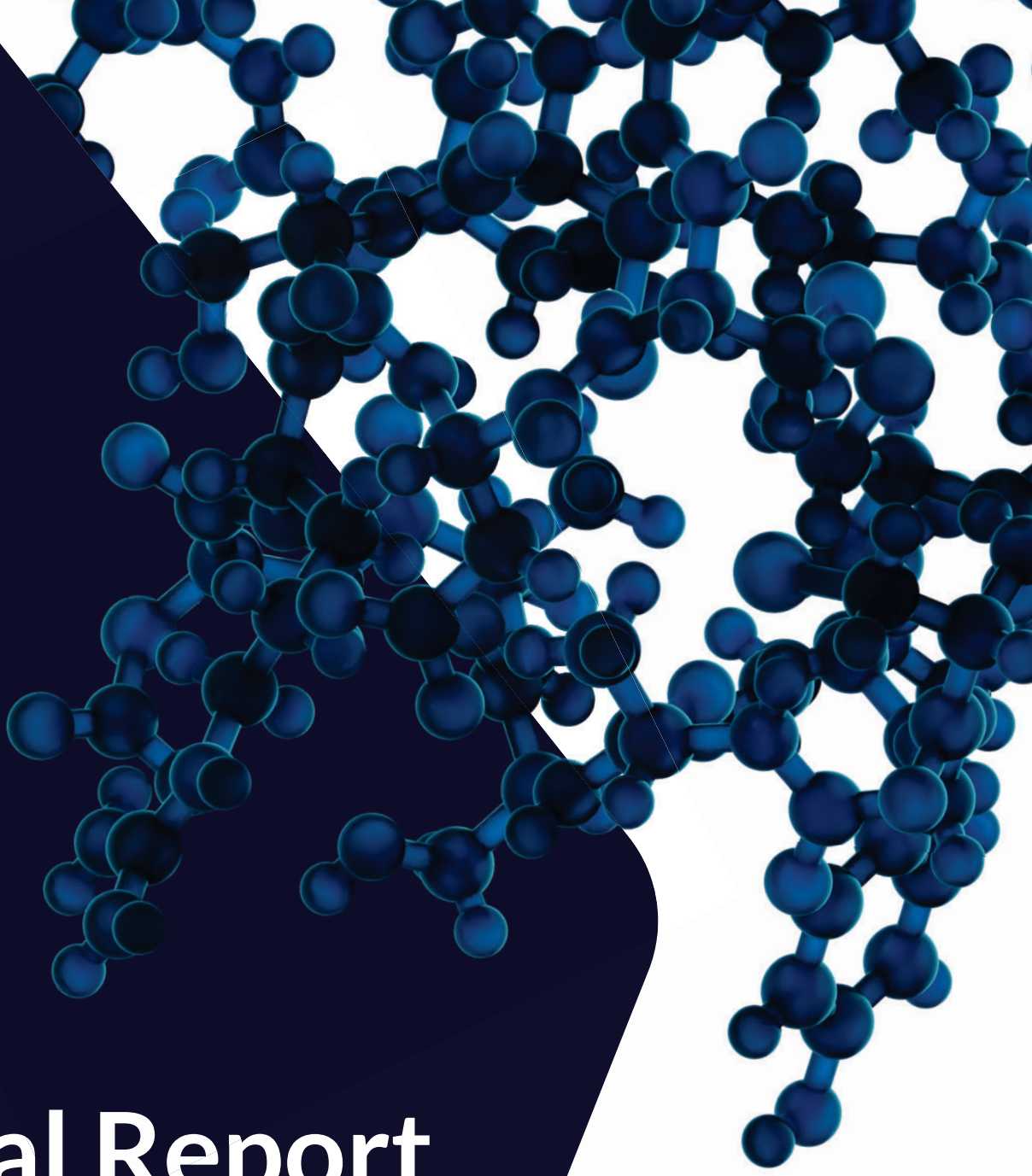


2022 Annual Report

Schrödinger

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: 001-39206

Schrodinger, Inc.

(Exact name of Registrant as specified in its Charter)

Delaware	**95-4284541**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
1540 Broadway, 24th Floor New York, NY	**10036**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (212) 295-5800

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 $0.01 per share	SDGR	The Nasdaq Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act: **None**

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 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 Exchange Act). Yes ☐ No ☒

As of June 30, 2022 the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was $1,287,853,411 based upon the closing sale price of the registrant's common stock on that date.

As of February 21, 2023, the registrant had 62,321,454 shares of common stock and 9,164,193 shares of limited common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

The registrant intends to file a definitive proxy statement pursuant to Regulation 14A relating to the 2023 Annual Meeting of Stockholders within 120 days of the end of the registrant's fiscal year ended December 31, 2022. Portions of such definitive proxy statement are incorporated by reference into Part III of this Annual Report on Form 10-K to the extent stated herein.

Auditor Firm Id:	185	Auditor Name:	KPMG LLP	Auditor Location:	Portland, OR

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS AND INDUSTRY DATA

This Annual Report on Form 10-K, or this Annual Report, contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act and Section 21E of the Securities Exchange Act of 1934, as amended, that involve substantial risks and uncertainties. All statements, other than statements of historical fact, contained in this Annual Report, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words "aim," “anticipate,” “believe,” “contemplate,” “continue,” “could,” “estimate,” “expect,” "goal," “intend,” “may,” “might,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “will,” “would” or the negative of these words or other similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this Annual Report include, among other things, statements about:

- the potential advantages of our physics-based computational platform;
- our strategic plans to accelerate the growth of our software business;
- our research and development efforts for our proprietary drug discovery programs and our computational platform;
- the initiation, timing, progress, and results of drug discovery programs, preclinical studies and clinical trials of ours and those of our collaborators;
- our plans to submit investigational new drug applications to the U.S. Food and Drug Administration for our proprietary drug discovery programs;
- our plans to discover and develop product candidates and to maximize their commercial potential by advancing such product candidates ourselves or in collaboration with others;
- our plans to leverage the synergies between our businesses;
- the timing of, the ability to submit applications for and the ability to obtain and maintain regulatory approvals for any product candidates we or one of our collaborators may develop;
- our drug discovery collaborations and our estimates or expectations regarding any milestone or other payments we may receive from such collaborations, including pursuant to our collaboration with Bristol-Myers Squibb Company;
- our expectations regarding our ability to fund our operating expenses and capital expenditure requirements with our cash, cash equivalents, and marketable securities;
- the potential advantages of our drug discovery programs;
- the rate and degree of market acceptance of our software solutions;
- the potential impact of the COVID-19 pandemic and of economic developments, including rising inflation and interest rates, on our business, operations, liquidity and prospects;
- the rate and degree of market acceptance and clinical utility of our products;
- our estimates regarding the potential market opportunity for our software solutions and any product candidate we or any of our collaborators may develop;
- our marketing capabilities and strategy;
- our intellectual property position;
- our ability to identify technologies with significant commercial potential that are consistent with our commercial objectives;
- our expectations related to the use of our cash, cash equivalents, and marketable securities;
- our expectations related to the key drivers of our performance;
- the impact of government laws and regulations;
- our competitive position and expectations regarding developments and projections relating to our competitors and any competing products, technologies, or therapies that are or become available;

- our ability to maintain and establish collaborations or obtain additional funding; and
- our reliance on key personnel and our ability to identify, recruit, and retain skilled personnel.

We may not actually achieve the plans, intentions, or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions, and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this Annual Report, particularly in "Risk Factor Summary" and "Risk Factors" below, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Moreover, we operate in a competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this Annual Report. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, collaborations, joint ventures, or investments we may make or enter into.

You should read this Annual Report and the documents that we file with the Securities and Exchange Commission, or the SEC, with the understanding that our actual future results may be materially different from what we expect. The forward-looking statements contained in this Annual Report are made as of the date of this Annual Report, and we do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Annual Report, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete. Our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

This Annual Report includes statistical and other industry and market data that we obtained from industry publications and research, surveys, and studies conducted by third parties as well as our own estimates of potential market opportunities. All of the market data used in this Annual Report involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such data. Industry publications and third-party research, surveys, and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. Our estimates of the potential market opportunities for our product candidates include several key assumptions based on our industry knowledge, industry publications, third-party research, surveys and studies, which may be based on a small sample size and may fail to accurately reflect market opportunities. While we believe that our internal assumptions are reasonable, no independent source has verified such assumptions.

Unless the context otherwise requires, we use the terms "company," "we," "us," and "our" in this Annual Report to refer to Schrödinger, Inc. and its consolidated subsidiaries.

RISK FACTOR SUMMARY

Our business is subject to a number of risks of which you should be aware before making an investment decision. Below we summarize what we believe are the principal risk factors but these risks are not the only ones we face, and you should carefully review and consider the full discussion of our risk factors in the section titled "Risk Factors", together with the other information in this Annual Report.

- We have a history of significant operating losses, and we expect to incur losses over the next several years.
- If we are unable to increase sales of our software, increase revenue from our drug discovery collaborations, or if we and our current and future collaborators are unable to successfully develop and commercialize drug products, our revenues may be insufficient for us to achieve or maintain profitability.
- Our quarterly and annual results may fluctuate significantly, which could adversely impact the value of our common stock.
- If our existing customers do not renew their licenses, do not buy additional solutions from us, or renew at lower prices, our business and operating results will suffer.
- A significant portion of our revenues are generated by sales to life sciences industry customers, and factors that adversely affect this industry could adversely affect our software sales.
- The markets in which we participate are highly competitive, and if we do not compete effectively, our business and operating results could be adversely affected.
- We may never realize a return on our investment of resources and cash in our drug discovery collaborations.
- Although we believe that our computational platform has the potential to identify more promising molecules than traditional methods and to accelerate drug discovery, our focus on using our platform technology to discover and design molecules with therapeutic potential may not result in the discovery and development of commercially viable products for us or our collaborators.
- We may not be successful in our efforts to identify, discover or develop product candidates and may fail to capitalize on programs, collaborations, or product candidates that may present a greater commercial opportunity or for which there is a greater likelihood of success.
- As a company, we have very limited experience in clinical development and have not yet demonstrated our ability to complete any clinical trials.
- Conducting successful clinical trials requires the enrollment of a sufficient number of patients, and suitable patients may be difficult to identify and recruit.
- We rely on, and plan to continue to rely on, third parties to conduct our clinical trials, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials, which may prevent or delay our ability to seek or obtain marketing approval for or commercialize our product candidates or otherwise harm our business.
- The outcome of preclinical studies and early clinical trials may not be predictive of the success of later clinical trials, and the results of our clinical trials may not satisfy the requirements of the FDA or other comparable foreign regulatory authorities.
- A widespread outbreak of an illness or other health issue, such as the COVID-19 pandemic, could negatively affect various aspects of our business and make it more difficult to meet our obligations to our customers, and could result in reduced demand from our customers as well as delays in our drug discovery and development programs.
- If we fail to comply with our obligations under our existing license agreements with Columbia University, under any of our other intellectual property licenses, or under any future intellectual property licenses, or otherwise experience disruptions to our business relationships with our current or any future licensors, we could lose intellectual property rights that are important to our business.
- If we are unable to obtain, maintain, enforce, and protect patent protection for our technology and product candidates or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize technology and products similar or identical to ours, and our ability to successfully develop and commercialize our technology and product candidates may be adversely affected.

- Our internal information technology systems, or those of our third-party vendors, contractors, or consultants, may fail or suffer security breaches, loss or leakage of data, and other disruptions, which could result in a material disruption of our services, compromise sensitive information related to our business, or prevent us from accessing critical information, potentially exposing us to liability or otherwise adversely affecting our business.
- Our future success depends on our ability to retain key executives and to attract, retain, and motivate qualified personnel.
- We are pursuing multiple business strategies and expect to expand our development and regulatory capabilities, and as a result, we may encounter difficulties in managing our multiple business units and our growth, which could disrupt our operations.
- Our executive officers, directors, and principal stockholders, if they choose to act together, have the ability to influence all matters submitted to stockholders for approval.
- Our actual operating results may differ significantly from our guidance.
- We identified a material weakness in our internal control over our financial reporting. If we are unable to remediate this material weakness, we may not be able to accurately or timely report our financial condition or results of operations, and we may conclude that our internal control over financial reporting is not effective, which could adversely impact our investors' confidence and our stock price.

PART I

Item 1. Business.

Overview

We are transforming the way therapeutics and materials are discovered.

Our differentiated, physics-based computational platform enables discovery of high-quality, novel molecules for drug development and materials applications more rapidly and at a lower cost, compared to traditional methods. Our software platform is licensed by biopharmaceutical and industrial companies, academic institutions, and government laboratories around the world. We are applying our computational platform to discover and advance a broad pipeline of development programs in collaboration with leading biopharmaceutical companies. In addition, we use our platform to advance a pipeline of partnered and wholly-owned drug discovery programs, which we refer to collectively as our proprietary drug discovery programs.

Traditional drug discovery and development efforts have become increasingly complex, lengthy and capital-intensive, and are prone to high failure rates. Traditional drug discovery relies upon many iterations of costly and time-consuming manual molecule design, chemical synthesis, and experimental testing. One of the primary reasons for long timelines, high costs, and high failure rates in drug discovery is that predicting properties of molecules in advance of chemical synthesis is extremely complex and not amenable to traditional approaches.

Over the past several decades and with the concerted efforts of our scientists and software engineers, we have developed a physics-based computational platform that is capable of predicting critical properties of molecules with a high degree of accuracy. This key capability enables drug discovery teams to design and selectively synthesize molecules with more optimal properties, reducing the average time and costs required to identify a development candidate and increasing the probability that a drug discovery program will enter clinical development. Furthermore, we believe that development candidates with more optimized property profiles will have a higher probability of success in clinical development. Additionally, since the physics underlying the properties of drug molecules and materials is the same, we have been able to extend our computational platform to materials science applications in fields such as aerospace, energy, semiconductors, and electronic displays.

We offer our customers a variety of software solutions that accelerate all stages of molecule discovery, design, and optimization. In 2022, all of the top 20 pharmaceutical companies, measured by 2021 revenue, licensed our solutions, accounting for $43.2 million, or 32%, of our software revenue in 2022. The widespread adoption of our software, supported by our global team of sales, technical, and scientific personnel, has driven steady growth in our software revenue. Biopharmaceutical companies are increasingly adopting our software at a larger scale, and we anticipate this scaling-up will drive future revenue growth. Our ability to expand within our customer base is demonstrated by the increasing number of our customers with an annual contract value, or ACV, in excess of $100,000. We had 227, 190, and 153 such customers, which represented 82%, 80%, and 79% of our total ACV, for the years ended December 31, 2022, 2021, and 2020, respectively. Furthermore, the number of customers with an ACV in excess of $1.0 million increased to 18 for the year ended December 31, 2022 compared to 15 and 16 for the years ended December 31, 2021 and 2020, respectively. We also had four customers with an ACV in excess of $5.0 million for the year ended December 31, 2022, compared to two such customers for the year ended December 31, 2021. In addition, our customer retention rate for our customers with an ACV over $100,000 for the year ended December 31, 2022 was 96% and was 96% or higher for each of the previous nine fiscal years. We believe the growth in the number of our customers demonstrates that companies are increasingly recognizing the power and appreciating the scientific and financial benefits of using our platform at scale while the retention in this group is indicative of the continued value of our platform. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Key Factors Affecting Our Performance” for additional information regarding ACV and customer retention rate.

We also leverage our platform and capabilities across a portfolio of collaborative and proprietary drug discovery programs spanning a wide range of disease targets and indications. Our drug discovery group, which we refer to as the Schrödinger Therapeutics Group, is comprised of a multidisciplinary team of approximately 150 experts in protein science, biochemistry, biophysics, medicinal and computational chemistry, and discovery scientists with expertise in preclinical and early clinical development. Our collaborative and partnered programs generate drug discovery revenue, including upfront payments, research funding payments, and discovery and development milestones, and have the potential to produce additional milestone payments, option fees, and future royalties.

In 2018, we began to develop a pipeline of wholly-owned drug discovery programs with the goal of using our platform to produce a portfolio of novel, high value therapeutics. Our initial programs were focused on discovering and developing inhibitors for targets in DNA damage response pathways and genetically defined cancers. Since then, we have expanded into other therapeutic areas, including in the areas of immunology and neurology. We submitted an investigational new drug application, or IND, for our MALT1 inhibitor, which we refer to as SGR-1505, and the U.S. Food and Drug Administration, or FDA, cleared the IND in June 2022. We recently initiated a Phase 1 clinical trial of SGR-1505 in patients with relapsed or refractory B-cell lymphomas and currently have clinical trial sites open for screening and enrollment, but we have not yet dosed any patients with SGR-1505. In addition, we continue to advance other wholly-owned programs through IND-enabling studies. We expect to submit an IND application to the FDA for our CDC7 inhibitor, which we refer to as SGR-2921, in the first half of 2023 and for our WEE1 inhibitor, which we refer to as SGR-3515, in 2024, subject to favorable data from IND-enabling studies. In addition, we plan to initiate a Phase 1 clinical trial of SGR-2921 in the second half of 2023, subject to receipt of regulatory clearance.

In November 2020, we entered into an exclusive, worldwide collaboration and license agreement with Bristol-Myers Squibb Company, or BMS, pursuant to which we and BMS agreed to collaborate in the discovery, research and development of small molecule compounds for biological targets in the oncology, neurology and immunology therapeutic areas. The initial collaboration targets included HIF-2 alpha and SOS1/KRAS, which were two of our wholly-owned pipeline programs. In November 2021, we and BMS mutually agreed to replace the HIF-2 alpha target with another precision oncology target. Following the replacement election, all rights to the HIF-2 alpha target program reverted to us. In September 2022, BMS elected not to proceed with further development of another target and all rights to this program reverted to us. In December 2022, we and BMS entered into an amendment to our collaboration and license agreement to include an additional target in neurology on terms similar to the original agreement. Under the terms of the agreement, as amended, we received a $55.0 million upfront payment from BMS in November 2020 and an additional upfront payment in December 2022 related to the additional target, and we are eligible to receive up to $2.7 billion in total milestones from BMS across all potential targets, as well as a tiered percentage royalty on net sales of each product commercialized by BMS ranging from mid-single digits to low-double digits, subject to certain specified reductions. See "—Collaboration Agreement with Bristol-Myers Squibb Company" for additional information relating to this agreement.

We generated revenue of $181.0 million, $137.9 million, and $108.1 million in 2022, 2021, and 2020, respectively, representing year-over-year growth of 31% and 28%, respectively. Our net loss was $149.2 million, $101.2 million, and $26.6 million for the years ended December 31, 2022, 2021, and 2020, respectively.

Strategy

Our mission is to improve human health and quality of life by transforming the way therapeutics and materials are discovered. We aim to do this by:

- ***Advancing the science that underlies our computational platform:*** We are the leader in the field of physics-based computational drug discovery, and we believe our computational platform is far ahead of that of our nearest competitors. We intend to maintain our industry-leading position by introducing new capabilities and refining our software to further strengthen our technology and advance the science underlying our platform.
- ***Growing and expanding our software business:*** We have experienced steady growth in our software revenues, achieving $135.6 million in revenue in 2022, an increase of 20% compared to 2021, primarily driven by broad adoption of our software solutions by the biopharmaceutical industry and the expansion of our materials science business. We aim to continue to grow our software sales by increasing the adoption of our software by our existing customers and identifying and adding new customers. Further, we believe there remains a large opportunity for growth as there are thousands of biopharmaceutical companies that could benefit from our software solutions.
- ***Progressing our wholly-owned and partnered drug discovery programs***: We plan to progress our wholly-owned drug discovery programs, including SGR-1505, SGR-2921 and SGR-3515, and continue to add new programs that leverage our computational platform. As we progress these programs, we will strategically evaluate on a program-by-program basis advancing them into preclinical and clinical development ourselves, entering into collaborations to co-develop them with leading industry partners, or out-licensing them to maximize clinical and commercial opportunity. As part of this strategy, we entered into an exclusive, worldwide collaboration and license agreement with BMS in November 2020, as well as collaboration agreements with Zai Lab Limited, or Zai Lab, in August 2021, with Eli Lilly and Company, or Lilly, in September 2022, and with Otsuka Pharmaceutical Co. Ltd., or Otsuka, in December 2022.

- ***Advancing our collaborative programs:*** We intend to continue to work with our collaborators on advancing our collaborative programs, which generate revenues through upfront payments, research funding, preclinical and clinical milestones as well as potentially through option fees, commercial milestones, and future royalties. We achieved drug discovery revenue of $45.4 million in 2022, an increase of 84% compared to 2021, largely driven by the achievement of milestones from our collaborative and partnered programs. We also benefit from equity positions in certain of our collaborators.
- ***Leveraging the synergies between our businesses:*** We believe that there are significant synergies within our business. We leverage the feedback that we receive from our software customers, collaborators, and internal drug discovery experts to improve the functionality of our platform, which we believe supports increased customer adoption of our solutions and more rapid advancement of our collaborative and proprietary drug discovery programs. In addition, the success of our collaborators in advancing drug discovery programs provides significant validation of our platform and approach, which we believe increases the attractiveness of our platform to customers, helps us establish new collaborations, and validates the potential of our own proprietary drug discovery programs. Central to our ability to pursue these distinct lines of business is a firewall policy consisting of a set of well-established protocols and technology measures designed to ensure that the intellectual property of our software customers and drug discovery collaborators remains confidential and segregated.

Industry Overview

Traditional drug discovery and development efforts have become increasingly complex, lengthy and capital-intensive, and are prone to high failure rates. Traditional drug discovery involves experimental screening of existing libraries of molecules to find molecules with detectable activity, or "hit molecules," followed by many iterations of chemical synthesis to attempt to optimize those hit molecules to a development candidate that can be advanced into human clinical trials. Efforts to optimize initial hit molecules for a drug discovery project involve costly and iterative synthesis and testing of molecules seeking to identify a molecule with the required property profile. The optimal profile has the acceptable balance of properties such as potency, selectivity, solubility, bioavailability, half-life, permeability, drug-drug interaction profile, synthesizability, and toxicity. These properties are often inversely correlated, meaning that optimizing one property often de-optimizes others. The challenge of optimizing hit molecules is amplified by the limited number of molecules that can be feasibly tested across these properties with traditional methods. As a result, this optimization process often fails to yield a molecule with a satisfactory property profile to be a development candidate, which is why many drug discovery programs fail to advance into clinical development.

Being able to predict molecular properties before initiating costly and time-consuming experimental synthesis would accelerate drug discovery, reduce costs, and increase the probability of success. If it were possible to accurately predict critical properties of molecules, fewer molecules would have to be experimentally synthesized and tested. As a result, larger pools of molecules could be analyzed allowing for more selective synthesis of molecules, leading to higher-quality molecules. In addition, with predictive computational methods, better selections of molecules would be synthesized through exploration of larger portions of chemical space, leading to higher-quality molecules that would in turn have a higher probability of progressing through clinical development and obtaining regulatory approval for commercial sale.

There have been many attempts to improve the efficiency of the drug discovery process by using computational methods to predict properties of molecules. One of the primary computational methods that many companies have attempted to deploy is machine learning, often referred to as artificial intelligence, or AI. One of the main benefits of machine learning is its ability to rapidly process data at scale. However, machine learning on its own has significant limitations and has therefore had a limited impact on improving the efficiency of the drug discovery process. Machine learning requires input data, referred to as a training set, to build a predictive model. This model is expected to accurately predict properties of molecules similar to the training set, but cannot extrapolate to molecules that are not similar to the training set. Accordingly, since the number of possible molecules that could be synthesized is effectively infinite, machine learning can only cover a minuscule fraction of the total number of molecules that could potentially be synthesized.

The other primary computational method that has been explored to improve drug discovery involves using fundamental, "first-principles" physics-based methods, which require a deep and thorough understanding of the specific property to be computed. However, physics-based methods are difficult to develop and can be slow compared to machine learning. Further, to apply such methods to design molecules that will bind with high affinity to a particular protein target, the three-dimensional structure of that protein must be generated with sufficient atomic detail to enable application of these physics-based approaches, which is referred to as being "structurally enabled," and such structures have been historically difficult to obtain and are only available today for a relatively small subset of the universe of human proteins. Another

factor preventing computational chemistry from realizing its promise has been limited compute speed. However, despite all of these challenges, physics-based methods have a significant advantage over machine learning in that they do not require a training set and can, in principle, compute properties of molecules that are well beyond existing industry experience and data.

Our Platform

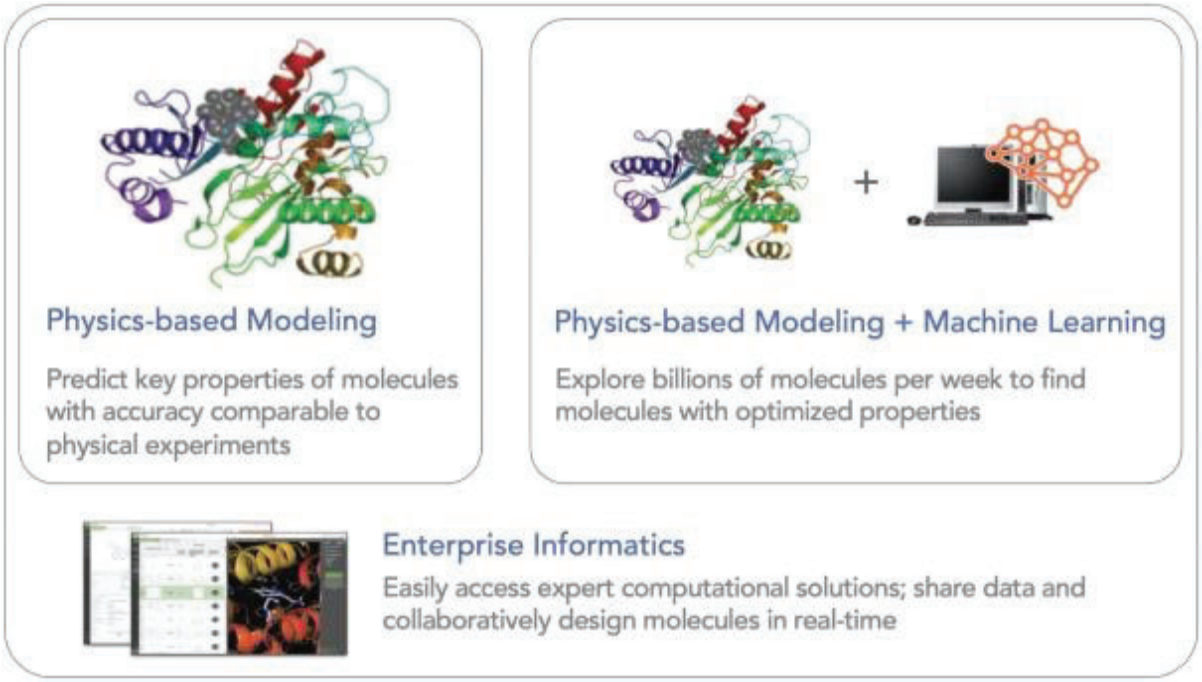
Over the past several decades and with the concerted effort of hundreds of our scientists and software engineers, we have developed a computational platform that is capable of predicting critical properties of molecules with a high degree of accuracy. We have built our platform on a foundation of rigorous, physics-based methods, combined with the rapid data processing and scaling advantages of machine learning, that together provide a significant advantage over traditional methods. We believe that physics-based simulation is at an inflection point as a result of the increased availability of massive computing power, combined with a more sophisticated understanding of models and algorithms and the growing availability of high-resolution protein structures.

We have demonstrated that our software platform can have a transformative impact on the drug discovery process by:

- reducing the average time and cost required to identify a development candidate; and
- increasing the probability of drug discovery programs entering clinical development.

Based on our drug discovery efforts to date, including in our collaborative programs, we believe that the development candidates discovered using our platform have a higher probability of successfully progressing through clinical development than the industry average.

As shown below, we achieve these outcomes by tightly integrating our predictive physics-based methods, which have a high degree of accuracy, with machine learning, which is highly scalable. In addition, our platform enables real-time collaboration on drug discovery projects to inform decision-making and maximize the impact of the predictive capabilities of our computational platform.

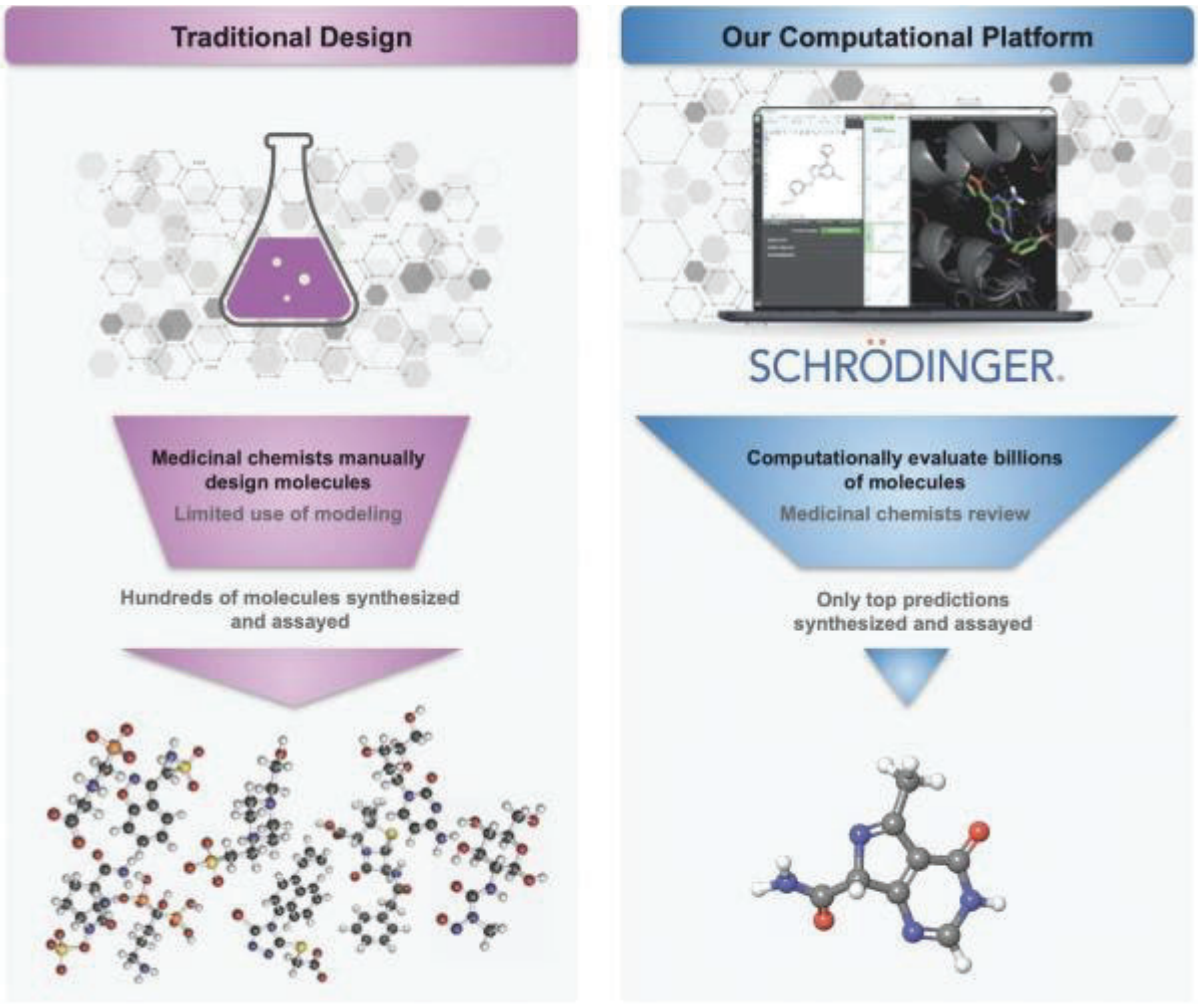


Our computational platform provides the following significant technological advantages over traditional approaches to drug discovery, all of which enable shortening timelines, decreasing costs, and increasing the probability of success of drug discovery efforts:

- **Speed.** Our platform is able to evaluate molecules in hours rather than the weeks that it typically takes to synthesize and assay molecules in the laboratory.

