certificates, in each case properly endorsed for transfer to Agent or in blank, (vi) in the case of all investment property not in certificated form, the execution of control agreements with respect to such investment property and (vii) in the case of all other instruments and tangible chattel paper that are not certificated stock, debt instructions or investment property, the delivery thereof to Agent of such instruments and tangible chattel paper. Such security interest shall be prior to all other Liens on the Collateral except for Permitted Liens. Except to the extent not required pursuant to the terms of this Agreement, all actions by each Credit Party necessary or desirable to protect and perfect the Lien granted hereunder on the Collateral have been duly taken.

(b) Schedule 9.2(b) (as updated by the Compliance Certificates delivered to Agent from time to time after the Closing Date) sets forth (i) each chief executive office and principal place of business of each Borrower and each of their respective Subsidiaries, and (ii) all of the addresses (including all warehouses) at which any of the Collateral is located and/or books and records of Borrowers regarding any Collateral or any of Borrower's assets, liabilities, business operations or financial condition are kept, which such Schedule 9.2(b) indicates in each case which Borrower(s) have Collateral and/or books and records located at such address, and, in the case of any such address not owned by one or more of the Borrowers(s), indicates the nature of such location (e.g., leased business location operated by Borrower(s), third party warehouse, consignment location, processor location, etc.) and the name and address of the third party owning and/or operating such location.

(c) Without limiting the generality of Section 3.2, except as indicated on Schedule 3.19 with respect to any rights of any Borrower as a licensee under any license of Intellectual Property owned by another Person, and except for the filing of financing statements under the UCC, no authorization, approval or other action by, and no notice to or filing with, any Governmental Authority or consent of any other Person is required for (i) the grant by each Borrower to Agent of the security interests and Liens in the Collateral provided for under this Agreement and the other Security Documents (if any), or (ii) the granting of the security interest or the exercise by Agent of its rights and remedies with respect to the Collateral provided for under this Agreement and the other Security Documents or under any applicable Law, including the UCC and neither any such grant of Liens in favor of Agent or exercise of rights by Agent shall violate or cause a default under any agreement between any Borrower and any other Person relating to any such collateral, including any license to which a Borrower is a party, whether as licensor or licensee, with respect to any Intellectual Property, whether owned by such Borrower or any other Person.

(d) As of the Closing Date, except as set forth on Schedule 9.2(d), no Borrower has any ownership interest in any Chattel Paper (as defined in Article 9 of the UCC), letter of credit rights, commercial tort claims, Instruments, documents or investment property evidencing an obligation in excess of Two Hundred Fifty Thousand Dollars (\$200,000) individually or in excess of Five Hundred Thousand Dollars (\$500,000) in the aggregate for all such obligations (other than equity interests in any Subsidiaries of such Borrower disclosed on Schedule 3.4), and Borrowers shall give notice to Agent promptly (but in any event not later than the delivery by Borrowers of the next quarterly Compliance

Certificate required pursuant to Section 4.1 above) upon the acquisition by any Borrower of any such Chattel Paper, letter of credit rights, commercial tort claims, Instruments, documents, investment property evidencing an obligation in excess of Two Hundred Fifty Thousand Dollars (\$200,000) individually or in excess of Five Hundred Thousand Dollars (\$500,000) in the aggregate for all such obligations. No Person other than Agent or (if applicable) any Lender has “control” (as defined in Article 9 of the UCC) over any Deposit Account, investment property (including Securities Accounts and commodities account), letter of credit rights or electronic chattel paper in which any Borrower has any interest (except for such control arising by operation of law in favor of any bank or securities intermediary or commodities intermediary with whom any Deposit Account, Securities Account or commodities account of Borrowers is maintained).

(e) Borrowers shall not, and shall not permit any Credit Party to, take any of the following actions or make any of the following changes unless Borrowers have given at least thirty (30) days prior written notice to Agent of Borrowers’ intention to take any such action (which such written notice shall include an updated version of any Schedule impacted by such change) and have executed any and all documents, instruments and agreements and taken any other actions which Agent may request after receiving such written notice in order to protect and preserve the Liens, rights and remedies of Agent with respect to the Collateral: (i) change the legal name or organizational identification number of any Borrower as it appears in official filings in the jurisdiction of its organization, (ii) change the jurisdiction of incorporation or formation of any Borrower or Credit Party or allow any Borrower or Credit Party to designate any jurisdiction as an additional jurisdiction of incorporation for such Borrower or Credit Party, or change the type of entity that it is; *provided* that in no event shall a Borrower organized under the laws of the United States or any state thereof be reorganized under the laws of a jurisdiction other than the United States or any State thereof, or (iii) change its chief executive office, principal place of business, or the location of its books and records or move any Collateral to or place any Collateral on any location that is not then listed on the Schedules and/or establish any business location at any location that is not then listed on the Schedules.

(f) Borrowers shall not adjust, settle or compromise the amount or payment of any Account, or release wholly or partly any Account Debtor, or allow any credit or discount thereon (other than adjustments, settlements, compromises, credits and discounts in the Ordinary Course of Business, made while no Default exists and in amounts which constitute less than \$250,000 reduction per individual account and are otherwise not material with respect to the Account taken as a whole) without the prior written consent of Agent. Without limiting the generality of this Agreement or any other provisions of any of the Financing Documents relating to the rights of Agent after the occurrence and during the continuance of an Event of Default, Agent shall have the right at any time after the occurrence and during the continuance of an Event of Default to: (i) exercise the rights of Borrowers with respect to the obligation of any Account Debtor to make payment or otherwise render performance to Borrowers and with respect to any property that secures the obligations of any Account Debtor or any other Person obligated on the Collateral, and (ii) adjust, settle or compromise the amount or payment of such Accounts.

(g) Without limiting the generality of Sections 9.2(c) and 9.2(e):

(i) Borrowers shall deliver to Agent all tangible Chattel Paper and all Instruments and documents evidencing an obligation in excess of Two Hundred Fifty Thousand Dollars (\$200,000) individually or in excess of Five Hundred Thousand Dollars (\$500,000) in the aggregate for all such obligations owned by any Borrower and constituting part of the Collateral duly endorsed and accompanied by duly executed instruments of transfer or assignment, all in form and substance satisfactory to Agent. Borrowers shall provide Agent with

“control” (as defined in Article 9 of the UCC) of all electronic Chattel Paper evidencing an obligation in excess of Two Hundred Fifty Thousand Dollars (\$200,000) individually or in excess of Five Hundred Thousand Dollars (\$500,000) in the aggregate for all such obligations owned by any Borrower and constituting part of the Collateral by having Agent identified as the assignee on the records pertaining to the single authoritative copy thereof and otherwise complying with the applicable elements of control set forth in the UCC. Borrowers also shall deliver to Agent all security agreements securing any such Chattel Paper and securing any such Instruments (other than those with a value of less than One Hundred Thousand Dollars (\$100,000) in the aggregate). Borrowers will mark conspicuously all such Chattel Paper and all such Instruments and documents (other than those with a value of less than One Hundred Thousand Dollars (\$100,000) in the aggregate) with a legend, in form and substance satisfactory to Agent, indicating that such Chattel Paper and such instruments and documents are subject to the security interests and Liens in favor of Agent created pursuant to this Agreement and the Security Documents. Borrowers shall comply with all the provisions of Section 5.14 with respect to the Deposit Accounts and Securities Accounts of Borrowers.

(ii) Borrowers shall deliver to Agent all letters of credit with a face amount in excess of Two Hundred Fifty Thousand Dollars (\$200,000) individually or in excess of Five Hundred Thousand Dollars (\$500,000) in the aggregate for all letters of credit on which any Borrower is the beneficiary and which give rise to letter of credit rights owned by such Borrower which constitute part of the Collateral in each case duly endorsed and accompanied by duly executed instruments of transfer or assignment, all in form and substance satisfactory to Agent. Borrowers shall take any and all actions as may be necessary or desirable, or that Agent may request, from time to time, to cause Agent to obtain exclusive “control” (as defined in Article 9 of the UCC) of any such letter of credit rights in a manner acceptable to Agent.

(iii) Borrowers shall promptly advise Agent upon any Borrower becoming aware that it has any interests in any commercial tort claim that is for at least, or could reasonably be expected to result in a payment in excess of, Two Hundred Fifty Thousand Dollars (\$200,000) individually or in excess of Five Hundred Thousand Dollars (\$500,000) in the aggregate for all commercial tort claims and that constitutes part of the Collateral, which such notice shall include descriptions of the events and circumstances giving rise to such commercial tort claim and the dates such events and circumstances occurred, the potential defendants with respect such commercial tort claim and any court proceedings that have been instituted with respect to such commercial tort claims, and Borrowers shall, with respect to any such commercial tort claim, execute and deliver to Agent such documents as Agent shall request to perfect, preserve or protect the Liens, rights and remedies of Agent with respect to any such commercial tort claim.

(iv) Unless Agent shall otherwise consent, Borrowers shall obtain a landlord’s agreement, mortgagee agreement, or bailee agreement, as applicable, from the lessor of each leased property, the mortgagee of owned property or the warehouseman, consignee, bailee at any business location, in each case, located in the United States and (a) which is a Borrower’s chief executive office or (b) where any portion of the Collateral with a value in excess of \$500,000, is located, in each case, which agreement or letter shall be reasonably satisfactory in form and substance to Agent. Borrowers shall timely and fully pay and perform its obligations under all leases and other agreements with respect to each of the locations specified in the preceding sentence. In no event shall Borrower maintain tangible Collateral (other than Inventory with contract manufacturers and Inventory in transit in the Ordinary Course of

Business) with a value in excess of \$500,000 outside of the United States without Agent's prior consent.

(v) Borrowers shall cause all equipment and other tangible personal property other than Inventory to be maintained and preserved in the same condition, repair and in working order as when new, ordinary wear and tear excepted, and shall promptly make or cause to be made all repairs, replacements and other improvements in connection therewith that are necessary or desirable to such end. Upon request of Agent, Borrowers shall promptly deliver to Agent any and all certificates of title, applications for title or similar evidence of ownership of all such tangible personal property and shall cause Agent to be named as lienholder on any such certificate of title or other evidence of ownership. Borrowers shall not permit any such tangible personal property to become fixtures to real estate unless such real estate is subject to a Lien in favor of Agent.

(vi) Each Borrower hereby authorizes Agent to file without the signature of such Borrower one or more UCC financing statements relating to liens on personal property relating to all or any part of the Collateral, which financing statements may list Agent as the "secured party" and such Borrower as the "debtor" and which describe and indicate the collateral covered thereby as all or any part of the Collateral under the Financing Documents (including an indication of the collateral covered by any such financing statement as "all assets" of such Borrower now owned or hereafter acquired), in such jurisdictions as Agent from time to time determines are appropriate, and to file without the signature of such Borrower any continuations of or corrective amendments to any such financing statements, in any such case in order for Agent to perfect, preserve or protect the Liens, rights and remedies of Agent with respect to the Collateral. Each Borrower also ratifies its authorization for Agent to have filed in any jurisdiction any initial financing statements or amendments thereto if filed prior to the date hereof.

(vii) As of the Closing Date, no Borrower holds, and, after the Closing Date, Borrowers shall promptly notify Agent in writing upon creation or acquisition by any Borrower of, any Collateral in excess of Five Hundred Thousand Dollars (\$500,000) in the aggregate for all such Collateral which constitutes a claim against any Governmental Authority, including, without limitation, the federal government of the United States or any instrumentality or agency thereof, the assignment of which claim is restricted by any applicable Law, including, without limitation, the federal Assignment of Claims Act and any other comparable Law. Upon the request of Agent, Borrowers shall take such steps as may be necessary or desirable, or that Agent may request, to comply with any such applicable Law with respect to Accounts evidencing obligations in excess of Five Hundred Thousand Dollars (\$500,000) or more in the aggregate.

(viii) Borrowers shall furnish to Agent from time to time any statements and schedules further identifying or describing the Collateral and any other information, reports or evidence concerning the Collateral as Agent may reasonably request from time to time.

ARTICLE 10 - EVENTS OF DEFAULT

Section 10.1 Events of Default. For purposes of the Financing Documents, the occurrence of any of the following conditions and/or events, whether voluntary or involuntary, by operation of law or otherwise, shall constitute an “Event of Default”:

(a) (i) any Credit Party shall fail to pay when due any principal, interest, premium or fee under any Financing Document or any other amount payable under any Financing Document and, with respect to any such payment other than principal or interest, such failure shall continue for 3 Business Days after the date such amount was due, or (ii) there shall occur any default in the performance of or compliance with any of the following sections or articles of this Agreement: Section 4.1, Section 4.2(b), Section 4.4(c), Section 4.6, Section 4.9, Section 4.11, Section 4.15, Section 4.16, Section 4.17, Article 5, Article 6 or Section 7.4;

(b) any Credit Party defaults in the performance of or compliance with any term contained in this Agreement or in any other Financing Document (other than occurrences described in other provisions of this Section 10.1 for which a different grace or cure period is specified or for which no grace or cure period is specified and thereby constitute immediate Events of Default) and such default is not remedied by the Credit Party or waived by Agent within twenty (20) days after the earlier of (i) receipt by Borrower Representative of notice from Agent or Required Lenders of such default, or (ii) actual knowledge of any Responsible Officer of the Borrower or any other Credit Party of such default; *provided, however*, that if the default cannot by its nature be cured within the twenty (20) day period or cannot after diligent attempts by Borrowers be cured within such twenty (20) day period, and such default is likely to be cured within a reasonable time (not to exceed the end of the twenty (20) day additional period), then Borrowers shall have an additional period (which period shall not in any case exceed twenty (20) days) to attempt to cure such default, and within such additional twenty (20) day period the failure of Borrowers to cure the default shall not be deemed an Event of Default (but no Loans shall be made during such period until such default is cured);

(c) any written representation, warranty, certification or statement made by any Credit Party or any other Person in any Financing Document or in any certificate, financial statement or other document delivered pursuant to any Financing Document is incorrect in any respect (or in any material respect if such representation, warranty, certification or statement is not by its terms already qualified as to materiality) when made (or deemed made);

(d) (i) failure of any Credit Party to pay when due or within any applicable grace period any principal, interest or other amount on Debt (other than the Loans), or the occurrence of any breach, default, condition or event with respect to any Debt (other than the Loans), if the effect of such failure or occurrence is to cause or to permit the holder or holders of any such Debt, or to cause, Debt or other liabilities having an individual principal amount in excess of \$500,000 or having an aggregate principal amount in excess of \$1,000,000 to become or be declared due prior to its stated maturity, or (ii) without limiting the foregoing, the occurrence of any breach or default under any terms or provisions of any Subordinated Debt Document or under any agreement subordinating the Subordinated Debt to all or any portion of the Obligations or the occurrence of any event requiring the prepayment of any Subordinated Debt;

(e) any Credit Party or any Subsidiary of a Credit Party shall commence a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law or any analogous procedure or step is taken in any other jurisdiction) now or hereafter in effect or seeking the appointment of a trustee, receiver,

liquidator, custodian or other similar official of it or any substantial part of its property, or shall consent to any such relief or to the appointment of or taking possession by any such official in an involuntary case or other proceeding commenced against it, or shall make a general assignment for the benefit of creditors, or shall fail generally to pay its debts as they become due, or make an assignment of its property for the general benefit of its creditors under such Act, or make a proposal (or file a notice of its intention to do so) under such Act or any analogous procedure or step is taken in any other jurisdiction, or shall take any corporate action to authorize any of the foregoing;

(f) an involuntary case or other proceeding shall be commenced against any Credit Party or any Subsidiary of a Credit Party seeking liquidation, reorganization or other relief with respect to it or its debts under any bankruptcy, insolvency or other similar law now or hereafter in effect or seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of it or any substantial part of its property, and such involuntary case or other proceeding shall remain undismissed and unstayed for a period of forty-five (45) days; or an order for relief shall be entered against any Credit Party or any Subsidiary of a Credit Party under applicable federal bankruptcy, insolvency or other similar law in respect of (i) bankruptcy, liquidation, winding-up, dissolution or suspension of general operations, (ii) composition, rescheduling, reorganization, arrangement or readjustment of, or other relief from, or stay of proceedings to enforce, some or all of the debts or obligations, or (iii) possession, foreclosure, seizure or retention, sale or other disposition of, or other proceedings to enforce security over, all or any substantial part of the assets of such Credit Party or Subsidiary;