- **Scale.** Our platform can explicitly evaluate billions of molecules per day, whereas traditionally operated discovery projects only synthesize approximately one thousand molecules per year, thereby increasing the probability that we find a novel molecule with the desired property profile.
- **Quality.** In a peer-reviewed study, our platform was tested against traditional methods for selecting tight-binding molecules and resulted in an eight-fold increase in the number of molecules with the desired affinity.

The figure below compares the optimization process of drug discovery using traditional methods and our approach.



Our computational platform includes a broad array of proprietary capabilities:

- **Faster Lead Discovery**: the ability to rapidly identify potent molecules suitable to initiate hit-to-lead and lead optimization efforts via solutions for virtual screening of extremely large libraries of molecules, as well as physics-based replacement of the central core of a molecule, known as scaffold hopping, to identify novel, highly potent molecules unavailable in library collections;
- **Accurate Property Prediction**: the ability to assess key properties of drug-like molecules using physics-based calculations with accuracy comparable to that of experimental laboratory assays, to facilitate optimization of drug properties, including drug potency, selectivity, and bioavailability;
- **Large-Scale Molecule Exploration**: the ability to computationally ideate and explore novel, high-quality drug-like molecules for consideration by discovery project teams utilizing computational enumeration and generative machine learning techniques that are trained and constructed to yield molecules that are synthetically feasible;

- **Large-Scale Molecule Evaluation**: the ability to scale our calculations of key drug properties to ultra-large idea sets of billions of molecules to enable more rapid and successful identification of high-quality drug candidate molecules; and
- **Integrated Data Management and Visualization**: the ability to generate, access, and analyze the data derived from complex calculations integrated with assay data through a powerful and user-friendly graphical interface.

Recognition of our scientific advances has come through customer adoption, in citations of publications in peer reviewed journals and in the progress of our collaborative and proprietary drug discovery programs. For example, the initial paper describing our ligand-protein docking program, Glide, published in 2004 is one of the most cited papers in the history of the *Journal of Medicinal Chemistry*, a premier journal in its field. Glide continues to be broadly used as a hit-finding technology throughout the biopharmaceutical industry by our customers. We have made many similar scientific advances in fields including druggability assessment, affinity calculation, protein structure refinement, and molecule ideation and design. These advances were achieved by our team of hundreds of Ph.D.-level scientists and software engineers with extensive input from our Scientific Advisory Board, which includes thought leaders in computational chemistry, physics-based simulations, statistical mechanics, and machine learning.

Our computational platform is also applicable to new problems of interest and new fields of study. Since the underlying physics that drives a biologic to bind to its target is no different than the physics that drives a small drug molecule to bind to a protein, we have been able to successfully apply these technologies to the discovery of biologics. Similarly, the physics underlying the properties of materials is no different than the physics underlying the properties of drug molecules. Therefore, we have successfully applied our computational platform to materials science applications, including in the fields of aerospace, energy, semiconductors, and electronic displays.

Software Business

Overview

We are the leading provider of computational software solutions for drug discovery to the biopharmaceutical industry. In 2022, all of the top 20 pharmaceutical companies, measured by 2021 revenue, licensed our solutions, accounting for $43.2 million, or 32%, of our software revenue in 2022. Additionally, in 2022, our software was used by researchers around the world at more than 1,720 academic institutions. The widespread adoption of our software is supported by an approximately 230-person global team of sales, technical, and scientific personnel. Our direct sales operations span across the United States, Europe, Japan, India, and South Korea, and we have sales distributors in other important markets, including China.

We have a diverse and large existing customer base, ranging from startup biotechnology companies to the largest global pharmaceutical companies as well as an increasing number of materials science customers. Our ten largest software customers represented approximately 32% of our software revenue in 2022, including one customer that makes up 16% of total revenue. We continue to expand our customer base as we provide education and information to increase the awareness of the potential of our computational platform across different industries. As of December 31, 2022, we had 1,748 active customers, which we define as the number of customers who had an ACV of at least $1,000 in a given fiscal year.

We believe there is a significant opportunity to expand the adoption of our platform within our growing customer base. Biopharmaceutical companies are increasingly adopting our software at a larger scale, and we anticipate that this scaling-up will drive future revenue growth. Our ability to expand within our customer base is demonstrated by the increasing number of our customers with an ACV over $100,000. We had 227, 190, and 153 such customers for the years ended December 31, 2022, 2021, and 2020, respectively. In addition, we had 18, 15, and 16 customers for the years ended December 31, 2022, 2021, and 2020, respectively, with an ACV of over $1.0 million. Furthermore, we also had four customers with an ACV in excess of $5.0 million for the year ended December 31, 2022, compared to two such customers for the year ended December 31, 2021. For the year ended December 31, 2022, our top 10 customers, measured by ACV, accounted for $46.5 million of our total ACV compared to $34.1 million for the year ended December 31, 2021. We believe biopharmaceutical companies are increasingly recognizing and appreciating the scientific and financial benefits of using our platform at scale.

Furthermore, we believe our sales and marketing approach and the quality of our software solutions help us cultivate long-standing relationships and reoccurring sales. This is demonstrated by the length of our key relationships, with the average tenure of our 10 largest software customers in 2022 being nearly 19 years. Furthermore, our ability to

expand our customer relationships over time is exemplified by our ability to retain our customers with an ACV over $100,000. For the year ended December 31, 2022, our year-over-year customer retention rate for our customers with an ACV over $100,000 was 96% and was 96% or higher for each of the previous nine fiscal years. We believe the continued expansion of our customer base coupled with our ability to expand our customers' use of our software will continue to drive revenue growth. The figure below shows the different ways in which we are accelerating our growth.



See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Key Factors Affecting Our Performance" for additional information regarding ACV and customer retention rate.

Our Software Solutions for Drug Discovery

We offer our customers a variety of software solutions that accelerate all stages of molecule discovery, design, and optimization pursuant to agreements with terms typically for one year. Our licenses give our customers the ability to execute a certain number of calculations across specified software solutions. Certain of our key software solutions are highlighted below, along with the particular stage of drug discovery in which they are employed.

- **Target Identification and Validation:** the identification and evaluation of a protein target that might be worthwhile to pursue as the subject of a drug discovery campaign.
  - **WaterMap** characterizes the locations and energetics of water molecules occupying the binding site of, or solvating, a target protein. From this analysis, one can infer the druggability of a protein, as well as uncover opportunities to significantly increase binding affinity by exploiting the water structure in the binding site.
  - **SiteMap** allows binding site identification and evaluation to help locate potential protein binding sites, including allosteric sites, and predict the approximate druggability of those sites.
  - **GlideEM, PrimeX and Phenix/OPLS4** enable optimization of intermediate quality experimental protein structures to a quality sufficient to drive structure-based drug discovery.
- **Hit Discovery**: the identification of hit molecules.
  - **FEP+** is our free energy calculation software. In hit discovery, this software can be used to replace the central core of earlier known tight binding molecules to identify novel, highly potent molecules unavailable in library collections. Often these molecules have much higher binding affinity and have a better property profile than typical hit molecules. FEP+ can also be used to calculate absolute binding affinities, which enables the software to evaluate and triage diverse molecules sharing no common peripheral features in a hit discovery context.
  - **Glide** is our virtual screening program that is used to screen libraries of molecules to find hit molecules likely to bind a particular protein target in a specific conformation.
  - **WScore** is our next-generation virtual screening program that utilizes a more accurate and robust description of protein-ligand interaction solvation effects. This and other novel features enable WScore to more reliably find hit molecules for challenging protein targets when screening libraries of molecules.
  - **Shape** uses the three-dimensional structure and shape of earlier known hit molecules to find new hits when screening libraries of molecules.

- **AutoQSAR/DeepChem** uses modern machine-learning methods trained to earlier known hit molecules to find novel hits when screening libraries of molecules.
- **Induced Fit Docking** can computationally predict the binding mode of molecules to a binding site of a protein, including predicting how the conformation of the protein binding site may reorganize upon binding the molecule.

- **Hit to Lead and Lead Optimization:** Hit to lead is the stage at which small molecule hits are evaluated and undergo limited optimization to identify promising lead molecules. Lead optimization improves on the property profile of lead molecules by designing new analogs with improved potency, reduced off-target activities, and favorable physicochemical/metabolic properties.
  - **FEP+** is our free energy calculation software. In the hit to lead and lead optimization phases of drug discovery, FEP+ is used to predict the binding affinity of ligands to proteins with accuracy approaching that of physical experiments. It allows precise rank-ordering of large libraries of virtual molecules so that only the most potent molecules are synthesized in a program, which can save time and reduce cost. FEP+ can also be used to calculate the binding selectivity, solubility, and mutational resistance profiles of molecules, which are key properties for the optimization of bioavailability, toxicology, and efficacy.
  - **AutoQSAR/DeepChem** uses modern machine-learning methods to produce predictive quantitative structure-activity relationship, or QSAR, models. This allows more accurate methods, such as FEP+, to be applied at a much greater scale but with less accuracy to much larger sets of molecules than would otherwise be possible and enables predictive QSAR models of other properties to be developed and deployed on drug discovery projects.
  - **PathFinder** is an enumeration tool that enables the rapid exploration of synthetically tractable ligands. When PathFinder is deployed in conjunction with multiparameter optimization, machine learning, and FEP+ simulations, it provides a streamlined approach to create and evaluate large sets of synthetically tractable, lead-like, potent ligands.

- **Software Solutions Used Throughout the Drug Discovery Process:**
  - **LiveDesign** is our user-friendly enterprise informatics solution that enables interactive and collaborative molecule design, aggregation and sharing of data, and end-to-end discovery project coordination between chemists, modelers, and biologists.
  - **Maestro** is our user-friendly modeling environment, which allows expert modelers to utilize our advanced modeling solutions.

Our Software Solutions for Materials Science

We also sell software licenses to customers engaged in molecule design for industrial purposes. The software solutions for our materials science customers leverage much of the same technology as our software for biopharmaceutical companies. In addition, similar to traditional drug discovery efforts, traditional approaches to discovering new molecules in these fields also suffer from long timelines, and it can take as long as 10 to 20 years to bring new materials to the market. We are focused on leveraging our technology to transform the way new materials are discovered, and we believe that materials science industries are only beginning to recognize the potential of computational methods. We are continuing to build a team of subject matter experts to further drive adoption of our computational platform in each of the following areas in which we currently operate:

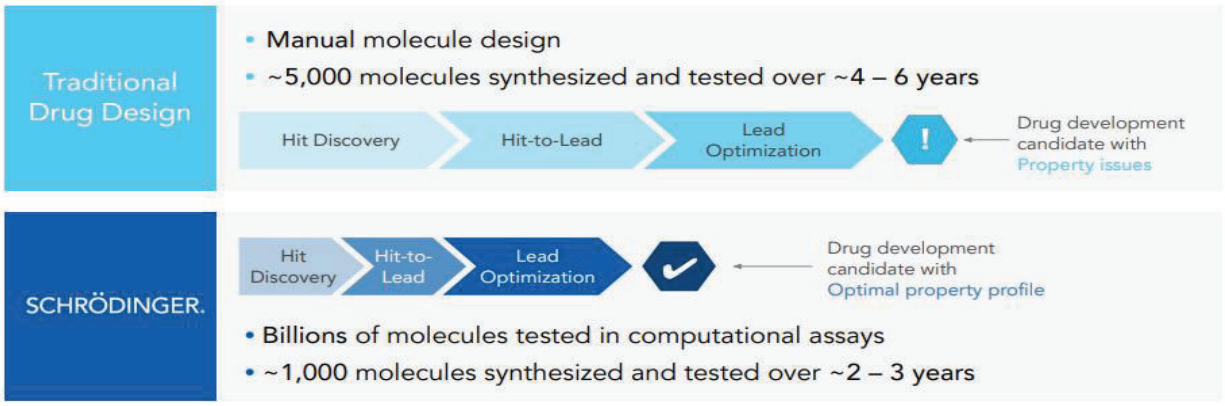
- **mobile electronics and displays**—organic electronics (OLED);
- **aerospace and defense**—polymers, composites;
- **microelectronics**—semiconductors, thin film processing;
- **oil and gas**—catalysis, reactivity;
- **energy**—alternative energy, batteries; and
- **consumer packaged goods**—soft matter, formulations.

As part of our ongoing efforts to further advance our software solutions for materials science applications, in June 2020, we entered into a three-year agreement with Gates Ventures, LLC to develop and apply atomistic simulations methods to improve battery performance. Furthermore, in March 2022, we entered into a three-year collaboration with Eonix LLC, or Eonix, to accelerate the discovery and design of materials for safer, energy dense lithium ion batteries. Under the terms of this collaboration, we received an equity stake in Eonix, and will be eligible to receive additional equity upon the successful completion of certain technical milestones.

Drug Discovery Business

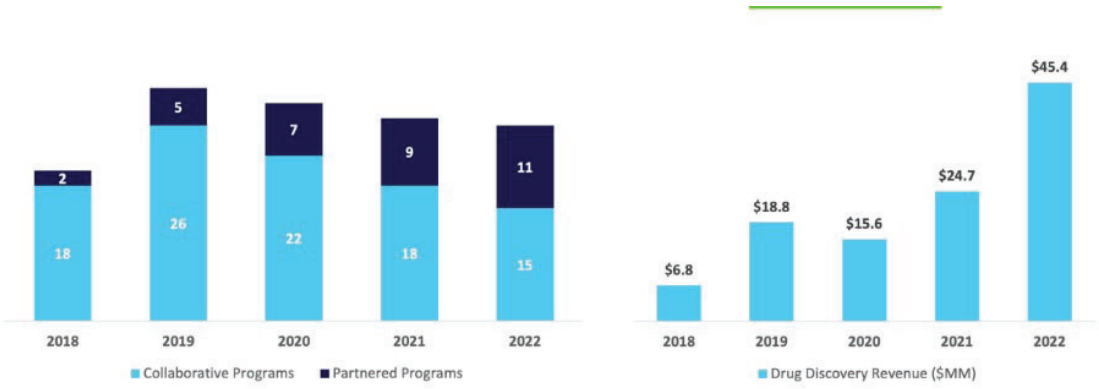
Overview

We are using our computational platform in both our collaborative and proprietary drug discovery programs. The figure below illustrates the advantages in time, cost, and molecule quality of our computational drug design approach over traditional drug discovery approaches.



The figures below show the number of collaborative and partnered programs we have worked on in each given year, as well as the amount of drug discovery revenue we have generated for the years presented. Collaborative programs on which our discovery work is completed, but for which we remain eligible for future milestones and royalties are not included in the figures below.

As of December 31, 2022, we also had an aggregate of 15 collaborative and partnered programs for which we are eligible to receive future royalties on sales, if any, compared to 13 programs as of December 31, 2021.



While our revenue-generating collaborations are an important component of our business, our strategy is also to invest in wholly-owned drug discovery programs. We evaluate these programs individually to determine the advisability of entering into preclinical and clinical development ourselves, entering into collaboration, or out-licensing programs to optimize their development and clinical and commercial potential. As part of this strategy, we have entered into collaboration agreements with BMS, Zai Lab Limited, and Lilly, which are more fully described in "—Our Proprietary Drug Discovery Programs."

Our drug discovery revenue consists of revenue generated from collaborations through the combination of upfront payments, research funding payments, discovery and development milestones, and other fees, as well as any revenue generated from our pipeline of proprietary drug discovery programs.

Our Drug Discovery Collaborations

Over the last decade, leveraging our platform and expertise, we have steadily grown our portfolio of collaborative programs. These programs have provided us with significant income and have the potential to produce additional milestone payments, option fees, and royalties in the future. These programs pursue the discovery and development of clinical candidates across a wide range of therapeutic target protein classes and indications. Many of these programs are pursuing novel molecules for targets where a low-dose small molecule inhibitor or activator with optimal drug-like properties has been difficult to achieve or where selectivity for the target of interest has been difficult to achieve relative to other proteins. We have steadily grown our pipeline of collaborative programs by selectively entering into drug discovery collaborations with leading drug development and commercialization companies. Among the factors that we use to embark on collaborations are whether the targets are well-validated, have high therapeutic potential, and are amenable to the strengths of our computational platform, and whether or not the collaborator brings complementary capabilities, all of which we believe contribute to an increased probability of success.

Through access to the maximum potential scale of our computational platform and our drug discovery and software development teams, our collaborators receive the following key benefits:

- **Immediate utilization of our platform:** Ability to immediately and efficiently leverage the full benefits of our computational platform, without the need for training or ramp-up time, thereby enabling accelerated drug discovery.
- **Access to massive compute power**: Ability to run our computational software at scale, thereby avoiding the time and cost needed to build such computational infrastructure on their own.
- **Early access to cutting-edge functionality**: Real-time access to emerging solutions as they are being developed.
- **Target exclusivity**: Under our collaboration agreements, we agree to design drugs for a particular protein target or targets using our computational platform and know-how exclusively for the collaborator.

Collaboration Agreements

We have entered into a number of collaborations with biopharmaceutical companies under which our collaborators are pursuing research in a number of therapeutics areas, including without limitation, various programs in oncology, antifungal diseases, fibrosis, inflammatory bowel disease, metabolic disease, autoimmune disease, immuno-oncology, cardiopulmonary disease and tuberculosis. Our current collaborators include, but are not limited to, Ajax Therapeutics, Inc., Bright Angel Therapeutics Inc., Morphic Holding, Inc., or Morphic, Nimbus Therapeutics, LLC, or Nimbus, Otsuka Pharmaceutical Co., Ltd., or Otsuka, Petra Pharma Corporation, Sanofi S.A., and Structure Therapeutics Inc. (formerly ShouTi, Inc.). All of the programs being pursued under these collaborations are fully owned and controlled by each respective collaborator. Our opportunity to receive potential revenues from any of these programs is generally limited to research funding payments, development, regulatory, and commercial milestones, and royalties on commercial sales, if any. We are not responsible for advancing their preclinical or clinical development or their commercialization, if approved.

Equity Stakes. We have received equity consideration in certain of our collaborators, and from time to time, we have also made additional equity investments in certain of these collaborators. As noted above, all of these programs are fully owned and controlled by each respective collaborator, with the exception of Faxian Therapeutics, LLC, which is a

50/50 joint venture. The following table presents our equity stakes on an issued and outstanding basis (unless otherwise noted) as of December 31, 2022:

Company	Ownership %
Ajax Therapeutics, Inc.	6.3%
Apollo, LLC [1]	7.9%
Bright Angel Therapeutics Inc.	33.3%
Faxian Therapeutics, LLC (JV)	50.0%
Morphic Holding, Inc. [2]	2.1%
Nimbus Therapeutics, LLC [3]	3.8%
Ravenna Pharmaceuticals, Inc.	3.1%
Structure Therapeutics, Inc. [4]	3.7%

(1) Represents our equity in the entity, which entity holds the rights to any future payments received in connection with Gilead Sciences, Inc.'s acquisition of Nimbus' ACC inhibitor program.
(2) Based on the number of shares of common stock outstanding as of February 21, 2023, as reported on Morphic's Annual Report on Form 10-K for the annual period ended December 31, 2022, as filed with the SEC on February 23, 2023.
(3) On a fully diluted basis
(4) Based on the number of ordinary shares outstanding as of December 31, 2022, as reported on Structure Therapeutics Inc.'s prospectus, as filed with the SEC on February 6, 2023.

From time to time, we may also receive distributions on account of our equity stakes in our collaborators. For example, in February 2023, Nimbus announced the closing of the acquisition by Takeda Pharmaceuticals Company Limited, or Takeda, of Nimbus Lakshmi, Inc., a wholly-owned subsidiary of Nimbus, and its tyrosine kinase 2, or TYK2, program, which includes the TYK2 inhibitor, NDI-034858, which is being evaluated for the treatment of multiple immune-mediated diseases following positive results from the Phase 2b clinical trial in psoriasis. Following the closing of the acquisition, in February 2023, we received a cash distribution in the amount of $111.3 million from Nimbus, and we expect to receive a second cash distribution in the amount of $36.0 million from Nimbus in the second quarter of 2023, for a total cash distribution of $147.3 million.

Financial Rights. In addition to our equity stakes in certain of our collaborators, we also have rights to various payments on a collaborator-by-collaborator agreement basis including research funding payments, discovery, development, and commercial milestones, and potential royalties in the single-digit range. Under certain of our collaboration agreements, we are also eligible to receive a percentage of our collaborators' sublicense revenue.

Many of our collaborative programs are currently still in the discovery stages. Generally, the size of the payments we are eligible to receive from a collaborative program increases as the program advances. As a result of the broader validation of our platform, we intend to pursue an increasing number of wholly-owned drug discovery programs, and we will continue evaluating new collaborative programs that fit our selection criteria and where the collaborator's particular expertise, resources or intellectual property has the potential to create substantial value. Importantly, our current collaboration agreements typically also contemplate additional program targets being added, allowing our collaborators to potentially increase the number of programs under our current collaboration agreements, subject to our pre-existing exclusivity obligations and interests.

However, because these collaborations are not under our control, we cannot predict whether or when we might achieve any event-based increases in research funding payments, milestone payments, royalty or other payments under these collaborations or estimate the full amount of such payments, and we may never receive any such payments. For a further discussion of the risks we face with respect to receipt of any of these payments, please refer to "Risk Factors—Risks Related to Drug Discovery—We may never realize a return on our investment of resources and cash in our drug discovery collaborations".

How We Work with Our Collaborators. Generally, our existing collaboration agreements provide that we agree to design drugs for a particular target or targets using our computational platform and know-how exclusively for the collaborator. The collaborator retains the intellectual property related to any molecules developed under the collaboration. Generally, our collaborators are not contractually required to provide us with, nor do we expect generally to receive, access to nonpublic information regarding key developments related to the advancement of these collaboration programs, such as clinical trial results, including safety and efficacy data, regulatory communications, or commercialization plans and

strategies. To the extent we do receive such information, our collaboration agreements generally require us to maintain the confidentiality of information we receive under the collaboration.

In December 2022, we entered into a multi-part agreement with Otsuka, together with Otsuka's subsidiary Astex Pharmaceuticals, which includes a collaboration for the discovery and development of a program focused on an emerging central nervous system, or CNS, disease target. Under the collaboration, we are responsible for drug design through lead optimization and Otsuka will be responsible for all other drug discovery and clinical development activities. We received an upfront payment and will be eligible to receive discovery, development and regulatory milestones, as well as tiered royalties on net sales of any products emerging from the drug discovery collaboration in all markets.

Our Proprietary Drug Discovery Programs

In 2018, we began to develop a pipeline of wholly-owned drug discovery programs with the goal of using our platform to produce a portfolio of novel, high value therapeutics. Our initial programs were focused on discovering and developing inhibitors for targets in DNA damage response pathways and genetically defined cancers. Since then, we have expanded into other therapeutic areas, including in the areas of immunology and neurology. The FDA cleared our IND for SGR-1505 in June 2022. We recently initiated a Phase 1 clinical trial of SGR-1505 in patients with relapsed or refractory B-cell lymphomas and currently have clinical trial sites open for screening and enrollment, but we have not yet dosed any patients with SGR-1505. In addition, we continue to advance other wholly-owned programs through IND-enabling studies. We expect to submit an IND application to the FDA for SGR-2921 in the first half of 2023 and for SGR-3515 in 2024, subject to favorable data from IND-enabling studies. In addition, we plan to initiate a Phase 1 clinical trial of SGR-2921 in the second half of 2023, subject to receipt of regulatory clearance. Our strategy is to pursue an increasing number of wholly-owned programs and strategically evaluate on a program-by-program basis advancing them into preclinical and clinical development ourselves, entering into collaborations to co-develop them with leading industry partners, or out-licensing them to maximize their clinical and commercial opportunities.

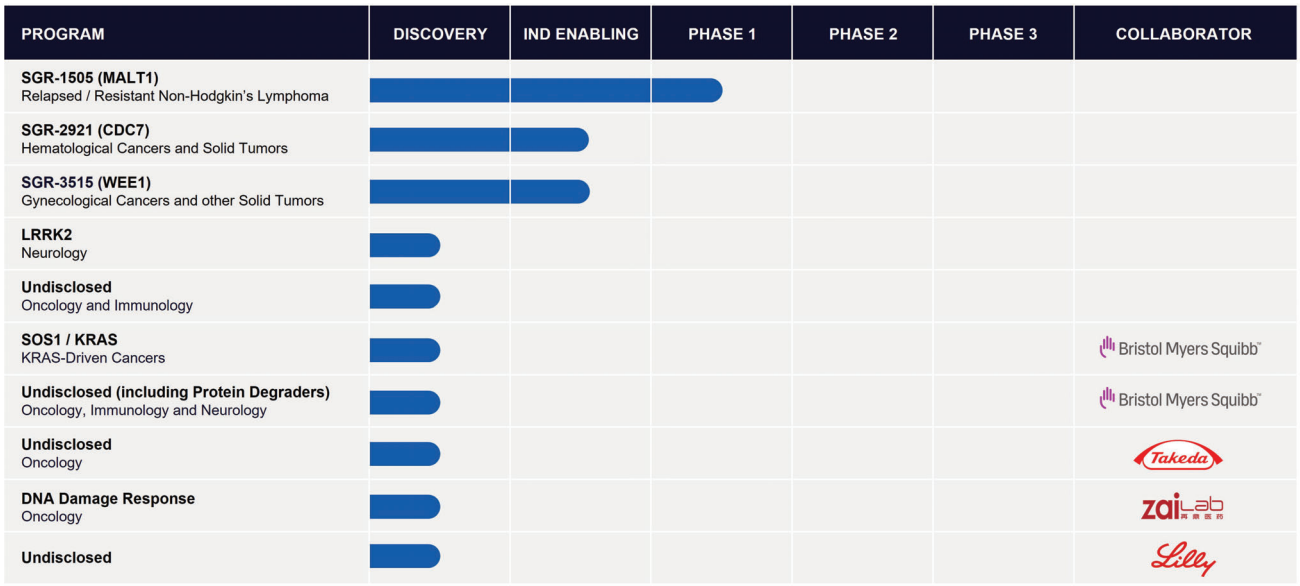
As part of this strategy, in November 2020, we entered into an exclusive, worldwide collaboration and license agreement with BMS pursuant to which we and BMS agreed to collaborate in the discovery, research and development of small molecule compounds for biological targets in the oncology, neurology and immunology therapeutic areas. The initial collaboration targets included HIF-2 alpha and SOS1/KRAS, which were two of our wholly-owned programs. In November 2021, we and BMS mutually agreed to replace the HIF-2 alpha target with another precision oncology target. Following the replacement election, all rights to the HIF-2 alpha target program reverted to us. In September 2022, BMS elected not to proceed with further development of another target and all rights to this program reverted to us. In December 2022, we and BMS entered into an amendment to the agreement to include an additional target in neurology on terms similar to the original agreement. Under the terms of the agreement, as amended, we received a $55.0 million upfront payment from BMS in November 2020 and an additional upfront payment in December 2022, and we are eligible to receive up to $2.7 billion in total milestones from BMS across all potential targets, as well as a tiered percentage royalty on net sales of each product commercialized by BMS ranging from mid-single digits to low-double digits, subject to certain specified reductions. We recently announced we are expecting the first program from this collaboration to advance to development candidate status. Following finalization of this advancement, we expect to recognize a drug discovery milestone associated with advancement of the program, which is projected in the first quarter of 2023. See "— Collaboration Agreement with Bristol-Myers Squibb Company" for additional information relating to this agreement.

In August 2021, we entered into a global discovery, development and commercialization collaboration with Zai Lab Limited focused on a novel program in oncology targeting DNA damage response. Under the terms of the agreement, we received an upfront payment, and if we elect to co-fund clinical development of a product candidate under the collaboration, we will be entitled to receive 50% of any profits from the commercialization of an approved therapeutic in the United States. We are also eligible to receive up to approximately $338.0 million in preclinical, clinical, regulatory and sales-based milestone payments from Zai Lab Limited for any product candidate developed under the collaboration, and we are entitled to receive tiered royalties on net sales outside the United States.

In September 2022, we entered into a collaboration with Lilly, under which we are responsible for the discovery and optimization of small molecule compounds addressing a specific target. Lilly will be responsible for the completion of preclinical development, clinical development and commercialization. Under the terms of the agreement, we received an upfront payment, and we are eligible to receive up to $425.0 million in discovery, development and commercial milestone payments. We are also eligible to receive low single- to low double-digit royalties on net sales of any products emerging from the collaboration in all markets.

In addition to the above, we are also advancing a program in collaboration with Takeda focusing on an oncology target. Under this collaboration, we conduct all drug discovery research and pharmacology activities through the development candidate stage, and Takeda has the option to acquire the program at either the lead optimization stage or development candidate stage and to develop and commercialize such product candidate from the program. We control the drug discovery process and retain all intellectual property rights to any product candidate that is discovered under the program until Takeda exercises its option to acquire the program.

The following is a summary of our proprietary drug discovery programs:



Our Approach to Target Selection

Our selection of targets is based on an extensive analysis of human targets and drug discovery programs. We analyze targets using automated methods at scale. The key steps we take in prioritizing programs involve:

- **Structural and modeling enablement**. We use our computational platform to analyze protein structure quality as well as druggability of binding sites across thousands of target proteins in parallel. For a subset of high-quality structures of interest, we confirm amenability to our computational platform.
- **Evaluation of therapeutic potential**. Our selection of targets is strongly influenced by the level of validation of the target, including analysis of human genetics and prior clinical data.
- **Identification of unsolved design challenges**. We determine whether there are property profile challenges that could be solved by the application of our computational platform and provide a clinically meaningful differentiated, novel, high value product opportunity.
- **Assessment of potential value of pathways and mechanisms.** We evaluate industry and commercial interest as well as the clinical utility with the aim of prioritizing programs with high commercial and therapeutic potential.