(g) (i) institution of any steps by any Person to terminate a Pension Plan if as a result of such termination any Credit Party or any member of the Controlled Group could be required to make a contribution to such Pension Plan, or could incur a liability or obligation to such Pension Plan, in excess of \$500,000, (ii) a contribution failure occurs with respect to any Pension Plan sufficient to give rise to a Lien under Section 303(k) of ERISA or Section 430(k) of the Code or an event occurs that would reasonably be expected to give rise to a Lien under Section 4068 of ERISA, or (iii) there shall occur any withdrawal or partial withdrawal from a Multiemployer Plan and the withdrawal liability (without unaccrued interest) to Multiemployer Plans as a result of such withdrawal (including any outstanding withdrawal liability that any Credit Party or any member of the Controlled Group have incurred on the date of such withdrawal) exceeds \$500,000;

(h) one or more judgments or orders for the payment of money (not paid or fully covered by insurance maintained in accordance with the requirements of this Agreement and as to which the relevant insurance company has not denied coverage) aggregating in excess of \$500,000 shall be rendered against any or all Credit Parties and either (i) enforcement proceedings shall have been commenced by any creditor upon any such judgments or orders, or (ii) there shall be any period of twenty (20) consecutive days during which a stay of enforcement of any such judgments or orders, by reason of a pending appeal, bond or otherwise, shall not be in effect;

(i) except solely as a result of any action or inaction of Agent or any Lenders (provided that such action or inaction is not caused by a Credit Party's failure to comply with the terms of the Financing Documents), any Lien created by any of the Security Documents shall at any time fail to constitute a valid and perfected Lien on all of the Collateral purported to be encumbered thereby, subject to no prior or equal Lien except Permitted Liens, or any Credit Party shall so assert;

(j) the institution by any Governmental Authority of criminal proceedings against any Credit Party;

- Obligations;
- (k) an event of default occurs under any Guarantee of any portion of the
 - (l) the occurrence of a Change in Control;
 - (m) any Borrower makes any payment on account of any Debt that has been subordinated to any of the Obligations, other than payments specifically permitted by the terms of such subordination;
 - (n) if any Borrower is or becomes an entity whose equity is registered with the SEC, and/or is publicly traded on and/or registered with a public securities exchange, such Borrower's equity fails to remain registered with the SEC in good standing, and/or such equity fails to remain publicly traded on and registered with a public securities exchange;
 - (o) the occurrence of any fact, event or circumstance that could reasonably be expected to result in a Material Adverse Effect;
 - (p) (i) the voluntary withdrawal or institution of any action or proceeding by the FDA or similar Governmental Authority to order the withdrawal of any Product or Product category from the market or to enjoin Borrower, its Subsidiaries or any representative of Borrower or its Subsidiaries from manufacturing, marketing, selling or distributing any Product or Product category which, in each case, would reasonably be expected to result in a Material Adverse Effect, (ii) the institution of any action or proceeding by any DEA, FDA, CMS or any other Governmental Authority to revoke, suspend, reject withdraw, limit or restrict any Regulatory Required Permit held by Borrower, its Subsidiaries or any representative of Borrower or its Subsidiaries, which in each case, has or could reasonably be expected to result in Material Adverse Effect, (iii) the commencement of any enforcement action against Borrower, its Subsidiaries or any representative of Borrower or its Subsidiaries (with respect to the business of Borrower or its Subsidiaries) by DEA, FDA, CMS or any other Governmental Authority which has or could reasonably be expected to result in a Material Adverse Effect, or (iv) the occurrence of adverse test results in connection with a Product which could reasonably be expected to result in a Material Adverse Effect;
 - (q) any Credit Party defaults under or breaches any Material Contract (after any applicable grace period contained therein), or a Material Contract shall be terminated by a third party or parties party thereto prior to the expiration thereof and such default, breach or termination would reasonably be expected to result in a Material Adverse Effect; or
 - (r) any of the Financing Documents shall for any reason fail to constitute the valid and binding agreement of any party thereto, or any Credit Party shall so assert, in each case, unless such Financing Document terminates pursuant to the terms and conditions thereof without any breach or default thereunder by any Credit Party thereto.

All cure periods provided for in this Section 10.1 shall run concurrently with any cure period provided for in any applicable Financing Documents under which the default occurred.

Section 10.2 Acceleration and Suspension or Termination of Term Loan Commitment. Upon the occurrence and during the continuance of an Event of Default, Agent may, and shall if requested by Required Lenders, (a) by notice to Borrower Representative suspend or terminate the Term Loan Commitment and the obligations of Agent and the Lenders with respect thereto, in whole or in part (and, if in part, each Lender's Term Loan Commitment shall be reduced in accordance with its Pro Rata

Share), and/or (b) by notice to Borrower Representative declare all or any portion of the Obligations to be, and the Obligations shall thereupon become, immediately due and payable, with accrued interest thereon, without presentment, demand, protest or other notice of any kind, all of which are hereby waived by each Borrower and Borrowers will pay the same; *provided, however*, that in the case of any of the Events of Default specified in Section 10.1(e) or 10.1(f) above, without any notice to any Borrower or any other act by Agent or the Lenders, the Term Loan Commitment and the obligations of Agent and the Lenders with respect thereto shall thereupon immediately and automatically terminate and all of the Obligations shall become immediately and automatically due and payable without presentment, demand, protest or other notice of any kind, all of which are hereby waived by each Borrower and Borrowers will pay the same.

Section 10.3 UCC Remedies.

(a) Upon the occurrence of and during the continuance of an Event of Default under this Agreement or the other Financing Documents, Agent, in addition to all other rights, options, and remedies granted to Agent under this Agreement or at law or in equity, may exercise, either directly or through one or more assignees or designees, all rights and remedies granted to it under all Financing Documents and under the UCC in effect in the applicable jurisdiction(s) and under any other applicable law, including, without limitation:

(i) the right to take possession of, send notices regarding, and collect directly the Collateral, with or without judicial process;

(ii) the right to (by its own means or with judicial assistance) enter any of Borrowers' premises and take possession of the Collateral, or render it unusable, or to render it usable or saleable, or dispose of the Collateral on such premises in compliance with subsection

(iii) below and to take possession of Borrowers' original books and records, to obtain access to Borrowers' data processing equipment, computer hardware and software relating to the Collateral and to use all of the foregoing and the information contained therein in any manner Agent deems appropriate, without any liability for rent, storage, utilities, or other sums, and Borrowers shall not resist or interfere with such action (if Borrowers' books and records are prepared or maintained by an accounting service, contractor or other third party agent, Borrowers hereby irrevocably authorize such service, contractor or other agent, upon notice by Agent to such Person that an Event of Default has occurred and is continuing, to deliver to Agent or its designees such books and records, and to follow Agent's instructions with respect to further services to be rendered);

(iii) the right to require Borrowers at Borrowers' expense to assemble all or any part of the Collateral and make it available to Agent at any place designated by Lender;

(iv) the right to notify postal authorities to change the address for delivery of Borrowers' mail to an address designated by Agent and to receive, open and dispose of all mail addressed to any Borrower; and/or

(v) the right to enforce Borrowers' rights against Account Debtors and other obligors, including, without limitation, (i) the right to collect Accounts directly in Agent's own name (as agent for Lenders) and to charge the collection costs and expenses, including documented out-of-pocket attorneys' fees, to Borrowers, and (ii) the right, in the name of Agent or any designee of Agent or Borrowers, to verify the validity, amount or any other matter relating to any Accounts by mail, telephone, telegraph or otherwise, including, without limitation,

verification of Borrowers' compliance with applicable Laws. Borrowers shall cooperate fully with Agent in an effort to facilitate and promptly conclude such verification process. Such verification may include contacts between Agent and applicable federal, state and local regulatory authorities having jurisdiction over the Borrowers' affairs, all of which contacts Borrowers hereby irrevocably authorize.

(b) Each Borrower agrees that a notice received by it at least ten (10) days before the time of any intended public sale, or the time after which any private sale or other disposition of the Collateral is to be made, shall be deemed to be reasonable notice of such sale or other disposition. If permitted by applicable law, any perishable Collateral which threatens to speedily decline in value or which is sold on a recognized market may be sold immediately by Agent without prior notice to Borrowers. At any sale or disposition of Collateral, Agent may (to the extent permitted by applicable law) purchase all or any part of the Collateral, free from any right of redemption by Borrowers, which right is hereby waived and released. Each Borrower covenants and agrees not to interfere with or impose any obstacle to Agent's exercise of its rights and remedies with respect to the Collateral. Agent shall have no obligation to clean-up or otherwise prepare the Collateral for sale. Agent may comply with any applicable state or federal law requirements in connection with a disposition of the Collateral and compliance will not be considered to adversely affect the commercial reasonableness of any sale of the Collateral. Agent may sell the Collateral without giving any warranties as to the Collateral. Agent may specifically disclaim any warranties of title or the like. This procedure will not be considered to adversely affect the commercial reasonableness of any sale of the Collateral. If Agent sells any of the Collateral upon credit, Borrowers will be credited only with payments actually made by the purchaser, received by Agent and applied to the indebtedness of the purchaser. In the event the purchaser fails to pay for the Collateral, Agent may resell the Collateral and Borrowers shall be credited with the proceeds of the sale. Borrowers shall remain liable for any deficiency if the proceeds of any sale or disposition of the Collateral are insufficient to pay all Obligations.

(c) Without restricting the generality of the foregoing and for the purposes aforesaid, each Borrower hereby appoints and constitutes Agent its lawful attorney-in-fact with full power of substitution in the Collateral, upon the occurrence and during the continuance of an Event of Default, to (i) use unadvanced funds remaining under this Agreement or which may be reserved, escrowed or set aside for any purposes hereunder at any time, or to advance funds in excess of the face amount of the Notes, (ii) pay, settle or compromise all existing bills and claims, which may be Liens or security interests, or to avoid such bills and claims becoming Liens against the Collateral, (iii) execute all applications and certificates in the name of such Borrower and to prosecute and defend all actions or proceedings in connection with the Collateral, and (iv) do any and every act which such Borrower might do in its own behalf; it being understood and agreed that this power of attorney in this subsection (c) shall be a power coupled with an interest and cannot be revoked.

(d) Upon the occurrence and during the continuance of an Event of Default, subject to any right of any third parties and/or any agreement between any Borrower and any third party to the extent not granted or entered into in contravention of the terms of this Agreement, Agent and each Lender is hereby granted a non-exclusive, royalty-free license or other right to use, without charge, Borrowers' labels, mark works, rights of use of any name, any other Intellectual Property and advertising matter, and any similar property as it pertains to the Collateral, in completing production of, advertising for sale, and selling any Collateral and, in connection with Agent's exercise of its rights under this Article, Borrowers' rights under all licenses (whether as licensor or licensee) and all franchise agreements inure to Agent's and each Lender's benefit.

Section 10.4 Reserved.

Section 10.5 Default Rate of Interest. At the election of Agent or Required Lenders, after the occurrence of an Event of Default and for so long as it continues, the Loans and other Obligations shall bear interest at rates that are three percent (3.0%) per annum in excess of the rates otherwise payable under this Agreement; *provided, however*, that in the case of any Event of Default specified in Section 10.1(e) or 10.1(f) above, such default rates shall apply immediately and automatically without the need for any election or action of any kind on the part of Agent or any Lender.

Section 10.6 Setoff Rights. During the continuance of any Event of Default, each Lender is hereby authorized by each Borrower at any time or from time to time, with reasonably prompt subsequent notice to such Borrower (any prior or contemporaneous notice being hereby expressly waived) to set off and to appropriate and to apply any and all (a) balances held by such Lender or any of such Lender's Affiliates at any of its offices for the account of such Borrower or any of its Subsidiaries (regardless of whether such balances are then due to such Borrower or its Subsidiaries), and (b) other property at any time held or owing by such Lender to or for the credit or for the account of such Borrower or any of its Subsidiaries, against and on account of any of the Obligations (other than contingent obligations for which no claim has been made); except that no Lender shall exercise any such right without the prior written consent of Agent. Any Lender exercising a right to set off shall purchase for cash (and the other Lenders shall sell) interests in each of such other Lender's Pro Rata Share of the Obligations as would be necessary to cause all Lenders to share the amount so set off with each other Lender in accordance with their respective Pro Rata Share of the Obligations. Each Borrower agrees, to the fullest extent permitted by law, that any Lender and any of such Lender's Affiliates may exercise its right to set off with respect to the Obligations as provided in this Section 10.6.

Section 10.7 Application of Proceeds.

(a) Notwithstanding anything to the contrary contained in this Agreement, upon the occurrence and during the continuance of an Event of Default, each Borrower irrevocably waives the right to direct the application of any and all payments at any time or times thereafter received by Agent from or on behalf of such Borrower or any Guarantor of all or any part of the Obligations, and, as between Borrowers on the one hand and Agent and Lenders on the other, Agent shall have the continuing and exclusive right to apply and to reapply any and all payments received against the Obligations in such manner as Agent may deem advisable notwithstanding any previous application by Agent.

(b) Following the occurrence and during the continuance of an Event of Default, but absent the occurrence and continuance of an Acceleration Event, Agent shall apply any and all payments received by Agent in respect of the Obligations, and any and all proceeds of Collateral received by Agent, in such order as Agent may from time to time elect.

(c) Notwithstanding anything to the contrary contained in this Agreement, if an Acceleration Event shall have occurred, and so long as it continues, Agent shall apply any and all payments received by Agent in respect of the Obligations, and any and all proceeds of Collateral received by Agent, in the following order: *first*, to all fees, costs, indemnities, liabilities, obligations and expenses incurred by or owing to Agent with respect to this Agreement, the other Financing Documents or the Collateral; *second*, to all fees, costs, indemnities, liabilities, obligations and expenses incurred by or owing to any Lender with respect to this Agreement, the other Financing Documents or the Collateral; *third*, to accrued and unpaid interest on the Obligations (including any interest which, but for the provisions of the Bankruptcy Code, would have accrued on such amounts); *fourth*, to the

principal amount of the Obligations outstanding; and *fifth*, to any other indebtedness or obligations of Borrowers owing to Agent or any Lender under the Financing Documents. Any balance remaining shall be delivered to Borrowers or to whomever may be lawfully entitled to receive such balance or as a court of competent jurisdiction may direct. In carrying out the foregoing, (y) amounts received shall be applied in the numerical order provided until exhausted prior to the application to the next succeeding category, and (z) each of the Persons entitled to receive a payment in any particular category shall receive an amount equal to its Pro Rata Share of amounts available to be applied pursuant thereto for such category.

Section 10.8 Waivers.

(a) Except as otherwise provided for in this Agreement and to the fullest extent permitted by applicable law, each Borrower waives: (i) presentment, demand and protest, and notice of presentment, dishonor, intent to accelerate, acceleration, protest, default, nonpayment, maturity, release, compromise, settlement, extension or renewal of any or all Financing Documents, the Notes or any other notes, commercial paper, accounts, contracts, documents, Instruments, Chattel Paper and Guarantees at any time held by Lenders on which any Borrower may in any way be liable, and hereby ratifies and confirms whatever Lenders may do in this regard; (ii) all rights to notice and a hearing prior to Agent's or any Lender's taking possession or control of, or to Agent's or any Lender's replevy, attachment or levy upon, any Collateral or any bond or security which might be required by any court prior to allowing Agent or any Lender to exercise any of its remedies; and (iii) the benefit of all valuation, appraisal and exemption Laws. Each Borrower acknowledges that it has been advised by counsel of its choices and decisions with respect to this Agreement, the other Financing Documents and the transactions evidenced hereby and thereby.

(b) Each Borrower for itself and all its successors and assigns, (i) agrees that its liability shall not be in any manner affected by any indulgence, extension of time, renewal, waiver, or modification granted or consented to by Lender; (ii) consents to any indulgences and all extensions of time, renewals, waivers, or modifications that may be granted by Agent or any Lender with respect to the payment or other provisions of the Financing Documents, and to any substitution, exchange or release of the Collateral, or any part thereof, with or without substitution, and agrees to the addition or release of any Borrower, endorsers, guarantors, or sureties, or whether primarily or secondarily liable, without notice to any other Borrower and without affecting its liability hereunder; (iii) agrees that its liability shall be unconditional and without regard to the liability of any other Borrower, Agent or any Lender for any tax on the indebtedness; and (iv) to the fullest extent permitted by law, expressly waives the benefit of any statute or rule of law or equity now provided, or which may hereafter be provided, which would produce a result contrary to or in conflict with the foregoing.

(c) To the extent that Agent or any Lender may have acquiesced in any noncompliance with any requirements or conditions precedent to the closing of the Loans or to any subsequent disbursement of Loan proceeds, such acquiescence shall not be deemed to constitute a waiver by Agent or any Lender of such requirements with respect to any future disbursements of Loan proceeds and Agent may at any time after such acquiescence require Borrowers to comply with all such requirements. Any forbearance by Agent or Lender in exercising any right or remedy under any of the Financing Documents, or otherwise afforded by applicable law, including any failure to accelerate the maturity date of the Loans, shall not be a waiver of or preclude the exercise of any right or remedy nor shall it serve as a novation of the Notes or as a reinstatement of the Loans or a waiver of such right of acceleration or the right to insist upon strict compliance of the terms of the Financing Documents. Agent's or any Lender's acceptance of payment of any sum secured by any of the Financing Documents after the due date of such payment shall not be a waiver of Agent's and such Lender's right to either

require prompt payment when due of all other sums so secured or to declare a default for failure to make prompt payment. The procurement of insurance or the payment of taxes or other Liens or charges by Agent as the result of an Event of Default shall not be a waiver of Agent's right to accelerate the maturity of the Loans, nor shall Agent's receipt of any condemnation awards, insurance proceeds, or damages under this Agreement operate to cure or waive any Credit Party's default in payment of sums secured by any of the Financing Documents.

(d) Without limiting the generality of anything contained in this Agreement or the other Financing Documents, each Borrower agrees that if an Event of Default is continuing (i) Agent and Lenders shall not be subject to any "one action" or "election of remedies" law or rule, and (ii) all Liens and other rights, remedies or privileges provided to Agent or Lenders shall remain in full force and effect until Agent or Lenders have exhausted all remedies against the Collateral and any other properties owned by Borrowers and the Financing Documents and other security instruments or agreements securing the Loans have been foreclosed, sold and/or otherwise realized upon in satisfaction of Borrowers' obligations under the Financing Documents.

(e) Nothing contained herein or in any other Financing Document shall be construed as requiring Agent or any Lender to resort to any part of the Collateral for the satisfaction of any of Borrowers' obligations under the Financing Documents in preference or priority to any other Collateral, and Agent may seek satisfaction out of all of the Collateral or any part thereof, in its absolute discretion in respect of Borrowers' obligations under the Financing Documents. In addition, Agent shall have the right from time to time to partially foreclose upon any Collateral in any manner and for any amounts secured by the Financing Documents then due and payable as determined by Agent in its sole discretion, including, without limitation, the following circumstances: (i) in the event any Borrower defaults beyond any applicable grace period in the payment of one or more scheduled payments of principal and/or interest, Agent may foreclose upon all or any part of the Collateral to recover such delinquent payments, or (ii) in the event Agent elects to accelerate less than the entire outstanding principal balance of the Loans, Agent may foreclose all or any part of the Collateral to recover so much of the principal balance of the Loans as Lender may accelerate and such other sums secured by one or more of the Financing Documents as Agent may elect. Notwithstanding one or more partial foreclosures, any unencumbered Collateral shall remain subject to the Financing Documents to secure payment of sums secured by the Financing Documents and not previously recovered.

(f) To the fullest extent permitted by law, each Borrower, for itself and its successors and assigns, waives in the event of foreclosure of any or all of the Collateral any equitable right otherwise available to any Credit Party which would require the separate sale of any of the Collateral or require Agent or Lenders to exhaust their remedies against any part of the Collateral before proceeding against any other part of the Collateral; and further in the event of such foreclosure each Borrower does hereby expressly consent to and authorize, at the option of Agent, the foreclosure and sale either separately or together of each part of the Collateral.

Section 10.9 Injunctive Relief. The parties acknowledge and agree that, in the event of a breach or threatened breach of any Credit Party's obligations under any Financing Documents, Agent and Lenders may have no adequate remedy in money damages and, accordingly, shall be entitled to an injunction (including, without limitation, a temporary restraining order, preliminary injunction, writ of attachment, or order compelling an audit) against such breach or threatened breach, including, without limitation, maintaining any cash management and collection procedure described herein. However, no specification in this Agreement of a specific legal or equitable remedy shall be construed as a waiver or prohibition against any other legal or equitable remedies in the event of a breach or threatened breach of any provision of this Agreement. Each Credit Party waives, to the fullest extent permitted by law, the

requirement of the posting of any bond in connection with such injunctive relief. By joining in the Financing Documents as a Credit Party, each Credit Party specifically joins in this Section as if this Section were a part of each Financing Document executed by such Credit Party.

Section 10.10 Marshalling; Payments Set Aside. Neither Agent nor any Lender shall be under any obligation to marshal any assets in payment of any or all of the Obligations. To the extent that Borrower makes any payment or Agent enforces its Liens or Agent or any Lender exercises its right of set-off, and such payment or the proceeds of such enforcement or set-off is subsequently invalidated, declared to be fraudulent or preferential, set aside, or required to be repaid by anyone, then to the extent of such recovery, the Obligations or part thereof originally intended to be satisfied, and all Liens, rights and remedies therefor, shall be revived and continued in full force and effect as if such payment had not been made or such enforcement or set-off had not occurred.

ARTICLE 11 - AGENT

Section 11.1 Appointment and Authorization. Each Lender hereby irrevocably appoints and authorizes Agent to enter into each of the Financing Documents to which it is a party (other than this Agreement) on its behalf and to take such actions as Agent on its behalf and to exercise such powers under the Financing Documents as are delegated to Agent by the terms thereof, together with all such powers as are reasonably incidental thereto. Subject to the terms of Section 11.16 and to the terms of the other Financing Documents, Agent is authorized and empowered to amend, modify, or waive any provisions of this Agreement or the other Financing Documents on behalf of Lenders. The provisions of this Article 11 are solely for the benefit of Agent and Lenders and neither any Borrower nor any other Credit Party shall have any rights as a third party beneficiary of any of the provisions hereof. In performing its functions and duties under this Agreement, Agent shall act solely as agent of Lenders and does not assume and shall not be deemed to have assumed any obligation toward or relationship of agency or trust with or for any Borrower or any other Credit Party. Agent may perform any of its duties hereunder, or under the Financing Documents, by or through its agents, servicers, trustees, investment managers or employees.

Section 11.2 Agent and Affiliates. Agent shall have the same rights and powers under the Financing Documents as any other Lender and may exercise or refrain from exercising the same as though it were not Agent, and Agent and its Affiliates may lend money to, invest in and generally engage in any kind of business with each Credit Party or Affiliate of any Credit Party as if it were not Agent hereunder.

Section 11.3 Action by Agent. The duties of Agent shall be mechanical and administrative in nature. Agent shall not have by reason of this Agreement a fiduciary relationship in respect of any Lender. Nothing in this Agreement or any of the Financing Documents is intended to or shall be construed to impose upon Agent any obligations in respect of this Agreement or any of the Financing Documents except as expressly set forth herein or therein.

Section 11.4 Consultation with Experts. Agent may consult with legal counsel, independent public accountants and other experts selected by it and shall not be liable for any action taken or omitted to be taken by it in good faith in accordance with the advice of such counsel, accountants or experts.

Section 11.5 Liability of Agent. Neither Agent nor any of its directors, officers, agents, trustees, investment managers, servicers or employees shall be liable to any Lender for any action taken or not taken by it in connection with the Financing Documents, except that Agent shall be liable with respect to its specific duties set forth hereunder but only to the extent of its own gross negligence or

willful misconduct in the discharge thereof as determined by a final non-appealable judgment of a court of competent jurisdiction. Neither Agent nor any of its directors, officers, agents, trustees, investment managers, servicers or employees shall be responsible for or have any duty to ascertain, inquire into or verify (a) any statement, warranty or representation made in connection with any Financing Document or any borrowing hereunder; (b) the performance or observance of any of the covenants or agreements specified in any Financing Document; (c) the satisfaction of any condition specified in any Financing Document; (d) the validity, effectiveness, sufficiency or genuineness of any Financing Document, any Lien purported to be created or perfected thereby or any other instrument or writing furnished in connection therewith; (e) the existence or non-existence of any Default or Event of Default; or (f) the financial condition of any Credit Party. Agent shall not incur any liability by acting in reliance upon any notice, consent, certificate, statement, or other writing (which may be a bank wire, facsimile or electronic transmission or similar writing) believed by it to be genuine or to be signed by the proper party or parties. Agent shall not be liable for any apportionment or distribution of payments made by it in good faith and if any such apportionment or distribution is subsequently determined to have been made in error the sole recourse of any Lender to whom payment was due but not made, shall be to recover from other Lenders any payment in excess of the amount to which they are determined to be entitled (and such other Lenders hereby agree to return to such Lender any such erroneous payments received by them).

Section 11.6 Indemnification. Each Lender shall, in accordance with its Pro Rata Share, indemnify Agent (to the extent not reimbursed by Borrowers) upon demand against any cost, expense (including counsel fees and disbursements), claim, demand, action, loss or liability (except such as result from Agent's gross negligence or willful misconduct as determined by a final non-appealable judgment of a court of competent jurisdiction) that Agent may suffer or incur in connection with the Financing Documents or any action taken or omitted by Agent hereunder or thereunder. If any indemnity furnished to Agent for any purpose shall, in the opinion of Agent, be insufficient or become impaired, Agent may call for additional indemnity and cease, or not commence, to do the acts indemnified against even if so directed by Required Lenders until such additional indemnity is furnished.

Section 11.7 Right to Request and Act on Instructions. Agent may at any time request instructions from Lenders with respect to any actions or approvals which by the terms of this Agreement or of any of the Financing Documents Agent is permitted or desires to take or to grant, and if such instructions are promptly requested, Agent shall be absolutely entitled to refrain from taking any action or to withhold any approval and shall not be under any liability whatsoever to any Person for refraining from any action or withholding any approval under any of the Financing Documents until it shall have received such instructions from Required Lenders or all or such other portion of the Lenders as shall be prescribed by this Agreement. Without limiting the foregoing, no Lender shall have any right of action whatsoever against Agent as a result of Agent acting or refraining from acting under this Agreement or any of the other Financing Documents in accordance with the instructions of Required Lenders (or all or such other portion of the Lenders as shall be prescribed by this Agreement) and, notwithstanding the instructions of Required Lenders (or such other applicable portion of the Lenders), Agent shall have no obligation to take any action if it believes, in good faith, that such action would violate applicable Law or exposes Agent to any liability for which it has not received satisfactory indemnification in accordance with the provisions of Section 11.6.

Section 11.8 Credit Decision. Each Lender acknowledges that it has, independently and without reliance upon Agent or any other Lender, and based on such documents and information as it has deemed appropriate, made its own credit analysis and decision to enter into this Agreement. Each Lender also acknowledges that it will, independently and without reliance upon Agent or any other Lender, and

based on such documents and information as it shall deem appropriate at the time, continue to make its own credit decisions in taking or not taking any action under the Financing Documents.

Section 11.9 Collateral Matters. Lenders irrevocably authorize Agent, at its option and in its discretion, to (a) release any Lien granted to or held by Agent under any Security Document (i) upon termination of the Term Loan Commitment and payment in full of all Obligations; or (ii) constituting property sold or disposed of as part of or in connection with any disposition permitted under any Financing Document (it being understood and agreed that Agent may conclusively rely without further inquiry on a certificate of a Responsible Officer as to the sale or other disposition of property being made in full compliance with the provisions of the Financing Documents); and (b) subordinate any Lien granted to or held by Agent under any Security Document to a Permitted Lien that is allowed to have priority over the Liens granted to or held by Agent pursuant to the definition of “Permitted Liens”. Upon request by Agent at any time, Lenders will confirm Agent’s authority to release and/or subordinate particular types or items of Collateral pursuant to this Section 11.9.

Section 11.10 Agency for Perfection. Agent and each Lender hereby appoint each other Lender as agent for the purpose of perfecting Agent’s security interest in assets which, in accordance with the Uniform Commercial Code in any applicable jurisdiction, can be perfected by possession or control. Should any Lender (other than Agent) obtain possession or control of any such assets, such Lender shall notify Agent thereof, and, promptly upon Agent’s request therefor, shall deliver such assets to Agent or in accordance with Agent’s instructions or transfer control to Agent in accordance with Agent’s instructions. Each Lender agrees that it will not have any right individually to enforce or seek to enforce any Security Document or to realize upon any Collateral for the Loan unless instructed to do so by Agent (or consented to by Agent), it being understood and agreed that such rights and remedies may be exercised only by Agent.

Section 11.11 Notice of Default. Agent shall not be deemed to have knowledge or notice of the occurrence of any Default or Event of Default except with respect to defaults in the payment of principal, interest and fees required to be paid to Agent for the account of Lenders, unless Agent shall have received written notice from a Lender or a Borrower referring to this Agreement, describing such Default or Event of Default and stating that such notice is a “notice of default”. Agent will notify each Lender of its receipt of any such notice. Agent shall take such action with respect to such Default or Event of Default as may be requested by Required Lenders (or all or such other portion of the Lenders as shall be prescribed by this Agreement) in accordance with the terms hereof. Unless and until Agent has received any such request, Agent may (but shall not be obligated to) take such action, or refrain from taking such action, with respect to such Default or Event of Default as it shall deem advisable or in the best interests of Lenders.

Section 11.12 Assignment by Agent; Resignation of Agent; Successor Agent.

(a) Agent may at any time assign its rights, powers, privileges and duties hereunder to (i) another Lender or an Affiliate of Agent or any Approved Fund, or (ii) any Eligible Assignee to whom Agent, in its capacity as a Lender, has assigned (or will assign, in conjunction with such assignment of agency rights hereunder) 50% or more of its Loan, in each case without the consent of the Lenders or Borrowers. Following any such assignment, Agent shall endeavor to give notice to the Lenders and Borrowers. Failure to give such notice shall not affect such assignment in any way or cause the assignment to be ineffective. An assignment by Agent pursuant to this subsection (a) shall not be deemed a resignation by Agent for purposes of subsection (b) below.

(b) Without limiting the rights of Agent to designate an assignee pursuant to subsection (a) above, Agent may at any time give notice of its resignation to the Lenders and Borrowers. Upon receipt of any such notice of resignation, Required Lenders shall have the right to appoint a successor Agent. If no such successor shall have been so appointed by Required Lenders and shall have accepted such appointment within ten (10) Business Days after the retiring Agent gives notice of its resignation, then the retiring Agent may on behalf of the Lenders, appoint a successor Agent; *provided, however*, that if Agent shall notify Borrowers and the Lenders that no Person has accepted such appointment, then such resignation shall nonetheless become effective in accordance with such notice from Agent that no Person has accepted such appointment and, from and following delivery of such notice, (i) the retiring Agent shall be discharged from its duties and obligations hereunder and under the other Financing Documents, and (ii) all payments, communications and determinations provided to be made by, to or through Agent shall instead be made by or to each Lender directly, until such time as Required Lenders appoint a successor Agent as provided for above in this paragraph.

(c) Upon (i) an assignment permitted by subsection (a) above, or (ii) the acceptance of a successor's appointment as Agent pursuant to subsection (b) above, such successor shall succeed to and become vested with all of the rights, powers, privileges and duties of the retiring (or retired) Agent, and the retiring Agent shall be discharged from all of its duties and obligations hereunder and under the other Financing Documents (if not already discharged therefrom as provided above in this paragraph). The fees payable by Borrowers to a successor Agent shall be the same as those payable to its predecessor unless otherwise agreed between Borrowers and such successor. After the retiring Agent's resignation hereunder and under the other Financing Documents, the provisions of this Article and Section 11.12 shall continue in effect for the benefit of such retiring Agent and its sub-agents in respect of any actions taken or omitted to be taken by any of them while the retiring Agent was acting or was continuing to act as Agent.

Section 11.13 Payment and Sharing of Payment.

(a) Reserved.

(b) Term Loan Payments. Payments of principal, interest and fees in respect of the Term Loans will be settled on the date of receipt if received by Agent on the last Business Day of a month or on the Business Day immediately following the date of receipt if received on any day other than the last Business Day of a month; *provided, however*, that, in the case such Lender is a Defaulted Lender, Agent shall be entitled to set off the funding short fall against that Defaulted Lender's respective share of all payments received from any Borrower.

(c) Return of Payments.

(i) If Agent pays an amount to a Lender under this Agreement in the belief or expectation that a related payment has been or will be received by Agent from a Borrower and such related payment is not received by Agent, then Agent will be entitled to recover such amount from such Lender on demand without setoff, counterclaim or deduction of any kind, together with interest accruing on a daily basis at the Federal Funds Rate.