Using this comprehensive analysis, we have identified a large number of protein targets that we believe are amenable to our technology. We continue to evaluate a number of additional targets using this analysis methodology.

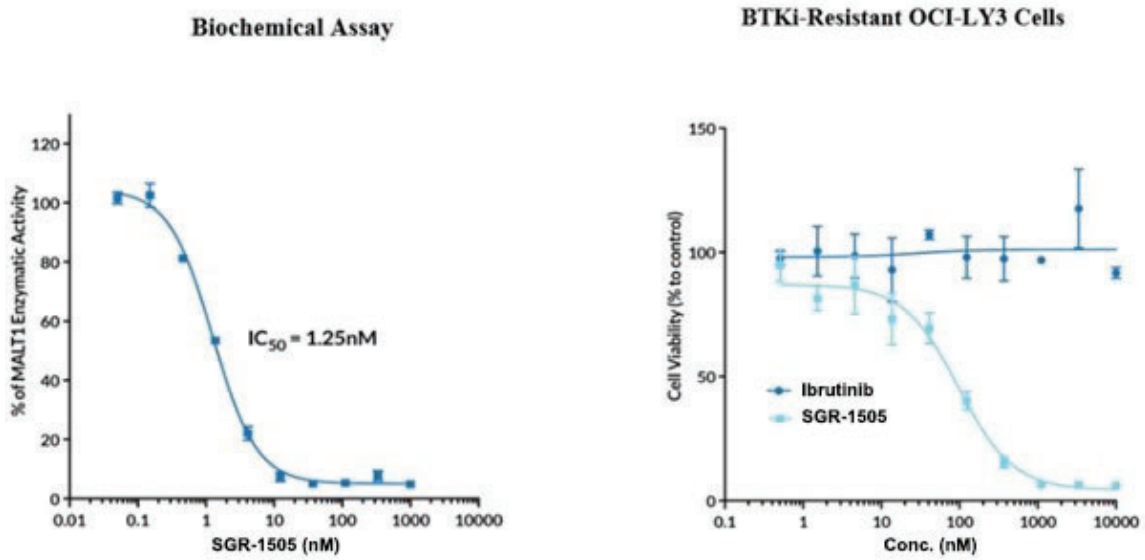
SGR-1505: Our MALT1 Inhibitor

We are advancing SGR-1505, our novel MALT1 inhibitor, for the treatment of patients with relapsed or refractory B-cell lymphomas. Constant activation of nuclear factor-kappa B, or NF-κB, a key signaling molecule in B cells, is a hallmark of several subtypes of lymphoma. MALT1 is a key mediator of the NF-κB signaling pathway, the main driver of a subset of B-cell lymphomas, and functions by forming a complex with CARMA1 (Caspase recruitment domain-containing protein 11 also known as CARD-containing MAGUK protein 1) and BCL10 (B-cell lymphoma/leukemia 10) to mediate antigen receptor-induced lymphocyte activation. MALT1 is considered a potential therapeutic target for several subtypes of non-Hodgkin's lymphomas.

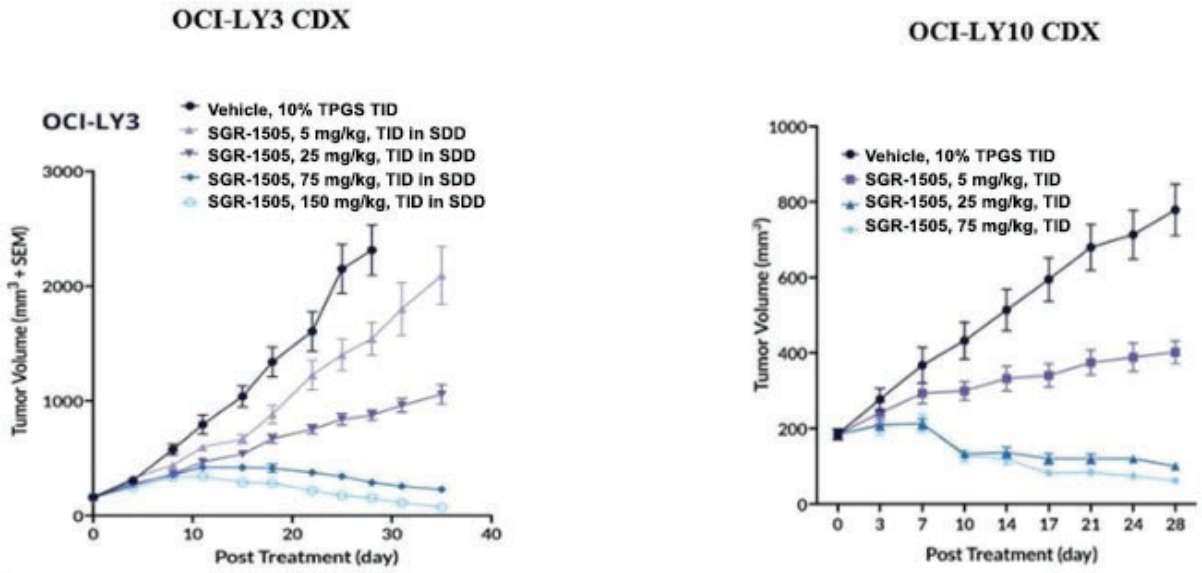
Activated B-cell, or ABC, a subtype of diffuse large B-cell lymphoma, or ABC-DLBCL, is the most common type of aggressive non-Hodgkin's B-cell lymphoma. ABC-DLBCL is associated with a number of mutations that trigger a constitutively active NF-κB signaling pathway, which often is mediated by increased MALT1 protease activity. Among these mutations is a gain of function mutation or amplification of MALT1, which has also been identified in ABC-DLBCL patients.

Our program utilized our physics-based software platform to enable the identification and advancement of multiple novel series of MALT1 inhibitors from hit finding to lead optimization. Combining multi-parameter optimization, FEP+, and machine learning, we were able to prioritize tight-binding compounds with drug-like properties, and identified multiple novel and distinct chemical series which showed strong anti-tumor activity, ultimately enabling us to select SGR-1505 as our development candidate in under two years.

As shown in the figures below, in preclinical studies, SGR-1505 showed anti-tumor activity in a MALT1 enzymatic assay and strong anti-proliferative effect in cell viability in a Bruton's tyrosine kinase, or BTK, inhibitor resistant OCI-LY3 B-cell non-Hodgkin's lymphoma cell line, when compared to ibrutinib, a covalent BTK inhibitor.



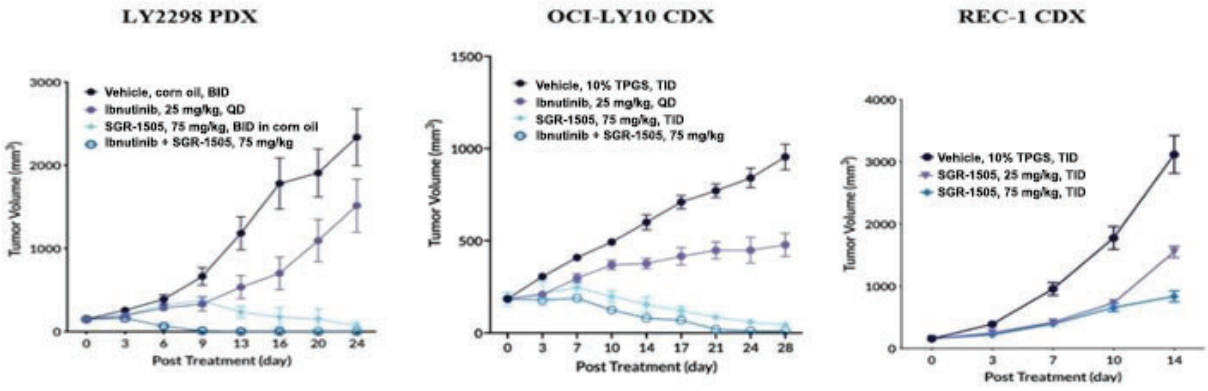
As shown in the figures below, in preclinical studies, SGR-1505 also demonstrated strong anti-tumor activities as a single agent in BTK inhibitor resistant OCI-LY3 cells and in BTK sensitive OCI-LY10 B-cell non-Hodgkin's lymphoma *in vivo* cell-line derived xenograft (CDX) models.



TPGS = D-alpha-tocopheryl polyethylene glycol succinate, a solvent used in co-administration for drug dosing in animals; TID = three times a day dosing; SDD = spray dried dispersion; SEM = scanning electron microscopy, a method used to measure cell volume

In addition, as shown in the figures below, SGR-1505 demonstrated strong anti-tumor activities in combination with ibrutinib in the BTK inhibitor sensitive *in viv*o models, such as the ABC-DLBCL patient-derived xenograft (PDX) model LY2298 and the OCI-LY10 CDX model. Beyond ABC-DLBCL disease models, as shown in the figures below, SGR-1505 also demonstrated single agent anti-tumor activity in an *in vivo* mantle cell lymphoma REC-1 CDX model.

SGR-1505 also showed strong combination effects with venetoclax (an inhibitor of the anti-apoptotic protein B-cell lymphoma 2 (BCL2)) on inhibition of cancer cell viability in the OCI-LY10 CDX model.



QD = once per day dosing; BID = twice a day dosing

These data suggest that targeting MALT1 with SGR-1505 may expand therapeutic options for patients with selected B-cell lymphomas, such as ABC-DLBCL, with the possibility of expanding into other B-cell lymphomas such as mantle cell lymphoma. Furthermore, SGR-1505 demonstrated potential in combination with BTK inhibitors to overcome drug-induced resistance to BTK inhibitors in patients with relapsed/refractory B-cell lymphomas.

The FDA cleared the IND for SGR-1505 in June 2022. Our Phase 1 clinical trial of SGR-1505 is designed as an open-label, multi-center dose escalation clinical trial in patients with relapsed or refractory B-cell lymphomas. We anticipate enrolling up to 52 patients with confirmed mature B-cell malignancies who are 18 years or older and have a life expectancy of equal to or greater than 12 weeks. SGR-1505 will be administered orally. The trial is designed to evaluate the safety, pharmacokinetics, pharmacodynamics, maximum tolerated dose and/or recommended dose of SGR-1505. Exploratory cohorts will evaluate additional pharmacokinetics, pharmacodynamics, preliminary anti-tumor activity and safety to establish the recommended dose, and a sub-study will also evaluate the effect of food and drug-drug interactions.

We recently initiated a Phase 1 clinical trial of SGR-1505 and we currently have clinical trial sites open for screening and enrollment, but we have not yet dosed any patients with SGR-1505.

SGR-2921: Our CDC7 Inhibitor

We are advancing SGR-2921, our novel CDC7 inhibitor, for the treatment of advanced solid and liquid tumors. CDC7 is a serine/threonine protein kinase that has been shown to play important roles in DNA replication initiation and in response to replication stress and DNA damage. CDC7 levels are high in certain tumors, and are thought to be linked to these cancer cells' proliferative capacity and ability to bypass normal DNA damage responses.

CDC7 phosphorylates and activates the enzymes responsible for DNA replication initiation and proteins involved in replication stress response. Disruption of CDC7 activity in cancer cells leads to delayed DNA replication, increased replication stress, cell cycle abnormalities, and cell death.

The antiproliferative potential of CDC7 inhibition was validated by a third party in Phase 1 clinical trials of a CDC7 inhibitor in which responses were observed in patients, including those with duodenal, esophageal and cervical cancer. Prior to this positive result, existing CDC7 inhibitors were not sufficiently tight-binding, lacked selectivity, and demonstrated poor pharmacokinetic properties.

In order to maximize the anti-cancer activities of CDC7 inhibitors, very tight-binding inhibitors are required to achieve durable clinical impact as monotherapy or in the context of clinical combinations. Using our computational platform, we identified multiple tight-binding, selective, and novel CDC7 inhibitor series, and selected SGR-2921 as our development candidate.

As shown in Tables 1 and 2 below, SGR-2921 demonstrated inhibition of recombinant human CDC7 in a biochemical kinase assay and in a biophysical assay, as measured by the average IC_{50} value, which is a measure of the

potency of a compound in inhibiting specific biological functions. Table 1 also shows that SGR-2921 demonstrated strong binding affinity to CDC7 with an average equilibrium dissociation constant, or KD, which is a measure of binding affinity between a protein and a binding partner, in the picomolar range. Further, SGR-2921 showed inhibition of the phosphorylation of the serine in position 53, or S53, of the protein MCM2, or pMCM2, a downstream substrate of CDC7, in COLO205, a colorectal cancer cell line, and in two acute myeloid leukemia cell lines, MV-4-11 and MOLM-16.

Table 1 Average IC_{50} of CDC7 Kinase Activity and Binding Affinity to CDC7 for SGR-2921

Compound	Average IC_{50} [nM]	KD [pM]
SGR-2921	0.0277±0.0054	10

Table 2 *In Vitro* Cell Based IC_{50} Values of pMCM2 (S53) by SGR-2921

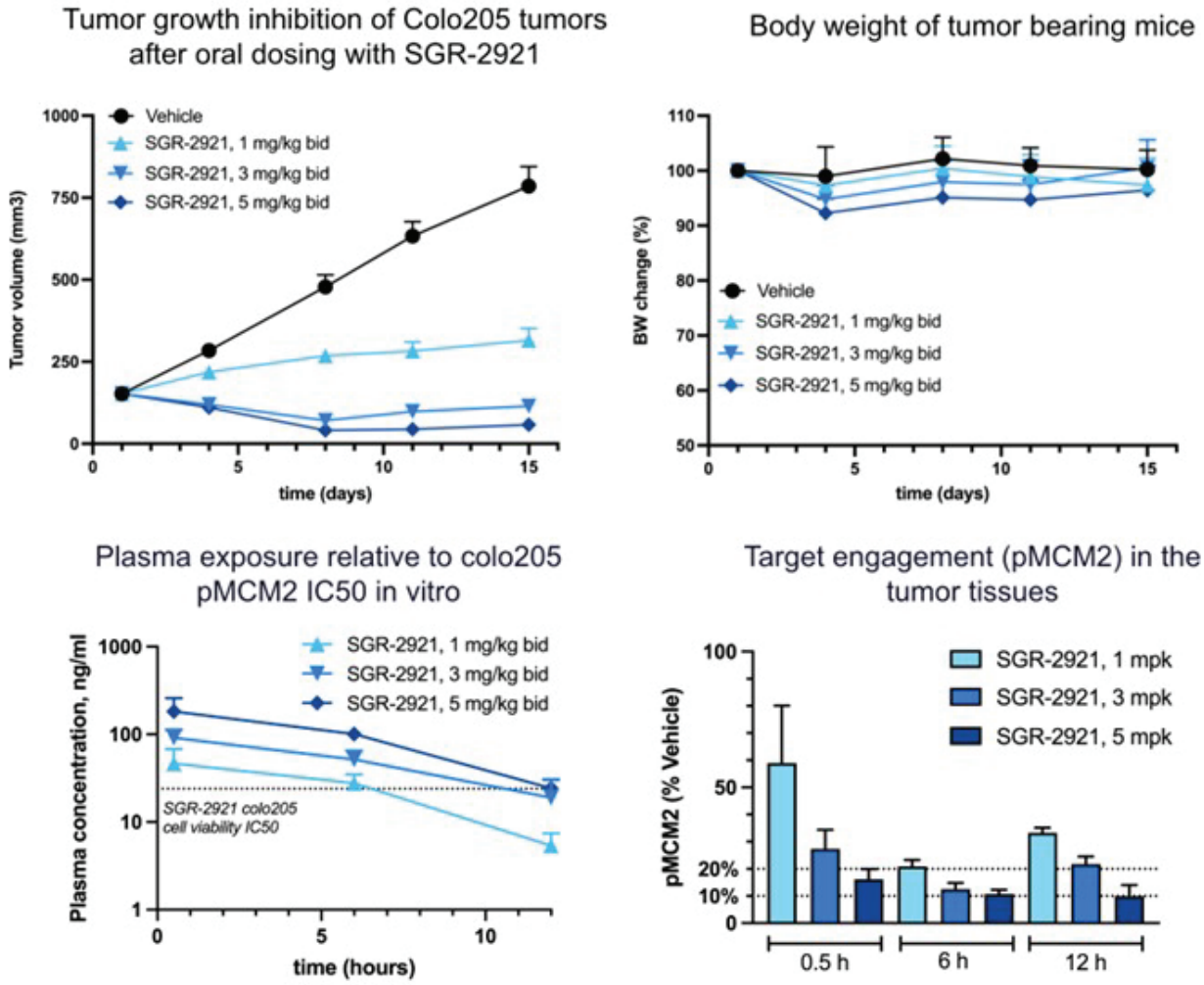
Cell line	COLO205 [IC_{50} (nM)]	MV-4-11 [IC_{50} (nM)]	MOLM-16 [IC_{50} (nM)]
pMCM2 (S53)	1.19±0.41	0.92±0.40	1.62±0.52

SGR-2921 also showed anti proliferative activity *in vitro* in COLO205, MV-4-11 and MOLM-16 cell lines. Table 3 summarizes the average IC_{50} value from the individual assays.

Table 3 *In Vitro* Cell Based Viability IC_{50} Values of SGR-2921

Cell line	COLO205 [IC_{50} (nM)]	MV-4-11 [IC_{50} (nM)]	MOLM-16 [IC_{50} (nM)]
Cell viability	9.90±3.72	107.55±12.42	20.81±7.29

Furthermore, as shown in the figures below, SGR-2921 showed tumor growth inhibition resulting in tumor regression in the COLO205 colorectal cancer CDX model, which is a colorectal cancer cell line derived xenograft model, at doses that did not result in significant body weight loss. SGR-2921 also showed a dose-dependent increase in plasma drug concentration and a dose-dependent decrease in intratumoral pMCM2 in the COLO205 CDX model. In mouse models of acute myeloid leukemia, SGR-2921 also showed strong anti-tumor activity at doses that were tolerated.



We expect to submit an IND application to the FDA for SGR-2921 in the first half of 2023 and plan to initiate a Phase 1 clinical trial of SGR-2921 in the second half of 2023, subject to receipt of regulatory clearance.

SGR-3515: Our WEE1 Inhibitor

We are advancing SGR-3515, our novel WEE1 inhibitor for the treatment of gynecological cancers and other solid tumors. WEE1 is a gatekeeper checkpoint kinase that prevents cellular progression through the cell cycle allowing time for DNA repair before cell division takes place. Inhibition of WEE1 allows for accumulation of DNA damage, triggering DNA breakage and apoptosis in tumor cells. Third party WEE1 inhibitors have shown clinically meaningful tumor regression with partial responses and stable disease in ovarian and uterine cancer in clinical trials. A third party WEE1 inhibitor is currently being studied in combinations with chemotherapy, PARP inhibitors, and immunotherapy.

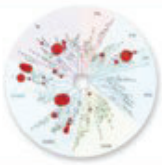
We identified a number of tight-binding, selective WEE1 inhibitor series using our computational platform and we have recently selected SGR-3515 as our development candidate. We believe SGR-3515's physicochemical properties make it well suited for combinations with DNA damage response inhibitors such as PARP and ATR inhibitors and other targeted therapies for the treatment of ovarian, colorectal, breast, and other solid tumors.

Prior third party WEE1 inhibitors may have off-target effects resulting from inhibition of other kinases and proteins, some of which are liver enzymes responsible for elimination of drug and drug metabolites from the body,

potentially making dosing and combinations more challenging. As shown in the figure below, we have benchmarked SGR-3515 against AZD1775, a WEE1 inhibitor from AstraZeneca, and Zn-C3, a WEE1 inhibitor being advanced by Zentalis Pharmaceuticals, and SGR-3515 demonstrated an improved kinase selectivity profile and we believe has lower potential for drug-drug interaction, or DDI, liabilities associated with liver enzyme inactivation.

As shown in the figure below, SGR-3515 also showed better potency against WEE1 in cells measured by target engagement marker pCDC2 Y15. The selectivity of SGR-3515 was evaluated by profiling it at 1 uM across a panel of over 400 kinases. SGR-3515 demonstrated a more desirable selectivity profile compared to Zn-C3 and AZD1775.

SGR-3515 has also shown comparable or better effects on the viability of various tumor cells including the A427 non-small cell lung cancer cell line and the OVCAR3 high grade serous ovarian cancer cell line compared to Zn-C3 and ADZ1775. SGR-3515 demonstrated robust and sustainable anti-tumor activity *in vivo* in A427 and OVCAR3 tumor models. These effects and anti-tumor activity are shown in the figure below with SGR-3515 demonstrating lower IC_{50} values in these models as compared to Zn-C3 and AZD1775.

	AZD1775	Zn-C3	SGR-3515
Wee1 SPR K_D (nM)	1.4	0.9	<0.1
Cell target engagement (pCDC2) IC50 (nM) in A427 and OVCAR3 cell lines	130 / 80	260 / 140	60 / 85
Cell viability IC50 (nM) CTG assay in A427 and OVCAR3 cell lines	190 / 280	200 / 210	80 / 100
Kinome Selectivity scanMAX at 1uM (403 kinases tested)			
Drug Drug Interaction liability	Weak CYP3A4 inhibition CYP3A4 TDI	Weak CYP3A4 inhibition CYP3A4 TDI	No reversible CYP inhibition Reduced CYP3A4 TDI

All competitor data is internally generated by contract research organizations, using commercially available tools or synthesized by third-party research chemists using publicly available structure information.

We plan to submit an IND application to the FDA for SGR-3515 in 2024, subject to favorable data from IND-enabling studies.

SOS1/KRAS Inhibitor Program

In collaboration with BMS, we are developing a SOS1/KRAS protein-protein interaction inhibitor for the treatment of KRAS-driven cancers. SOS1, or Son of sevenless-1, is involved in the activation and regulation of KRAS. Oncogenic mutant KRAS stimulates the growth of some of the most intractable tumors, such as lung, pancreatic, and colon cancer. Strategies to disrupt the persistently active Ras pathway have focused on targeting Cys12 of the oncogenic mutant KRAS G12C with covalent inhibitors. Disruption of the SOS1/KRAS interaction has emerged as an alternative approach based on third party preclinical data.

Pursuant to our collaboration and license agreement with BMS, once we have discovered or identified a SOS1/KRAS protein-protein interaction inhibitor that meets specified, mutually agreed criteria (or upon BMS's selection), BMS will be solely responsible for the further preclinical and clinical development, manufacturing and commercialization of such candidate at its own expense. See "—Collaboration Agreement with Bristol-Myers Squibb Company" for additional information relating to this agreement.

LRRK2 Inhibitor Program

We are developing a LRRK2 inhibitor for the treatment of Parkinson's disease. LRRK2, a genetically validated target, is a large multifunctional kinase enzyme and mutations in the LRRK2 gene have been shown to be associated with the development of Parkinson's disease. In 2022, we generated cryo-electron microscopy structures of LRRK2, which have helped us to accelerate the identification of novel LRRK2 inhibitors. We expect to select a development candidate for this program in 2024.

Other and Future Programs

We have identified a large number of protein targets that we believe are amenable to our computational platform, and now have a significant inventory of targets that we can potentially advance into discovery programs. The Schrödinger Therapeutics Group also intends to pursue targets with strong biological validation and therapeutic potential that currently lack protein structures of sufficient quality to permit the use of our computational platform for drug discovery. We are actively pursuing strategic alliances with collaborators, as well as progressing internal initiatives, that enable us to generate high-quality protein structures for these targets, which will enable us to initiate discovery efforts. For example, as part of these efforts, in 2020 we entered into strategic partnerships with Viva Biotech to access new x-ray crystal structures as well as with Thermo Fisher Scientific to obtain structures of protein complexes leveraging cryo-EM technology. Furthermore, in January 2022, we acquired XTAL BioStructures, Inc., a company that provides structural biology services, including biophysical methods, protein production and purification, and X-ray crystallography, which we believe will augment our ability to produce high quality target structures for our drug discovery programs.

Our initial programs are focused on discovering and developing inhibitors for targets in DNA damage response pathways and genetically defined cancers. Genomic instability of malignant cells leads to genetic mutations that can drive resistance to kinase inhibitors, creating the need for second and third generation drugs targeting the same disease. Our computational platform has been shown to be capable of predicting the impact that mutations in the kinase domain have on drug binding, potency, and drug sensitivity. Use of our platform to assess and evaluate the impact of clinical mutations on drug potency can be a powerful tool for drug discovery. We believe that deploying our platform at scale with access to genomic profiling data for patients puts us in a strong position to predict the impact of active-site resistance mutations with clinically relevant accuracy to optimize the design of molecules that are robust against common resistant mutations.

In addition to our programs highlighted above, we are also progressing a number of undisclosed programs in the areas of oncology, immunology, and neurology. We are pursuing certain of these programs on our own and certain of these programs are partnered with others pursuant to our collaboration agreements described above. All of these programs are currently in the discovery stage, and we have not yet identified a development candidate for any of these programs.

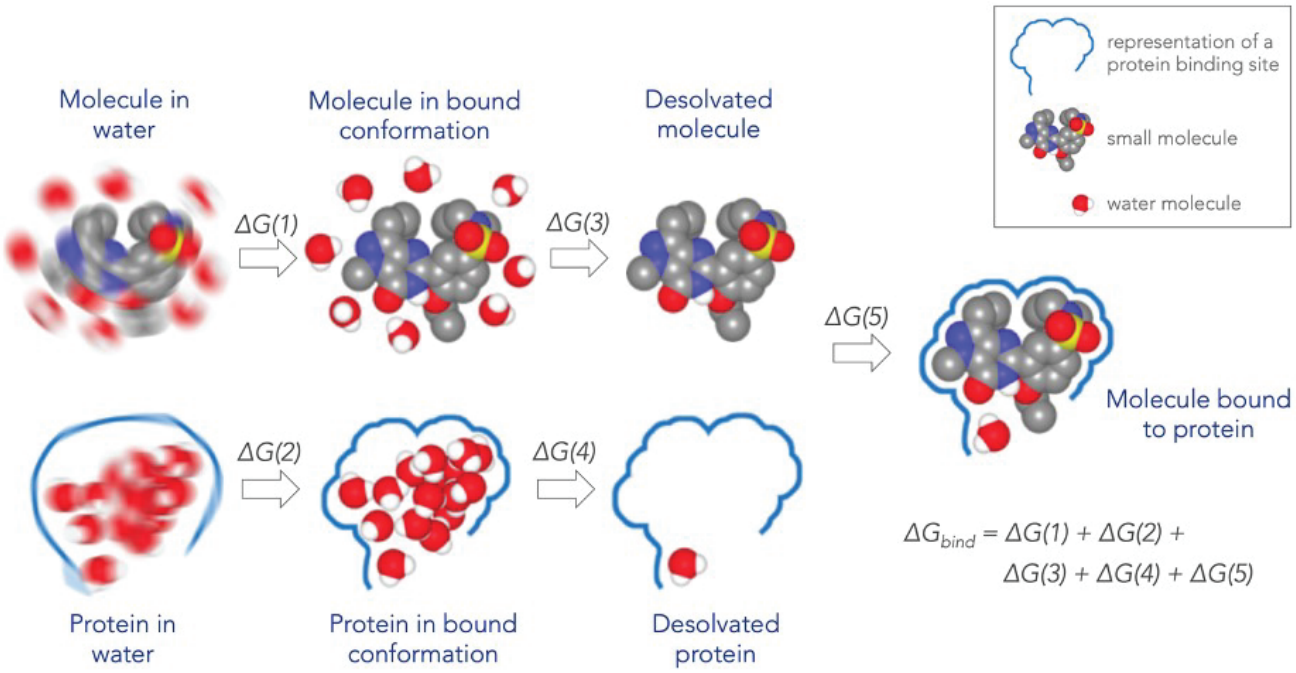
Technical Details of Our Key Technologies

Calculation of key drug properties using physics-based methods

Over the past several decades and with the concerted effort of hundreds of our scientists and software engineers, we have developed a physics-based computational platform that is capable of predicting the binding affinity of a drug molecule with a high degree of accuracy. The binding affinity of a drug molecule to a target protein is the key driving force of its in vivo efficacy. Specifically, when a drug binds to a target protein, the affinity with which it binds directly affects the extent to which it will modulate the function of the protein. Therefore, the ability to predict the binding affinity of a drug molecule to a target protein with a high degree of accuracy can significantly accelerate discovery of new efficacious medicines.

Accurately calculating the binding affinity of a drug molecule to a protein is enormously complex and requires a full characterization of all the physical contributions to the binding. These contributions include the deformation and/or rigidification of the small molecule into the bound conformation ($\Delta G(1)$ in the figure below) and the rigidification of the protein in the bound conformation ($\Delta G(2)$), the removal of waters surrounding the molecule ($\Delta G(3)$) and the removal of

waters within the protein binding site (ΔG(4)), and finally the interactions achieved between the molecule and protein when binding to form the protein-molecule complex (ΔG(5)).



We have developed a solution to consistently assess all of these contributions to binding with a high degree of accuracy, building on a method called "free energy perturbation." Free energy perturbation perturbs, or transforms, an initial molecule into another molecule of interest and evaluates how that transformation changes binding affinity to a particular protein target. Our solution for conducting these calculations is called FEP+. FEP+ is enabled by the following differentiated constituent technologies:

- classical molecular mechanics force field with broad coverage of drug-like molecules with a high degree of accuracy;
- an automated workflow allowing for force field coverage to be extended on the fly utilizing our accurate quantum mechanics software;
- computationally efficient molecular dynamics engine that runs on graphic processing units;
- efficient, enhanced sampling methods that allow the calculation to be converged with reduced simulation times;
- automated atom-mapping and interaction-mapping assignment; and
- ability to scale these calculations to leverage large cloud computing environments.

All of these constituent technologies are necessary to achieve the accuracy, scalability and applicability of our free energy perturbation implementation.

In a notable peer-reviewed study including approximately 3,000 molecules across approximately 90 distinct projects, FEP+ exhibited an error profile that indicates its affinity predictions approach the accuracy of running a laboratory experiment. FEP+ is also able to perform these computations more rapidly than experimental assays. Computational assessment of a molecule utilizing FEP+ requires only a few hours. In comparison, it often takes weeks to synthesize a drug-like molecule and assay its binding affinity for the target of interest in a laboratory. As a result, our FEP+ solution can be used to explore very large numbers of molecules to identify drug candidates much more rapidly than would be possible solely using experimental approaches.

In a peer-reviewed article published in collaboration with a large biopharmaceutical company, the ability of FEP+ to prioritize molecules for synthesis expected to bind more tightly than an initial hit was compared with several other industry-standard approaches. We found that FEP+ succeeded in prioritizing the synthesis of molecules with improved

binding affinity with eight times greater success than any other technique tested. This evidence supports the essential role that FEP+ can play in advancing drug discovery programs.