(ii) If Agent determines at any time that any amount received by Agent under this Agreement must be returned to any Borrower or paid to any other Person pursuant to any insolvency law or otherwise, then, notwithstanding any other term or condition of this Agreement or any other Financing Document, Agent will not be required to distribute any portion thereof to any Lender. In addition, each Lender will repay to Agent on demand any

portion of such amount that Agent has distributed to such Lender, together with interest at such rate, if any, as Agent is required to pay to any Borrower or such other Person, without setoff, counterclaim or deduction of any kind.

(d) Defaulted Lenders. The failure of any Defaulted Lender to make any payment required by it hereunder shall not relieve any other Lender of its obligations to make payment, but neither any other Lender nor Agent shall be responsible for the failure of any Defaulted Lender to make any payment required hereunder. Notwithstanding anything set forth herein to the contrary, a Defaulted Lender shall not have any voting or consent rights under or with respect to any Financing Document or constitute a “Lender” (or be included in the calculation of “Required Lenders” hereunder) for any voting or consent rights under or with respect to any Financing Document.

(e) Sharing of Payments. If any Lender shall obtain any payment or other recovery (whether voluntary, involuntary, by application of setoff or otherwise) on account of any Loan (other than pursuant to the terms of Section 2.8(d)) in excess of its Pro Rata Share of payments entitled pursuant to the other provisions of this Section 11.13, such Lender shall purchase from the other Lenders such participations in extensions of credit made by such other Lenders (without recourse, representation or warranty) as shall be necessary to cause such purchasing Lender to share the excess payment or other recovery ratably with each of them; *provided, however*, that if all or any portion of the excess payment or other recovery is thereafter required to be returned or otherwise recovered from such purchasing Lender, such portion of such purchase shall be rescinded and each Lender which has sold a participation to the purchasing Lender shall repay to the purchasing Lender the purchase price to the ratable extent of such return or recovery, without interest. Each Borrower agrees that any Lender so purchasing a participation from another Lender pursuant to this clause (e) may, to the fullest extent permitted by law, exercise all its rights of payment (including pursuant to Section 10.6) with respect to such participation as fully as if such Lender were the direct creditor of Borrowers in the amount of such participation). If under any applicable bankruptcy, insolvency or other similar law, any Lender receives a secured claim in lieu of a setoff to which this clause (e) applies, such Lender shall, to the extent practicable, exercise its rights in respect of such secured claim in a manner consistent with the rights of the Lenders entitled under this clause (e) to share in the benefits of any recovery on such secured claim.

Section 11.14 Right to Perform, Preserve and Protect. If any Credit Party fails to perform any obligation hereunder or under any other Financing Document, Agent itself may, but shall not be obligated to, cause such obligation to be performed at Borrowers’ expense. Agent is further authorized by Borrowers and the Lenders to make expenditures from time to time which Agent, in its reasonable business judgment, deems necessary or desirable to (a) preserve or protect the business conducted by Borrowers, the Collateral, or any portion thereof, and/or (b) enhance the likelihood of, or maximize the amount of, repayment of the Loan and other Obligations. Each Borrower hereby agrees to reimburse Agent on demand for any and all costs, liabilities and obligations incurred by Agent pursuant to this Section 11.14. Each Lender hereby agrees to indemnify Agent upon demand for any and all costs, liabilities and obligations incurred by Agent pursuant to this Section 11.14, in accordance with the provisions of Section 11.6.

Section 11.15 Additional Titled Agents. Except for rights and powers, if any, expressly reserved under this Agreement to any bookrunner, arranger or to any titled agent named on the cover page of this Agreement, other than Agent (collectively, the “Additional Titled Agents”), and except for obligations, liabilities, duties and responsibilities, if any, expressly assumed under this Agreement by any Additional Titled Agent, no Additional Titled Agent, in such capacity, has any rights, powers, liabilities, duties or responsibilities hereunder or under any of the other Financing Documents. Without limiting the foregoing, no Additional Titled Agent shall have nor be deemed to have a fiduciary relationship with any

Lender. At any time that any Lender serving as an Additional Titled Agent shall have transferred to any other Person (other than any Affiliates) all of its interests in the Loan, such Lender shall be deemed to have concurrently resigned as such Additional Titled Agent.

Section 11.16 Amendments and Waivers.

(a) No provision of this Agreement or any other Financing Document may be amended, waived or otherwise modified unless such amendment, waiver or other modification is in writing and is signed or otherwise approved by Borrowers, the Required Lenders and any other Lender to the extent required under Section 11.16(b); *provided, however*, the Fee Letter may be amended, or rights or privileges thereunder waived, in a writing executed only by the parties thereto.

(b) In addition to the required signatures under Section 11.16(a), no provision of this Agreement or any other Financing Document may be amended, waived or otherwise modified unless such amendment, waiver or other modification is in writing and is signed or otherwise approved by the following Persons:

(i) if any amendment, waiver or other modification would increase a Lender's funding obligations in respect of any Loan, by such Lender; and/or

(ii) if the rights or duties of Agent are affected thereby, by Agent;

provided, however, that, in each of (i) and (ii) above, no such amendment, waiver or other modification shall, unless signed or otherwise approved in writing by all the Lenders directly affected thereby, (A) reduce the principal of, rate of interest on or any fees with respect to any Loan or forgive any principal, interest (other than default interest) or fees (other than late charges) with respect to any Loan; (B) postpone the date fixed for, or waive, any payment (other than any mandatory prepayment pursuant to Section 2.1(a)(ii)) of principal of any Loan, or of interest on any Loan (other than default interest) or any fees provided for hereunder (other than late charges) or postpone the date of termination of any commitment of any Lender hereunder; (C) change the definition of the term Required Lenders or the percentage of Lenders which shall be required for Lenders to take any action hereunder; (D) release all or substantially all of the Collateral, authorize any Borrower to sell or otherwise dispose of all or substantially all of the Collateral, release any Guarantor of all or any portion of the Obligations or its Guarantee obligations with respect thereto, or consent to a transfer of any of the Intellectual Property, except, in each case with respect to this clause (D), as otherwise may be provided in this Agreement or the other Financing Documents (including in connection with any disposition permitted hereunder);

(E) amend, waive or otherwise modify this Section 11.16(b) or the definitions of the terms used in this Section 11.16(b) insofar as the definitions affect the substance of this Section 11.16(b); (F) consent to the assignment, delegation or other transfer by any Credit Party of any of its rights and obligations under any Financing Document or release any Borrower of its payment obligations under any Financing Document, except, in each case with respect to this clause (F), pursuant to a merger or consolidation permitted pursuant to this Agreement; or (G) amend any of the provisions of Section 10.7 or amend any of the definitions Pro Rata Share, Term Loan Commitment, Term Loan Tranche 1 Commitments, Term Loan Tranche 2 Commitments, Term Loan Tranche 3 Commitments, Term Loan [Tranche 4 Commitments](#), [Term Loan Tranche 5 Commitments](#), [Term Loan](#) Commitment Amount, Term Loan Tranche 1 Commitment Amount, Term Loan Tranche 2 Commitment Amount, Term Loan Tranche 3 Commitment Amount, Term Loan [Tranche 4 Commitment Amount](#), [Term Loan Tranche 5 Commitment Amount](#), [Term Loan](#) Commitment Percentage or that provide for the Lenders to receive their Pro Rata Shares of any fees, payments, setoffs or proceeds of Collateral hereunder. It is hereby understood and

agreed that all Lenders shall be deemed directly affected by an amendment, waiver or other modification of the type described in the preceding clauses (C), (D), (E), (F) and (G) of the preceding sentence.

Section 11.17 Assignments and Participations.

(a) Assignments.

(i) Any Lender may at any time assign to one or more Eligible Assignees all or any portion of such Lender's Loan together with all related obligations of such Lender hereunder. Except as Agent may otherwise agree, the amount of any such assignment (determined as of the date of the applicable Assignment Agreement or, if a "Trade Date" is specified in such Assignment Agreement, as of such Trade Date) shall be in a minimum aggregate amount equal to \$1,000,000 or, if less, the assignor's entire interests in the outstanding Loan; *provided, however*, that, in connection with simultaneous assignments to two or more related Approved Funds, such Approved Funds shall be treated as one assignee for purposes of determining compliance with the minimum assignment size referred to above. Borrowers and Agent shall be entitled to continue to deal solely and directly with such Lender in connection with the interests so assigned to an Eligible Assignee until Agent shall have received and accepted an effective Assignment Agreement executed, delivered and fully completed by the applicable parties thereto and a processing fee of \$3,500 to be paid by the assigning Lender; *provided, however*, that only one processing fee shall be payable in connection with simultaneous assignments to two or more related Approved Funds.

(ii) From and after the date on which the conditions described above have been met, (A) such Eligible Assignee shall be deemed automatically to have become a party hereto and, to the extent of the interests assigned to such Eligible Assignee pursuant to such Assignment Agreement, shall have the rights and obligations of a Lender hereunder, and (B) the assigning Lender, to the extent that rights and obligations hereunder have been assigned by it pursuant to such Assignment Agreement, shall be released from its rights and obligations hereunder (other than those that survive termination pursuant to Section 12.1). Upon the request of the Eligible Assignee (and, as applicable, the assigning Lender) pursuant to an effective Assignment Agreement, each Borrower shall execute and deliver to Agent for delivery to the Eligible Assignee (and, as applicable, the assigning Lender) Notes in the aggregate principal amount of the Eligible Assignee's Loan (and, as applicable, Notes in the principal amount of that portion of the principal amount of the Loan retained by the assigning Lender). Upon receipt by the assigning Lender of such Note, the assigning Lender shall return to Borrower Representative any prior Note held by it.

(iii) Agent, acting solely for this purpose as an agent of Borrower, shall maintain at the office of its servicer located in Bethesda, Maryland a copy of each Assignment Agreement delivered to it and a register for the recordation of the names and addresses of each Lender, and the commitments of, and principal amount of the Loan owing to, such Lender pursuant to the terms hereof (the "Register"). The entries in such Register shall be conclusive, absent manifest error, and Borrower, Agent and Lenders may treat each Person whose name is recorded therein pursuant to the terms hereof as a Lender hereunder for all purposes of this Agreement, notwithstanding notice to the contrary. Such Register shall be available for inspection by Borrower and any Lender, at any reasonable time upon reasonable prior notice to Agent. Each Lender that sells a participation shall, acting solely for this purpose as an agent of Borrower maintain a register on which it enters the name and address of each participant and the principal amounts (and stated interest) of each participant's interest in the Obligations (each, a

“Participant Register”). The entries in the Participant Registers shall be conclusive, absent manifest error. Each Participant Register shall be available for inspection by Borrower and Agent at any reasonable time upon reasonable prior notice to the applicable Lender; provided, that no Lender shall have any obligation to disclose all or any portion of the Participant Register (including the identity of any Participant or any information relating to a Participant's interest in any commitments, loans, letters of credit or its other obligations under any Financing Document) to any Person (including Borrower) except to the extent that such disclosure is necessary to establish that such commitment, loan, letter of credit or other obligation is in registered form under Section 5f.103-1(c) of the United States Treasury Regulations. For the avoidance of doubt, Agent (in its capacity as Agent) shall have no responsibility for maintaining a Participant Register.

(iv) Notwithstanding the foregoing provisions of this Section 11.17(a) or any other provision of this Agreement, any Lender may at any time pledge or assign a security interest in all or any portion of its rights under this Agreement to secure obligations of such Lender, including any pledge or assignment to secure obligations to a Federal Reserve Bank; *provided, however*, that no such pledge or assignment shall release such Lender from any of its obligations hereunder or substitute any such pledgee or assignee for such Lender as a party hereto.

(v) Notwithstanding the foregoing provisions of this Section 11.17(a) or any other provision of this Agreement, Agent has the right, but not the obligation, to effectuate assignments of Loan via an electronic settlement system acceptable to Agent as designated in writing from time to time to the Lenders by Agent (the “Settlement Service”). At any time when Agent elects, in its sole discretion, to implement such Settlement Service, each such assignment shall be effected by the assigning Lender and proposed assignee pursuant to the procedures then in effect under the Settlement Service, which procedures shall be consistent with the other provisions of this Section 11.17(a). Each assigning Lender and proposed Eligible Assignee shall comply with the requirements of the Settlement Service in connection with effecting any assignment of Loan pursuant to the Settlement Service. With the prior written approval of Agent, Agent's approval of such Eligible Assignee shall be deemed to have been automatically granted with respect to any transfer effected through the Settlement Service. Assignments and assumptions of the Loan shall be effected by the provisions otherwise set forth herein until Agent notifies Lenders of the Settlement Service as set forth herein.

(b) Participations. Any Lender may at any time, without the consent of, or notice to, any Borrower or Agent, sell to one or more Persons (other than any Borrower or any Borrower's Affiliates) participating interests in its Loan, commitments or other interests hereunder (any such Person, a “Participant”). In the event of a sale by a Lender of a participating interest to a Participant, (i) such Lender's obligations hereunder shall remain unchanged for all purposes, (ii) Borrowers and Agent shall continue to deal solely and directly with such Lender in connection with such Lender's rights and obligations hereunder, and (iii) all amounts payable by each Borrower shall be determined as if such Lender had not sold such participation and shall be paid directly to such Lender. Each Borrower agrees that if amounts outstanding under this Agreement are due and payable (as a result of acceleration or otherwise), each Participant shall be deemed to have the right of set-off in respect of its participating interest in amounts owing under this Agreement to the same extent as if the amount of its participating interest were owing directly to it as a Lender under this Agreement; *provided, however*, that such right of set-off shall be subject to the obligation of each Participant to share with Lenders, and Lenders agree to share with each Participant, as provided in Section 11.5.

(c) Replacement of Lenders. Within thirty (30) days after: (i) receipt by Agent of notice and demand from any Lender for payment of additional costs as provided in Section 2.8(d), which demand shall not have been revoked, (ii) any Borrower is required to pay any additional amount to any Lender or any Governmental Authority for the account of any Lender pursuant to Section 2.8(a) through (h), (iii) any Lender is a Defaulted Lender, and the circumstances causing such status shall not have been cured or waived; or (iv) any failure by any Lender to consent to a requested amendment, waiver or modification to any Financing Document in which Required Lenders have already consented to such amendment, waiver or modification but the consent of each Lender, or each Lender affected thereby, is required with respect thereto (each relevant Lender in the foregoing clauses (i) through (iv) being an "Affected Lender") each of Borrower Representative and Agent may, at its option, notify such Affected Lender and, in the case of Borrowers' election, Agent, of such Person's intention to obtain, at Borrowers' expense, a replacement Lender ("Replacement Lender") for such Lender, which Replacement Lender shall be an Eligible Assignee and, in the event the Replacement Lender is to replace an Affected Lender described in the preceding clause (iv), such Replacement Lender consents to the requested amendment, waiver or modification making the replaced Lender an Affected Lender. In the event Borrowers or Agent, as applicable, obtains a Replacement Lender within ninety (90) days following notice of its intention to do so, the Affected Lender shall sell, at par, and assign all of its Loan and funding commitments hereunder to such Replacement Lender in accordance with the procedures set forth in Section 11.17(a); *provided, however*, that (A) Borrowers shall have reimbursed such Lender for its increased costs and additional payments for which it is entitled to reimbursement under Section 2.8(a) through (h), as applicable, of this Agreement through the date of such sale and assignment, and (B) Borrowers shall pay to Agent the \$3,500 processing fee in respect of such assignment. In the event that a replaced Lender does not execute an Assignment Agreement pursuant to Section 11.17(a) within five (5) Business Days after receipt by such replaced Lender of notice of replacement pursuant to this Section 11.17(c) and presentation to such replaced Lender of an Assignment Agreement evidencing an assignment pursuant to this Section 11.17(c), such replaced Lender shall be deemed to have consented to the terms of such Assignment Agreement, and any such Assignment Agreement executed by Agent, the Replacement Lender and, to the extent required pursuant to Section 11.17(a), Borrowers, shall be effective for purposes of this Section 11.17(c) and Section 11.17(a). Upon any such assignment and payment, such replaced Lender shall no longer constitute a "Lender" for purposes hereof, other than with respect to such rights and obligations that survive termination as set forth in Section 12.1.

(d) Credit Party Assignments. No Credit Party may assign, delegate or otherwise transfer any of its rights or other obligations hereunder or under any other Financing Document without the prior written consent of Agent and each Lender.

Section 11.18 Funding and Settlement Provisions Applicable When Non-Funding Lenders Exist. So long as Agent has not waived the conditions to the funding of Loans set forth in Section 7.2 or Section 2.1, any Lender may deliver a notice to Agent stating that such Lender shall not fund any tranche of the Term Loan due to the non-satisfaction of one or more conditions to funding Loans set forth in Section 7.2 or Section 2.1, and specifying any such non-satisfied conditions. Any Lender delivering any such notice shall become a non-funding Lender (a “Non-Funding Lender”) for purposes of this Agreement commencing on the Business Day following receipt by Agent of such notice, and shall cease to be a Non-Funding Lender on the date on which such Lender has either revoked the effectiveness of such notice or acknowledged in writing to each of Agent the satisfaction of the condition(s) specified in such notice, or Required Lenders waive the conditions to the funding of such Loans giving rise to such notice by Non-Funding Lender. Each Non-Funding Lender shall remain a Lender for purposes of this Agreement to the extent that such Non-Funding Lender has Term Loans outstanding in excess of Zero Dollars (\$0); *provided, however*; that during any period of time that any Non-Funding Lender exists, and notwithstanding any provision to the contrary set forth herein, the following provisions shall apply:

(a) For purposes of determining the Pro Rata Share of each Lender under clause (b) of the definition of such term, each Non-Funding Lender shall be deemed to have a Term Loan Commitment Amount as in effect immediately before such Lender became a Non-Funding Lender.

(b) Except as provided in clause (a) above, the Term Loan Commitment Amount of each Non-Funding Lender shall be deemed to be Zero Dollars (\$0).

(c) The Term Loan Commitment at any date of determination during such period shall be deemed to be equal to the sum of (i) the aggregate Term Loan Commitment Amounts of all Lenders, other than the Non-Funding Lenders as of such date *plus* (ii) the aggregate principal amount outstanding under the Term Loans of all Non-Funding Lenders as of such date.

ARTICLE 12 - MISCELLANEOUS

Section 12.1 Survival. All agreements, representations and warranties made herein and in every other Financing Document shall survive the execution and delivery of this Agreement and the other Financing Documents. The provisions of Section 2.10 and Articles 11 and 12 shall survive the payment of the Obligations (both with respect to any Lender and all Lenders collectively) and any termination of this Agreement and any judgment with respect to any Obligations, including any final foreclosure judgment with respect to any Security Document, and no unpaid or unperformed, current or future, Obligations will merge into any such judgment.

Section 12.2 No Waivers. No failure or delay by Agent or any Lender in exercising any right, power or privilege under any Financing Document shall operate as a waiver thereof nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any other right, power or privilege. The rights and remedies herein and therein provided shall be cumulative and not exclusive of any rights or remedies provided by law. Any reference in any Financing Document to the “continuing” nature of any Event of Default shall not be construed as establishing or otherwise indicating that any Borrower or any other Credit Party has the independent right to cure any such Event of Default, but is rather presented merely for convenience should such Event of Default be waived in accordance with the terms of the applicable Financing Documents.

Section 12.3 Notices.

(a) All notices, requests and other communications to any party hereunder shall be in writing (including prepaid overnight courier, facsimile transmission or similar writing) and shall be given to such party at its address, facsimile number or e-mail address set forth on the signature pages hereof (or, in the case of any such Lender who becomes a Lender after the date hereof, in an assignment agreement or in a notice delivered to Borrower Representative and Agent by the assignee Lender forthwith upon such assignment) or at such other address, facsimile number or e-mail address as such party may hereafter specify for the purpose by notice to Agent and Borrower Representative; *provided, however*, that notices, requests or other communications shall be permitted by electronic means only in accordance with the provisions of Section 12.3(b) and (c). Each such notice, request or other communication shall be effective (i) if given by facsimile, when such notice is transmitted to the facsimile number specified by this Section and the sender receives a confirmation of transmission from the sending facsimile machine, or (ii) if given by mail, prepaid overnight courier or any other means, when received or when receipt is refused at the applicable address specified by this Section 12.3(a).

(b) Notices and other communications to the parties hereto may be delivered or furnished by electronic communication (including e-mail and Internet or intranet websites) pursuant to procedures approved from time to time by Agent, *provided, however*, that the foregoing shall not apply to notices sent directly to any Lender if such Lender has notified Agent that it is incapable of receiving notices by electronic communication. Agent or Borrower Representative may, in their discretion, agree to accept notices and other communications to them hereunder by electronic communications pursuant to procedures approved by it, *provided, however*, that approval of such procedures may be limited to particular notices or communications.

(c) Unless Agent otherwise prescribes, (i) notices and other communications sent to an e-mail address shall be deemed received upon the sender's receipt of an acknowledgment from the intended recipient (such as by the "return receipt requested" function, as available, return e-mail or other written acknowledgment), and (ii) notices or communications posted to an Internet or intranet website shall be deemed received upon the deemed receipt by the intended recipient at its e-mail address as described in the foregoing clause (i) of notification that such notice or communication is available and identifying the website address therefor, *provided, however*, that if any such notice or other communication is not sent or posted during normal business hours, such notice or communication shall be deemed to have been sent at the opening of business on the next Business Day.

Section 12.4 Severability. In case any provision of or obligation under this Agreement or any other Financing Document shall be invalid, illegal or unenforceable in any jurisdiction, the validity, legality and enforceability of the remaining provisions or obligations, or of such provision or obligation in any other jurisdiction, shall not in any way be affected or impaired thereby.

Section 12.5 Headings. Headings and captions used in the Financing Documents (including the Exhibits, Schedules and Annexes hereto and thereto) are included for convenience of reference only and shall not be given any substantive effect.

Section 12.6 Confidentiality.

(a) Each Credit Party agrees (i) not to transmit or disclose provisions of any Financing Document to any Person (other than to Borrowers' advisors and officers on a need-to-know basis or as otherwise may be required by Law) without Agent's prior written consent, (ii) to inform all

Persons of the confidential nature of the Financing Documents and to direct them not to disclose the same to any other Person and to require each of them to be bound by these provisions.

(b) Agent and each Lender shall hold all non-public information regarding the Credit Parties and their respective businesses identified as such by Borrowers and obtained by Agent or any Lender pursuant to the requirements hereof in accordance with such Person's customary procedures for handling information of such nature, except that disclosure of such information may be made (i) to their respective agents, employees, Subsidiaries, Affiliates, attorneys, auditors, professional consultants, rating agencies, insurance industry associations and portfolio management services, (ii) to prospective transferees or purchasers of any interest in the Loans, Agent or a Lender, but solely for use by such prospective transferee or purchaser to evaluate such interest in the making of such transfer or purchase; *provided, however*, that any such Persons are bound by obligations of confidentiality similar to or more stringent than this Section 12.6, (iii) as required by Law, subpoena, judicial order or similar order and in connection with any litigation, (iv) as may be required in connection with the examination, audit or similar investigation of such Person, provided that all participants have agreed to keep such information confidential (subject to customary exceptions), and (v) to a Person that is a trustee, investment advisor or investment manager, collateral manager, servicer, noteholder or secured party in a Securitization (as hereinafter defined) in connection with the administration, servicing and reporting on the assets serving as collateral for such Securitization who have agreed to keep such information confidential (subject to customary exceptions). For the purposes of this Section, "Securitization" means (A) the pledge of the Loans as collateral security for loans to a Lender, or (B) a public or private offering by a Lender or any of its Affiliates or their respective successors and assigns, of securities which represent an interest in, or which are collateralized, in whole or in part, by the Loans. Confidential information shall include only such information identified as such at the time provided to Agent and shall not include information that either: (y) is in the public domain, or becomes part of the public domain after disclosure to such Person through no fault of such Person, or (z) is disclosed to such Person by a Person other than a Credit Party, *provided, however*, Agent does not have actual knowledge that such Person is prohibited from disclosing such information. The obligations of Agent and Lenders under this Section 12.6 shall supersede and replace the obligations of Agent and Lenders under any confidentiality agreement in respect of this financing executed and delivered by Agent or any Lender prior to the date hereof.

Section 12.7 Waiver of Consequential and Other Damages. To the fullest extent permitted by applicable law, no Borrower shall assert, and each Borrower hereby waives, any claim against any Indemnitee (as defined below), on any theory of liability, for special, indirect, consequential or punitive damages (as opposed to direct or actual damages) arising out of, in connection with, or as a result of this Agreement, any other Financing Document or any agreement or instrument contemplated hereby or thereby, the transactions contemplated hereby or thereby, any Loan or the use of the proceeds thereof. No Indemnitee shall be liable for any damages arising from the use by unintended recipients of any information or other materials distributed by it through telecommunications, electronic or other information transmission systems in connection with this Agreement or the other Financing Documents or the transactions contemplated hereby or thereby.

Section 12.8 GOVERNING LAW; SUBMISSION TO JURISDICTION.

(a) THIS AGREEMENT, EACH NOTE AND EACH OTHER FINANCING DOCUMENT, AND ALL DISPUTES AND OTHER MATTERS RELATING HERETO OR THERETO OR ARISING THEREFROM (WHETHER SOUNDING IN CONTRACT LAW, TORT LAW OR OTHERWISE), SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK, WITHOUT

(b) EACH PARTY HERETO HEREBY CONSENTS TO THE JURISDICTION OF ANY STATE OR FEDERAL COURT LOCATED IN THE STATE OF NEW YORK IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, AND IRREVOCABLY AGREES THAT ALL ACTIONS OR PROCEEDINGS ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE OTHER FINANCING DOCUMENTS SHALL BE LITIGATED IN SUCH COURTS. EACH PARTY HERETO EXPRESSLY SUBMITS AND CONSENTS TO THE JURISDICTION OF THE AFORESAID COURTS AND WAIVES ANY DEFENSE OF FORUM NON CONVENIENS. EACH PARTY HERETO HEREBY WAIVES PERSONAL SERVICE OF ANY AND ALL PROCESS AND AGREES THAT ALL SUCH SERVICE OF PROCESS MAY BE MADE UPON SUCH PARTY BY CERTIFIED OR REGISTERED MAIL, RETURN RECEIPT REQUESTED, ADDRESSED TO SUCH PARTY AT THE ADDRESS SET FORTH IN THIS AGREEMENT AND SERVICE SO MADE SHALL BE COMPLETE TEN (10) DAYS AFTER THE SAME HAS BEEN POSTED.

Section 12.9 WAIVER OF JURY TRIAL.

(a) EACH BORROWER, AGENT AND THE LENDERS HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THE FINANCING DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED THEREBY AND AGREES THAT ANY SUCH ACTION OR PROCEEDING SHALL BE TRIED BEFORE A COURT AND NOT BEFORE A JURY. EACH BORROWER, AGENT AND EACH LENDER ACKNOWLEDGES THAT THIS WAIVER IS A MATERIAL INDUCEMENT TO ENTER INTO A BUSINESS RELATIONSHIP, THAT EACH HAS RELIED ON THE WAIVER IN ENTERING INTO THIS AGREEMENT AND THE OTHER FINANCING DOCUMENTS, AND THAT EACH WILL CONTINUE TO RELY ON THIS WAIVER IN THEIR RELATED FUTURE DEALINGS. EACH BORROWER, AGENT AND EACH LENDER WARRANTS AND REPRESENTS THAT IT HAS HAD THE OPPORTUNITY OF REVIEWING THIS JURY WAIVER WITH LEGAL COUNSEL, AND THAT IT KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS. In the event any such action or proceeding is brought or filed in any United States federal court sitting in the State of California or in any state court of the State of California, and the waiver of jury trial set forth in Section 12.9(a) hereof is determined or held to be ineffective or unenforceable, the parties agree that all actions or proceedings shall be resolved by reference to a private judge sitting without a jury, pursuant to California Code of Civil Procedure Section 638, before a mutually acceptable referee or, if the parties cannot agree, a referee selected by the Presiding Judge of the Los Angeles County, California. Such proceeding shall be conducted in Los Angeles County, California, with California rules of evidence and discovery applicable to such proceeding. In the event any actions or proceedings are to be resolved by judicial reference, any party may seek from any court having jurisdiction thereover any prejudgment order, writ or other relief and have such prejudgment order, writ or other relief enforced to the fullest extent permitted by Law notwithstanding that all actions or proceedings are otherwise subject to resolution by judicial reference.

Section 12.10 Publication; Advertisement.

(a) Publication. No Credit Party will directly or indirectly publish, disclose or otherwise use in any public disclosure, advertising material, promotional material, press release or interview, any reference to the name, logo or any trademark of MCF or any of its Affiliates or any reference to this Agreement or the financing evidenced hereby, in any case except (i) as required by

Law, subpoena or judicial or similar order, in which case the applicable Credit Party shall give Agent prior written notice of such publication or other disclosure, or (ii) with MCF's prior written consent.

(b) Advertisement. Each Lender and each Credit Party hereby authorizes MCF to publish the name of such Lender and Credit Party, the existence of the financing arrangements referenced under this Agreement, the primary purpose and/or structure of those arrangements, the amount of credit extended under each facility, the title and role of each party to this Agreement, and the total amount of the financing evidenced hereby in any "tombstone", comparable advertisement or press release which MCF elects to submit for publication. In addition, each Lender and each Credit Party agrees that MCF may provide lending industry trade organizations with information necessary and customary for inclusion in league table measurements after the Closing Date. With respect to any of the foregoing, MCF shall provide Borrowers with an opportunity to review and confer with MCF regarding the contents of any such tombstone, advertisement or information, as applicable, prior to its submission for publication and, following such review period, MCF may, from time to time, publish such information in any media form desired by MCF, until such time that Borrowers shall have requested MCF cease any such further publication.

Section 12.11 Counterparts; Integration. This Agreement and the other Financing Documents may be signed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. Signatures by facsimile or by electronic mail delivery of an electronic version of any executed signature page shall bind the parties hereto. In furtherance of the foregoing, the words "execution", "signed", "signature", "delivery" and words of like import in or relating to any document to be signed in connection with this Agreement and the transactions contemplated hereby or thereby shall be deemed to include Electronic Signatures, deliveries or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature, physical delivery thereof or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act. As used herein, "Electronic Signature" means an electronic sound, symbol, or process attached to, or associated with, a contract or other record and adopted by a Person with the intent to sign, authenticate or accept such contract or other record. This Agreement and the other Financing Documents constitute the entire agreement and understanding among the parties hereto and supersede any and all prior agreements and understandings, oral or written, relating to the subject matter hereof.

Section 12.12 No Strict Construction. The parties hereto have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the parties hereto and no presumption or burden of proof shall arise favoring or disfavoring any party by virtue of the authorship of any provisions of this Agreement.

Section 12.13 Lender Approvals. Unless expressly provided herein to the contrary, any approval, consent, waiver or satisfaction of Agent or Lenders with respect to any matter that is the subject of this Agreement, the other Financing Documents may be granted or withheld by Agent and Lenders in their sole and absolute discretion and credit judgment.

Section 12.14 Expenses; Indemnity

(a) Except with respect to Indemnified Taxes, Other Taxes and Excluded Taxes, which shall be governed exclusively by Section 2.8, Borrowers hereby agree to promptly pay (i) all reasonable costs and expenses of Agent (including, without limitation, the fees, costs and expenses of counsel to, and independent appraisers and consultants retained by Agent subject to the limitations set forth herein) in connection with the examination, review, due diligence investigation, documentation, negotiation, closing and syndication of the transactions contemplated by the Financing Documents, in connection with the performance by Agent of its rights and remedies under the Financing Documents and in connection with the continued administration of the Financing Documents including (A) any amendments, modifications, consents and waivers to and/or under any and all Financing Documents, and (B) any periodic public record searches conducted by or at the request of Agent (including, without limitation, title investigations, UCC searches, fixture filing searches, judgment, pending litigation and tax lien searches and searches of applicable corporate, limited liability, partnership and related records concerning the continued existence, organization and good standing of certain Persons); (ii) without limitation of the preceding clause (i), all reasonable costs and expenses of Agent in connection with the creation, perfection and maintenance of Liens pursuant to the Financing Documents; (iii) without limitation of the preceding clause (i), all costs and expenses of Agent in connection with (A) protecting, storing, insuring, handling, maintaining or selling any Collateral, (B) any litigation, dispute, suit or proceeding relating to any Financing Document, other than disputes solely among Lenders and/or Agent (other than any claims against such person in its capacity or in fulfilling its role as Agent, arranger or any similar role hereunder) to the extent such disputes do not arise from any act or omission of any Credit Party or of any Affiliate of a Credit Party, and (C) any workout, collection, bankruptcy, insolvency and other enforcement proceedings under any and all of the Financing Documents; (iv) without limitation of the preceding clause (i), all reasonable costs and expenses of Agent in connection with Agent's reservation of funds in anticipation of the funding of the initial Loans to be made hereunder; and (v) all costs and expenses incurred by Lenders in connection with any litigation, dispute, suit or proceeding relating to any Financing Document, other than disputes solely among Lenders and/or Agent (other than any claims against such person in its capacity or in fulfilling its role as Agent, arranger or any similar role hereunder) to the extent such disputes do not arise from any act or omission of any Credit Party or of any Affiliate of a Credit Party, and in connection with any workout, collection, bankruptcy, insolvency and other enforcement proceedings under any and all Financing Documents, whether or not Agent or Lenders are a party thereto.