Enumeration of extremely large libraries of molecules

We have developed methods to enumerate extremely large libraries of molecules with our PathFinder software solution, thereby allowing our software customers, our drug discovery collaborators, and the Schrödinger Therapeutics Group to explore a much larger portion of chemical space than is possible through manual design. The chemical enumeration technology we have developed incorporates the most commonly used chemical reactions and can, in a fully automated fashion, computationally explore billions of alterations of a molecule of interest.

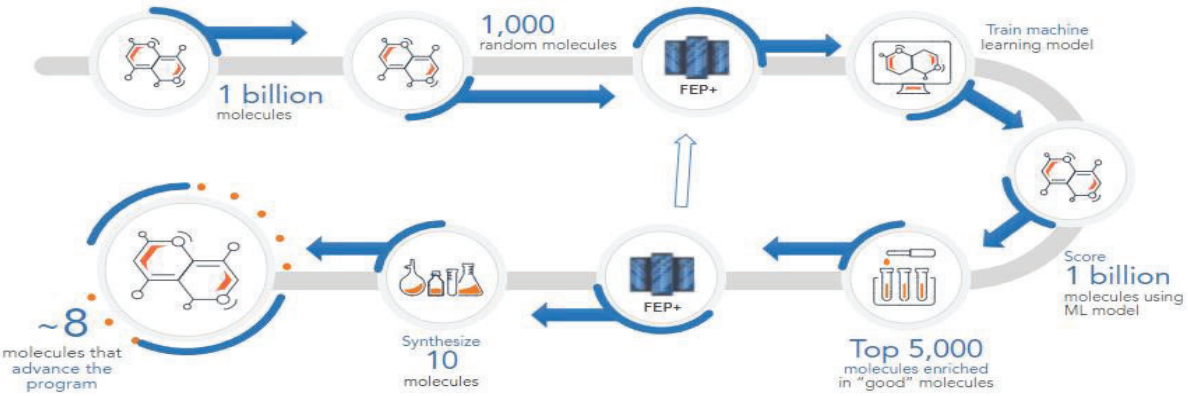
Scaling accurate physics-based calculations to extremely large libraries of molecules

Although FEP+ calculations have been shown to be accurate, it is not possible to apply these calculations to billions of molecules given the current availability of computing resources. To address this problem, we developed an approach that leverages the accuracy of FEP+, but allows for exploration of billions of molecules rapidly by leveraging machine learning. We have succeeded in integrating our physics-based molecule scoring with highly computationally efficient modern machine-learning methods. This combined approach allows us to apply our physics-based calculations to much larger sets of molecules than would otherwise be computationally tractable. This allows us to both increase the speed and likelihood of identifying clinically viable molecules.

Advances in deep learning, a type of machine learning, in the past several years have required very large data sets as input to train the model. In a drug discovery program, the experimental data is typically sparse and expensive to procure, which is particularly problematic given that relevant drug-like chemical space is effectively infinitely large, estimated to be 10^60 molecules. For this reason, we believe that it would be extremely difficult to realize competitive advantage in a drug discovery program by using a platform exclusively based on machine learning or deep learning. Instead, we have developed an approach to integrate physics-based and machine-learning based scoring methodologies that allows the machine learning model to interactively prioritize additional molecules for physics-based analyses, known as active learning. Active learning retains the computational efficiency of machine learning while also taking advantage of the accuracy of the physics-based method. One can evaluate the utility of any particular prediction method with regard to both its accuracy and its computational efficiency. Modern machine learning methods, such as deep learning, do provide a small improvement over conventional machine learning methods. However, for much of its history, conventional molecular simulations were much less computationally efficient than machine learning but not that much more accurate.

In developing FEP+, we were able to resolve deficiencies in early attempts to develop physics-based methods. FEP+ calculations are much more accurate than either conventional machine learning or modern machine learning when scoring molecules structurally distinct from the training set data. In addition, by integrating FEP+ with our machine learning implementation, which we refer to as AutoQSAR/DeepChem, we developed a solution that we refer to as Active Learning FEP+. Active Learning FEP+ combines the accuracy of free energy calculations with the speed of machine learning calculations and can be used to explore up to billions of molecules within a day. By further combining this functionality with our ability to enumerate large sets of molecules provided by PathFinder and our ability to build and manage complex workflows utilizing cloud resources, we are able to deploy these capabilities at scale to advance projects.

Active Learning FEP+ is depicted in the figure below.



FEP+ is used to build a local model for a large library of molecules instead of relying on experimental data to provide the training set for the machine learning model. That machine learning model is then used to filter the large library of molecules down to a number that is small enough to be able to prioritize with FEP+. The result is that we can prioritize one billion molecules in as little as a day, rather than one million days.

Rapid identification of novel active hit molecules suitable to initiate hit-to-lead and lead optimization efforts

Several hit-finding technologies we have developed are routinely used to identify active hit molecules to initiate small molecule drug discovery programs. In our hit-finding campaigns, we and our software customers typically utilize:

- modern machine learning models trained to the two-dimensional structures of known active molecules using our software solution, AutoQSAR/DeepChem;
- shape-based methods trained to the known or computationally deduced three-dimensional bioactive conformations of known active molecules using our software solution, Shape;
- structure-based docking methods that evaluate the number and kind of interactions possible utilizing a static atomistic representation of the experimentally determined three-dimensional structure of the target protein receptor using our software solutions, Glide and WScore; and
- free energy calculations using our software solution FEP+, which provides a fully dynamic atomistic representation of the target protein receptor.

These four approaches are complementary to each other, and their integrated use has led to successful hit-finding campaigns for dozens of protein targets in our collaborative and proprietary drug discovery programs. There are also numerous reports in the literature and in patents of our software customers utilizing some combination of these approaches to identify hit molecules.

AutoQSAR/DeepChem is trained to find known active molecules in a search through a molecule library and operates solely on the two-dimensional structure of the molecule. From this training process, AutoQSAR/DeepChem learns to identify substructures in the molecules that may lead to activity. Then when applied to large libraries of molecules, these methods can identify molecules with measurable activity against the target protein. These methods are highly efficient and can be used to screen billions of molecules in less than one day. However, one significant limitation is that machine learning methods cannot extrapolate into chemical space that differs from the training set and therefore, this method tends to identify molecules similar to already known molecules.

Shape is used to identify molecules with a similar shape to known active molecules. It has been shown that molecules with similar three-dimensional shapes can have similar activities. While the hit rates and computational efficiencies of Shape and AutoQSAR/DeepChem are generally comparable, the hit molecules returned by these techniques tend to be distinct and complementary rather than redundant. This allows results from Shape to augment the AutoQSAR/DeepChem results while still being efficient for screening a large library.

Glide and WScore use knowledge of three-dimensional structure of the binding site of the protein of interest, rather than the structure of active molecules, to evaluate the likelihood that a small molecule will bind to a protein target. Glide and WScore evaluate molecules based on the number and kind of contacts made between the molecule and protein. These methods are much more computationally expensive than AutoQSAR/DeepChem or Shape. However, they can be more readily applied to targets for which there is little or no earlier reported active molecules.

The fourth computational method we routinely use to identify hit molecules to initiate drug discovery programs is the FEP+ solution described above. When used in this context, FEP+ can be used to completely replace the core moiety of an earlier known molecule to yield a novel molecule with similar binding potency. This approach is much more computationally intensive than previous methods, but is also much more accurate. Utilizing this approach on multiple programs, we have been able to identify novel nanomolar or picomolar inhibitors in the first few months of project chemistry that have property profiles typical of molecules only observed in the later hit-to-lead phases of drug discovery. Our FEP+ solution also supports the calculation of absolute binding affinities, which enables the software to evaluate and triage diverse molecules sharing no common peripheral features in a hit discovery context.

Computational analysis of the energetic properties of water molecules occupying molecule binding sites in proteins

Subtle structural variations in molecules can have a profound impact on binding affinity to the protein target. The effects of these structural variations can be explained by a detailed examination of the thermodynamics of binding, including the free energy changes resulting from displacing water molecules in the binding site. Our computational software solution WaterMap maps the locations and energetic properties of water molecules that occupy protein binding sites, provides insight into the properties of the binding site, and quantitatively describes the water-mediated forces driving the binding of small molecules. Further, such an analysis can be used to assess the propensity of drug-like molecules to bind to the protein target with high affinity. WaterMap presents the computed results graphically for easy visualization of the water molecules occupying a binding site and their energetic properties. This makes interpretation of binding affinity data more intuitive and provides insights to possible design routes to improve potency and selectivity.

Competition

Software Business

The overall market for molecular discovery and design software is global, rapidly evolving, competitive, and subject to changing technology and shifting customer interests and priorities. The solutions and applications offered by our competitors vary in size, breadth, and scope.

We believe the principal competitive factors in our market include, among other things, accuracy of computations, level of customer satisfaction and functionality, ease of use, breadth and depth of solution and application functionality, brand awareness and reputation, modern and adaptive technology platform, integration, security, scalability and reliability of applications, total cost, ability to innovate and respond to customer needs rapidly, and ability to integrate with legacy enterprise infrastructures and third-party applications.

We believe that we compete favorably on the basis of these factors and that the effort and investment required to develop a computational, physics-based platform similar to ours will hinder new entrants that are unable to invest the necessary capital and time, and lack the breadth and depth of technical expertise required to develop competing technology. Our ability to remain competitive will largely depend on our ability to continue to improve our computational platform and demonstrate success in our drug discovery efforts.

Our software solutions face competition from competitors in the business of selling or providing simulation and modeling software to biopharmaceutical companies. These competitors include BIOVIA, a brand of Dassault Systèmes SE, or BIOVIA, Chemical Computing Group (US) Inc., Cresset Biomolecular Discovery Limited, Cadence Design Systems, Inc., Optibrium Limited, Cyrus Biotechnology, Inc., Molsoft LLC, Insilico Medicine, Inc., Iktos, XtalPi Inc., and Simulations Plus, Inc.

We also have competitors in materials science, such as BIOVIA and Materials Design, Inc., and in enterprise software for the life sciences, such as BIOVIA, Certara USA, Inc., ChemAxon, PerkinElmer, Inc., and Dotmatics, Inc. In some cases, these competitors are well-established providers of these solutions and have long-standing relationships with many of our current and potential customers, including large biopharmaceutical companies. In addition, there are academic consortia that develop physics-based simulation programs for life sciences and materials applications. In life sciences, the most prominent academic simulation packages include AMBER, CHARMm, GROMACS, GROMOS, OpenMM, and OpenFF. These packages are primarily maintained and developed by graduate students and post-doctoral researchers, often without the intent of commercialization.

We also face competition from solutions that biopharmaceutical companies develop internally, smaller companies that offer products and services directed at more specific markets than we target, enabling these competitors to focus a greater proportion of their efforts and resources on these markets, as well as a large number of companies that have been founded with the goal of applying machine learning technologies to drug discovery.

Drug Discovery Business

The biopharmaceutical industry is characterized by rapidly advancing technologies, intense competition, and strong emphasis on proprietary and novel products and product candidates. While we believe that our computational platform, technology, knowledge, experience, and scientific resources provide us with competitive advantages, our drug discovery business faces potential competition from many sources, including major pharmaceutical, specialty biopharmaceutical companies, technology companies, academic institutions and government agencies, and public and

private research institutions. Any product candidates that we or one of our collaborators successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future.

The key competitive factors affecting the success of the product candidates we develop, if approved, are likely to be their efficacy, safety, tolerability, convenience and price, the level of branded and generic competition and the availability of adequate reimbursement from third-party payors. If any of our product candidates are approved and successfully commercialized, it is likely that we will face increased competition as a result of other companies pursuing development of similar products or products that address similar diseases.

In particular, there is intense competition in the field of oncology, which is a focus of our drug discovery efforts. We have competitors both in the United States and internationally, including major multinational pharmaceutical companies, established biotechnology companies, specialty pharmaceutical companies, emerging and start-up companies, universities and other research institutions. We also compete with these organizations to recruit management, scientists and clinical development personnel, which could negatively affect our level of expertise and our ability to execute our business plan. We also face competition in finding and establishing clinical trial sites, enrolling subjects for clinical trials, accessing combination studies and recruiting credible principal investigators and advisors from key clinical disciplines and academic centers.

For example, with respect to our MALT1 inhibitor, SGR-1505, which we are advancing for the treatment of patients with relapsed or refractory B-cell lymphomas, we are aware of several MALT1 inhibitors in clinical development, including by Janssen Research and Development, LLC, a Johnson & Johnson company, AbbVie Inc., Ono Pharmaceutical Co., Ltd. and Zentalis Pharmaceuticals. In addition, we are also aware of other therapeutics, both approved and in clinical development, for the treatment of B-cell lymphomas.

Large pharmaceutical and biotechnology companies, in particular, have extensive experience in building and accessing networks of expert investigators, designing and conducting clinical trials, obtaining regulatory approvals, and manufacturing and commercializing biotechnology products. These companies also have significantly greater research and development and marketing capabilities than we do and may also have products that have been approved or are in late stages of development, and collaborative arrangements in our target markets with leading companies and research institutions. Established pharmaceutical and biotechnology companies may also invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make the product candidates that we develop obsolete. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than our products. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies, as well as in acquiring technologies complementary to, or necessary for, our programs. As a result of all of these factors, our competitors may succeed in obtaining approval from the FDA or other comparable foreign regulatory authorities or in discovering, developing and commercializing products in our field before we do.

Collaboration Agreement with Bristol-Myers Squibb Company

In November 2020, we entered into an exclusive, worldwide collaboration and license agreement with BMS, pursuant to which we and BMS agreed to collaborate in the discovery, research and preclinical development of small molecule compounds (other than protein-degrader compounds) for biological targets in the oncology, neurology and immunology therapeutic areas.

Under the agreement, during a limited research term, we will be responsible, at our own cost and expense, for the discovery of small molecule compounds (other than protein-degrader compounds) directed to five specified biological targets pursuant to a mutually agreed research plan for each such target. The initial collaboration targets included HIF-2 alpha and SOS1/KRAS, which were two of our early-stage programs. In November 2021, we and BMS mutually agreed to replace the HIF-2 alpha target with another precision oncology target. Following the replacement election, all rights to the HIF-2 alpha target program reverted to us. In September 2022, BMS elected not to proceed with further development of another target and all rights to this program reverted to us. In December 2022, we and BMS entered into an amendment to the agreement to include an additional target in neurology on terms similar to the original agreement.

Once we have discovered or identified a compound for a target that meets specified, mutually-agreed criteria or upon BMS selection of a compound as a development candidate, BMS will be solely responsible for the further preclinical and clinical development, manufacturing and commercialization of such candidate at its own cost and expense. The

research term will end on the earlier of four years or until we have delivered a candidate for each specified target. We may elect to extend the research term for a limited period of time to deliver a candidate for a given target. In addition, the parties may mutually agree to extend the initial research term for an additional year. Under the agreement, BMS has agreed to use commercially reasonable efforts to develop, seek and obtain regulatory approval for, and commercialize at least one product that contains a licensed compound for each target in each of the United States, Japan and the European Union. The research component of the collaboration will be overseen by a joint steering committee comprised of an equal number of representatives from each of us and BMS. In addition to the initial specified targets, the parties have also agreed on a list of four reserved targets. BMS may replace one of the initial specified targets with a reserved target during a limited substitution period in the research term.

Pursuant to the agreement, for a given target, we have granted to BMS an exclusive license, with the right to grant sublicenses, under certain patent rights, know-how and materials controlled by us to clinically develop, manufacture, use, sell, offer for sale, export and import and otherwise exploit, and have others do the same, any compound, molecule or product for such target throughout the world.

Under the terms of the agreement, BMS paid us an initial upfront fee payment of $55.0 million, and we received an additional upfront fee payment in connection with the amendment in December 2022. We are also entitled to receive up to $2.7 billion in total milestones across all potential targets. Such milestones consist of up to $585.0 million in total milestones per oncology target, including $360.0 million in the aggregate for certain specified research, development and regulatory milestones and $225.0 million in the aggregate for certain specified commercial milestones, as well as up to $489.0 million in total milestones per neurology and immunology target, including $264.0 million in the aggregate for certain specified research, development and regulatory milestones and $225.0 million in the aggregate for certain specified commercial milestones. With respect to the additional neurology target we and BMS added pursuant to the December 2022 amendment, we are entitled to similar research, development, and regulatory milestones and commercial milestones for such target as under the original agreement.

We are also entitled to a tiered percentage royalty on annual global net sales of licensed products ranging from mid-single digits to low-double digits, subject to certain specified reductions. Royalties are payable by BMS on a licensed product-by-licensed product and country-by-country basis until the later of the expiration of the last valid claim of certain specified patent rights covering the licensed product in such country, expiration of all applicable regulatory exclusivities in such country for such licensed product and the tenth anniversary of the first commercial sale of such licensed product in such country.

The agreement excludes any activities relating to protein-degrader compounds. However, under the terms of the agreement, for a limited period of time after the execution of the agreement, we and BMS agreed to negotiate a separate definitive agreement pursuant to which we will agree to license to BMS the right to conduct research, development and commercialization activities with respect to degrader compounds for the targets under the agreement. In August 2021, we and BMS entered into a definitive agreement to discover, develop and commercialize bifunctional protein degraders consistent with the terms and conditions described in the initial collaboration agreement.

On a target-by-target basis, during the term of the agreement for a given target, we are prohibited from clinically developing or commercializing, ourselves or with a third party, any nucleic acid, antibody, biologic, compound, small molecule or other molecule, or any product that contains the foregoing, that specifically modulates as its primary mechanism of action such target, or is designed to specifically modulate such target. Such prohibition encompasses both the initial specified targets listed as of the effective date of the agreement and those targets on the reserved target list for the limited substitution period.

Unless earlier terminated, the agreement will expire on a licensed product-by-licensed product and country-by-country basis on the expiration of the applicable royalty term for such licensed product in such country and in its entirety upon expiration of the last royalty term for the last licensed product. Either party may terminate the agreement earlier upon an uncured material breach of the agreement by the other party on a target-by-target basis, or upon the occurrence of certain events of insolvency of the other party.

Additionally, BMS may terminate the agreement for any or no reason, in its entirety or on a target-by-target basis, upon specified written notice to us. BMS may also terminate the agreement on a target-by-target basis for safety reasons. We may terminate the agreement on a target-by-target basis to the extent BMS commences or participates in challenging certain patents licensed by us to BMS under the agreement.

In the event that BMS terminates the agreement at will, or if we terminate for a breach, insolvency or patent challenge by BMS, we are entitled to certain reversionary rights with respect to certain compounds and products for the applicable terminated target(s).

In the event that BMS has the right to terminate the agreement, in whole or with respect to a particular target, upon our uncured material breach or an event of insolvency with respect to us, then in lieu of so terminating, BMS has the right to elect to the have the agreement continue in full force and effect; provided that all royalties and milestones thereafter payable by BMS to us with respect to such applicable target(s) shall be reduced by 50%.

License Agreements with Columbia University

We have entered into several license agreements with Columbia University, or the Columbia License Agreements. The Columbia License Agreements establish our rights and obligations with respect to certain patents, software code, technology, and improvements thereto that we license from Columbia University and that are used in, and integrated into, our software solutions, and our physics-based computational platform. Our rights and obligations under, and the terms and conditions of, the Columbia License Agreements that we consider material to the operation of our business are described more fully below.

On November 1, 2008, we entered into an amendment, or the Royalty Amendment, to certain Columbia License Agreements, including each of the agreements described below. The Royalty Amendment simplified the royalties payable under each agreement on gross revenues generated from the use of any product which contains any code or software, or is covered by any patent, that we license from Columbia University, or a Licensed Product, in connection with a services agreement. We also pay royalties under the Columbia License Agreements on gross revenues generated from the sale, licensing or renting of our Licensed Products, which we calculate on a product-by-product basis. In the event that one or more Licensed Products are sold together with other products for a single aggregate license fee, we have agreed to pay to Columbia University the applicable royalty on the gross revenues attributable to each Licensed Product based on the relative list prices of each product covered by such license fee.

For a description of the royalties payable by us to Columbia University in connection with our services agreements, see "—Services Royalty Amendment" below.

PS-GVB License Agreement

On May 5, 1994, we entered into a license agreement, or the 1994 Columbia Agreement, with Columbia University, which was amended on September 9, 2004 and November 1, 2008. The technology licensed under the 1994 Columbia Agreement is incorporated into our Jaguar quantum mechanical program, which we market and distribute as part of our physics-based computational platform. The 1994 Columbia Agreement grants us a worldwide, exclusive, license to the software code developed by Columbia University and incorporated into the electronic structure software program PS-GVB v1.0, or the PS-GVB Code, and all improvement to the PS-GVB v1.0 software program and PS-GVB Code developed by Columbia University, or the PS-GVB Improvements, including all PS-GVB Code and PS-GVB Improvements that are incorporated into any new products, new releases, and new versions related to the software, or the New PS-GVB Module Code, in each case, to reproduce, use, execute, copy, operate, sublicense, and distribute in connection with the marketing and sale of our products and services, to develop improvements thereto, and to conduct research and backup disaster recovery. We may only sublicense the PS-GVB Code, the PS-GVB Improvements, and the New PS-GVB Module Code, or the Licensed PS-GVB Software, to the extent they are incorporated into a product that is sold directly by us or that is distributed on our behalf. Under the 1994 Columbia Agreement, Columbia University retains the right to conduct, and to permit other academic and non-profit research institutions to conduct, research using the Licensed PS-GVB Software.

As consideration for entering into the 1994 Columbia Agreement, we have agreed to pay royalties to Columbia University in the low-single digit to low-double digit percentages based upon the contribution of Columbia University generated code to the applicable PS-GVB v1.0 software program on our, and our affiliates', gross revenues from the sale, licensing, or renting of the PS-GVB v1.0 software program, including any improvements and modifications thereto, regardless of whether such improvement or modification is marketed as a new version, new release, or new product, excluding any sales to Columbia University and any revenue generated under services agreements.

The 1994 Columbia Agreement and the licenses granted thereunder may be terminated by us or Columbia University only upon the other party's material breach of the agreement and such party's failure to cure such breach. Upon

termination, any third party that has licensed the Licensed PS-GVB Software from us will retain the right to use such software, and we will have the perpetual right to continue to provide support to any such third parties in connection with their use of such software.

Fast Multipole RESPA License Agreement

On July 15, 1998, we entered into a license agreement, or the 1998 Columbia Agreement, with Columbia University, which was amended on September 4, 2004, and November 1, 2008. The 1998 Columbia Agreement grants us a worldwide, non-exclusive, license to the Fast Multipole RESPA code developed at Columbia University, or the RESPA Code, which was incorporated into the IMPACT software program used in our Glide ligand-protein docking program, PrimeX protein modelling program, QSite QM/MM program, and Combglide automated library generation program, and all improvements to the IMPACT software program, including any new versions and new releases thereof, that are developed by Columbia University, or the IMPACT Improvements, in each case, to reproduce, use, execute, copy, compile, operate, sublicense, and distribute in connection with the marketing and sale of our products and services, to develop improvements thereto, and to conduct research and backup disaster recovery. We may sublicense the RESPA Code and the IMPACT Improvements, or the Licensed IMPACT Software, to the extent it is incorporated into a product that is sold directly by us or that is distributed on our behalf. Under the 1998 Columbia Agreement, Columbia University retains the right to conduct, and to permit other academic and non-profit research institutions to conduct, research using the Licensed IMPACT Software.

As consideration for entering into the 1998 Columbia Agreement, we have agreed to pay royalties to Columbia University in the low-single digit to low-double digit percentages based upon the contribution of Columbia University generated code to the applicable IMPACT software program on our, and our affiliates', gross revenues from the sale, licensing, or renting of the IMPACT software program, including any improvements and modifications thereto and any new versions and new releases thereof, excluding any sales to Columbia University and revenue generated under services agreements.

The 1998 Columbia Agreement and the licenses granted thereunder may be terminated by us or Columbia University only upon the other party's material breach of the agreement and such party's failure to cure such breach. Upon termination, any third party that has licensed software from us subject to the 1998 Columbia Agreement will retain the right to use such software, and we will have the perpetual right to continue to provide support to any such third parties in connection with their use of such software.

Protein Folding License Agreement

In September 2001, we entered into a license agreement, or the 2001 Columbia Agreement, with Columbia University, which was amended on September 9, 2004 and November 1, 2008. The technology licensed under the 2001 Columbia Agreement is incorporated into our Prime protein modelling program, which we market and distribute as part of our physics-based computational platform. The 2001 Columbia Agreement grants us a worldwide, exclusive license to the protein folding code developed by Columbia University, or the Folding Code; all improvements to the Folding Code and to any of our products, software, or code that incorporates any part of the Folding Code, including any improvements thereto and new versions or new releases thereof, that are developed by Columbia University, or the Folding Code Improvements; and the issued patent covering the Folding Code, or the Folding Code Patent, in each case, to reproduce, use, execute, copy, compile, operate, sublicense, and distribute in connection with the marketing and sale of our products and services, to develop improvements thereto, and to conduct research and backup disaster recovery. We may sublicense the Folding Code, the Folding Code Improvements and the Folding Code Patent, or the Licensed Folding Code Software, to the extent it is incorporated into a product that is sold directly by us or that is distributed on our behalf. Under the 2001 Columbia Agreement, Columbia University retains the right to conduct, and to permit other academic and non-profit research institutions to conduct, research using the Licensed Folding Code Software.

As consideration for entering into the 2001 Columbia Agreement, we paid Columbia University a one-time, nominal license fee. In addition, we have paid royalties to Columbia University in low-single digit to low-double digit percentages based upon the contribution of Columbia University generated code to the applicable product, software program, or code on our, and our affiliates', gross revenues from the sale, licensing, or renting of any commercial product, software program, or code incorporating the Licensed Folding Code Software, excluding any sales to Columbia University and revenues generated under services agreements. Our obligation to pay any royalty under the 2001 Columbia Agreement, including any royalty paid pursuant to the Royalty Amendment, terminated with the expiration of the last to expire patent licensed under the 2001 Columbia Agreement in January 2014.

The 2001 Columbia Agreement and the licenses granted thereunder may be terminated by Columbia University only upon our material breach of the agreement and our failure to cure such breach. Upon termination, any third party that has licensed software from us subject to the 2001 Columbia Agreement will retain the right to use such software, and we will have the perpetual right to continue to provide support to any such third parties in connection with their use of such software.

PLOP License Agreement

On June 19, 2003, we entered into a license agreement, or the 2003 Columbia Agreement, with Columbia University, which was amended on November 1, 2008. The technology licensed under the 2003 Columbia Agreement is incorporated into our Prime and PrimeX protein modelling programs and our Membrane Permeability model, which we market and distribute as part of our physics-based computational platform. The 2003 Columbia Agreement grants us a worldwide, exclusive license to the protein local optimization program software code, or the PLOP Code, developed at Columbia University and the University of California and all software code comprising improvements to the PLOP Code that are developed by Columbia University or the University of California, or the PLOP Improvements, in each case, to reproduce, use, execute, copy, compile, operate, sublicense, and distribute in connection with the marketing and sale of our products and services, to develop improvements thereto, and to conduct research and backup disaster recovery. Pursuant to an interinstitutional agreement between Columbia University and the University of California, the University of California granted Columbia University the sole right to license the PLOP Code and PLOP Improvements and has agreed not to license the PLOP Code or PLOP Improvements to any third party for as long as the interinstitutional agreement remains in effect. We may sublicense the PLOP Code and PLOP Improvements to the extent they are incorporated into a product that is sold directly by us or that is distributed on our behalf. We are restricted from distributing the PLOP Code and PLOP Improvements source code without the prior written consent of Columbia University.

Columbia University and the University of California retain the right to use, and to permit other academic and non-profit research institutions to use, the PLOP Code and PLOP Improvements for teaching and academic research purposes.

As consideration for entering into the 2003 Columbia Agreement, we paid Columbia University a one-time, nominal license fee. In addition, we have agreed to pay royalties to Columbia University in low-single digit to low-double digit percentages based upon the contribution of Columbia University generated code to the applicable product, software program, or code on our, and our affiliates', gross revenues from the sale, licensing, leasing, or renting any commercial product, software program, or code incorporating the PLOP Code or any PLOP Improvements, excluding any sales to Columbia University or the University of California and revenues generated under services agreements. Our obligation to pay any royalty under the 2003 Columbia Agreement, including any royalty paid pursuant to the Royalty Amendment, will terminate on June 19, 2023.

Columbia University is responsible for the copyright registration of the PLOP Code and PLOP Improvements. We are responsible for paying all reasonable copyright registration and attorney fees in connection with such copyright registrations.

The 2003 Columbia Agreement and the licenses granted thereunder may be terminated by us or Columbia University only upon the other party's material breach of the agreement and such party's failure to cure such breach. Upon termination, any third party that has licensed software from us subject to the 2003 Columbia Agreement will retain the right to use such software, and we will have the perpetual right to continue to provide support to any such third parties in connection with their use of such software.

Water Site Analysis License

On May 27, 2008, we entered into a software and patent license agreement, or the 2008 Columbia Agreement, with Columbia University, which was amended on November 1, 2008. The 2008 Columbia Agreement grants us a worldwide license, exclusive in the field of computational chemistry software and related services, to (a) certain software that implements the water site analysis method, or the Water Site Software; (b) all patent rights covering the Water Site Software, or the Water Site Patents; and (c) any products that incorporate or include the Water Site Software, or that is covered by the Water Site Patents, or the Water Site Products, in each case, to reproduce, modify, distribute, and perform and display in connection with the development, marketing, and sale of our products and services, to conduct research using the Water Site Software, and to conduct backup disaster recovery. Our Water Site Products include our WaterMap Core program, which we market and distribute as part of our physics-based computational platform. We are restricted from

distributing the Water Site Software source code without the prior written consent of Columbia University. Under the 2008 Columbia Agreement, Columbia University retains the right to use, and to permit other entities and individuals to use, the Water Site Software and Water Site Patents for academic and non-commercial educational purposes in the field of computational chemistry software and related services.

As consideration for entering into the 2008 Columbia Agreement, we paid Columbia University a one-time, nominal license fee. In addition, we have agreed to pay royalties to Columbia University in low-double digit percentages on our, and our affiliates', gross revenues from the sale, licensing, leasing, or renting of any Water Site Product, excluding any sales to Columbia University and revenues generated under services agreement. The royalties under the 2008 Columbia Agreement are paid on a product-by-product basis and vary based on whether or not the gross revenues are generated in countries of manufacture or sale in which the Water Site Product is covered by a Water Site Patent. In the event that there are multiple royalties payable on a single product, we are required to (i) pay the higher of the two royalties, if there are no more than two royalties payable on the particular Water Site Product or (ii) negotiate in good faith with Columbia University on a single royalty, if there are more than two royalties payable on the particular Water Site Product. In the event that we take action against Columbia University with respect to the validity or enforceability of any Water Site Patents, excluding any defensive actions or claims, the royalties paid under the 2008 Columbia Agreement will increase by a specified amount. Our obligation to pay any royalty under the 2008 Columbia Agreement, including any royalty paid pursuant to the Royalty Amendment, will terminate on May 27, 2028.