(b) Each Borrower hereby agrees to indemnify, pay and hold harmless Agent and Lenders and the officers, directors, employees, trustees, agents, investment advisors and investment managers, collateral managers, servicers, and counsel of Agent and Lenders (collectively called the "Indemnitees") from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, claims, costs, expenses and disbursements of any kind or nature whatsoever (including the documented out-of-pocket fees and disbursements of counsel for such Indemnitee) in connection with any investigative, response, remedial, administrative or judicial matter or proceeding, whether or not such Indemnitee shall be designated a party thereto and including any such proceeding initiated by or on behalf of a Credit Party, and the reasonable expenses of investigation by engineers, environmental consultants and similar technical personnel and any commission, fee or compensation claimed by any broker (other than any broker retained by Agent or Lenders) asserting any right to payment for the transactions contemplated hereby, which may be imposed on, incurred by or asserted against such Indemnitee as a result of or in connection with the transactions contemplated hereby or by the other Financing Documents (including (i)(A) as a direct or indirect result of the presence on or under, or escape, seepage, leakage, spillage, discharge, emission or release from, any property now or previously owned, leased or operated by Borrower, any Subsidiary or any other Person of any Hazardous Materials, (B) arising out of or relating to the offsite disposal of any materials generated or present on any such property, or (C) arising out of or resulting from the environmental condition of any such property or the

applicability of any governmental requirements relating to Hazardous Materials, whether or not occasioned wholly or in part by any condition, accident or event caused by any act or omission of Borrower or any Subsidiary, and (ii) proposed and actual extensions of credit under this Agreement) and the use or intended use of the proceeds of the Loans, except that Borrower shall have no obligation hereunder to an Indemnitee with respect to any liability resulting from the gross negligence or willful misconduct of such Indemnitee, as determined by a final non-appealable judgment of a court of competent jurisdiction. To the extent that the undertaking set forth in the immediately preceding sentence may be unenforceable, Borrower shall contribute the maximum portion which it is permitted to pay and satisfy under applicable Law to the payment and satisfaction of all such indemnified liabilities incurred by the Indemnitees or any of them. This Section 12.14(b) shall not apply with respect to Taxes other than any Taxes that represent losses, claims, damages, etc. arising from any non-Tax claim

(c) Notwithstanding any contrary provision in this Agreement, the obligations of Borrowers under this Section 12.14 shall survive the payment in full of the Obligations and the termination of this Agreement. NO INDEMNITEE SHALL BE RESPONSIBLE OR LIABLE TO THE BORROWERS OR TO ANY OTHER PARTY TO ANY FINANCING DOCUMENT, ANY SUCCESSOR, ASSIGNEE OR THIRD PARTY BENEFICIARY OR ANY OTHER PERSON ASSERTING CLAIMS DERIVATIVELY THROUGH SUCH PARTY, FOR INDIRECT, PUNITIVE, EXEMPLARY OR CONSEQUENTIAL DAMAGES WHICH MAY BE ALLEGED AS A RESULT OF CREDIT HAVING BEEN EXTENDED, SUSPENDED OR TERMINATED UNDER THIS AGREEMENT OR ANY OTHER FINANCING DOCUMENT OR AS A RESULT OF ANY OTHER TRANSACTION CONTEMPLATED HEREUNDER OR THEREUNDER.

(d) Each Borrower for itself and all endorsers, guarantors and sureties and their heirs, legal representatives, successors and assigns, hereby further specifically waives any rights that it may have under Section 1542 of the California Civil Code (to the extent applicable), which provides as follows: "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR," and further waives any similar rights under applicable Laws.

Section 12.15 Reinstatement. This Agreement shall remain in full force and effect and continue to be effective should any petition or other proceeding be filed by or against any Credit Party for liquidation or reorganization, should any Credit Party become insolvent or make an assignment for the benefit of any creditor or creditors or should an interim receiver, receiver, receiver and manager or trustee be appointed for all or any significant part of any Credit Party's assets, and shall continue to be effective or to be reinstated, as the case may be, if at any time payment and performance of the Obligations, or any part thereof, is, pursuant to applicable law, rescinded or reduced in amount, or must otherwise be restored or returned by any obligee of the Obligations, whether as a fraudulent preference reviewable transaction or otherwise, all as though such payment or performance had not been made. In the event that any payment, or any part thereof, is rescinded, reduced, restored or returned, the Obligations shall be reinstated and deemed reduced only by such amount paid and not so rescinded, reduced, restored or returned.

Section 12.16 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of Borrowers and Agent and each Lender and their respective successors and permitted assigns.

Section 12.17 USA PATRIOT Act Notification. Agent (for itself and not on behalf of any Lender) and each Lender hereby notifies Borrowers that pursuant to the requirements of the USA

PATRIOT Act, it is required to obtain, verify and record certain information and documentation that identifies Borrowers, which information includes the name and address of Borrower and such other information that will allow Agent or such Lender, as applicable, to identify Borrowers in accordance with the USA PATRIOT Act.

Section 12.18 Acknowledgement and Consent to Bail-In of EEA Financial Institutions. Notwithstanding anything to the contrary in any Financing Document or in any other agreement, arrangement or understanding among any such parties, each party hereto acknowledges that any liability of any EEA Financial Institution arising under any Financing Document, to the extent such liability is unsecured, may be subject to the write-down and conversion powers of an EEA Resolution Authority and agrees and consents to, and acknowledges and agrees to be bound by:

(a) the application of any Write-Down and Conversion Powers by an EEA Resolution Authority to any such liabilities arising hereunder which may be payable to it by any party hereto that is an EEA Financial Institution; and

(b) the effects of any Bail-In Action on any such liability, including, if applicable:

(i) a reduction in full or in part or cancellation of any such liability;

(ii) a conversion of all, or a portion of, such liability into shares or other instruments of ownership in such EEA Financial Institution, its parent undertaking, or a bridge institution that may be issued to it or otherwise conferred on it, and that such shares or other instruments of ownership will be accepted by it in lieu of any rights with respect to any such liability under this Agreement or any other Financing Document; or

(iii) the variation of the terms of such liability in connection with the exercise of the write-down and conversion powers of any EEA Resolution Authority.

[SIGNATURES APPEAR ON FOLLOWING PAGE(S)]

IN WITNESS WHEREOF, intending to be legally bound, each of the parties have caused this Agreement to be executed on the day and year first above mentioned.

BORROWERS:

AKOYA BIOSCIENCES, INC.

By: _____
Name: _____
Title: _____

Address:

Attn: _____
Facsimile: _____
E-Mail: _____

AGENT:

MIDCAP FINANCIAL TRUST

By: Apollo Capital Management, L.P.,
its investment manager

By: Apollo Capital Management GP, LLC,
its general partner

By:

Name: _____
Maurice Amsellem
Title: Authorized Signatory

Address:

c/o MidCap Financial Services, LLC, as servicer
7255 Woodmont Avenue, Suite 300
Bethesda, Maryland 20814
Attn: Account Manager for Akoya transaction
Facsimile: 301-941-1450
E-mail: notices@midcapfinancial.com

with a copy to:

c/o MidCap Financial Services, LLC, as servicer
7255 Woodmont Avenue, Suite 300
Bethesda, Maryland 20814
Attn: General Counsel
Facsimile: 301-941-1450
E-mail: legalnotices@midcapfinancial.com

Payment Account Designation:

SunTrust Bank, N.A. ABA #: 061000104
Account Name: MidCap Financial Trust – Collections
Account #: 1000113400435
Attention: Akoya Facility

LENDER:

MIDCAP FINANCIAL TRUST

By: Apollo Capital Management, L.P.,
its investment manager

By: Apollo Capital Management GP, LLC,
its general partner

By:

Name: Maurice Amsellem
Title: Authorized Signatory

Address:

c/o MidCap Financial Services, LLC, as servicer
7255 Woodmont Avenue, Suite 300
Bethesda, Maryland 20814
Attn: Account Manager for Akoya transaction
Facsimile: 301-941-1450
E-mail: notices@midcapfinancial.com

with a copy to:

c/o MidCap Financial Services, LLC, as servicer
7255 Woodmont Avenue, Suite 300
Bethesda, Maryland 20814 Attn: General Counsel
Facsimile: 301-941-1450
E-mail: legalnotices@midcapfinancial.com

LENDER:

APOLLO INVESTMENT CORPORATION

By: Apollo Investment Management, L.P.,
as Advisor

By: ACC Management, LLC, as its General Partner

By:

Name: Joseph D. Glatt
Title: Vice President

ANNEXES, EXHIBITS AND SCHEDULES

ANNEXES

Annex A Commitment Annex

EXHIBITS

Exhibit A [Reserved]
Exhibit B Form of Compliance Certificate
Exhibit C [Reserved]
Exhibit D Form of Notice of Borrowing
Exhibit E-1 Form of U.S. Tax Compliance Certificate
Exhibit E-2 Form of U.S. Tax Compliance Certificate
Exhibit E-3 Form of U.S. Tax Compliance Certificate
Exhibit E-4 Form of U.S. Tax Compliance Certificate
Exhibit F Closing Checklist

SCHEDULES

Schedule 2.1 Scheduled Principal Payments for Term Loan
Schedule 3.1 Existence, Organizational ID Numbers, Foreign Qualification, Prior Names
Schedule 3.4 Capitalization
Schedule 3.6 Litigation
Schedule 3.17 Material Contracts
Schedule 3.18 Environmental Compliance
Schedule 3.19 Intellectual Property
Schedule 4.9 Litigation, Governmental Proceedings and Other Notice Events
Schedule 4.17 Products
Schedule 5.1 Debt; Contingent Obligations
Schedule 5.2 Liens
Schedule 5.7 Permitted Investments
Schedule 5.8 Affiliate Transactions
Schedule 5.11 Business Description
Schedule 5.14 Deposit Accounts and Securities Accounts
Schedule 6.1 Minimum Net Revenue
Schedule 7.4 Post-Closing Obligations
Schedule 9.1 Collateral
Schedule 9.2(b) Location of Collateral
Schedule 9.2(d) Chattel Paper, Letter of Credit Rights, Commercial Tort Claims, Instruments, Documents, Investment Property

Annex A to Credit Agreement (Commitment Annex)

<u>Lender</u>	<u>Term Loan Tranche 1 Commitment Amount</u>	<u>Term Loan Tranche 1 Commitment Percentage</u>	<u>Term Loan Tranche 2 Commitment Amount</u>	<u>Term Loan Tranche 2 Commitment Percentage</u>	<u>Term Loan Tranche 3 Commitment Amount</u>	<u>Term Loan Tranche 3 Commitment Percentage</u>	<u>Term Loan Tranche 4 Commitment Amount</u>	<u>Term Loan Tranche 4 Commitment Percentage</u>	<u>Term Loan Tranche 5 Commitment Amount</u>	<u>Term Loan Tranche 5 Commitment Percentage</u>
MidCap Financial Trust	\$0	0.0%	\$0	0.0%	\$7,000,000	0.0%	\$2,875,000	25.6%	\$7,875,000	70.0%
MidCap Funding XIII Trust	\$0	0.0%	\$7,000,000	70.0%	\$7,000,000	70.0%	\$0	0.0%	\$0	0.0%
ELM 2020-3 Trust	\$12,750,000	39.2%	\$0	0.0%	\$0	0.0%	\$0	0.0%	\$0	0.0%
ELM 2020-4 Trust	\$10,000,000	30.8%	\$0	0.0%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Apollo Alster Lending Fund (LUX) SCSp	\$0	0.0%	\$0	0.0%	\$0	0.0%	\$5,000,000	44.4%	\$0	0.0%
Apollo MidCap Financial Investment Corporation	\$9,750,000	30.0%	\$3,000,000	30.0%	\$3,000,000	30.0%	\$3,375,000	30.0%	\$3,375,000	30.0%
TOTALS	\$32,500,000.00	100%	\$10,000,000.00	100%	\$10,000,000.00	100%	\$11,250,000.00	100%	\$11,250,000.00	100%

COMPLIANCE CERTIFICATE

This Compliance Certificate is given by ___, a Responsible Officer of _____ (the "Borrower Representative"), pursuant to that certain Credit and Security Agreement (Term Loan) dated as of __, 202 among the Borrower Representative, _and any additional Borrower that may hereafter be added thereto (collectively, "Borrowers"), MidCap Financial Trust, individually as a Lender and as Agent, and the financial institutions or other entities from time to time parties hereto, each as a Lender (as such agreement may have been amended, restated, supplemented or otherwise modified from time to time, the "Credit Agreement"). Capitalized terms used herein without definition shall have the meanings set forth in the Credit Agreement.

The undersigned Responsible Officer hereby certifies to Agent and Lenders that:

- (a) the financial statements delivered with this certificate in accordance with Section 4.1 of the Credit Agreement fairly present in all material respects the results of operations and financial condition of Borrowers and their Consolidated Subsidiaries as of the dates and the accounting period covered by such financial statements;
 - (b) the representations and warranties of each Credit Party contained in the Financing Documents are true, correct and complete in all material respects on and as of the date hereof, except to the extent that any such representation or warranty relates to a specific date in which case such representation or warranty shall be true and correct in all material respects as of such earlier date; provided, however, in each case, such materiality qualifier shall not be applicable to any representations and warranties that already are qualified or modified by materiality in the text thereof;
 - (c) I have reviewed the terms of the Credit Agreement and have made, or caused to be made under my supervision, a review in reasonable detail of the transactions and conditions of Borrowers and their Consolidated Subsidiaries during the accounting period covered by such financial statements, and such review has not disclosed the existence during or at the end of such accounting period, and I have no knowledge of the existences as of the date hereof, of any condition or event that constitutes a Default or Event of Default, except as set forth in Schedule 1 hereto, which includes a description of the nature and period of existence of such Default or an Event of Default and what action Borrowers have taken, are undertaking and propose to take with respect thereto;
 - (d) except as noted on Schedule 2 attached hereto, Schedule 9.2(b) to the Credit Agreement contains a complete and accurate list of all business locations of Borrowers and Guarantors and all names under which Borrowers and Guarantors currently conduct business and required to be disclosed pursuant to Article 9 of the Credit Agreement; Schedule 2 specifically notes any changes in the names under which any Borrower or Guarantors conduct business;
 - (e) except as noted on Schedule 3 attached hereto, the undersigned has no knowledge of (i) any federal or state tax liens having been filed against any Borrower, Guarantor or any Collateral, or (ii) any failure of any Borrower or any Guarantors to make required payments of withholding or other tax obligations of any Borrower or any Guarantors during the accounting period to which the attached statements pertain or any subsequent period that are required to be made in accordance with Section 4.2 of the Credit Agreement;
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(f) except as noted on Schedule 4 attached hereto, or as the Borrower Representative may have notified Agent on any Schedule 4 to any previous Compliance Certificate, Schedule 5.14 to the Credit Agreement contains a complete and accurate statement of all deposit accounts or investment accounts maintained by Borrowers and Guarantors;

(g) except as noted on Schedule 5 attached hereto, or as the Borrower Representative may have notified Agent on any Schedule 5 to any previous Compliance Certificate, Schedule 3.19 to the Credit Agreement is true and correct in all material respects;

(h) except as noted on Schedule 6 attached hereto, or as the Borrower Representative may have notified Agent on any Schedule 6 to any previous Compliance Certificate, no Borrower or Guarantor has acquired, by purchase or otherwise, any Chattel Paper, Letter of Credit Rights, Instruments, Documents or Investment Property that is required to be disclosed pursuant to Section 9.2 of the Credit Agreement;

(i) except as noted on Schedule 7 attached hereto, or as the Borrower Representative may have notified Agent on any Schedule 7 to any previous Compliance Certificate, no Borrower or Guarantor is aware of any commercial tort claim that is required to be disclosed pursuant to Section 9.2 of the Credit Agreement;

(j) The aggregate amount of cash and Cash Equivalents held by Borrowers (on a consolidated basis) as of the date hereof is \$[];

(k) the aggregate amount of cash and Cash Equivalents held by the Restricted Foreign Subsidiaries as of the date hereof is \$_(or the equivalent thereof in foreign currency).

(l) Net Revenue of Borrowers for the relevant Defined Period is equal to \$[_____];

(m) Borrowers and Guarantor are [NOT] in compliance with the covenants contained in Article 6 of the Credit Agreement, and in any Guarantee constituting a part of the Financing Documents, as demonstrated by the calculation of such covenants below, except as set forth below; in determining such compliance, the following calculations have been made: [See attached worksheets]. Such calculations and the certifications contained therein are true, correct and complete; and

The foregoing certifications and computations are made as of _____, 202__(end of month) and as of _____, 202 .

Sincerely,

AKOYA BIOSCIENCES, INC.

By: _____
Name: _____
Title: _____

NOTICE OF BORROWING

This Notice of Borrowing is given by _____, a Responsible Officer of Akoya Biosciences, Inc. (the "Borrower Representative"), pursuant to that certain Credit and Security Agreement (Term Loan) dated as of _____, 202 among the Borrower Representative, _____ and any additional Borrower that may hereafter be added thereto (collectively, "Borrowers"), MidCap Financial Trust, individually as a Lender and as Agent, and the financial institutions or other entities from time to time parties hereto, each as a Lender (as such agreement may have been amended, restated, supplemented or otherwise modified from time to time, the "Credit Agreement"). Capitalized terms used herein without definition shall have the meanings set forth in the Credit Agreement.

The undersigned Responsible Officer hereby gives notice to Agent of Borrower Representative's request to borrow \$ _____ on _____, 2020.

The undersigned officer hereby certifies that, both before and after giving effect to the request above (a) each of the conditions precedent set forth in Section 7.2 have been satisfied, (b) all of the representations and warranties contained in the Credit Agreement and the other Financing Documents are true, correct and complete as of the date hereof, except to the extent such representation or warranty relates to a specific date, in which case such representation or warranty is true, correct and complete as of such earlier date, and (c) no Default or Event of Default has occurred and is continuing on the date hereof.

IN WITNESS WHEREOF, the undersigned officer has executed and delivered this Notice of Borrowing this _____ day of _____, 2020

Sincerely,

[BORROWER REPRESENTATIVE]

By: _____
Name: _____
Title: _____



U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Lenders That Are Not Partnerships For U.S. Federal Income Tax Purposes)

This U.S. Tax Compliance Certificate is given pursuant to that certain Credit and Security Agreement (Term Loan) dated as of October 27, 2020 among the Borrower Representative, and any additional Borrower that may hereafter be added thereto (collectively, "Borrowers"), MidCap Financial Trust, individually as a Lender and as Agent, and the financial institutions or other entities from time to time parties hereto, each as a Lender (as such agreement may have been amended, restated, supplemented or otherwise modified from time to time, the "Credit Agreement"). Capitalized terms used herein without definition shall have the meanings set forth in the Credit Agreement.

Pursuant to the provisions of Section 2.8(c) of the Credit Agreement, the undersigned hereby certifies that (i) it is the sole record and beneficial owner of the Loan(s) (as well as any Note(s) evidencing such Loan(s)) in respect of which it is providing this certificate, (ii) it is not a bank within the meaning of Section 881(c)(3)(A) of the Code, (iii) it is not a ten percent shareholder of any Borrower within the meaning of Section 871(h)(3)(B) of the Code and (iv) it is not a controlled foreign corporation related to any Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished Agent and the Borrower Representative with a certificate of its non-U.S. Person status on IRS Form W-8BEN or IRS Form W-8BEN-E. By executing this certificate, the undersigned agrees that (1) if the information provided on this certificate changes, the undersigned shall promptly so inform the Borrower Representative and Agent, and (2) the undersigned shall have at all times furnished the Borrower Representative and Agent with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

[NAME OF LENDER]

By: _____

Name:

Title:

Date: _____, 20[]



U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Participants That Are Not Partnerships For U.S. Federal Income Tax Purposes)

This U.S. Tax Compliance Certificate is given pursuant to that certain Credit and Security Agreement (Term Loan) dated as of October 27, 2020 among the Borrower Representative, and any additional Borrower that may hereafter be added thereto (collectively, "Borrowers"), MidCap Financial Trust, individually as a Lender and as Agent, and the financial institutions or other entities from time to time parties hereto, each as a Lender (as such agreement may have been amended, restated, supplemented or otherwise modified from time to time, the "Credit Agreement"). Capitalized terms used herein without definition shall have the meanings set forth in the Credit Agreement.

Pursuant to the provisions of Section 2.8(c) of the Credit Agreement, the undersigned hereby certifies that (i) it is the sole record and beneficial owner of the participation in respect of which it is providing this certificate, (ii) it is not a bank within the meaning of Section 881(c)(3)(A) of the Code, (iii) it is not a ten percent shareholder of any Borrower within the meaning of Section 871(h)(3)(B) of the Code, and (iv) it is not a controlled foreign corporation related to any Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished its participating Lender with a certificate of its non-U.S. Person status on IRS Form -8BEN or IRS Form W-8BEN-E. By executing this certificate, the undersigned agrees that (1) if the information provided on this certificate changes, the undersigned shall promptly so inform such Lender in writing, and (2) the undersigned shall have at all times furnished such Lender with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

[NAME OF PARTICIPANT]

By: _____

Name:

Title:

Date: _____, 20[]



U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Participants That Are Partnerships For U.S. Federal Income Tax Purposes)

This U.S. Tax Compliance Certificate is given pursuant to that certain Credit and Security Agreement (Term Loan) dated as of October 27, 2020 among the Borrower Representative, and any additional Borrower that may hereafter be added thereto (collectively, "Borrowers"), MidCap Financial Trust, individually as a Lender and as Agent, and the financial institutions or other entities from time to time parties hereto, each as a Lender (as such agreement may have been amended, restated, supplemented or otherwise modified from time to time, the "Credit Agreement"). Capitalized terms used herein without definition shall have the meanings set forth in the Credit Agreement.

Pursuant to the provisions of Section 2.8(c) of the Credit Agreement, the undersigned hereby certifies that (i) it is the sole record owner of the participation in respect of which it is providing this certificate, (ii) its direct or indirect partners/members are the sole beneficial owners of such participation, (iii) with respect such participation, neither the undersigned nor any of its direct or indirect partners/members is a bank extending credit pursuant to a loan agreement entered into in the ordinary course of its trade or business within the meaning of Section 881(c)(3)(A) of the Code, (iv) none of its direct or indirect partners/members is a ten percent shareholder of any Borrower within the meaning of Section 871(h)(3)(B) of the Code and (v) none of its direct or indirect partners/members is a controlled foreign corporation related to any Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished its participating Lender with IRS Form W-8IMY accompanied by one of the following forms from each of its partners/members that is claiming the portfolio interest exemption: (i) an IRS Form W-8BEN or IRS Form W-8BEN-E or (ii) an IRS Form W-8IMY accompanied by an IRS Form W-8BEN or IRS Form W-8BEN-E from each of such partner's/member's beneficial owners that is claiming the portfolio interest exemption. By executing this certificate, the undersigned agrees that (1) if the information provided on this certificate changes, the undersigned shall promptly so inform such Lender and (2) the undersigned shall have at all times furnished such Lender with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

[NAME OF PARTICIPANT]

By: _____
Name:
Title:
Date: _____, 20[]



U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Lenders That Are Partnerships For U.S. Federal Income Tax Purposes)

This U.S. Tax Compliance Certificate is given pursuant to that certain Credit and Security Agreement (Term Loan) dated as of October 27, 2020 among the Borrower Representative, and any additional Borrower that may hereafter be added thereto (collectively, "Borrowers"), MidCap Financial Trust, individually as a Lender and as Agent, and the financial institutions or other entities from time to time parties hereto, each as a Lender (as such agreement may have been amended, restated, supplemented or otherwise modified from time to time, the "Credit Agreement"). Capitalized terms used herein without definition shall have the meanings set forth in the Credit Agreement.

Pursuant to the provisions of Section 2.8(c) of the Credit Agreement, the undersigned hereby certifies that (i) it is the sole record owner of the Loan(s) (as well as any Note(s) evidencing such Loan(s)) in respect of which it is providing this certificate, (ii) its direct or indirect partners/members are the sole beneficial owners of such Loan(s) (as well as any Note(s) evidencing such Loan(s)), (iii) with respect to the extension of credit pursuant to this Credit Agreement or any other Financing Document, neither the undersigned nor any of its direct or indirect partners/members is a bank extending credit pursuant to a loan agreement entered into in the ordinary course of its trade or business within the meaning of Section 881(c)(3)(A) of the Code, (iv) none of its direct or indirect partners/members is a ten percent shareholder of any Borrower within the meaning of Section 871(h)(3)(B) of the Code and (v) none of its direct or indirect partners/members is a controlled foreign corporation related to any Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished Agent and the Borrower Representative with IRS Form W-8IMY accompanied by one of the following forms from each of its partners/members that is claiming the portfolio interest exemption: (i) an IRS Form W-8BEN or IRS Form W-8BEN-E or (ii) an IRS Form W-8IMY accompanied by an IRS Form W-8BEN or IRS Form W-8BEN-E from each of such partner's/member's beneficial owners that is claiming the portfolio interest exemption. By executing this certificate, the undersigned agrees that (1) if the information provided on this certificate changes, the undersigned shall promptly so inform the Borrower Representative and Agent, and (2) the undersigned shall have at all times furnished the Borrower Representative and Agent with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

[NAME OF LENDER]

By: _____

Name:

Title:

Date: _____, 20[]



Exhibit F – Form of Closing Checklist

[See attached]

Term Loan Tranche 1

Commencing on ~~April~~December 1, 2025 (the "Initial Amortization Start Date") and continuing on the first day of each calendar month thereafter, Borrower shall pay to Agent as a principal payment on the Term Loan Tranche 1 an amount equal to the total principal amount of the Term Loan Tranche 1 made to Borrower *divided by* ~~seven~~twenty-four (7/24), for a ~~seven~~twenty-four (24) month straight-line amortization of equal monthly principal payments; *provided that if the IO Extension Conditions have been satisfied, then the Initial Amortization Start Date shall be extended to December 1, 2026 (the "Extended Amortization Start Date") and the principal payments to be made in respect of the Term Loan Tranche 1 shall be in an amount equal to the total principal amount of the Term Loan Tranche 1 made to Borrower divided by twelve (12), for a twelve (12) month straight-line amortization of equal monthly principal payments.*

Term Loan Tranche 2

Commencing on the Initial Amortization Start Date and continuing on the first day of each calendar month thereafter, Borrower shall pay to Agent as a principal payment on the Term Loan Tranche 2 an amount equal to the total principal amount of the Term Loan Tranche 2 made to Borrower *divided by* ~~seven~~twenty-four (7/24), for a ~~seven~~twenty-four (24) month straight-line amortization of equal monthly principal payments; *provided that if the IO Extension Conditions have been satisfied, then the Initial Amortization Start Date shall be extended to the Extended Amortization Start Date and the principal payments to be made in respect of the Term Loan Tranche 2 shall be in an amount equal to the total principal amount of the Term Loan Tranche 2 made to Borrower divided by twelve (12), for a twelve (12) month straight-line amortization of equal monthly principal payments.*

Term Loan Tranche 3

Commencing on the Initial Amortization Start Date and continuing on the first day of each calendar month thereafter, Borrower shall pay to Agent as a principal payment on the Term Loan Tranche 3 an amount equal to the total principal amount of the Term Loan Tranche 3 made to Borrower *divided by* ~~seven~~twenty-four (7/24), for a ~~seven~~twenty-four (24) month straight-line amortization of equal monthly principal payments; *provided that if the IO Extension Conditions have been satisfied, then the Initial Amortization Start Date shall be extended to the Extended Amortization Start Date and the principal payments to be made in respect of the Term Loan Tranche 3 shall be in an amount equal to the total principal amount of the Term Loan Tranche 3 made to Borrower divided by twelve (12), for a twelve (12) month straight-line amortization of equal monthly principal payments.*

Term Loan Tranche 4

Commencing on the Initial Amortization Start Date and continuing on the first day of each calendar month thereafter, Borrower shall pay to Agent as a principal payment on the Term Loan Tranche 4 an amount equal to the total principal amount of the Term Loan Tranche 4 made to Borrower divided by twenty-four (24), for a twenty-four (24) month straight-line amortization of equal monthly principal payments; provided that if the IO Extension Conditions have been satisfied, then the Initial Amortization Start Date shall be extended to the Extended Amortization Start Date and the principal payments to be made in respect of the Term Loan Tranche 4 shall be in an amount equal to the total

principal amount of the Term Loan Tranche 4 made to Borrower divided by twelve (12), for a twelve (12) month straight-line amortization of equal monthly principal payments.

Term Loan Tranche 5

Commencing on the Initial Amortization Start Date and continuing on the first day of each calendar month thereafter, Borrower shall pay to Agent as a principal payment on the Term Loan Tranche 5 an amount equal to the total principal amount of the Term Loan Tranche 5 made to Borrower divided by twenty-four (24), for a twenty-four (24) month straight-line amortization of equal monthly principal payments; provided that if the IO Extension Conditions have been satisfied, then the Initial Amortization Start Date shall be extended to the Extended Amortization Start Date and the principal payments to be made in respect of the Term Loan Tranche 5 shall be in an amount equal to the total principal amount of the Term Loan Tranche 5 made to Borrower divided by twelve (12), for a twelve (12) month straight-line amortization of equal monthly principal payments.

Notwithstanding the foregoing, the entire remaining outstanding principal balance under the Term Loans shall mature and be due and payable upon the Termination Date.

For purposes hereof of this Schedule 2.1, the following terms shall have the following meanings:

“IO Extension Conditions” means satisfaction of each of the following conditions: (a) Borrower Representative has provided written notice to Agent at least five (5) Business Days prior to the Initial Amortization Start Date that it is electing to extend the amortization start date and certifying that the conditions set forth below in clauses (b) and (c) have been satisfied, (b) Borrower has delivered a Compliance Certificate to Agent pursuant to Section 4.1 demonstrating that Borrower is in compliance with the financial covenant set forth in Section 6.1 as of the most recently ended Defined Period, and (c) no Default or Event of Default has occurred and is continuing on the Initial Amortization Start Date.

EXHIBIT B

AMENDED ANNEXES, SCHEDULES AND EXHIBITS TO CREDIT AGREEMENT

See attached.

Annex A to Credit Agreement (Commitment Annex)

<u>Lender</u>	<u>Term Loan Tranche 1 Commitment Amount</u>	<u>Term Loan Tranche 1 Commitment Percentage</u>	<u>Term Loan Tranche 2 Commitment Amount</u>	<u>Term Loan Tranche 2 Commitment Percentage</u>	<u>Term Loan Tranche 3 Commitment Amount</u>	<u>Term Loan Tranche 3 Commitment Percentage</u>	<u>Term Loan Tranche 4 Commitment Amount</u>	<u>Term Loan Tranche 4 Commitment Percentage</u>	<u>Term Loan Tranche 5 Commitment Amount</u>	<u>Term Loan Tranche 5 Commitment Percentage</u>
MidCap Financial Trust	\$0	0.0%	\$0	0.0%	\$0	0.0%	\$2,875,000	25.6%	\$7,875,000	70.0%
MidCap Funding XIII Trust	\$0	0.0%	\$7,000,000	70.0%	\$7,000,000	70.0%	\$0	0.0%	\$0	0.0%
ELM 2020-3 Trust	\$12,750,000	39.2%	\$0	0.0%	\$0	0.0%	\$0	0.0%	\$0	0.0%
ELM 2020-4 Trust	\$10,000,000	30.8%	\$0	0.0%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Apollo Alster Lending Fund (LUX) SCSp	\$0	0.0%	\$0	0.0%	\$0	0.0%	\$5,000,000	44.4%	\$0	0.0%
MidCap Financial Investment Corporation	\$9,750,000	30.0%	\$3,000,000	30.0%	\$3,000,000	30.0%	\$3,375,000	30.0%	\$3,375,000	30.0%
TOTALS	\$32,500,000.00	100%	\$10,000,000.00	100%	\$10,000,000.00	100%	\$11,250,000.00	100%	\$11,250,000.00	100%

Schedule 2.1 - Amortization

Term Loan Tranche 1

Commencing on December 1, 2025 (the “**Initial Amortization Start Date**”) and continuing on the first day of each calendar month thereafter, Borrower shall pay to Agent as a principal payment on the Term Loan Tranche 1 an amount equal to the total principal amount of the Term Loan Tranche 1 made to Borrower *divided* by twenty-four (24), for a twenty-four (24) month straight-line amortization of equal monthly principal payments; *provided* that if the IO Extension Conditions have been satisfied, then the Initial Amortization Start Date shall be extended to December 1, 2026 (the “**Extended Amortization Start Date**”) and the principal payments to be made in respect of the Term Loan Tranche 1 shall be in an amount equal to the total principal amount of the Term Loan Tranche 1 made to Borrower *divided* by twelve (12), for a twelve (12) month straight-line amortization of equal monthly principal payments.