Columbia University is responsible for the prosecution and maintenance of the Water Site Patents in the jurisdictions that we specify. If we decide to discontinue the prosecution or maintenance of any Water Site Patent in any jurisdiction, but Columbia University objects to such discontinuation, our license to use such Water Site Patent will terminate in that jurisdiction; provided that, if we are using the Water Site Patent or Water Site Software in the jurisdiction at issue, Columbia University is obligated to discuss in good faith whether the licenses should instead be non-exclusive. Columbia University is also responsible for the enforcement of the Water Site Patent at its own expense and in its sole judgment; provided that, if we provide Columbia University with evidence of infringement of a Water Site Patent by a third party, and Columbia University fails to take appropriate enforcement action, we may initiate legal proceedings against the alleged infringer. We are responsible for reimbursing Columbia University for their reasonable expenses in connection with prosecuting and maintaining the Water Site Patents.

Unless terminated earlier, the 2008 Columbia Agreement will expire on a product by product and country by country basis upon the later of (i) the expiration of the last issued Water Site Patent, (ii) fifteen years from the date of the first commercial sale of a Water Site Product in a given country, and (iii) the expiration of the Water Site Software copyright. Columbia University may terminate the 2008 Columbia Agreement if we fail to cure a material breach, become subject to a voluntary or involuntary petition for bankruptcy or any other proceeding relating to insolvency, receivership or liquidation, or initiate any proceeding or assert any claim challenging the validity or enforceability of the Water Site Patents. Upon termination, any third party that has licensed a Water Site Product from us will retain the right to use such product, subject to the terms of their existing license agreement with us, and we will have the right to continue to provide support to any such third parties for the duration of their license agreement.

Services Royalty Amendment

On November 1, 2008, we entered into the Royalty Amendment with Columbia University, which amended and simplified our royalty obligations under each of the Columbia License Agreements described in each of the foregoing sections. Pursuant to the Royalty Amendment, we have agreed to pay royalties to Columbia University in mid-single digit percentages on the service fees generated from services (excluding certain gross revenue, including revenue generated under agreements with Columbia University) that we, or our affiliates, perform using one or more Licensed Products under an agreement with a third party. Upon termination of any of the Columbia License Agreements for any reason other than our material breach, we will have the right to continue to use the Licensed Products to provide services under existing third-party service agreements, until the expiration or termination of such agreements.

Intellectual Property

We strive to protect and enhance the proprietary technology, inventions, and improvements that are commercially important to the development of our business, including by seeking, maintaining, and defending patent rights, whether developed internally or jointly, or licensed from third parties. We also rely on trade secrets, know-how, continuing technological innovation, collaboration opportunities, and in-licensing opportunities to develop, strengthen, and maintain our proprietary position in our field.

It is important to our future commercial success to obtain and maintain patent and other proprietary protection for commercially important technology, inventions, and know-how related to our business; defend and enforce our intellectual property rights, in particular our patent, trademark, and copyright rights; preserve the confidentiality of our trade secrets; and operate without infringing, misappropriating, or violating the valid and enforceable patents and proprietary rights of third parties. Our ability to stop third parties from making, using, selling, offering to sell, or importing any products we develop may depend on the extent to which we have rights under valid and enforceable patents or trade secrets that cover these activities.

The patent positions of companies like ours are generally uncertain and can involve complex legal, scientific, and factual issues. We cannot predict whether the patent applications we are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient proprietary protection from competitors. We also cannot ensure that patents will issue with respect to any patent applications that we or our licensors may file in the future, nor can we ensure that any of our owned or licensed patents or future patents will be commercially useful in protecting our software, technology, computational platform, and any product candidates we develop. In addition, the coverage claimed in a patent application may be significantly reduced before a patent is issued, and its scope can be reinterpreted and even challenged after issuance. As a result, we cannot guarantee that any products we develop will be protected or remain protectable by enforceable patents. Moreover, any patents that we hold or may hold may be challenged, circumvented or invalidated by third parties. See “Risk Factors—Risks Related to Our Intellectual Property” for a more comprehensive description of risks related to our intellectual property.

Our strategy is to file patent applications directed to our key software and our key programs in an effort to secure our intellectual property positions vis-a-vis this software and these programs. The patent portfolio for our software business includes at least 12 published patent families. As of February 6, 2023, we owned or held exclusive license rights to approximately 37 patents and patent applications, including at least 12 issued or allowed U.S. cases, five pending U.S. non-provisional patent applications, 11 issued or allowed non-U.S. cases, including six granted European patents which have been validated among multiple individual European Patent Convention nations and five non-European patents, and nine pending foreign patent applications relating to our computational platform. While we believe that the specific and generic claims contained in our wholly-owned and licensed pending U.S. and non-U.S. applications provide protection for various aspects of our computational platform, third parties may nevertheless challenge such claims. Any patents that are issued or that may issue from these families are expected to expire between 2026 and 2038, absent any adjustments or extensions.

As of February 6, 2023, there were seven published patent families related to our proprietary drug discovery business, and several of our drug discovery collaborators have filed patent applications related to our collaborations that include employees of ours as inventors, including over 100 compound patents and patent applications since 2010. We do not own any intellectual property rights related to these inventions. As of February 6, 2023, there are seven pending wholly-owned provisional applications, six pending international patent applications, three pending U.S. non-provisional patent applications, and 27 pending non-U.S. patent applications related to our proprietary drug discovery business.

Prosecution is a lengthy process, during which the scope of the claims initially submitted for examination by the U.S. Patent and Trademark Office may be significantly narrowed before issuance, if issued at all. We expect this may be the case with respect to some of our pending patent applications.

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term is 20 years from the earliest date of filing a non-provisional patent application, absent any adjustments or extensions.

In addition, in the United States, the term of a patent covering an FDA-approved drug may, in certain cases, be eligible for a patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984 as compensation for the loss of patent term during the FDA regulatory review process. The period of extension may be up to five years, but cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval. Only one patent among those eligible for an extension and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. Similar provisions are available in Europe and in certain other jurisdictions to extend the term of a patent that covers an approved drug. It is possible that issued U.S. patents we may obtain in the future may be entitled to patent term extensions. If our use of product candidates or the product candidate itself receive FDA approval, we intend to apply for patent term extensions, if available, to extend the term of patents that cover the approved use or product candidate. We also intend to seek patent term extensions in any jurisdictions where available, however, there is no guarantee that the applicable authorities, including the FDA, will agree with our assessment of whether such extensions should be granted, and even if granted, the length of such extensions.

In addition to patent protection, as of February 6, 2023, we had approximately 53 copyright registrations covering our proprietary software code, and we rely upon unpatented trade secrets and confidential know-how and continuing technological innovation to develop and maintain our competitive position. However, trade secrets and confidential know-how are difficult to protect. We seek to protect our proprietary information, in part, using confidentiality agreements with any collaborators, scientific advisors, service providers, employees, and consultants and invention assignment agreements with our employees. We also have agreements requiring assignment of inventions with selected consultants, scientific advisors, and collaborators. These agreements may not provide meaningful protection. These agreements may also be breached, and we may not have an adequate remedy for any such breach. In addition, our trade secrets and/or confidential know-how may become known or be independently developed by a third party, or misused by any collaborator to whom we disclose such information. Despite any measures taken to protect our intellectual property, unauthorized parties may attempt to copy aspects of our products or to obtain or use information that we regard as proprietary. Although we take steps to protect our proprietary information, third parties may independently develop the same or similar proprietary information or may otherwise gain access to our proprietary information. As a result, we may be unable to meaningfully protect our trade secrets and proprietary information. See "Risk Factors—Risks Related to Our Intellectual Property" for a more comprehensive description of risks related to our intellectual property.

We also own numerous trademarks registered in the United States and foreign jurisdictions, including "Schrödinger" and "LiveDesign". We pursue additional trademark registrations to the extent we believe doing so would be beneficial to our competitive position.

Sales and Marketing

Software Business

We commercialize our software solutions in various jurisdictions around the world through our software sales organization. We have sales operations in the United States, Europe, Japan, India, and South Korea and we also have established distribution channels in other important markets, including China. These efforts are led by our approximately 230 person global team of sales, technical, and scientific personnel. Our marketing strategy leverages our strong base of scientific publications to support the continued growth of our computational platform into computational chemistry markets across industries and academia worldwide.

Drug Discovery Business

We have not established a commercial organization or developed distribution capabilities given the current stage of development of our wholly-owned drug discovery programs. We plan to enter into agreements with biopharmaceutical companies that contribute to our ability to efficiently advance development candidates that we discover internally using our computational platform through to commercialization. We expect to utilize a variety of types of collaboration, distribution, and other arrangements with one or more of these third parties to develop and ultimately commercialize our development candidates. Over time, we may also create a commercial organization for drug product sales if and as we advance the development of any product candidates that we determine to commercialize ourselves.

Manufacturing

We do not own or operate manufacturing facilities for the production of any product candidates, nor do we have plans to develop our own manufacturing operations. We rely and expect to continue to rely on third-party contract manufacturers for all of our required raw materials, drug substance, and finished drug product for the preclinical and clinical development of any development candidates we develop ourselves.

Government Regulation and Product Approvals

Government authorities in the United States at the federal, state and local level, and in other countries and jurisdictions, including the European Union, extensively regulate, among other things, the research, development, testing, manufacture, pricing, reimbursement, quality control, approval, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, post-approval monitoring and reporting, and import and export of biopharmaceutical products. The processes for obtaining marketing approvals in the United States and in foreign countries and jurisdictions, along with compliance with applicable statutes and regulations and other regulatory authorities, require the expenditure of substantial time and financial resources.

Approval and Regulation of Drugs in the United States

In the United States, drug products are approved and regulated under the Federal Food, Drug and Cosmetic Act, or FDCA, and applicable implementing regulations and guidance. A company, institution, or organization which takes responsibility for the initiation and management of a clinical development program for such products, and for their regulatory approval, is typically referred to as a sponsor. The failure of a sponsor to comply with the applicable regulatory requirements at any time during the product development process, including non-clinical testing, clinical testing, the approval process or post-approval process, may result in delays to the conduct of a study, regulatory review and approval, and/or administrative or judicial sanctions.

A sponsor seeking approval to market and distribute a new drug in the United States generally must satisfactorily complete each of the following steps before the product candidate will be approved by the FDA:

- preclinical testing including laboratory tests, animal studies, and formulation studies, which must be performed in accordance with the FDA's good laboratory practice, or GLP, regulations and standards;
- design of a clinical protocol and submission to the FDA of an IND for human clinical testing, which must become effective before human clinical trials may begin;
- approval by an independent institutional review board, or IRB, representing each clinical site before each clinical trial may be initiated;
- performance of adequate and well-controlled human clinical trials to establish the safety and efficacy of the product candidate for each proposed indication, in accordance with current good clinical practices, or GCP;
- preparation and submission to the FDA of a new drug application, or NDA, for a drug product which includes not only the results of the clinical trials, but also detailed information on the chemistry, manufacture and quality controls for the product candidate and proposed labeling for one or more proposed indication(s);
- review of the product candidate by an FDA advisory committee, where appropriate or if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities, including those of third parties, at which the product candidate or components thereof are manufactured to assess compliance with current good manufacturing practices, or cGMP, requirements and to assure that the facilities, methods, and controls are adequate to preserve the product's identity, strength, quality, and purity;
- satisfactory completion of any FDA audits of the non-clinical and clinical trial sites to assure compliance with GCP and the integrity of clinical data in support of the NDA;
- payment of user fees and securing FDA approval of the NDA to allow marketing of the new drug product; and
- compliance with any post-approval requirements, including the potential requirement to implement a Risk Evaluation and Mitigation Strategy, or REMS, and the potential requirement to conduct any post- approval studies required by the FDA.

Preclinical Studies

Before a sponsor begins testing a product candidate with potential therapeutic value in humans, the product candidate enters the preclinical testing stage, including *in vitro* and animal studies to assess the safety and activity of the drug for initial testing in humans and to establish a rationale for therapeutic use. Preclinical tests include laboratory evaluations of product chemistry, formulation, and stability, as well as other studies to evaluate, among other things, the toxicity of the product candidate. These studies are generally referred to as IND-enabling studies.

The conduct of the preclinical tests and formulation of the compounds for testing must comply with federal regulations and requirements, including GLP regulations and standards and the United States Department of Agriculture's Animal Welfare Act, if applicable. The results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical trials, among other things, are submitted to the FDA as part of an IND. Some long-term preclinical testing, such as animal tests of reproductive adverse events and carcinogenicity and long-term toxicity studies may continue after the IND is submitted.

The IND and IRB Processes

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with GCP requirements, which include, among other things, the requirement that all research subjects provide their voluntary informed consent in writing before their participation in any clinical trial. Clinical trials are conducted under written study protocols detailing, among other things, the inclusion and exclusion criteria, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. A protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND.

An IND is an exemption from the FDCA that allows an unapproved product candidate to be shipped in interstate commerce for use in an investigational clinical trial and a request for FDA authorization to administer such investigational product to humans. Such authorization must be secured prior to interstate shipment and administration of any product candidate that is not the subject of an approved NDA. In support of a request for an IND, sponsors must submit a protocol for each clinical trial, and any subsequent protocol amendments must be submitted to the FDA as part of the IND. The FDA requires a 30-day waiting period after the filing of each IND before clinical trials may begin. This waiting period is designed to allow the FDA to review the IND to determine whether human research subjects will be exposed to unreasonable health risks. At any time during this 30-day period, the FDA may raise concerns or questions about the conduct of the trials as outlined in the IND and impose a clinical hold or partial clinical hold. In these cases, the IND sponsor and the FDA must resolve any outstanding concerns before clinical trials, or parts of the trial, can begin.

Following commencement of a clinical trial under an IND, the FDA may also place a clinical hold or partial clinical hold on that trial. Clinical holds are imposed by the FDA whenever there is concern for patient safety and may be a result of new data, findings, or developments in clinical, nonclinical, and/or chemistry, manufacturing, and controls, or CMC. A clinical hold is an order issued by the FDA to the sponsor to delay a proposed clinical investigation or to suspend an ongoing investigation. A partial clinical hold is a delay or suspension of only part of the clinical work requested under the IND. For example, a specific protocol or part of a protocol may not be allowed to proceed, while other protocols may be allowed. No more than 30 days after imposition of a clinical hold or partial clinical hold, the FDA will provide the sponsor a written explanation of the basis for the hold.

Following issuance of a clinical hold or partial clinical hold, a clinical trial may only resume after the FDA has so notified the sponsor. The FDA will base that determination on information provided by the sponsor correcting the deficiencies previously cited or otherwise satisfying the FDA that the clinical trial can proceed.

A sponsor may choose, but is not required, to conduct a foreign clinical study under an IND. When a foreign clinical study is conducted under an IND, all FDA IND requirements must be met unless waived. When a foreign clinical study is not conducted under an IND, the sponsor must ensure that such studies are conducted in accordance with GCP, including review and approval by an independent ethics committee, or IEC, and informed consent from subjects, if the data from such a foreign study is to be used in support of a marketing application.

In addition to the foregoing IND requirements, an IRB representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must conduct continuing review and reapprove the study at least annually. The IRB must review and approve, among other things, the study protocol and informed consent information to be provided to study subjects. An IRB must operate in compliance with FDA regulations. An IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB's requirements or if the product candidate has been associated with unexpected serious harm to patients.

Additionally, some trials are overseen by an independent group of qualified experts organized by the trial sponsor, known as a data safety monitoring board or committee. This group provides authorization as to whether or not a trial may move forward at designated check points based on access that only the group maintains to available data from the study. Suspension or termination of development during any phase of clinical trials can occur if it is determined that the participants or patients are being exposed to an unacceptable health risk. Other reasons for suspension or termination may be made by us based on evolving business objectives and/or the competitive environment.

Expanded Access

Expanded access, sometimes called "compassionate use," is the use of investigational new products outside of clinical trials to treat patients with serious or immediately life-threatening diseases or conditions when there are no comparable or satisfactory alternative treatment options. The rules and regulations related to expanded access are intended

to improve access to investigational products for patients who may benefit from investigational therapies. FDA regulations allow access to investigational products under an IND by the company or the treating physician for treatment purposes on a case-by-case basis for: individual patients (single-patient IND applications for treatment in emergency settings and non-emergency settings); intermediate-size patient populations; and larger populations for use of the investigational product under a treatment protocol or Treatment IND Application.

When considering an IND application for expanded access to an investigational product with the purpose of treating a patient or a group of patients, the sponsor and treating physicians or investigators will determine suitability when all of the following criteria apply: patient(s) have a serious or immediately life-threatening disease or condition, and there is no comparable or satisfactory alternative therapy to diagnose, monitor, or treat the disease or condition; the potential patient benefit justifies the potential risks of the treatment and the potential risks are not unreasonable in the context or condition to be treated; and the expanded use of the investigational product for the requested treatment will not interfere with the initiation, conduct or completion of clinical investigations that could support marketing approval of the product or otherwise compromise the potential development of the product.

There is no obligation for a sponsor to make its investigational products available for expanded access; however, as required by amendments to the FDCA included in the 21st Century Cures Act passed in 2016, if a sponsor has a policy regarding how it responds to expanded access requests with respect to product candidates in development to treat serious diseases or conditions, it must make that policy publicly available. Sponsors are required to make such policies publicly available upon the earlier of initiation of a Phase 2 or Phase 3 trial for a covered investigational product; or 15 days after the investigational product receives designation from the FDA as a breakthrough therapy, fast track product, or regenerative medicine advanced therapy.

Human Clinical Trials in Support of an NDA

Clinical trials involve the administration of the investigational product candidate to human subjects under the supervision of a qualified investigator in accordance with GCP requirements, which include, among other things, the requirement that all research subjects provide their informed consent in writing before their participation in any clinical trial. Clinical trials are conducted under written clinical trial protocols detailing, among other things, the objectives of the study, inclusion and exclusion criteria, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated.

Human clinical trials are typically conducted in three sequential phases, but the phases may overlap or be combined. Additional studies may also be required after approval.

Phase 1 clinical trials are initially conducted in a limited population to test the product candidate for safety, including adverse effects, dose tolerance, absorption, metabolism, distribution, excretion, and pharmacodynamics in healthy humans or in patients. During Phase 1 clinical trials, information about the investigational drug product's pharmacokinetics and pharmacological effects may be obtained to permit the design of well-controlled and scientifically valid Phase 2 clinical trials.

Phase 2 clinical trials are generally conducted in a limited patient population to identify possible adverse effects and safety risks, evaluate the efficacy of the product candidate for specific targeted indications and determine dose tolerance and optimal dosage. Multiple Phase 2 clinical trials may be conducted by the sponsor to obtain information prior to beginning larger and more costly Phase 3 clinical trials. Phase 2 clinical trials are well controlled, closely monitored and conducted in a limited patient population. A Phase 2 trial may be further subdivided to Phase 2a and Phase 2b trials. A Phase 2a trial is typically an exploratory (non-pivotal) study that has clinical efficacy, pharmacodynamics, or biological activity as the primary endpoint. A Phase 2b trial is a definite dose range finding study with efficacy as the primary endpoint.

Phase 3 clinical trials proceed if the Phase 2 clinical trials demonstrate that a dose range of the product candidate is potentially effective and has an acceptable safety profile. Phase 3 clinical trials are undertaken within an expanded patient population to further evaluate dosage, provide substantial evidence of clinical efficacy, and further test for safety in an expanded and diverse patient population at multiple, geographically dispersed clinical trial sites. A well-controlled, statistically robust Phase 3 clinical trial may be designed to deliver the data that regulatory authorities will use to decide whether or not to approve, and, if approved, how to appropriately label a drug. Such Phase 3 studies are referred to as "pivotal."

A clinical trial may combine the elements of more than one phase and the FDA often requires more than one Phase 3 trial to support marketing approval of a product candidate. A company's designation of a clinical trial as being of a particular phase is not necessarily indicative that the study will be sufficient to satisfy the FDA requirements of that phase because this determination cannot be made until the protocol and data have been submitted to and reviewed by the FDA. Generally, pivotal trials are Phase 3 trials, but they may be Phase 2 trials if the design provides a well-controlled and reliable assessment of clinical benefit, particularly in an area of unmet medical need.

In December 2022, with the passage of Food and Drug Omnibus Reform Act, or FDORA, Congress required sponsors to develop and submit a diversity action plan for each phase 3 clinical trial or any other "pivotal study" of a new drug or biological product. These plans are meant to encourage the enrollment of more diverse patient populations in late-stage clinical trials of FDA-regulated products. Specifically, action plans must include the sponsor's goals for enrollment, the underlying rationale for those goals, and an explanation of how the sponsor intends to meet them. In addition to these requirements, the legislation directs the FDA to issue new guidance on diversity action plans.

In some cases, the FDA may approve an NDA for a product candidate but require the sponsor to conduct additional clinical trials to further assess the product candidate's safety and effectiveness after approval. Such post-approval trials are typically referred to as Phase 4 clinical trials. These studies are used to gain additional experience from the treatment of a larger number of patients in the intended treatment group and to further document a clinical benefit in the case of drugs approved under Accelerated Approval regulations. Failure to exhibit due diligence with regard to conducting Phase 4 clinical trials could result in withdrawal of approval for products.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if serious adverse events occur. In addition, IND safety reports must be submitted to the FDA for any of the following: serious and unexpected suspected adverse reactions; findings from other studies or animal or *in vitro* testing that suggest a significant risk in humans exposed to the product; and any clinically important increase in the case of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, or at all. The FDA will typically inspect one or more clinical sites to assure compliance with GCP and the integrity of the clinical data submitted.

In March 2022, the FDA released a final guidance entitled "Expansion Cohorts: Use in First-In-Human Clinical Trials to Expedite Development of Oncology Drugs and Biologics," which outlines how sponsors can utilize an adaptive trial design in the early stages of oncology product development (i.e., the first-in-human clinical trial) to compress the traditional three phases of trials into one continuous trial called an expansion cohort trial. Information to support the design of individual expansion cohorts are included in IND applications and assessed by FDA. Expansion cohort trials can potentially bring efficiency to product development and reduce developmental costs and time.

Sponsors of clinical trials are required to register and disclose certain clinical trial information on a public registry (clinicaltrials.gov) maintained by the U.S. National Institutes of Health. In particular, information related to the product, patient population, phase of investigation, study sites and investigators and other aspects of the clinical trial is made public as part of the registration of the clinical trial. The failure to submit clinical trial information to clinicaltrials.gov, as required, is a prohibited act under the FDCA with violations subject to potential civil monetary penalties of up to $10,000 for each day the violation continues. Although the FDA has historically not enforced these reporting requirements due to HHS's long delay in issuing final implementing regulations, those regulations have now been issued and the FDA has issued several Notices of Noncompliance to manufacturers since April 2021.

Concurrent with clinical trials, companies often complete additional animal studies. They must also develop additional information about the chemistry and physical characteristics of the drug as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the drug candidate and, among other things, must develop methods for testing the identity, strength, quality, purity, and potency of the final drug. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the drug candidate does not undergo unacceptable deterioration over its shelf life.

Pediatric Studies

Under the Pediatric Research Equity Act, or PREA, applications and certain types of supplements to applications must contain data that are adequate to assess the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations, and to support dosing and administration for each pediatric subpopulation for which the

product is safe and effective. The sponsor must submit an initial Pediatric Study Plan within 60 days of an end-of-phase 2 meeting or as may be agreed between the sponsor and the FDA. Those plans must contain an outline of the proposed pediatric study or studies the sponsor plans to conduct, including study objectives and design, age groups, relevant endpoints and statistical approach, or a justification for not including such detailed information, and any request for a deferral of pediatric assessments or a full or partial waiver of the requirement to provide data from pediatric studies along with supporting information.

The FDA may, on its own initiative or at the request of the sponsor, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements. A deferral may be granted for several reasons, including a finding that the product or therapeutic candidate is ready for approval for use in adults before pediatric trials are complete or that additional safety or effectiveness data needs to be collected before the pediatric trials begin. Pursuant to the Food and Drug Administration Safety and Innovation Act of 2012, or FDASIA, the FDA must send a PREA Non-Compliance letter to sponsors who have failed to submit their pediatric assessments required under PREA, have failed to seek or obtain a deferral or deferral extension or have failed to request approval for a required pediatric formulation. FDASIA further requires the FDA to publicly post the PREA Non-Compliance letter and sponsor's response.

Expedited Review Programs

The FDA is authorized to expedite the review of applications in several ways. None of these expedited programs changes the standards for approval but they may help expedite the development or approval process of product candidates.

- *Fast Track designation.* The sponsor of a product candidate may request the FDA to designate the product for a specific indication as a Fast Track product concurrent with or after the filing of the IND. Candidate products are eligible for Fast Track designation if they are intended to treat a serious or life-threatening condition and demonstrate the potential to address unmet medical needs for the condition. In addition to other benefits, such as the ability to have greater interactions with the FDA, the FDA may initiate review of sections of a Fast Track application before the application is complete, a process known as rolling review.
- *Breakthrough therapy designation.* To qualify for the breakthrough therapy program, product candidates must be intended to treat a serious or life-threatening disease or condition and preliminary clinical evidence must indicate that such product candidates may demonstrate substantial improvement on one or more clinically significant endpoints over existing therapies. The FDA will seek to ensure the sponsor of a breakthrough therapy product candidate receives intensive guidance on an efficient development program, intensive involvement of senior managers and experienced staff on a proactive, collaborative and cross-disciplinary review and rolling review.
- *Priority review.* A product candidate is eligible for priority review if it treats a serious condition and, if approved, it would be a significant improvement in the safety or effectiveness of the treatment, diagnosis or prevention compared to marketed products. FDA aims to complete its review of priority review applications within six months as opposed to 10 months for standard review.
- *Accelerated approval.* Drug products studied for their safety and effectiveness in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit over existing treatments may receive accelerated approval. Accelerated approval means that a product candidate may be approved on the basis of adequate and well controlled clinical trials establishing that the product candidate has an effect on a surrogate endpoint that is reasonably likely to predict a clinical benefit, or on the basis of an effect on a clinical endpoint other than survival or irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity and prevalence of the condition and the availability or lack of alternative treatments. As a condition of approval, the FDA may require that a sponsor of a drug product candidate receiving accelerated approval perform adequate and well controlled post-marketing clinical trials. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials.

  With passage of FDORA in December 2022, Congress modified certain provisions governing accelerated approval of drug and biologic products. Specifically, the new legislation authorized the FDA to: require a sponsor to have its confirmatory clinical trial underway before accelerated approval is awarded, require a sponsor of a product granted accelerated approval to submit progress reports on its post-approval studies to FDA every six months (until the study is completed; and use expedited procedures to withdraw accelerated approval of an NDA or BLA after the confirmatory trial fails to verify the product's clinical benefit.

Further, FDORA requires the agency to publish on its website "the rationale for why a post-approval study is not appropriate or necessary" whenever it decides not to require such a study upon granting accelerated approval.

- *Regenerative advanced therapy.* With passage of the 21st Century Cures Act, or the Cures Act, in December 2016, Congress authorized the FDA to accelerate review and approval of products designated as regenerative advanced therapies. A product is eligible for this designation if it is a regenerative medicine therapy that is intended to treat, modify, reverse or cure a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the product candidate has the potential to address unmet medical needs for such disease or condition. The benefits of a regenerative advanced therapy designation include early interactions with the FDA to expedite development and review, benefits available to breakthrough therapies, potential eligibility for priority review and accelerated approval based on surrogate or intermediate endpoints.

Filing and Review of an NDA

In order to obtain approval to market a drug product in the United States, a NDA must be submitted to the FDA that provides sufficient data establishing the safety and efficacy of the proposed drug product for its intended indication. The application includes all relevant data available from pertinent preclinical and clinical trials, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls, and proposed labeling, among other things. Data can come from company-sponsored clinical trials intended to test the safety and effectiveness of a use of a product, or from a number of alternative sources, including studies initiated by independent investigators. To support marketing approval, the data submitted must be sufficient in quality and quantity to establish the safety and efficacy of the drug product to the satisfaction of the FDA.

The NDA is a vehicle through which sponsors formally propose that the FDA approve a new product for marketing and sale in the United States for one or more indications. Every new drug product candidate must be the subject of an approved NDA before it may be commercialized in the United States. Biologic License Applications, or BLAs, are submitted for licensure of biologic products under the Public Health Service Act. Under federal law, the submission of most NDAs is subject to an application user fee. The sponsor of an approved NDA is also subject to an annual program fee. Certain exceptions and waivers are available for some of these fees, such as an exception from the application fee for products with orphan designation, an exception from the program fee when the program does not engage in manufacturing the drug during a particular fiscal year and a waiver for certain small businesses.

The FDA conducts a preliminary review of the application within 60 calendar days of its receipt, and must inform the sponsor within that period of time whether the application is sufficiently complete to permit substantive review. In the event that FDA determines that an application does not satisfy this standard, it will issue a Refuse to File, or RTF, determination to the sponsor. The FDA may request additional information rather than accept the application for filing and, the application may be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing.

Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA has agreed to specified performance goals in the review process of NDAs. Under that agreement, 90% of applications seeking approval of New Molecular Entities, or NMEs, are meant to be reviewed within ten months from the date on which the FDA accepts the application for filing, and 90% of applications for NMEs that have been designated for Priority Review are meant to be reviewed within six months of the filing date. For applications seeking approval of products that are not NMEs, the ten-month and six-month review periods run from the date that the FDA receives the application. The review process and the Prescription Drug User Fee Act, or PDUFA, goal date may be extended by the FDA for three additional months to consider new information or clarification provided by the sponsor to address an outstanding deficiency identified by the FDA following the original submission.

In connection with its review of an application, the FDA typically will inspect the facility or facilities where the product is being or will be manufactured. These pre-approval inspections may cover all facilities associated with an NDA submission, including component manufacturing, finished product manufacturing, and control testing laboratories. The PREVENT Pandemics Act, which was enacted in December 2022, clarifies that foreign drug manufacturing establishments are subject to registration and listing requirements even if a drug or biologic undergoes further manufacture, preparation, propagation, compounding, or processing at a separate establishment outside the United States prior to being imported or offered for import into the United States. The FDA will not approve an application unless it determines that the

manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications.

Additionally, before approving an NDA, the FDA will typically inspect one or more clinical sites to assure compliance with GCP and the integrity of the data in the application. With passage of FDORA, Congress clarified FDA's authority to conduct inspections by expressly permitting inspection of facilities involved in the preparation, conduct, or analysis of clinical and non-clinical studies submitted to FDA as well as other persons holding study records or involved in the study process.