Term Loan Tranche 2

Commencing on the Initial Amortization Start Date and continuing on the first day of each calendar month thereafter, Borrower shall pay to Agent as a principal payment on the Term Loan Tranche 2 an amount equal to the total principal amount of the Term Loan Tranche 2 made to Borrower *divided* by twenty-four (24), for a twenty-four (24) month straight-line amortization of equal monthly principal payments; *provided* that if the IO Extension Conditions have been satisfied, then the Initial Amortization Start Date shall be extended to the Extended Amortization Start Date and the principal payments to be made in respect of the Term Loan Tranche 2 shall be in an amount equal to the total principal amount of the Term Loan Tranche 2 made to Borrower *divided* by twelve (12), for a twelve (12) month straight-line amortization of equal monthly principal payments.

Term Loan Tranche 3

Commencing on the Initial Amortization Start Date and continuing on the first day of each calendar month thereafter, Borrower shall pay to Agent as a principal payment on the Term Loan Tranche 3 an amount equal to the total principal amount of the Term Loan Tranche 3 made to Borrower *divided* by twenty-four (24), for a twenty-four (24) month straight-line amortization of equal monthly principal payments; *provided* that if the IO Extension Conditions have been satisfied, then the Initial Amortization Start Date shall be extended to the Extended Amortization Start Date and the principal payments to be made in respect of the Term Loan Tranche 3 shall be in an amount equal to the total principal amount of the Term Loan Tranche 3 made to Borrower *divided* by twelve (12), for a twelve (12) month straight-line amortization of equal monthly principal payments.

Term Loan Tranche 4

Commencing on the Initial Amortization Start Date and continuing on the first day of each calendar month thereafter, Borrower shall pay to Agent as a principal payment on the Term Loan Tranche 4 an amount equal to the total principal amount of the Term Loan Tranche 4 made to Borrower *divided* by twenty-four (24), for a twenty-four (24) month straight-line amortization of equal monthly principal payments; *provided* that if the IO Extension Conditions have been satisfied, then the Initial Amortization Start Date shall be extended to the Extended Amortization Start Date and the principal payments to be made in respect of the Term Loan Tranche 4 shall be in an amount equal to the total principal amount of the Term Loan Tranche 4 made to Borrower *divided* by twelve (12), for a twelve (12) month straight-line amortization of equal monthly principal payments.

Term Loan Tranche 5

Commencing on the Initial Amortization Start Date and continuing on the first day of each calendar month thereafter, Borrower shall pay to Agent as a principal payment on the Term Loan Tranche 5 an amount equal to the total principal amount of the Term Loan Tranche 5 made to Borrower *divided* by twenty-four (24), for a twenty-four (24) month straight-line amortization of equal monthly principal payments; *provided* that if the IO Extension Conditions have been satisfied, then the Initial Amortization Start Date shall be extended to the Extended Amortization Start Date and the principal payments to be made in respect of the Term Loan Tranche 5 shall be in an amount equal to the total principal amount of the Term Loan Tranche 5 made to Borrower *divided* by twelve (12), for a twelve (12) month straight-line amortization of equal monthly principal payments.

Notwithstanding the foregoing, the entire remaining outstanding principal balance under the Term Loans shall mature and be due and payable upon the Termination Date.

For purposes hereof of this Schedule 2.1, the following terms shall have the following meanings:

“**IO Extension Conditions**” means satisfaction of each of the following conditions: (a) Borrower Representative has provided written notice to Agent at least five (5) Business Days prior to the Initial Amortization Start Date that it is electing to extend the amortization start date and certifying that the conditions set forth below in clauses (b) and (c) have been satisfied, (b) Borrower has delivered a Compliance Certificate to Agent pursuant to Section 4.1 demonstrating that Borrower is in compliance with the financial covenant set forth in Section 6.1 as of the most recently ended Defined Period, and (c) no Default or Event of Default has occurred and is continuing on the Initial Amortization Start Date.

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statements (Nos. 333-255468 and 333-263548) on Form S-8 and the Registration Statement (No. 333-268214) on Form S-3 of Akoya Biosciences, Inc. of our report dated March 6, 2023, relating to the consolidated financial statements of Akoya Biosciences, Inc. and its subsidiary, appearing in this Annual Report on Form 10-K of Akoya Biosciences, Inc. for the year ended December 31, 2022.

/s/ RSM US LLP

Boston, Massachusetts
March 6, 2023

CERTIFICATIONS UNDER SECTION 302

I, Brian McKelligon, certify that:

1. I have reviewed this Annual Report on Form 10-K of Akoya Biosciences, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 6, 2023

/s/ Brian McKelligon

Brian McKelligon

Chief Executive Officer (principal executive officer)

CERTIFICATIONS UNDER SECTION 302

I, Joseph Driscoll, certify that:

1. I have reviewed this Annual Report on Form 10-K of Akoya Biosciences, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 6, 2023

/s/ Joseph Driscoll

Joseph Driscoll

Chief Financial Officer

(principal financial officer and principal accounting officer)

CERTIFICATIONS UNDER SECTION 906

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of Akoya Biosciences, Inc. (the "Company"), does hereby certify, to such officer's knowledge, that:

The Annual Report for the year ended December 31, 2022 (the "Form 10-K") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: March 6, 2023

/s/ Brian McKelligon

Brian McKelligon
Chief Executive Officer

Dated: March 6, 2023

/s/ Joseph Driscoll

Joseph Driscoll
Chief Financial Officer

**DESCRIPTION OF CAPITAL STOCK
REGISTERED PURSUANT TO SECTION 12
OF THE SECURITIES EXCHANGE ACT OF 1934**

The following description of the common stock of Akoya Biosciences, Inc. (“we,” “us” and “our”) is a summary and does not purport to be complete. It is subject to, and qualified in its entirety by reference to, our Amended and Restated Certificate of Incorporation (“Certificate of Incorporation”), our Amended and Restated Bylaws (“Bylaws”) and our Amended and Restated Investors’ Rights Agreement (“Investors’ Rights Agreement”). This description also summarizes relevant provisions of General Corporation Law of the State of Delaware (the “DGCL”). We encourage you to read these materials for additional information.

General

Our authorized capital stock consists of 500,000,000 shares of common stock, \$0.00001 par value per share, and 10,000,000 shares of preferred stock, par value \$0.00001 per share, all of which shares of preferred stock are undesignated.

Common Stock

The holders of our common stock are entitled to one vote per share on all matters to be voted upon by the stockholders. The holders of our common stock are entitled to receive ratably those dividends, if any, that may be declared from time to time by our board of directors out of funds legally available, subject to preferences that may be applicable to preferred stock, if any, then outstanding. In the event of a liquidation, dissolution or winding up of our company, the holders of common stock will be entitled to share ratably in all assets remaining after payment of liabilities, subject to prior distribution rights of preferred stock, if any, then outstanding. Our common stock has no preemptive or conversion rights or other subscription rights or redemption or sinking fund provisions.

Preferred Stock

Our Certificate of Incorporation authorizes our board of directors to establish one or more series of preferred stock (including convertible preferred stock). Unless required by law or any stock exchange, the authorized shares of preferred stock will be available for issuance without further action by the holders of our common stock. Our board of directors will be able to determine, with respect to any series of preferred stock, the powers (including voting powers), preferences and relative, participating, optional or other special rights, and the qualifications, limitations, or restrictions thereof. No shares of preferred stock have been issued or are outstanding as of the date of the filing of the Annual Report on Form 10-K of which this Description forms a part, and we have no present plan to issue any shares of preferred stock.

Anti-Takeover Matters in our Governing Documents and Under Delaware Law

Our Certificate of Incorporation and our Bylaws contain, and the DGCL contains, provisions that are intended to enhance the likelihood of continuity and stability in the composition of our board of directors. These provisions are intended to avoid costly takeover battles, reduce our vulnerability to a hostile or abusive change of control, and enhance the ability of our board of directors to maximize stockholder value in connection with any unsolicited offer to acquire us. However, these provisions may have an antitakeover effect and may delay, deter, or prevent a merger or acquisition by means of a tender offer, a proxy contest, or other takeover attempt that a stockholder might consider in its best interest, including those attempts that might result in a premium over the prevailing market price for the shares of common stock held by stockholders.

Authorized But Unissued Capital Stock

The authorized but unissued shares of common stock and preferred stock are available for future issuance without stockholder approval, subject to any limitations imposed by the listing standards of Nasdaq. These additional shares may be used for a variety of corporate finance transactions, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could make more

difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger, or otherwise.

Classified Board of Directors

Our Certificate of Incorporation provides that our board of directors be divided into three classes, with the classes as nearly equal in number as possible and each class serving three-year staggered terms. Directors may only be removed from our board of directors for cause by the affirmative vote of at least 66^{2/3}% of the voting power of all of our then-outstanding shares of capital stock entitled to vote generally in the election of directors, voting together as a single class. In addition, our Certificate of Incorporation provides that, subject to the rights granted to one or more series of preferred stock then outstanding, any newly created directorship on the board of directors that results from an increase in the number of directors and any vacancies on our board of directors will be filled only by the affirmative vote of a majority of the remaining directors, even if less than a quorum, or by a sole remaining director. A director chosen to fill a position resulting from an increase in the number of directors will hold office until the next election of the director's class and until the director's successor is duly elected and qualified, or until the director's earlier death, resignation or removal. These provisions may have the effect of deferring, delaying, or discouraging hostile takeovers, changes in control of us or changes in our management.

Delaware Anti-Takeover Law

We are subject to Section 203 of the DGCL, which is an anti-takeover law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years following the date that the person became an interested stockholder, unless the business combination or the transaction in which the person became an interested stockholder is approved in a prescribed manner. Generally, a business combination includes a merger, asset or stock sale, or another transaction resulting in a financial benefit to the interested stockholder. Generally, an interested stockholder is a person who, together with affiliates and associates, owns 15% or more of the corporation's outstanding voting stock or is the corporation's affiliate or associate and was the owner of 15% or more of the corporation's outstanding voting stock at any time within the three-year period immediately before the date of determination. The existence of this provision may have an anti-takeover effect with respect to transactions that are not approved in advance by our board, including discouraging attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

No Cumulative Voting

Under Delaware law, the right to vote cumulatively does not exist unless the certificate of incorporation specifically authorizes cumulative voting. Our Certificate of Incorporation does not authorize cumulative voting. Therefore, stockholders holding a majority of the shares of our stock entitled to vote generally in the election of directors are able to elect all of our directors.

Special Stockholder Meetings

Our Certificate of Incorporation provides that special meetings of our stockholders may be called at any time only by or at the direction of the board of directors, the chair of the board of directors or our Chief Executive Officer. Our Bylaws prohibit the conduct of any business at a special meeting other than as specified in the notice for such meeting. These provisions may have the effect of deferring, delaying, or discouraging hostile takeovers or changes in control or management.

Director Nominations and Stockholder Proposals

Our Bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of the board of directors or a committee of the board of directors. In order for any matter to be "properly brought" before a meeting, a stockholder will have to comply with advance notice requirements and provide us with certain information. Generally, to be timely, a stockholder's notice must be received at our principal executive offices not less than

90 days nor more than 120 days prior to the first anniversary date of the immediately preceding annual meeting of stockholders. Our Bylaws also specify requirements as to the form and content of a stockholder's notice. Our Bylaws allow the chair of a meeting of the stockholders to adopt rules and regulations for the conduct of that meeting that may have the effect of precluding the conduct of certain business at that meeting if the rules and regulations are not followed. These provisions may also defer, delay, or discourage a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to influence or obtain control.

Stockholder Action by Written Consent

Pursuant to Section 228 of the DGCL, any action required to be taken at any annual or special meeting of the stockholders may be taken without a meeting, without prior notice, and without a vote if a consent or consents in writing, setting forth the action so taken, is or are signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares of our stock entitled to vote thereon were present and voted, unless the certificate of incorporation provides otherwise. Our Certificate of Incorporation precludes stockholder action by written consent.

Amendment of Certificate of Incorporation or Bylaws

The DGCL provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless a corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our Bylaws may be amended or repealed by a majority vote of our board of directors or by the affirmative vote of the holders of at least 66 2/3% of the votes which all our stockholders would be entitled to cast in any annual election of directors. In addition, the affirmative vote of the holders of at least 66 2/3% of the votes which all our stockholders would be entitled to cast in any election of directors will be required to amend or repeal or to adopt any provisions inconsistent with any of the provisions of our Certificate of Incorporation described above.

The foregoing provisions of our Certificate of Incorporation and our Bylaws could discourage potential acquisition proposals and could delay or prevent a change in control. These provisions are intended to enhance the likelihood of continuity and stability in the composition of our board of directors and in the policies formulated by our board of directors and to discourage certain types of transactions that may involve an actual or threatened change of control. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The provisions also are intended to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they also may inhibit fluctuations in the market price of our shares of common stock that could result from actual or rumored takeover attempts. Such provisions also may have the effect of preventing changes in our management or delaying or preventing a transaction that might benefit you or other minority stockholders.

Exclusive Forum

Our Certificate of Incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware be the sole and exclusive forum for: (1) any derivative action or proceeding brought on behalf of our company, (2) any action asserting a claim of breach of fiduciary duty owed by any director, officer, agent, or other employee or stockholder of our company to us or our stockholders, (3) any action asserting a claim arising pursuant to any provision of the DGCL, our Certificate of Incorporation or our Bylaws or as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware, or (4) any action asserting a claim governed by the internal affairs doctrine, in each case subject to such Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein. It will further provide that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolutions of any complaint asserting a cause of action arising under the Securities Act of 1933, as amended (the "Securities Act"). The exclusive forum clauses described above shall not apply to suits brought to enforce a duty or liability created by the Securities Exchange Act of 1934, as amended or any other claim for which the federal courts have exclusive jurisdiction. Although we believe these provisions benefit us by providing increased consistency in the application of applicable law in the types of lawsuits to which they apply, the provisions may have the effect of

discouraging lawsuits against our directors and officers. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings and there is uncertainty as to whether a court would enforce such provisions. In addition, investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder. It is possible that, in connection with any applicable action brought against us, a court could find the choice of forum provisions contained in our Certificate of Incorporation to be inapplicable or unenforceable in such action. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and consented to the forum provisions in our Certificate of Incorporation.

Limitations of Liability and Indemnification

The DGCL authorizes corporations to limit or eliminate the personal liability of directors to corporations and their stockholders for monetary damages for breaches of directors' fiduciary duties, subject to certain exceptions. Our Certificate of Incorporation includes a provision that eliminates the personal liability of directors for monetary damages to the corporation or its stockholders for any breach of fiduciary duty as a director, except to the extent such exemption from liability or limitation thereof is not permitted under the DGCL. The effect of these provisions is to eliminate the rights of us and our stockholders, through stockholders' derivative suits on our behalf, to recover monetary damages from a director for breach of fiduciary duty as a director, including breaches resulting from grossly negligent behavior. However, exculpation does not apply to any breaches of the director's duty of loyalty, any acts or omissions not in good faith or that involve intentional misconduct or knowing violation of law, any authorization of dividends or stock redemptions or repurchases paid or made in violation of the DGCL, or for any transaction from which the director derived an improper personal benefit.

Our Bylaws generally provide that we must indemnify and advance expenses to our directors and officers to the fullest extent authorized by the DGCL. We also are expressly authorized to carry directors' and officers' liability insurance providing indemnification for our directors, officers and certain employees for some liabilities. We believe these indemnification and advancement provisions and insurance are useful to attract and retain qualified directors and executive officers.

The limitation of liability, indemnification and advancement provisions in our Certificate of Incorporation and our Bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duty. These provisions also may have the effect of reducing the likelihood of derivative litigation against directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. In addition, your investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

There is currently no pending material litigation or proceeding involving any of our directors, officers or employees for which indemnification is sought.

We have entered into indemnification agreements with each of our directors and executive officers. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors or executive officers, we have been informed that in the opinion of the SEC such indemnification is against public policy and is therefore unenforceable.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC. The transfer agent's address is 6201 15th Avenue Brooklyn, New York 11219.

Listing

Our common stock is listed on Nasdaq under the symbol "AKYA."