In addition, as a condition of approval, the FDA may require a sponsor to develop a REMS. A REMS uses risk-minimization strategies beyond the professional labeling to ensure that the benefits of the product outweigh the potential risks. To determine whether a REMS is needed, the FDA will consider the size of the population likely to use the product, the seriousness of the disease, the expected benefit of the product, the expected duration of treatment, the seriousness of known or potential adverse events, and whether the product is a new molecular entity.

The FDA may also refer an application for a novel product to an advisory committee or explain why such referral was not made. Typically, an advisory committee is a panel of independent experts, including clinicians and other scientific experts, that review, evaluate and provide a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but the FDA considers such recommendations carefully when making decisions.

The FDA's Decision on an NDA

The FDA reviews an application to determine, among other things, whether the product is safe and whether it is effective for its intended use(s), with the latter determination being made on the basis of substantial evidence. The FDA has interpreted this evidentiary standard to require at least two adequate and well-controlled clinical investigations to establish effectiveness of a new product. Under certain circumstances, however, the FDA has indicated that a single trial with certain characteristics and additional information may satisfy this standard. Ultimately, the FDA will determine whether the expected benefits of the drug product outweigh its potential risks to patients, and the agency will issue either a complete response letter, or CRL, or an approval letter.

A CRL indicates that the review cycle of the application is complete, and the application will not be approved in its present form. A CRL generally outlines the deficiencies in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application. The CRL may require additional clinical or other data, additional pivotal Phase 3 clinical trials and/or other significant and time-consuming requirements related to clinical trials, preclinical studies or manufacturing. If a CRL is issued, the sponsor will have one year to respond to the deficiencies identified by the FDA, at which time the FDA can deem the application withdrawn or, in its discretion, grant the sponsor an additional six-month extension to respond. For those seeking to challenge FDA's CRL decision, the FDA has indicated that sponsors may request a formal hearing on the CRL or they may file a request for reconsideration or a request for a formal dispute resolution.

If the FDA approves a new product, it may limit the approved indications for use of the product, require that contraindications, warnings, or precautions be included in the product labeling, or require that post-approval studies, including Phase 4 clinical trials, be conducted to further assess the drug's safety after approval. The agency may also require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution restrictions or other risk management mechanisms, including a REMS, to help ensure that the benefits of the product outweigh the potential risks. REMS programs can include medication guides, communication plans for health care professionals, and elements to assure safe use, or ETASU. ETASU can include, but are not limited to, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, special monitoring, and the use of patent registries. The FDA may prevent or limit further marketing of a product based on the results of post-market studies or surveillance programs. The FDA may require a REMS before or after approval if it becomes aware of a serious risk associated with use of the product. The requirement for a REMS can materially affect the potential market and profitability of a product. After approval, many types of changes to the approved product, such as adding new indications, changing manufacturing processes, and adding labeling claims, are subject to further testing requirements and FDA review and approval.

Post-Approval Requirements

Following approval of a new prescription product, the manufacturer, the approved product and the product's manufacturing locations are subject to pervasive and continuing regulation by the FDA, governing, among other things, monitoring and record-keeping activities, reporting of adverse experiences with the product and product problems to the FDA, product sampling and distribution, manufacturing and promotion and advertising. Although physicians may prescribe legally available products for unapproved uses or patient populations (i.e., "off-label uses"), manufacturers may not market or promote such uses. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability. In September 2021, the FDA published final regulations which describe the types of evidence that the agency will consider in determining the intended use of a drug product.

It may be permissible, under very specific, narrow conditions, for a manufacturer to engage in nonpromotional, non-misleading communication regarding off-label information, such as distributing scientific or medical journal information. Moreover, with passage of the Pre-Approval Information Exchange Act, or PIE Act, in December 2022, sponsors of products that have not been approved may proactively communicate to payors certain information about products in development to help expedite patient access upon product approval. Previously, such communications were permitted under FDA guidance but the new legislation explicitly provides protection to sponsors who convey certain information about products in development to payors, including unapproved uses of approved products.

If a company is found to have promoted off-label uses, it may become subject to administrative and judicial enforcement by the FDA, the Department of Justice, or the Office of the Inspector General of the Department of Health and Human Services, as well as state authorities. This could subject a company to a range of penalties that could have a significant commercial impact, including civil and criminal fines and agreements that materially restrict the manner in which a company promotes or distributes products, as well as adverse public relations and reputational harm. The federal government has levied large civil and criminal fines against companies for alleged improper promotion, and has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed.

Patent Term Restoration and Extension

A patent claiming a new drug product may be eligible for a limited patent term extension under the Hatch-Waxman Act, which permits a patent restoration of up to five years for patent term lost during the FDA regulatory review. The restoration period granted on a patent covering a product is typically one-half the time between the effective date of the IND and the submission date of an application, plus the time between the submission date of an application and the ultimate approval date. Patent term restoration cannot be used to extend the remaining term of a patent past a total of 14 years from the product's approval date. Only one patent applicable to an approved product is eligible for the extension, and only those claims covering the approved product, a method for using it, or a method for manufacturing it, may be extended. Additionally, the application for the extension must be submitted prior to the expiration of the patent in question. A patent that covers multiple products for which approval is sought can only be extended in connection with one of the approvals. The United States Patent and Trademark Office reviews and approves the application for any patent term extension or restoration in consultation with the FDA.

Healthcare Compliance

In the United States, biopharmaceutical manufacturers and their products are subject to extensive regulation at the federal and state level, such as laws intended to prevent fraud and abuse in the healthcare industry. Healthcare providers and third-party payors play a primary role in the recommendation and prescription of pharmaceutical products that are granted marketing approval. Arrangements with providers, consultants, third-party payors, and customers are subject to broadly applicable fraud and abuse, anti-kickback, false claims laws, reporting of payments to healthcare providers and patient privacy laws and regulations and other healthcare laws and regulations that may constrain our business and/or financial arrangements. Restrictions under applicable federal and state healthcare laws and regulations, including certain laws and regulations applicable only if we have marketed products, include the following:

- federal false claims, false statements and civil monetary penalties laws prohibiting, among other things, any person from knowingly presenting, or causing to be presented, a false claim for payment of government funds or knowingly making, or causing to be made, a false statement to get a false claim paid;

- federal healthcare program anti-kickback law, which prohibits, among other things, persons from offering, soliciting, receiving or providing remuneration, directly or indirectly, to induce either the referral of an individual for, or the purchasing or ordering of, a good or service for which payment may be made under federal healthcare programs such as Medicare and Medicaid;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which, in addition to privacy protections applicable to healthcare providers and other entities, prohibits executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;
- federal laws that require pharmaceutical manufacturers to report certain calculated product prices to the government or provide certain discounts or rebates to government authorities or private entities, often as a condition of reimbursement under government healthcare programs;
- federal Open Payments (or federal "sunshine" law), which requires pharmaceutical and medical device companies to monitor and report certain financial interactions with certain healthcare providers to the Center for Medicare & Medicaid Services, or CMS, within the U.S. Department of Health and Human Services for re-disclosure to the public, as well as ownership and investment interests held by certain healthcare providers and their immediate family members;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;
- analogous state laws and regulations, including: state anti-kickback and false claims laws; state laws requiring pharmaceutical companies to comply with specific compliance standards, restrict financial interactions between pharmaceutical companies and healthcare providers or require pharmaceutical companies to report information related to payments to health care providers or marketing expenditures; and state laws governing privacy, security and breaches of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts; and
- laws and regulations prohibiting bribery and corruption such as the FCPA, which, among other things, prohibits U.S. companies and their employees and agents from authorizing, promising, offering, or providing, directly or indirectly, corrupt or improper payments or anything else of value to foreign government officials, employees of public international organizations or foreign government-owned or affiliated entities, candidates for foreign public office, and foreign political parties or officials thereof.

Violations of these laws are punishable by criminal and/or civil sanctions, including, in some instances, exclusion from participation in federal and state health care programs, such as Medicare and Medicaid. Ensuring compliance is time consuming and costly. Similar healthcare laws and regulations exist in the EU and other jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers and laws governing the privacy and security of personal information.

Privacy Requirements

Privacy and data security requirements are either in place or underway in the United States. There are a broad variety of data protection laws that may be applicable to our activities, and a range of enforcement agencies at both the state and federal levels that can review companies for privacy and data security concerns based on general consumer protection laws. The Federal Trade Commission and state Attorneys General all are aggressive in reviewing privacy and data security protections for consumers. New laws also are being considered at both the state and federal levels. For example, the California Consumer Privacy Act of 2018, or the CCPA, which became effective on January 1, 2020, requires companies that process information on California residents to make new disclosures to consumers about their data collection, use and sharing practices, allow consumers to opt out of certain data sharing with third parties and provide a new cause of action for data breaches. Many other states are considering similar legislation, and a broad range of legislative measures also have been introduced at the federal level.

Pharmaceutical Insurance Coverage and Health Care Reform

In the United States and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payers to reimburse all or part of the associated health care costs. Significant uncertainty exists as to the coverage and reimbursement status of products approved by the FDA and other government authorities. Thus, even if a product candidate of ours or one of our collaborators is approved, sales of the product will depend, in part, on the extent to which third-party payers, including government health programs in the United States such as Medicare and Medicaid, commercial health insurers and managed care organizations provide coverage and establish adequate reimbursement levels for the product. The process for determining whether a payer will provide coverage for a product may be separate from the process for setting the price or reimbursement rate that the payer will pay for the product once coverage is approved. Third-party payers are increasingly challenging the prices charged, examining the medical necessity and reviewing the cost-effectiveness of medical products and services and imposing controls to manage costs.

Third-party payers may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the approved products for a particular indication.

In order to secure coverage and reimbursement for any product that might be approved for sale, a company may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of the product, in addition to the costs required to obtain FDA or other comparable marketing approvals. Nonetheless, product candidates may not be considered medically necessary or cost effective. A decision by a third-party payer not to cover a product could reduce market acceptance once the product is approved and have a material adverse effect on sales, results of operations and financial condition. Additionally, a payer's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Further, one payer's determination to provide coverage for a product does not assure that other payers will also provide coverage and reimbursement for the product, and the level of coverage and reimbursement can differ significantly from payer to payer.

In international markets, reimbursement and health care payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. In some countries, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain coverage and adequate reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product to other available therapies.

The containment of health care costs also has become a priority of federal, state, and foreign governments and the prices of products have been a focus in this effort. Governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on coverage, reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit a company's revenue generated from the sale of any approved products including those that we are our collaborators may develop. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which a company or its collaborators receive marketing approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Pharmaceutical Prices

The prices of prescription pharmaceuticals have also been the subject of considerable discussion in the United States. There have been several recent U.S. congressional inquiries, as well as proposed and enacted state and federal legislation designed to, among other things, bring more transparency to pharmaceutical pricing, review the relationship between pricing and manufacturer patient programs, and reduce the costs of pharmaceuticals under Medicare and Medicaid. In 2020, the prior administration issued several executive orders intended to lower the costs of prescription products and certain provisions in these orders have been incorporated into regulations. These regulations include an interim final rule implementing a most favored nation model for prices that would tie Medicare Part B payments for certain physician-administered pharmaceuticals to the lowest price paid in other economically advanced countries, effective January 1, 2021. That rule, however, has been subject to a nationwide preliminary injunction and, on December 29, 2021, CMS issued a final rule to rescind it. With issuance of this rule, CMS stated that it will explore all options to incorporate value into payments for Medicare Part B pharmaceuticals and improve beneficiaries' access to evidence-based care.

In addition, in October 2020, HHS and the FDA published a final rule allowing states and other entities to develop a Section 804 Importation Program, or SIP, to import certain prescription drugs from Canada into the United States. The final rule is currently the subject of ongoing litigation, but at least six states (Vermont, Colorado, Florida, Maine, New Mexico, and New Hampshire) have passed laws allowing for the importation of drugs from Canada with the intent of developing SIPs for review and approval by the FDA. Further, on November 20, 2020, HHS finalized a regulation removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The final rule would eliminate the current safe harbor for Medicare drug rebates and create new safe harbors for beneficiary point-of-sale discounts and pharmacy benefit manager, or PBM, service fees. It originally was set to go into effect on January 1, 2022, but with passage of the Inflation Reduction Act has been delayed by Congress to January 1, 2032.

On July 9, 2021, President Biden signed Executive Order 14063, which focuses on, among other things, the price of pharmaceuticals. The Order directs HHS to create a plan within 45 days to combat "excessive pricing of prescription pharmaceuticals and enhance domestic pharmaceutical supply chains, to reduce the prices paid by the federal government for such pharmaceuticals, and to address the recurrent problem of price gouging." On September 9, 2021, HHS released its plan to reduce pharmaceutical prices. The key features of that plan are to: (a) make pharmaceutical prices more affordable and equitable for all consumers and throughout the health care system by supporting pharmaceutical price negotiations with manufacturers; (b) improve and promote competition throughout the prescription pharmaceutical industry by supporting market changes that strengthen supply chains, promote biosimilars and generic drugs, and increase transparency; and (c) foster scientific innovation to promote better healthcare and improve health by supporting public and private research and making sure that market incentives promote discovery of valuable and accessible new treatments.

More recently, on August 16, 2022, the Inflation Reduction Act of 2022, or IRA, was signed into law by President Biden. The new legislation has implications for Medicare Part D, which is a program available to individuals who are entitled to Medicare Part A or enrolled in Medicare Part B to give them the option of paying a monthly premium for outpatient prescription drug coverage. Among other things, the IRA requires manufacturers of certain drugs to engage in price negotiations with Medicare (beginning in 2026), with prices that can be negotiated subject to a cap; imposes rebates under Medicare Part B and Medicare Part D to penalize price increases that outpace inflation (first due in 2023); and replaces the Part D coverage gap discount program with a new discounting program (beginning in 2025). The IRA permits the Secretary of HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years.

Specifically, with respect to price negotiations, Congress authorized Medicare to negotiate lower prices for certain costly single-source drug and biologic products that do not have competing generics or biosimilars and are reimbursed under Medicare Part B and Part D. CMS may negotiate prices for ten high-cost drugs paid for by Medicare Part D starting in 2026, followed by 15 Part D drugs in 2027, 15 Part B or Part D drugs in 2028, and 20 Part B or Part D drugs in 2029 and beyond. This provision applies to drug products that have been approved for at least 9 years and biologics that have been licensed for 13 years, but it does not apply to drugs and biologics that have been approved for a single rare disease or condition. Further, the legislation subjects drug manufacturers to civil monetary penalties and a potential excise tax for failing to comply with the legislation by offering a price that is not equal to or less than the negotiated "maximum fair price" under the law or for taking price increases that exceed inflation. The legislation also requires manufacturers to pay rebates for drugs in Medicare Part D whose price increases exceed inflation. The new law also caps Medicare out-of-pocket drug costs at an estimated $4,000 a year in 2024 and, thereafter beginning in 2025, at $2,000 a year.

At the state level, individual states are increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. A number of states, for example, require drug manufacturers and other entities in the drug supply chain, including health carriers, pharmacy benefit managers, wholesale distributors, to disclose information about pricing of pharmaceuticals. In addition, regional healthcare organizations and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription pharmaceutical and other healthcare programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

Review and Approval of Medicinal Products in the European Union

In order to market any product outside of the United States, a company must also comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety, and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales, and distribution of products. Whether or not it obtains FDA approval for a product, a sponsor will need to obtain the necessary approvals by the comparable non-U.S. regulatory authorities before it can commence clinical trials or marketing of the product in those countries or jurisdictions. The approval process ultimately varies between countries and jurisdictions and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries and jurisdictions might differ from and be longer than that required to obtain FDA approval. Regulatory approval in one country or jurisdiction does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country or jurisdiction may negatively impact the regulatory process in others. Specifically, however, the process governing approval of medicinal products in the European Union generally follows the same lines as in the United States. It entails satisfactory completion of preclinical studies and adequate and well-controlled clinical trials to establish the safety and efficacy of the product for each proposed indication. It also requires the submission to the relevant competent authorities of a marketing authorization application, or MAA, and granting of a marketing authorization by these authorities before the product can be marketed and sold in the European Union.

Clinical Trial Approval

On January 31, 2022, the new Clinical Trials Regulation (EU) No 536/2014 became effective in the European Union and replaced the prior Clinical Trials Directive 2001/20/EC. The new regulation aims at simplifying and streamlining the authorization, conduct and transparency of clinical trials in the European Union. Under the new coordinated procedure for the approval of clinical trials, the sponsor of a clinical trial to be conducted in more than one Member State of the European Union, or EU Member State, will only be required to submit a single application for approval. The submission will be made through the Clinical Trials Information System, a new clinical trials portal overseen by the EMA and available to clinical trial sponsors, competent authorities of the EU Member States and the public.

Beyond streamlining the process, the new Regulation includes a single set of documents to be prepared and submitted for the application as well as simplified reporting procedures for clinical trial sponsors, and a harmonized procedure for the assessment of applications for clinical trials, which is divided in two parts. Part I is assessed by the competent authorities of all EU Member States in which an application for authorization of a clinical trial has been submitted (Member States concerned). Part II is assessed separately by each Member State concerned. Strict deadlines have been established for the assessment of clinical trial applications. The role of the relevant ethics committees in the assessment procedure will continue to be governed by the national law of the concerned EU Member State. However, overall related timelines will be defined by the Clinical Trials Regulation.

The new regulation did not change the preexisting requirement that a sponsor must obtain prior approval from the competent national authority of the EU Member State in which the clinical trial is to be conducted. If the clinical trial is conducted in different EU Member States, the competent authorities in each of these EU Member States must provide their approval for the conduct of the clinical trial. Furthermore, the sponsor may only start a clinical trial at a specific study site after the applicable ethics committee has issued a favorable opinion.

Parties conducting certain clinical trials must, as in the United States, post clinical trial information in the EU at the EudraCT website: https://eudract.ema.europa.eu.

PRIME Designation in the European Union

In March 2016, the European Medicines Agency, or EMA, launched an initiative to facilitate development of product candidates in indications, often rare, for which few or no therapies currently exist. The PRIority MEdicines, or PRIME, scheme is intended to encourage drug development in areas of unmet medical need and provides accelerated assessment of products representing substantial innovation reviewed under the centralized procedure. Products from small- and medium-sized enterprises may qualify for earlier entry into the PRIME scheme than larger companies. Many benefits accrue to sponsors of product candidates with PRIME designation, including but not limited to, early and proactive regulatory dialogue with the EMA, frequent discussions on clinical trial designs and other development program elements, and accelerated marketing authorization application assessment once a dossier has been submitted. Importantly, a dedicated agency contact and rapporteur from the Committee for Human Medicinal Products, or CHMP, or Committee for Advanced Therapies are appointed early in PRIME scheme facilitating increased understanding of the product at EMA's Committee

level. A kick-off meeting initiates these relationships and includes a team of multidisciplinary experts at the EMA to provide guidance on the overall development and regulatory strategies.

Marketing Authorization

To obtain a marketing authorization for a product under European Union regulatory systems, a sponsor must submit an MAA either under a centralized procedure administered by the EMA, or one of the procedures administered by competent authorities in the EU Member States (decentralized procedure, national procedure or mutual recognition procedure). A marketing authorization may be granted only to a sponsor established in the European Union. Regulation (EC) No 1901/2006 provides that prior to obtaining a marketing authorization in the European Union, sponsors have to demonstrate compliance with all measures included in an EMA-approved Paediatric Investigation Plan, or PIP, covering all subsets of the pediatric population, unless the EMA has granted (1) a product-specific waiver, (2) a class waiver, or (3) a deferral for one or more of the measures included in the PIP.

The centralized procedure provides for the grant of a single marketing authorization by the European Commission that is valid across the European Economic Area (i.e. the European Union as well as Iceland, Liechtenstein and Norway). Pursuant to Regulation (EC) No 726/2004, the centralized procedure is compulsory for specific products, including for medicines produced by certain biotechnological processes, products designated as orphan medicinal products, advanced therapy medicinal products, and products with a new active substance indicated for the treatment of certain diseases. For products with a new active substance indicated for the treatment of other diseases and products that are highly innovative or for which a centralized process is in the interest of patients, the centralized procedure may be optional. The centralized procedure may at the request of the sponsor also be used in certain other cases.

Under the centralized procedure, the CHMP is responsible for conducting the initial assessment of a product and for several post-authorization and maintenance activities, such as the assessment of modifications or extensions to an existing marketing authorization. Under the centralized procedure in the European Union, the maximum timeframe for the evaluation of an MAA is 210 days, excluding clock stops, when additional information or written or oral explanation is to be provided by the sponsor in response to questions of the CHMP. Accelerated evaluation might be granted by the CHMP in exceptional cases, when a medicinal product is of major interest from the point of view of public health and in particular from the viewpoint of therapeutic innovation. If the CHMP accepts such request, the time limit of 210 days will be reduced to 150 days but it is possible that the CHMP can revert to the standard time limit for the centralized procedure if it considers that it is no longer appropriate to conduct an accelerated assessment. At the end of this period, the CHMP provides a scientific opinion on whether or not a marketing authorization should be granted in relation to a medicinal product. Within 15 calendar days of receipt of a final opinion from the CHMP, the European Commission must prepare a draft decision concerning an application for marketing authorization. This draft decision must take the opinion and any relevant provisions of European Union law into account. Before arriving at a final decision on an application for centralized authorization of a medicinal product the European Commission must consult the Standing Committee on Medicinal Products for Human Use, or the Standing Committee. The Standing Committee is composed of representatives of the EU Member States and chaired by a non-voting European Commission representative. The European Parliament also has a related “droit de regard”. The European Parliament’s role is to ensure that the European Commission has not exceeded its powers in deciding to grant or refuse to grant a marketing authorization.

The European Commission may grant a so-called “marketing authorization under exceptional circumstances”. Such authorization is intended for products for which the sponsor can demonstrate that it is unable to provide comprehensive data on the efficacy and safety under normal conditions of use, because the indications for which the product in question is intended are encountered so rarely that the sponsor cannot reasonably be expected to provide comprehensive evidence, or in the present state of scientific knowledge, comprehensive information cannot be provided, or it would be contrary to generally accepted principles of medical ethics to collect such information. Consequently, marketing authorization under exceptional circumstances may be granted subject to certain specific obligations, which may include the following:

- the sponsor must complete an identified program of studies within a time period specified by the competent authority, the results of which form the basis of a reassessment of the benefit/risk profile;
- the medicinal product in question may be supplied on medical prescription only and may in certain cases be administered only under strict medical supervision, possibly in a hospital and in the case of a radiopharmaceutical, by an authorized person; and

- the package leaflet and any medical information must draw the attention of the medical practitioner to the fact that the particulars available concerning the medicinal product in question are as yet inadequate in certain specified respects.

A marketing authorization under exceptional circumstances is subject to annual review to reassess the risk- benefit balance in an annual reassessment procedure. Continuation of the authorization is linked to the annual reassessment and a negative assessment could potentially result in the marketing authorization being suspended or revoked. The renewal of a marketing authorization of a medicinal product under exceptional circumstances, however, follows the same rules as a "normal" marketing authorization. Thus, a marketing authorization under exceptional circumstances is granted for an initial five years, after which the authorization will become valid indefinitely, unless the EMA decides that safety grounds merit one additional five-year renewal.

The European Commission may also grant a so-called "conditional marketing authorization" prior to obtaining the comprehensive clinical data required for an application for a full marketing authorization. Such conditional marketing authorizations may be granted for product candidates (including medicines designated as orphan medicinal products), if (i) the risk-benefit balance of the product candidate is positive, (ii) it is likely that the sponsor will be in a position to provide the required comprehensive clinical trial data, (iii) the product fulfills an unmet medical need, and (iv) the benefit to public health of the immediate availability on the market of the medicinal product concerned outweighs the risk inherent in the fact that additional data are still required. A conditional marketing authorization may contain specific obligations to be fulfilled by the marketing authorization holder, including obligations with respect to the completion of ongoing or new studies, and with respect to the collection of pharmacovigilance data. Conditional marketing authorizations are valid for one year, and may be renewed annually, if the risk-benefit balance remains positive, and after an assessment of the need for additional or modified conditions and/or specific obligations. The timelines for the centralized procedure described above also apply with respect to the review by the CHMP of applications for a conditional marketing authorization.

The European Union medicines rules expressly permit the EU Member States to adopt national legislation prohibiting or restricting the sale, supply or use of any medicinal product containing, consisting of or derived from a specific type of human or animal cell, such as embryonic stem cells. While the products we have in development do not make use of embryonic stem cells, it is possible that the national laws in certain EU Member States may prohibit or restrict us from commercializing our products, even if they have been granted a European Union marketing authorization.

Unlike the centralized authorization procedure, the decentralized marketing authorization procedure requires a separate application to, and leads to separate approval by, the competent authorities of each EU Member State in which the product is to be marketed. This application is identical to the application that would be submitted to the EMA for authorization through the centralized procedure. The reference EU Member State prepares a draft assessment and drafts of the related materials within 120 days after receipt of a valid application. The resulting assessment report is submitted to the concerned EU Member States who, within 90 days of receipt, must decide whether to approve the assessment report and related materials. If a concerned EU Member State cannot approve the assessment report and related materials due to concerns relating to a potential serious risk to public health, disputed elements may be referred to the European Commission, whose decision is binding on all EU Member States.

The mutual recognition procedure similarly is based on the acceptance by the competent authorities of the EU Member States of the marketing authorization of a medicinal product by the competent authorities of other EU Member States. The holder of a national marketing authorization may submit an application to the competent authority of an EU Member State requesting that this authority recognize the marketing authorization delivered by the competent authority of another EU Member State.

As in the United States, information about clinical trials in support of a marketing application must be submitted within specific timeframes to the European Union (EudraCT) website: https://eudract.ema.europa.eu/ and other countries.

Regulatory Data Protection in the European Union

In the European Union, innovative medicinal products approved on the basis of a complete independent data package qualify for eight years of data exclusivity upon marketing authorization and an additional two years of market exclusivity pursuant to Directive 2001/83/EC. Regulation (EC) No 726/2004 repeats this entitlement for medicinal products authorized in accordance with the centralized authorization procedure. Data exclusivity prevents sponsors for authorization of generics of these innovative products from referencing the innovator's data to assess a generic (abridged) application for a period of eight years. During an additional two-year period of market exclusivity, a generic marketing

authorization application can be submitted and authorized, and the innovator's data may be referenced, but no generic medicinal product can be placed on the European Union market until the expiration of the market exclusivity. The overall ten-year period will be extended to a maximum of 11 years if, during the first eight years of those ten years, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are held to bring a significant clinical benefit in comparison with existing therapies. Even if a compound is considered to be a new chemical entity so that the innovator gains the prescribed period of data exclusivity, another company nevertheless could also market another version of the product if such company obtained marketing authorization based on an MAA with a complete independent data package of pharmaceutical tests, preclinical tests, and clinical trials.

Periods of Authorization and Renewals

A marketing authorization has an initial validity for five years in principle. The marketing authorization may be renewed after five years on the basis of a re-evaluation of the risk-benefit balance by the EMA or by the competent authority of the EU Member State. To this end, the marketing authorization holder must provide the EMA or the competent authority with a consolidated version of the file in respect of quality, safety, and efficacy, including all variations introduced since the marketing authorization was granted, at least six months before the marketing authorization ceases to be valid. The European Commission or the competent authorities of the EU Member States may decide, on justified grounds relating to pharmacovigilance, to proceed with one further five- year period of marketing authorization. Once subsequently definitively renewed, the marketing authorization shall be valid for an unlimited period. Any authorization which is not followed by the actual placing of the medicinal product on the European Union market (in case of centralized procedure) or on the market of the authorizing EU Member State within three years after authorization ceases to be valid (the so-called sunset clause).

Brexit and the Regulatory Framework in the United Kingdom

The United Kingdom's withdrawal from the European Union took place on January 31, 2020. The European Union and the United Kingdom reached an agreement on their new partnership in the Trade and Cooperation Agreement, or the Agreement, which was applied provisionally beginning on January 1, 2021 and which entered into force on May 1, 2021. The Agreement focuses primarily on free trade by ensuring no tariffs or quotas on trade in goods, including healthcare products such as medicinal products. Thereafter, the European Union and the United Kingdom will form two separate markets governed by two distinct regulatory and legal regimes. As such, the Agreement seeks to minimize barriers to trade in goods while accepting that border checks will become inevitable as a consequence that the United Kingdom is no longer part of the single market. As of January 1, 2021, the Medicines and Healthcare products Regulatory Agency, or the MHRA, became responsible for supervising medicines and medical devices in Great Britain, comprising England, Scotland and Wales under domestic law whereas Northern Ireland continues to be subject to EU rules under the Northern Ireland Protocol. The MHRA will rely on the Human Medicines Regulations 2012 (SI 2012/1916) (as amended), or the HMR, as the basis for regulating medicines. The HMR has incorporated into the domestic law the body of EU law instruments governing medicinal products that pre-existed prior to the United Kingdom's withdrawal from the European Union. The MHRA may rely on a decision taken by the European Commission on the approval of a new marketing authorization via the centralized procedure until December 31, 2023.

Furthermore, while the Data Protection Act of 2018 in the United Kingdom that "implements" and complements the European Union's GDPR is now effective in the United Kingdom, it is still unclear whether transfer of data from the EEA to the United Kingdom will remain lawful under GDPR. The Trade and Cooperation Agreement provides for a transitional period during which the United Kingdom will be treated like an European Union member state in relation to processing and transfers of personal data for four months from January 1, 2021. This may be extended by two further months. After such period, the United Kingdom will be a "third country" under the GDPR unless the European Commission adopts an adequacy decision in respect of transfers of personal data to the United Kingdom. The United Kingdom has already determined that it considers all of the European Union and EEA member states to be adequate for the purposes of data protection, ensuring that data flows from the United Kingdom to the European and EEA remain unaffected.

Pricing Decisions for Approved Products

In the European Union, pricing and reimbursement schemes vary widely from country to country. Some countries provide that products may be marketed only after a reimbursement price has been agreed. Some countries may require the completion of additional studies that compare the cost-effectiveness of a particular product candidate to currently available

therapies or so-called health technology assessments, in order to obtain reimbursement or pricing approval. For example, EU Member States have the option to restrict the range of products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. EU Member States may approve a specific price for a product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the product on the market. Other EU Member States allow companies to fix their own prices for products, but monitor and control prescription volumes and issue guidance to physicians to limit prescriptions. Recently, many countries in the European Union have increased the amount of discounts required on pharmaceuticals and these efforts could continue as countries attempt to manage health care expenditures, especially in light of the severe fiscal and debt crises experienced by many countries in the European Union. The downward pressure on health care costs in general, particularly prescription products, has become intense. As a result, increasingly high barriers are being erected to the entry of new products. Political, economic, and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various EU Member States, and parallel trade, i.e., arbitrage between low-priced and high-priced EU Member States, can further reduce prices. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any products, if approved in those countries.

General Data Protection Regulation

Many countries outside of the United States maintain rigorous laws governing the privacy and security of personal information. The collection, use, disclosure, transfer, or other processing of personal data, including personal health data, regarding individuals who are located in the EEA, and the processing of personal data that takes place in the EEA, is subject to the GDPR, which became effective on May 25, 2018. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, and it imposes heightened requirements on companies that process health and other sensitive data, such as requiring in many situations that a company obtain the consent of the individuals to whom the sensitive personal data relate before processing such data. Examples of obligations imposed by the GDPR on companies processing personal data that fall within the scope of the GDPR include providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, appointing a data protection officer, providing notification of data breaches and taking certain measures when engaging third-party processors.

The GDPR also imposes strict rules on the transfer of personal data to countries outside the EEA, including the United States, and permits data protection authorities to impose large penalties for violations of the GDPR, including potential fines of up to €20 million or 4% of annual global revenues, whichever is greater. The GDPR also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. Compliance with the GDPR is a rigorous and time-intensive process that may increase the cost of doing business or require companies to change their business practices to ensure full compliance. In July 2020, the Court of Justice of the European Union, or the CJEU, invalidated the EU-U.S. Privacy Shield framework, one of the mechanisms used to legitimize the transfer of personal data from the EEA to the United States. The CJEU decision also drew into question the long-term viability of an alternative means of data transfer, the standard contractual clauses, for transfers of personal data from the EEA to the United States. Following the withdrawal of the U.K. from the EU, the U.K. Data Protection Act 2018 applies to the processing of personal data that takes place in the U.K. and includes parallel obligations to those set forth by GDPR.

Additionally, in October 2022, President Biden signed an executive order to implement the EU-U.S. Data Privacy Framework, which would serve as a replacement to the EU-US Privacy Shield. The EC initiated the process to adopt an adequacy decision for the EU-US Data Privacy Framework in December 2022. It is unclear if and when the framework will be finalized and whether it will be challenged in court. The uncertainty around this issue may further impact our business operations in the EU.

Human Capital

As of February 6, 2023, we had 787 full-time employees, including a total of 344 employees with Ph.D. degrees. Of these full-time employees, 573 of these employees are located in the United States and 214 of these employees are located in our offices outside of the United States. Additionally, as of February 6, 2023, 33.3% of our full-time employees self-identified as female, 0.4% self-identified as non-binary, and 0.6% chose not to disclose their gender, and 33% of our executive team self-identified as female. Further, 34% of our new hires since January 1, 2022 self-identify as female, 1% self-identify as non-binary, and 1% have chosen not to disclose their gender. As of February 6, 2023, 59% of our full-time employees in the United States self-identified as White, 24% self-identified as Asian, 4% self-identified as having two or

more races, 3% self-identified as Black or African American, 2% self-identified as Hispanic or Latino, and 8% chose not to disclose their race or ethnicity. Our employees are our greatest asset and we strive to create a work environment that is inclusive, challenging and rewarding.

We are committed to embedding a long-term, formal Environmental, Social and Governance, or ESG, strategy within our business, a commitment we refer to as Corporate Sustainability. In 2022, we completed a "double materiality assessment," where we worked to determine the ESG-related topics most important to both our company and our stakeholders. The assessment was informed by both internal and external stakeholders and by key ESG standards and frameworks such as the Global Reporting Initiative, Sustainability Accounting Standards Board and United Nations Sustainable Development Goals. This assessment will serve as the foundation for our comprehensive, data-driven, Corporate Sustainability strategy.

Among the ESG-related topics identified as most important to our company and stakeholders was Diversity, Equity and Inclusion, or DEI, an area we have been dedicated to addressing for many years. Our DEI philosophy is focused on ensuring that our employees feel safe, heard, comfortable, and valued. We continue to focus many of our recruiting efforts on diversifying our candidate pipeline by participating in specific conferences and hosting our own events that promote racial and gender diversity in the science and technology industries, including, for example, a hackathon for female and non-binary engineers and events for female and non-binary Ph.D. candidates. Further, we utilize a standardized interviewing model to reduce unconscious bias and to create a consistent hiring process across our open positions.

Our DEI Council was founded in 2021 and is comprised of a select group of senior leaders, Employee Resource Group, or ERG, representatives and passionate employees who meet on a monthly basis to advise on our DEI strategy, priorities, and goals. Our DEI Council also provides a permanent forum for voices to be heard across all levels of the organization. We currently have six ERGs that provide support and sharing of resources while representing and communicating the interest of that group to the company. While our ERG membership directly engages approximately one third of our employees, these forums also provide an environment for community support, professional development, and educational opportunities for our entire employee population. Through our ERG leadership program, ERG leaders are provided with the opportunity to hone leadership skills such as negotiation and public speaking. Additionally, in an effort to advance our DEI aspirations, we have partnered with the Neuroleadership Institute on a learning program to better equip our employees with critical tools and language to talk about inclusion, bias, and leveraging a growth mindset in the workplace.

In an industry known for its fierce competition for talent, we have been able to maintain high retention and low turnover rates. For the year ended December 31, 2022, our employee retention rate was 92.9%.

Given our financial resources, our industry-leading position in the field of physics-based computational drug discovery and materials science research and our developing proprietary drug discovery programs, we believe that we will continue to be able to fill positions and grow our headcount in support of our software, drug discovery and materials science businesses.

We are committed to providing our employees with compensation that meets the expectations of the market and industry norms. We monitor our compensation programs closely using comprehensive industry surveys and data to guide us, and we provide what we consider to be a competitive mix of incentives, including competitive salaries and bonuses, a 401(k) retirement plan with an employer matching contribution, participation in our equity programs, and health and welfare benefits, including, for example, access to a variety of mental health, family care, and reproductive health benefits for our employees based in the United States. We routinely review our compensation practices and analyze the equity of our compensation decisions for all employees. None of our employees is subject to a collective bargaining agreement or represented by a trade or labor union. We consider our relations with our employees to be good.

We recognize the value of in-person collaboration and relationship building while also being mindful of the needs and priorities our employees have outside of the workplace. Our flexible hybrid work schedule currently gives employees the option of coming into the office two days per week and working remotely the other three. Prior to the COVID-19 pandemic, employees had the option of coming into the office three days a week and working remotely the other two. We believe that our flexible hybrid schedule allows us to engage with each other and our customers effectively and to continue to advance our business.

Our company culture encourages engagement, both among our employees and within the communities we live and work. In the advancement of these efforts, internally, we have a well-regarded mentor program, we have expanded our

resonance program to match colleagues to connect over virtual coffee chats globally, updated our management training programs to include mental health and wellness resources, and refreshed our annual review process to encourage more real-time feedback between employees and managers to set and achieve personal performance goals. Some examples of external engagement in our local communities include hosting a student internship program in partnership with a non-profit educational group that supports underserved local high school students who have demonstrated the knowledge, character, and skills to achieve their aspirations. To further our community engagement efforts, each of our employees is provided with a paid full day each year to volunteer in their local community, in addition to our matching gifts program.

Our Corporate Information

Our principal executive offices are located at 1540 Broadway, 24th Floor, New York, New York 10036, and our telephone number is (212) 295-5800. Our website address is http://www.schrodinger.com. The information contained on, or that can be accessed through, our website is not incorporated by reference into this Annual Report or in any other report or document we file with the SEC, and any reference to our website address is intended to be an inactive textual reference only.

We own or have rights to trademarks, service marks, and trade names that we use in connection with the operation of our business, including our corporate name, logos and website names. Other trademarks, service marks, and trade names appearing in this Annual Report are the property of their respective owners. Solely for convenience, some of the trademarks, service marks, and trade names referred to in this Annual Report are listed without the ® and ™ symbols.

Available Information

We make available free of charge through our website our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act. We make these reports available through our website as soon as reasonably practicable after we electronically file such reports with, or furnish such reports to, the SEC. We also make available, free of charge on our website, the reports filed with the SEC by our executive officers, directors and 10% stockholders pursuant to Section 16 under the Exchange Act as soon as reasonably practicable after copies of those filings are provided to us by those persons.

We may also disclose information to the public concerning our software, drug discovery programs, computational platform and other items through a variety of disclosure channels in order to achieve broad, non-exclusionary distribution of information to the public. Some of the information distributed through these disclosure channels may be considered material information. Investors and others are encouraged to review the information we make public in the locations below. This list may be updated from time to time.

- For information concerning our software, drug discovery programs, computational platform, please visit: https://www.schrodinger.com.
- For information provided to the investment community, including news releases, events and presentations, and filings with the SEC, please visit https://ir.schrodinger.com.
- For additional information, please follow us on LinkedIn and Instagram, or visit our blog, Extrapolations.com.

These websites and social media channels, and the contents thereof, are not incorporated by reference into this Annual Report on Form 10-K nor deemed filed with the SEC.

Item 1A. Risk Factors.

You should carefully consider the risks and uncertainties described below together with all of the other information contained in this Annual Report and our other public filings with the SEC. The risks described below are not the only risks facing our company. The occurrence of any of the following risks, or of additional risks and uncertainties not presently known to us or that we currently believe to be immaterial, could cause our business, prospects, operating results, and financial condition to suffer materially.

Risks Related to Our Financial Position and Need for Additional Capital

We have a history of significant operating losses, and we expect to incur losses over the next several years.

We have a history of significant operating losses. Our net losses for the years ended December 31, 2022, 2021, and 2020 were $149.2 million, $101.2 million, and $26.6 million, respectively. As of December 31, 2022, we had an accumulated deficit of $379.1 million.

We anticipate that our operating expenses will increase substantially in the foreseeable future as we continue to invest in our proprietary drug discovery programs, sales and marketing infrastructure, and our computational platform. We are still in the early stages of development of our own drug discovery programs. In June 2022, the U.S. Food and Drug Administration, or FDA, cleared our investigational new drug, or IND, submission for SGR-1505, our MALT1 inhibitor. We recently initiated a Phase 1 clinical trial of SGR-1505 in patients with relapsed or refractory B-cell lymphomas and currently have clinical trial sites open for screening and enrollment, but we have not yet dosed any patients with SGR-1505. In addition, we continue to advance other wholly-owned programs through IND-enabling studies, and we expect to submit an IND application to the FDA for our CDC7 inhibitor, which we refer to as SGR-2921, in the first half of 2023 and for our WEE1 inhibitor, which we refer to as SGR-3515, in 2024, subject to favorable data from IND-enabling studies. In addition, we plan to initiate a Phase 1 clinical trial of SGR-2921 in the second half of 2023, subject to receipt of regulatory clearance. We have no drug products licensed for commercial sale and have not generated any revenue from our own drug product sales to date. We expect to continue to incur significant expenses and operating losses over the next several years. Our operating expenses and net income or loss may fluctuate significantly from quarter to quarter and year to year. We anticipate that our expenses will increase substantially as we:

- continue to invest in and develop our computational platform and software solutions;
- continue our research and development efforts for our proprietary drug discovery programs;
- conduct preclinical studies and initiate and conduct clinical trials for any of our product candidates;
- maintain, expand, enforce, defend, and protect our intellectual property;
- hire additional software engineers, programmers, sales and marketing, and other personnel to support our software business;
- hire additional clinical, quality control, and other scientific personnel; and
- add operational, financial, and management information systems and personnel to support our operations as a public company.

If we are unable to increase sales of our software, increase revenue from our drug discovery collaborations, or if we and our current and future collaborators are unable to successfully develop and commercialize drug products, our revenues may be insufficient for us to achieve or maintain profitability.

To achieve and maintain profitability, we must succeed in significantly increasing our software sales and increasing revenue from our drug discovery collaborations, or we and our current or future collaborators must succeed in developing, and eventually commercializing, a drug product or drug products that generate significant revenue. We currently generate revenues from the sales of our software solutions and from achieving milestones under our partnered and collaborative drug discovery programs, and we expect to continue to derive most of our revenue from sales of our software and from achieving such milestones until such time as our or our collaborators' drug development and commercialization efforts are successful, if ever. As such, increasing sales of our software to existing customers, successfully marketing our software to new customers, and achieving milestones under our drug discovery collaborations are critical to our success. Demand for our software solutions may be affected by a number of factors, including continued market acceptance by the biopharmaceutical industry, market adoption of our software solutions beyond the biopharmaceutical industry including for material science applications, the ability of our platform to identify more promising molecules and accelerate and lower the costs of discovery as compared to traditional methods, timing of development and release of new offerings by our competitors, technological change, and the rate of growth in our target markets. If we are unable to continue to meet the demands of our customers, our business operations, financial results, and growth prospects will be adversely affected.

Achieving success in drug development will require us or our current or future collaborators to be effective in a range of challenging activities, including completing preclinical testing and clinical trials of product candidates, obtaining regulatory approval for these product candidates and manufacturing, marketing, and selling any products for which we or

they may obtain regulatory approval. We are only in the early stages of most of these activities, and none of our current drug discovery collaborators have completed clinical development of any product candidate. We and they may never succeed in these activities and, even if we do, we may never generate revenues that are significant enough to achieve and sustain profitability, or even if our collaborators do, we may not receive option fees, milestone payments, or royalties from them that are significant enough for us to achieve and sustain profitability. Because of the intense competition in the market for our software solutions and the numerous risks and uncertainties associated with biopharmaceutical product development, we are unable to accurately predict when, or if, we will be able to achieve or sustain profitability.

Even if we achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would depress the value of our company and could impair our ability to raise capital, expand our business, maintain our research and development efforts, increase sales of our software, develop a pipeline of product candidates, enter into collaborations, or even continue our operations. A decline in the value of our company could also cause our stockholders to lose all or part of their investment.

In addition, although we have experienced revenue growth in recent periods, we may not be able to sustain revenue growth consistent with our recent history or at all. Our total revenues increased by 31% from $137.9 million in the fiscal year ended December 31, 2021 to $181.0 million in the fiscal year ended December 31, 2022, and increased by 28% from $108.1 million in the fiscal year ended December 31, 2020 to $137.9 million in the fiscal year ended December 31, 2021. You should not consider our revenue growth in recent periods as indicative of our future performance. As we grow our business, our revenue growth rates may slow in future periods.

Our quarterly and annual results may fluctuate significantly, which could adversely impact the value of our common stock.

Our results of operations, including our revenues, gross margin, profitability, and cash flows, have historically varied from period to period, and we expect that they will continue to do so. As a result, period-to-period comparisons of our operating results may not be meaningful, and our quarterly and annual results should not be relied upon as an indication of future performance. Our quarterly and annual financial results may fluctuate as a result of a variety of factors, many of which are outside of our control. Factors that may cause fluctuations in our quarterly and annual financial results include, without limitation, those listed elsewhere in this "Risk Factors" section and those listed below:

- customer renewal rates and the timing and terms of customer renewals, including the seasonality of customer renewals of our on-premise software arrangements, for which revenue historically has been recognized at a single point in time in the first and fourth quarter of each fiscal year;
- our ability to attract new customers for our software;
- the addition or loss of large customers, including through acquisitions or consolidations of such customers;
- the amount and timing of operating expenses related to the maintenance and expansion of our business, operations, and infrastructure;
- network outages or security breaches;
- general economic, industry, and market conditions, including within the life sciences industry;
- our ability to collect receivables from our customers;
- the amount of software purchased by our customers, including the mix of on-premise and hosted software sold during a period;
- variations in the timing of the sales of our software, which may be difficult to predict;
- changes in the pricing of our solutions and in our pricing policies or those of our competitors;
- the timing and success of the introduction of new software solutions by us or our competitors or any other change in the competitive dynamics of our industry, including consolidation among competitors, customers, or strategic collaborators;

- changes in the fair value of or receipt of distributions or proceeds on account of the equity interests we hold in our drug discovery collaborators, such as Morphic Holding, Inc., or Morphic, and Structure Therapeutics Inc., or Structure Therapeutics;
- the success of our drug discovery collaborators in developing and commercializing drug products for which we are entitled to receive milestone payments or royalties;
- the timing of the recognition of milestones achieved under our collaborative and partnered programs;
- variations in the number and size of milestones achieved under our collaborative and partnered programs;
- the timing of recognition of revenue from any upfront payments from partnering or out-licensing our wholly-owned drug discovery programs, such as under our collaboration agreement with Bristol-Myers Squibb Company, or BMS; and
- the timing of expenses related to our drug discovery programs, the development or acquisition of technologies or businesses and potential future charges for impairment of goodwill from acquired companies.

In addition, because we recognize revenues from our hosted software solutions ratably over the life of the contract, a significant upturn or downturn in sales of our hosted software solutions may not be reflected immediately in our operating results. As a result of these factors, we believe that period-to-period comparisons of our operating results are not a good indication of our future performance and that our interim financial results are not necessarily indicative of results for a full year or for any subsequent interim period.

We may require additional capital to fund our operations. If we are unable to raise additional capital on terms acceptable to us or at all or generate cash flows necessary to maintain or expand our operations, we may not be able to compete successfully, which would harm our business, operations, and financial condition.

We expect to devote substantial financial resources to our ongoing and planned activities, including the development of drug discovery programs and continued investment in our computational platform. We expect our expenses to increase substantially in connection with our ongoing and planned activities, particularly as we advance our proprietary drug discovery programs, initiate or progress preclinical and IND-enabling studies, submit IND applications, initiate and progress clinical trials and invest in the further development of our computational platform. In addition, if we decide to complete clinical development and seek regulatory approval on our own, we expect to incur significant additional expenses. Furthermore, we incur additional costs associated with operating as a public company, as compared to when we were a private company.

Our current drug discovery collaborators, from whom we are entitled to receive milestone payments upon achievement of various development, regulatory, and commercial milestones as well as royalties on commercial sales, if any, under the collaboration agreements that we have entered into with them, face numerous risks in the development of drugs, including the conduct of preclinical and clinical testing, obtaining regulatory approval, and achieving product sales. In addition, the amounts we are entitled to receive upon the achievement of such milestones tend to be smaller for near-term development milestones and increase if and as a collaborative product candidate advances through regulatory development to commercialization and will vary depending on the level of commercial success achieved, if any. We do not anticipate receiving significant milestone payments from many of our drug discovery collaborators for several years, if at all, and our drug discovery collaborators may never achieve milestones that result in significant cash payments to us. In addition, while we have equity stakes in a number of our collaborators, the value of these equity stakes can vary significantly based on a number of factors beyond our control, and there can be no assurance that we can rely on such equity as capital to fund our operations. For these reasons we may need, or choose, to obtain additional capital to fund our continuing operations.

As of December 31, 2022, we had cash, cash equivalents, restricted cash, and marketable securities of $456.3 million. On February 13, 2023, on account of our equity stake in Nimbus, we received a $111.3 million cash distribution from Nimbus in connection with Takeda's acquisition of Nimbus Lakshmi, Inc., a wholly-owned subsidiary of Nimbus, and its TYK2 inhibitor NDI-034858. We believe that our existing cash, cash equivalents, and marketable securities as of December 31, 2022, together with the $111.3 million cash distribution from Nimbus received in February 2023, will be sufficient to fund our operating expenses and capital expenditure requirements through at least the next 24 months. However, we have based this estimate on assumptions that may prove to be wrong, and our operating plans may change as

a result of many factors currently unknown to us. As a result, we could deplete our capital resources sooner than we currently expect.

Our future capital requirements will depend on many factors, including:

- the growth of our software revenue;
- the timing and extent of spending to support research and development efforts;
- the continued expansion of software sales and marketing activities;
- the timing and receipt of payments from our collaborations as well as spending to support, advance, and broaden our proprietary drug discovery programs; and
- the timing and receipt of any distributions or proceeds we may receive from our equity stakes in our drug discovery collaborators and partners.

In the event that we require additional financing, we may not be able to raise such financing on terms acceptable to us or at all. In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. If we are unable to raise additional capital on terms acceptable to us or at all or generate cash flows necessary to maintain or expand our operations and invest in our computational platform, we may not be able to compete successfully, which would harm our business, operations, and financial condition.

Raising additional capital may cause dilution to our stockholders, restrict our operations, or require us to relinquish rights to our technologies or drug programs.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, our stockholders' ownership interests will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights as common stockholders. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, selling or licensing our assets, making product acquisitions, making capital expenditures, or declaring dividends.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution, or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs, or product candidates or grant licenses on terms that may not be favorable to us or agree to exploit a drug development target exclusively for one of our collaborators when we may prefer to pursue the drug development target for ourselves.

If our estimates or judgments relating to our critical accounting policies prove to be incorrect or financial reporting standards or interpretations change, our results of operations could be adversely affected.

The preparation of financial statements in conformity with generally accepted accounting principles in the United States, or U.S. GAAP, requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience, known trends and events, and various other factors that we believe to be reasonable under the circumstances. The results of these estimates form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Significant assumptions and estimates used in preparing our consolidated financial statements include, with respect to revenue, determining the allocation of the transaction price and measurement of progress, including (1) the constraint on variable consideration, (2) the allocation of the transaction price to the performance obligations using their standalone selling price basis, and (3) the appropriate input or output based method to recognize collaboration revenue and the extent of progress to date.

Our results of operations may be adversely affected if our assumptions change or if actual circumstances differ from those in our assumptions, which could cause our results of operations to fall below the expectations of securities analysts and investors, resulting in a decline in the trading price of our common stock.

Additionally, we regularly monitor our compliance with applicable financial reporting standards and review new pronouncements and drafts thereof that are relevant to us. As a result of new standards, changes to existing standards and changes in their interpretation, we might be required to change our accounting policies, alter our operational policies, and implement new or enhance existing systems so that they reflect new or amended financial reporting standards, or we may be required to restate our published financial statements. Such changes to existing standards or changes in their interpretation may have an adverse effect on our reputation, business, financial position, and profit.

Risks Related to Our Software

If our existing customers do not renew their licenses, do not buy additional solutions from us, or renew at lower prices, our business and operating results will suffer.

We expect to continue to derive a significant portion of our software revenues from renewal of existing license agreements. As a result, maintaining the renewal rate of our existing customers and selling additional software solutions to them is critical to our future operating results. Factors that may affect the renewal rate for our customers and our ability to sell additional solutions to them include:

- the price, performance, and functionality of our software solutions;
- the availability, price, performance, and functionality of competing software solutions;
- the effectiveness of our professional services;
- our ability to develop or acquire complementary software solutions, applications, and services;
- the success of competitive products or technologies;
- the stability, performance, and security of our technological infrastructure;
- the business environment of our customers;
- the willingness of our customers to continue to adopt computational approaches to drug discovery, which can be impacted by changes in our customer's management and/or scientific personnel; and
- the decisions of our customers to discontinue or reduce the amount of drug discovery they undertake internally.

We deliver our software through either (i) a product license that permits our customers to install the software solution directly on their own in-house hardware and use it for a specified term, or (ii) a subscription that allows our customers to access the cloud-based software solution on their own hardware without taking control of the licenses. Our customers have no obligation to renew their product licenses or subscriptions for our software solutions after the license term expires, which is typically after one year, and many of our contracts may be terminated or reduced in scope either immediately or upon notice. In addition, our customers may negotiate terms less advantageous to us upon renewal, which may reduce our revenues from these customers. Factors that are not within our control may contribute to a reduction in our software revenues. For instance, our customers may reduce the number of their employees who are engaged in research and who would have use of our software, which would result in a corresponding reduction in the number of user licenses needed for some of our solutions and thus a lower aggregate renewal fee. The loss, reduction in scope, or delay of a large contract, or the loss or delay of multiple contracts, could materially adversely affect our business.

Our future operating results also depend, in part, on our ability to sell new software solutions and licenses to our existing customers. For example, the willingness of existing customers to license our software will depend on our ability to scale and adapt our existing software solutions to meet the performance and other requirements of our customers, which we may not do successfully. If our customers fail to renew their agreements, renew their agreements upon less favorable terms or at lower fee levels, or fail to purchase new software solutions and licenses from us, our revenues may decline and our future revenues may be constrained.

Our software sales cycle can vary and be long and unpredictable.

The timing of sales of our software solutions is difficult to forecast because of the length and unpredictability of our sales cycle. We sell our solutions primarily to biopharmaceutical companies, and our sales cycles can be as long as nine to twelve months or longer. Further, the length of time that potential customers devote to their testing and evaluation,

contract negotiation, and budgeting processes varies significantly, depending on the size of the organization and the nature of their needs. In addition, we might devote substantial time and effort to a particular unsuccessful sales effort, and as a result, we could lose other sales opportunities or incur expenses that are not offset by an increase in revenue, which could harm our business.

A significant portion of our revenues are generated by sales to life sciences industry customers, and factors that adversely affect this industry could adversely affect our software sales.

A significant portion of our current software sales are to customers in the life sciences industry, in particular the biopharmaceutical industry. Demand for our software solutions could be affected by factors that adversely affect the life sciences industry. The life sciences industry is highly regulated and competitive and has experienced periods of considerable consolidation. Consolidation among our customers could cause us to lose customers, decrease the available market for our solutions, and adversely affect our business. In addition, changes in regulations that make investment in the life sciences industry less attractive or drug development more expensive could adversely impact the demand for our software solutions. For these reasons and others, selling software to life sciences companies can be competitive, expensive, and time consuming, often requiring significant upfront time and expense without any assurance that we will successfully complete a software sale. Accordingly, our operating results and our ability to efficiently provide our solutions to life sciences companies and to grow or maintain our customer base could be adversely affected as a result of factors that affect the life sciences industry generally.

We also intend to continue leveraging our solutions for broad application to industrial challenges in molecule design, including in the fields of aerospace, energy, semiconductors, and electronic displays. However, we believe the materials science industry is in the very early stages of recognizing the potential of computational methods for molecular discovery, and there can be no assurance that the industry will adopt computational methods such as our platform. Any factor adversely affecting our ability to market our software solutions to customers outside of the life sciences industry, including in these new fields, could increase our dependence on the life sciences industry and adversely affect the growth rate of our revenues, operating results, and business.

The markets in which we participate are highly competitive, and if we do not compete effectively, our business and operating results could be adversely affected.

The overall market for molecular discovery and design software is global, rapidly evolving, competitive, and subject to changing technology and shifting customer interests and priorities. Our software solutions face competition from competitors in the business of selling or providing simulation and modeling software to biopharmaceutical companies. These competitors include BIOVIA, a brand of Dassault Systèmes SE, or BIOVIA, Chemical Computing Group (US) Inc., Cresset Biomolecular Discovery Limited, Cadence Design Systems, Inc., Optibrium Limited, Cyrus Biotechnology, Inc., Molsoft LLC, Insilico Medicine, Inc., Iktos, XtalPi Inc., and Simulations Plus, Inc.

We also have competitors in materials science, such as BIOVIA and Materials Design, Inc., and in enterprise software for the life sciences, such as BIOVIA, Certara USA, Inc., ChemAxon, PerkinElmer, Inc., and Dotmatics, Inc. In some cases, these competitors are well-established providers of these solutions and have long-standing relationships with many of our current and potential customers, including large biopharmaceutical companies. In addition, there are academic consortia that develop physics-based simulation programs for life sciences and materials applications. In life sciences, the most prominent academic simulation packages include AMBER, CHARMm, GROMACS, GROMOS, OpenMM, and OpenFF. These packages are primarily maintained and developed by graduate students and post-doctoral researchers, often without the intent of commercialization.

We also face competition from solutions that biopharmaceutical companies develop internally and from smaller companies that offer products and services directed at more specific markets than we target, enabling these smaller competitors to focus a greater proportion of their efforts and resources on these markets, as well as a large number of companies that have been founded with the goal of applying machine learning technologies to drug discovery.

Many of our competitors are able to devote greater resources to the development, promotion, and sale of their software solutions and services. It is possible that our focus on proprietary drug discovery will result in loss of management focus and resources relating to our software business, thereby resulting in decreasing revenues from our software business. Furthermore, third parties with greater available resources and the ability to initiate or withstand substantial price competition could acquire our current or potential competitors. Our competitors may also establish cooperative relationships among themselves or with third parties that may further enhance their product offerings or resources. If our

competitors' products, services, or technologies become more accepted than our solutions, if our competitors are successful in bringing their products or services to market earlier than ours, if our competitors are able to respond more quickly and effectively to new or changing opportunities, technologies, or customer requirements, or if their products or services are more technologically capable than ours, then our software revenues could be adversely affected.

In addition, we are facing increasing competition from companies utilizing artificial intelligence, or AI, and other computational approaches for drug discovery. Some of these competitors are involved in drug discovery themselves and/or with partners, and others develop software or other tools utilizing AI which can be used, directly or indirectly, in drug discovery. To the extent these other AI approaches to drug discovery prove to be successful, or more successful, than our approach, the demand for our platform could be adversely affected, which could affect our software demand as well as reduce the demand for us as a collaborator in drug discovery.

We may be required to decrease our prices or modify our pricing practices in order to attract new customers or retain existing customers due to increased competition. Pricing pressures and increased competition could result in reduced sales, reduced margins, losses, or a failure to maintain or improve our competitive market position, any of which could adversely affect our business.

We have invested and expect to continue to invest in research and development efforts that further enhance our computational platform. Such investments may affect our operating results, and, if the return on these investments is lower or develops more slowly than we expect, our revenue and operating results may suffer.

We have invested and expect to continue to invest in research and development efforts that further enhance our computational platform, often in response to our customers' requirements. These investments may involve significant time, risks, and uncertainties, including the risk that the expenses associated with these investments may affect our margins and operating results and that such investments may not generate sufficient revenues to offset liabilities assumed and expenses associated with these new investments. The software industry changes rapidly as a result of technological and product developments, which may render our solutions less desirable. For example, in recent years, a number of companies have entered the drug discovery industry utilizing different AI approaches. While we believe we compete favorably and are meaningfully differentiated from such approaches with the combination of our physics-based computational platform and machine learning capabilities, the success of other such AI approaches to drug discovery could impact the demand for our solutions. We believe that we must continue to invest a significant amount of time and resources in our platform and software solutions to maintain and improve our competitive position. If we do not achieve the benefits anticipated from these investments, if the achievement of these benefits is delayed, if technological developments render our solutions less desirable, or if a slowdown in general computing power impacts the rate at which we expect our physics-based simulations to increase in power and domain applicability, our revenue and operating results may be adversely affected.

If we are unable to collect receivables from our customers, our operating results may be adversely affected.

While the majority of our current customers are well-established, large companies and universities, we also provide software solutions to smaller companies. Our financial success depends upon the creditworthiness and ultimate collection of amounts due from our customers, including our smaller customers with fewer financial resources. If we are not able to collect amounts due from our customers, we may be required to write-off significant accounts receivable and recognize bad debt expenses, which could materially and adversely affect our operating results.

Defects or disruptions in our solutions could result in diminishing demand for our solutions, a reduction in our revenues, and subject us to substantial liability.

Our software business and the level of customer acceptance of our software depend upon the continuous, effective, and reliable operation of our software and related tools and functions. Our software solutions are inherently complex and may contain defects or errors. Errors may result from our own technology or from the interface of our software solutions with legacy systems and data, which we did not develop. The risk of errors is particularly significant when a new software solution is first introduced or when new versions or enhancements of existing software solutions are released. We have from time to time found defects in our software, and new errors in our existing software may be detected in the future. Any errors, defects, disruptions, or other performance problems with our software could hurt our reputation and may damage our customers' businesses. If that occurs, our customers may delay or withhold payment to us, cancel their agreements with us, elect not to renew, make service credit claims, warranty claims, or other claims against us, and we could lose future sales. The occurrence of any of these events could result in diminishing demand for our software, a

reduction of our revenues, an increase in collection cycles for accounts receivable, require us to increase our warranty provisions, or incur the expense of litigation or substantial liability.

We rely upon third-party providers of cloud-based infrastructure to host our software solutions. Any disruption in the operations of these third-party providers, limitations on capacity, or interference with our use could adversely affect our business, financial condition, and results of operations.

We outsource substantially all of the infrastructure relating to our hosted software solutions to third-party hosting services. Customers of our hosted software solutions need to be able to access our computational platform at any time, without interruption or degradation of performance, and we provide them with service-level commitments with respect to uptime. Our hosted software solutions depend on protecting the virtual cloud infrastructure hosted by third-party hosting services by maintaining its configuration, architecture, features, and interconnection specifications, as well as the information stored in these virtual data centers, which is transmitted by third-party internet service providers. Any limitation on the capacity of our third-party hosting services could impede our ability to onboard new customers or expand the usage of our existing customers, which could adversely affect our business, financial condition, and results of operations. In addition, any incident affecting our third-party hosting services' infrastructure that may be caused by cyber-attacks, natural disasters, fire, flood, severe storm, earthquake, power loss, telecommunications failures, terrorist or other attacks, and other similar events beyond our control could negatively affect our cloud-based solutions. A prolonged service disruption affecting our cloud-based solutions for any of the foregoing reasons would negatively impact our ability to serve our customers and could damage our reputation with current and potential customers, expose us to liability, cause us to lose customers, or otherwise harm our business. We may also incur significant costs for using alternative equipment or taking other actions in preparation for, or in reaction to, events that damage the third-party hosting services we use.

In the event that our service agreements with our third-party hosting services are terminated, or there is a lapse of service, elimination of services or features that we utilize, interruption of internet service provider connectivity, or damage to such facilities, we could experience interruptions in access to our platform as well as significant delays and additional expense in arranging or creating new facilities and services and/or re-architecting our hosted software solutions for deployment on a different cloud infrastructure service provider, which could adversely affect our business, financial condition, and results of operations.

If our security measures are breached or unauthorized access to customer data is otherwise obtained, our solutions may be perceived as not being secure, customers may reduce the use of or stop using our solutions, and we may incur significant liabilities.

Our solutions involve the collection, analysis, and storage of our customers' proprietary information and sensitive proprietary data related to the discovery efforts of our customers. As a result, unauthorized access or security breaches, as a result of third-party action, employee error, malfeasance, or otherwise could result in the loss of information, litigation, indemnity obligations, damage to our reputation, and other liability. Because the techniques used to obtain unauthorized access or sabotage systems change frequently and generally are not identified until they are launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. In addition, if our employees fail to adhere to practices we have established to maintain a firewall between the Schrödinger Therapeutics Group and our teams that work with software customers, or if the technical solutions we have adopted to maintain the firewall malfunction, our customers and collaborators may lose confidence in our ability to maintain the confidentiality of their intellectual property, we may have trouble attracting new customers and collaborators, we may be subject to breach of contract claims by our customers and collaborators, and we may suffer reputational and other harm as a result. Any or all of these issues could adversely affect our ability to attract new customers, cause existing customers to elect to not renew their licenses, result in reputational damage or subject us to third-party lawsuits or other action or liability, which could adversely affect our operating results. Our insurance may not be adequate to cover losses associated with such events, and in any case, such insurance may not cover all of the types of costs, expenses, and losses we could incur to respond to and remediate a security breach.

Any failure to offer high-quality technical support services could adversely affect our relationships with our customers and our operating results.

Our customers depend on our support organization to resolve technical issues relating to our solutions, as our software requires expert usage to fully exploit its capabilities. Certain of our customers also rely on us to troubleshoot problems with the performance of the software, introduce new features requested for specific customer projects, inform them about the best way to set up and analyze various types of simulations and illustrate our techniques for drug discovery

using examples from publicly available data sets. We may be unable to respond quickly enough to accommodate short-term increases in customer demand for these support services. Increased customer demand for our services, without corresponding revenues, could increase costs and adversely affect our operating results. In addition, our sales process is highly dependent on the reputation of our solutions and business and on positive recommendations from our existing customers. Any failure to offer high-quality technical support, or a market perception that we do not offer high-quality support, could adversely affect our reputation, our ability to sell our solutions to existing and prospective customers and our business and operating results.

Our solutions utilize third-party open-source software, and any failure to comply with the terms of one or more of these open-source software licenses could adversely affect our business or our ability to sell our software solutions, subject us to litigation, or create potential liability.

Our solutions include software licensed by third parties under any one or more open-source licenses, including the GNU General Public License, the GNU Lesser General Public License, the Affero General Public License, the BSD License, the MIT License, the Apache License, and others, and we expect to continue to incorporate open-source software in our solutions in the future. Moreover, we cannot ensure that we have effectively monitored our use of open-source software or that we are in compliance with the terms of the applicable open-source licenses or our current policies and procedures. There have been claims against companies that use open-source software in their products and services asserting that the use of such open-source software infringes the claimants' intellectual property rights. As a result, we and our customers could be subject to suits by third parties claiming that what we believe to be licensed open-source software infringes such third parties' intellectual property rights, and we may be required to indemnify our customers against such claims. Additionally, if an author or other third party that distributes such open-source software were to allege that we had not complied with the conditions of one or more of these licenses, we or our customers could be required to incur significant legal expenses defending against such allegations and could be subject to significant damages, enjoined from the sale of our solutions that contain the open-source software and required to comply with onerous conditions or restrictions on these solutions, which could disrupt the distribution and sale of these solutions. Litigation could be costly for us to defend, have a negative effect on our business, financial condition, and results of operations, or require us to devote additional research and development resources to change our solutions.

Use of open-source software may entail greater risks than use of third-party commercial software, as open-source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code, including with respect to security vulnerabilities. In addition, certain open-source licenses require that source code for software programs that interact with such open-source software be made available to the public at no cost and that any modifications or derivative works to such open-source software continue to be licensed under the same terms as the open-source software license. The terms of various open-source licenses have not been interpreted by courts in the relevant jurisdictions, and there is a risk that such licenses could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to market our solutions. By the terms of certain open-source licenses, we could be required to release the source code of our proprietary software, and to make our proprietary software available under open-source licenses, if we combine our proprietary software with open-source software in a certain manner. In the event that portions of our proprietary software are determined to be subject to an open-source license, we could be required to publicly release the affected portions of our source code, re-engineer all or a portion of our solutions, or otherwise be limited in the licensing of our solutions, each of which could reduce or eliminate the value of our solutions. Disclosing our proprietary source code could allow our competitors to create similar products with lower development effort and time and ultimately could result in a loss of sales. Any of these events could create liability for us and damage our reputation, which could have a material adverse effect on our revenue, business, results of operations, and financial condition and the market price of our shares.

Risks Related to Drug Discovery

We may never realize a return on our investment of resources and cash in our drug discovery collaborations.

We use our computational platform to provide drug discovery services to collaborators who are engaged in drug discovery and development. These collaborators include start-up companies, pre-commercial biotechnology companies, and large-scale pharmaceutical companies. When we engage in drug discovery with these collaborators, we typically provide access to our platform and platform experts who assist the drug discovery collaborator in identifying molecules that have activity against one or more specified protein targets. We historically have not received significant initial cash consideration for these services, except for the upfront payment of $55.0 million we received from BMS upon entry into our collaboration agreement with BMS. However, we have received equity consideration in certain of our collaborators

and/or the right to receive option fees, cash milestone payments upon the achievement of specified development, regulatory, and commercial sales milestones for the drug discovery targets, and potential royalties. From time to time, we have also made additional equity investments in our drug discovery collaborators.

We may never realize return on our investment of resources and cash in our drug discovery collaborations. Clinical drug development involves a lengthy and expensive process, with an uncertain outcome. Our drug discovery collaborators may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of any product candidates. In addition, our ability to realize return from our drug discovery collaborations is subject to the following risks:

- drug discovery collaborators have significant discretion in determining the amount and timing of efforts and resources that they will apply to our collaborations and may not perform their obligations as expected;
- drug discovery collaborators may not pursue development or commercialization of any product candidates for which we are entitled to option fees, milestone payments, or royalties or may elect not to continue or renew development or commercialization programs based on results of clinical trials or other studies, changes in the collaborator's strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities;
- drug discovery collaborators may delay clinical trials for which we are entitled to milestone payments;
- we may not have access to, or may be restricted from disclosing, certain information regarding our collaborators' product candidates being developed or commercialized and, consequently, may have limited ability to inform our stockholders about the status of, and likelihood of achieving, milestone payments or royalties under such collaborations;
- drug discovery collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with any product candidates and products for which we are entitled to milestone payments or royalties if the collaborator believes that the competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive;
- product candidates discovered in drug discovery collaborations with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause our collaborators to cease to devote resources to the commercialization of any such product candidates;
- existing drug discovery collaborators and potential future drug discovery collaborators may begin to perceive us to be a competitor more generally, particularly as we advance our proprietary drug discovery programs, and therefore may be unwilling to continue existing collaborations with us or to enter into new collaborations with us;
- a drug discovery collaborator may fail to comply with applicable regulatory requirements regarding the development, manufacture, distribution, or marketing of a product candidate or product, which may impact our ability to receive milestone payments;
- disagreements with drug discovery collaborators, including disagreements over intellectual property or proprietary rights, contract interpretation, or the preferred course of development, might cause delays or terminations of the research, development, or commercialization of product candidates for which we are eligible to receive milestone payments, or might result in litigation or arbitration;
- drug discovery collaborators may not properly obtain, maintain, enforce, defend or protect our intellectual property or proprietary rights or may use our proprietary information in such a way as to potentially lead to disputes or legal proceedings that could jeopardize or invalidate our or their intellectual property or proprietary information or expose us and them to potential litigation;
- drug discovery collaborators may infringe, misappropriate, or otherwise violate the intellectual property or proprietary rights of third parties, which may expose us to litigation and potential liability;

- drug discovery collaborators could suffer from operational delays as a result of global health impacts, such as the COVID-19 pandemic; and
- drug discovery collaborations may be terminated prior to our receipt of any significant value from the collaboration.

Our drug discovery collaborations may not lead to development or commercialization of product candidates that results in our receipt of option fees, milestone payments, or royalties in a timely manner, or at all. If any drug discovery collaborations that we enter into do not result in the successful development and commercialization of drug products that result in option fees, milestone payments, or royalties to us, we may not receive return on the resources we have invested in the drug discovery collaboration. Moreover, even if a drug discovery collaboration initially leads to the achievement of milestones that result in payments to us, it may not continue to do so.

We also rely on collaborators for the development and potential commercialization of product candidates we discover internally when we believe it will help maximize clinical and commercial opportunities for the product candidate. For example, under our collaboration agreement with BMS, after mutual agreement on the targets(s) of interest, the Schrödinger Therapeutics Group is responsible for the discovery of development candidates. Once a development candidate meeting specified criteria for a target has been identified, BMS will be solely responsible for the development, manufacturing and commercialization of such development candidate. Even if we successfully identify one or more development candidates for BMS to develop and commercialize under our collaboration agreement, BMS may not achieve the research, development, regulatory and sales milestones for those development candidates that result in additional payments to us.

We may not realize returns on our equity investments in our drug discovery collaborators.

We may not realize returns on our equity investments in our drug discovery collaborators. None of the drug discovery collaborators in which we hold equity generate revenue from commercial sales of drug products. They are therefore dependent on the availability of capital on favorable terms to continue their operations. In addition, if the drug discovery collaborators in which we hold equity raise additional capital, our ownership interest in and degree of control over these drug discovery collaborators will be diluted, unless we have sufficient resources and choose to invest in them further or successfully negotiate contractual anti-dilution protections for our equity investment. The financial success of our equity investment in any collaborator will likely be dependent on a liquidity event, such as a public offering, acquisition, or other favorable market event reflecting appreciation in the value of the equity we hold. The capital markets for public offerings and acquisitions are dynamic, and the likelihood of liquidity events for the companies in which we hold equity interests could significantly worsen. Further, valuations of privately held companies are inherently complex due to the lack of readily available market data. If we determine that any of our investments in such companies have experienced a decline in value, we may be required to record an impairment, which could negatively impact our financial results. The fair value of our equity interests in public companies, such as Morphic and Structure Therapeutics, may fluctuate significantly in future periods since we determine the fair value of such equity interests based on the market value of such companies' common stock as of a given reporting date. All of the equity we hold in our drug discovery collaborators is subject to a risk of partial or total loss of our investment.

Our drug discovery collaborators have significant discretion in determining when to make announcements, if any, about the status of our collaborations, including about clinical developments and timelines for advancing collaborative programs, and the price of our common stock may decline as a result of announcements of unexpected results or developments.

Our drug discovery collaborators have significant discretion in determining when to make announcements about the status of our collaborations, including about preclinical and clinical developments and timelines for advancing the collaborative programs. While as a general matter we intend to periodically report on the status of our collaborations, our drug discovery collaborators, and in particular, our privately-held collaborators, may wish to report such information more or less frequently than we intend to or may not wish to report such information at all. The price of our common stock may decline as a result of the public announcement of unexpected results or developments in our collaborations, or as a result of our collaborators withholding such information.

Although we believe that our computational platform has the potential to identify more promising molecules than traditional methods and to accelerate drug discovery, our focus on using our platform technology to discover and design molecules with therapeutic potential may not result in the discovery and development of commercially viable products for us or our collaborators.

Our scientific approach focuses on using our platform technology to conduct "computational assays" that leverage our deep understanding of physics-based modeling and theoretical chemistry to design molecules and predict their key properties without conducting time-consuming and expensive physical experiments. Our computational platform underpins our software solutions, our drug discovery collaborations and our own proprietary drug discovery programs.

While the results of certain of our drug discovery collaborators suggest that our platform is capable of accelerating drug discovery and identifying high quality product candidates, these results do not assure future success for our drug discovery collaborators or for us with our proprietary drug discovery programs.

Even if we or our drug discovery collaborators are able to develop product candidates that demonstrate potential in preclinical studies, we or they may not succeed in demonstrating safety and efficacy of product candidates in human clinical trials. For example, in collaboration with us, Nimbus Therapeutics, LLC, or Nimbus, was able to identify a unique series of acetyl-CoA carboxylase, or ACC, allosteric protein-protein interaction inhibitors with favorable pharmaceutical properties that inhibit the activity of the ACC enzyme. Nimbus achieved proof of concept in a Phase 1b clinical trial of its ACC inhibitor, firsocostat, and later sold the program to Gilead Sciences, Inc., or Gilead Sciences, in a transaction valued at approximately $1.2 billion, comprised of an upfront payment and earn outs. Of this amount, $601.3 million has been paid to Nimbus to date, and we received a total of $46.0 million in cash distributions in 2016 and 2017. In December 2019, Gilead Sciences announced topline results from its Phase 2 clinical trial which included firsocostat, both as a monotherapy and in combination with other investigational therapies for advanced fibrosis due to nonalcoholic steatohepatitis, in which the primary endpoint was not met. Gilead Sciences is currently evaluating firsocostat in a Phase 2b clinical trial in combination with Novo Nordisk A/S's semaglutide, a GLP-1 receptor agonist, for compensated cirrhosis due to nonalcoholic steatohepatitis. Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval of their product candidates.

We may not be successful in our efforts to identify, discover or develop product candidates and may fail to capitalize on programs, collaborations, or product candidates that may present a greater commercial opportunity or for which there is a greater likelihood of success.

Research programs to identify new product candidates require substantial technical, financial, and human resources. As an organization, we have selected our first development candidates, which are SGR-1505, our MALT1 inhibitor, SGR-2921, our CDC7 inhibitor, and SGR-3515, our WEE1 inhibitor. The FDA cleared our IND for SGR-1505 in June 2022. We recently initiated a Phase 1 clinical trial of SGR-1505 in patients with relapsed or refractory B-cell lymphomas and currently have clinical trial sites open for screening and enrollment, but we have not yet dosed any patients with SGR-1505. We also plan to an submit IND application to the FDA for SGR-2921 in the first half of 2023 and an IND application to the FDA for SGR-3515 in 2024, subject to favorable data from IND-enabling studies. We have not yet advanced any other programs into IND-enabling studies, and we may fail to identify potential product candidates for clinical development. Similarly, a key element of our business plan is to expand the use of our computational platform through an increase in software sales and drug discovery collaborations. A failure to demonstrate the utility of our platform by successfully using it ourselves to discover internal product candidates could harm our business prospects.

Because we have limited resources, we focus our research programs on protein targets where we believe our computational assays are a good substitute for experimental assays, where we believe it is theoretically possible to discover a molecule with properties that are required for the molecule to become a drug and where we believe there is a meaningful commercial opportunity, among other factors. The focus of our initial proprietary drug discovery programs was in the area of oncology, and we have only recently begun expanding into other therapeutic areas, including neurology and immunology. We may forego or delay pursuit of opportunities with certain programs, collaborations, or product candidates or for indications that later prove to have greater commercial potential. However, the development of any product candidate we pursue may ultimately prove to be unsuccessful or less successful than another potential product candidate that we might have chosen to pursue on a more aggressive basis with our capital resources. If we do not accurately evaluate the commercial potential for a particular product candidate, we may relinquish valuable rights to that product candidate through strategic collaboration, partnership, licensing, or other arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate. Alternatively, we may allocate internal resources to a product candidate in a therapeutic area in which it would have been more advantageous to enter into a collaboration.

Our research programs may show initial promise in identifying potential product candidates internally or with collaborators, yet fail to yield product candidates for clinical development for a number of reasons, including:

- our research methodology or that of any collaborator may be unsuccessful in identifying potential product candidates that are successful in clinical development;
- potential product candidates may be shown to have harmful side effects or may have other characteristics that may make the product candidates unmarketable or unlikely to receive marketing approval;
- our current or future collaborators may change their development profiles for potential product candidates or abandon a therapeutic area; or
- new competitive developments may render our product candidates obsolete or noncompetitive.

If any of these events occur, we may be forced to abandon our development efforts for a program or programs, which would have a material adverse effect on our business.

We rely on contract research organizations to synthesize any molecules with therapeutic potential that we discover. If such organizations do not meet our supply requirements, or if such organizations do not otherwise perform satisfactorily, development of any product candidate we may develop may be delayed.

We rely and expect to continue to rely on third parties to synthesize any molecules with therapeutic potential that we discover. Reliance on third parties may expose us to different risks than if we were to synthesize molecules ourselves. Our reliance on these third parties will reduce our control over these activities but will not relieve us of our responsibilities. If these third parties do not successfully carry out their contractual duties, meet expected deadlines, or synthesize molecules in accordance with regulatory requirements, if there are disagreements between us and such parties or if such parties are unable to expand capacities, we may not be able to fulfill, or may be delayed in producing sufficient product candidates to meet, our supply requirements, and we may not be able to complete, or may be delayed in completing, the necessary preclinical studies to enable us to progress viable product candidates for IND submissions or the necessary clinical trials and we will not be able to, or may be delayed in our efforts to, successfully develop and commercialize such product candidates. These facilities may also be affected by natural disasters, such as floods or fire, or geopolitical developments or public health pandemics, such as COVID-19, or such facilities could face production issues, such as contamination or regulatory concerns following a regulatory inspection of such facility. In such instances, we may need to locate an appropriate replacement third-party facility and establish a contractual relationship, which may not be readily available or on acceptable terms, which would cause additional delay and increased expense, and may have a material adverse effect on our business.

We or any third party may also encounter shortages in the raw materials or active pharmaceutical ingredient, or API, necessary to synthesize any molecule we may discover in the quantities needed for preclinical studies or clinical trials, as a result of capacity constraints or delays or disruptions in the market for the raw materials or API. Even if raw materials or API are available, we may be unable to obtain sufficient quantities at an acceptable cost or quality. The failure by us or the third parties to obtain the raw materials or API necessary to synthesize sufficient quantities of any molecule we may discover could delay, prevent, or impair our development efforts and may have a material adverse effect on our business.

If we are not able to establish or maintain collaborations to develop and commercialize any of the product candidates we discover internally, we may have to alter our development and commercialization plans for those product candidates and our business could be adversely affected.

We expect to rely on future collaborators for the development and potential commercialization of product candidates we discover internally when we believe it will help maximize the clinical and commercial opportunities of the product candidate. We face significant competition in seeking appropriate collaborators for these activities, and a number of more established companies may also be pursuing such collaborations. These established companies may have a competitive advantage over us due to their size, financial resources, and greater clinical development and commercialization expertise. Whether we reach a definitive agreement for such collaborations will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration, and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of preclinical studies and clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge, and industry and market conditions generally. The collaborator may also consider

alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our product candidate. Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large biopharmaceutical companies that have resulted in a reduced number of potential future collaborators.

If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms or at all, we may have to curtail the development of a product candidate, reduce or delay its development program or one or more of our other development programs, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to fund and undertake development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into collaborations and do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we may not be able to further develop any product candidates or bring them to market.

As a company, we have very limited experience in clinical development and have not yet demonstrated our ability to complete any clinical trials.

We only began conducting our own wholly-owned drug discovery efforts in 2018. We have selected our first development candidates, which are SGR-1505, our MALT1 inhibitor, SGR-2921, our CDC7 inhibitor, and SGR-3515, our WEE1 inhibitor, and as a company, we have very limited experience in clinical development. The FDA cleared our first IND in June 2022, which is for SGR-1505. We recently initiated a Phase 1 clinical trial of SGR-1505 in patients with relapsed or refractory B-cell lymphomas and currently have clinical trial sites open for screening and enrollment, but we have not yet dosed any patients with SGR-1505.

Our limited experience in designing and conducting clinical development activities may adversely impact the likelihood that we will be successful in advancing our programs. Further, any predictions you make about the future success or viability of our proprietary drug discovery programs may not be as accurate as they could be if we had a history of conducting clinical trials and developing our own product candidates.

Further, if we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies governing clinical trials, our development plans may be impacted. For example, in December 2022, with the passage of Food and Drug Omnibus Reform Act, or FDORA, Congress required sponsors to develop and submit a diversity action plan for each phase 3 clinical trial or any other "pivotal study" of a new drug or biological product. These plans are meant to encourage the enrollment of more diverse patient populations in late-stage clinical trials of FDA-regulated products. Specifically, actions plans must include the sponsor's goals for enrollment, the underlying rationale for those goals, and an explanation of how the sponsor intends to meet them. In addition to these requirements, the legislation directs the FDA to issue new guidance on diversity action plans.

In addition, the regulatory landscape related to clinical trials in the EU recently evolved. The EU Clinical Trials Regulation, or CTR, which was adopted in April 2014 and repeals the EU Clinical Trials Directive, became applicable on January 31, 2022. While the Clinical Trials Directive required a separate clinical trial application, or CTA, to be submitted in each member state, to both the competent national health authority and an independent ethics committee, the CTR introduces a centralized process and only requires the submission of a single application to all member states concerned. The CTR allows sponsors to make a single submission to both the competent authority and an ethics committee in each member state, leading to a single decision per member state. The assessment procedure of the CTA has been harmonized as well, including a joint assessment by all member states concerned, and a separate assessment by each member state with respect to specific requirements related to its own territory, including ethics rules. Each member state's decision is communicated to the sponsor via the centralized EU portal. Once the CTA is approved, clinical study development may proceed. The CTR foresees a three-year transition period. The extent to which ongoing and new clinical trials will be governed by the CTR varies. For clinical trials whose CTA was made under the Clinical Trials Directive before January 31, 2022, the Clinical Trials Directive will continue to apply on a transitional basis for three years. Additionally, sponsors may still choose to submit a CTA under either the Clinical Trials Directive or the CTR until January 31, 2023 and, if authorized, those will be governed by the Clinical Trials Directive until January 31, 2025. By that date, all ongoing trials will become subject to the provisions of the CTR.

As our wholly-owned drug discovery business grows, we may encounter unforeseen expenses, difficulties, complications, delays, and other known and unknown factors. Our wholly-owned drug discovery business will need to transition to a business capable of supporting clinical development activities. We may not be successful in such a transition.

Conducting successful clinical trials requires the enrollment of a sufficient number of patients, and suitable patients may be difficult to identify and recruit.

Conducting successful clinical trials requires the enrollment of a sufficient number of patients, and suitable patients may be difficult to identify and recruit. Identifying and qualifying patients to participate in future clinical trials for any other product candidate we develop is critical to our success. Patient enrollment in clinical trials and completion of patient participation and follow-up depends on many factors, including the severity of disease; size of the patient population; the nature of the trial protocol; the attractiveness of, or the discomforts and risks associated with, the treatments received by enrolled subjects; the availability of clinical trial investigators with appropriate competencies and experience; support staff; the number of ongoing clinical trials in the same indication that compete for the same patients; proximity of patients to clinical sites; the number and availability of trial sites; the ability to comply with the eligibility and exclusion criteria for participation in the clinical trial; ability to obtain and maintain patient consents; patient compliance; the ability to monitor patients during and after treatment; and the impact of the ongoing COVID-19 pandemic. For example, patients may be discouraged from enrolling in our clinical trials if the trial protocol requires them to undergo extensive post-treatment procedures or follow-up to assess the safety and effectiveness of our product candidates. Patients may also not participate in our clinical trials if they choose to participate in contemporaneous clinical trials of competitive products with competitors that have more clinical development experience than we do.

Our inability to locate and enroll a sufficient number of patients for our clinical trials would result in significant delays, could require us to abandon one or more clinical trials altogether and could delay or prevent our receipt of necessary regulatory approvals. Enrollment delays in our clinical trials may result in increased development costs for our product candidates, which would cause the value of our company to decline and limit our ability to obtain additional financing.

We rely on, and plan to continue to rely on, third parties to conduct our clinical trials, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials, which may prevent or delay our ability to seek or obtain marketing approval for or commercialize our product candidates or otherwise harm our business.

We rely on, and plan to continue to rely on, third-party clinical research organizations, in addition to other third parties such as research collaboratives and consortia, clinical data management organizations, medical institutions and clinical investigators, to conduct our ongoing and future clinical trials. These contract research organizations and other third parties play a significant role in the conduct and timing of these trials and subsequent collection and analysis of data. These third-party arrangements might terminate for a variety of reasons, including a failure to perform by the third parties. If we need to enter into alternative arrangements, our product development activities might be delayed.

Our reliance on third parties for research and development activities reduces our control over these activities but does not relieve us of our responsibilities. For example, we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol, and legal, regulatory and scientific standards, and our reliance on third parties does not relieve us of our responsibility to comply with any such standards. We and these third parties are required to comply with current good clinical practices, or cGCP, which are regulations and guidelines enforced by the FDA for all of our products in clinical development. Regulatory authorities in Europe and other jurisdictions have similar requirements. Regulatory authorities enforce these cGCPs through periodic inspections of trial sponsors, principal investigators and trial sites. If we or any of these third parties fail to comply with applicable cGCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you a given regulatory authority will determine that any of our clinical trials comply with cGCP regulations. We also are required to register ongoing clinical trials and post the results of completed clinical trials on a U.S. government-sponsored database, clinicaltrials.gov, within certain timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

Furthermore, third parties on whom we rely may also have relationships with other entities, some of which may be our competitors. In addition, these third parties are not our employees, and except for remedies available to us under our agreements with such third parties, we cannot control whether or not they devote sufficient time and resources to our on-going clinical, nonclinical and preclinical programs. If these third parties do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised, our clinical trials may be extended, delayed or terminated and we may not be able to obtain, or may be delayed in obtaining, marketing approvals for our product candidates and will not be able to, or may be delayed in our efforts to, successfully commercialize our medicines.

If serious adverse or unacceptable side effects are identified during the development or commercialization of our product candidates, we may need to abandon or limit our development and/or commercialization efforts for such product candidates.

If serious adverse events or undesirable side effects are observed in any of our clinical trials, we may have difficulty recruiting patients to our clinical trials, patients may drop out of our trials, or we may be required to abandon the trials or our development efforts of one or more product candidates altogether or limit development to certain uses or subpopulations in which the serious adverse events, undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective. We, the FDA, comparable foreign regulatory authorities or an independent institutional review board may suspend clinical trials of a product candidate at any time for various reasons, including a belief that subjects or patients in such trials are being exposed to unacceptable health risks or adverse side effects. Some potential therapeutics developed in the biotechnology industry that initially showed therapeutic promise in early-stage trials have later been found to cause side effects that prevented their further development. Even if the side effects do not preclude the product candidate from obtaining or maintaining marketing approval, undesirable side effects may inhibit market acceptance of the approved product due to its tolerability versus other therapies. In addition, adverse events which had initially been considered unrelated to the study treatment may later, even following approval and/or commercialization, be found to be caused by the study treatment. Any of these developments could materially harm our business, financial condition and prospects.

The outcome of preclinical studies and early clinical trials may not be predictive of the success of later clinical trials, and the results of our clinical trials may not satisfy the requirements of the FDA or other comparable foreign regulatory authorities.

Before obtaining regulatory approvals for the commercial sale of any of our product candidates, we will be required to demonstrate with substantial evidence through well-controlled clinical trials that our product candidates are safe and effective for their intended uses. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. Success in preclinical studies and early-stage clinical trials does not mean that future clinical trials will be successful. We have not completed a clinical trial of any product candidate. The results of SGR-1505 in preclinical studies may not be indicative of future results in our ongoing or later stage clinical trials. Product candidates in later-stage clinical trials may fail to demonstrate sufficient safety and efficacy to the satisfaction of the FDA and other comparable foreign regulatory authorities despite having progressed through preclinical studies and early-stage clinical trials.

In some instances, there can be significant variability in safety and efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in trial protocols, differences in size and type of the patient populations, differences in and adherence to the dosing regimen and other trial protocols and the rate of dropout among clinical trial participants. Patients treated with our product candidates may also be undergoing surgical, radiation and chemotherapy treatments and may be using other approved products or investigational new drugs, which can cause side effects or adverse events that are unrelated to our product candidate. As a result, assessments of efficacy can vary widely for a particular patient, and from patient to patient and site to site within a clinical trial. This subjectivity can increase the uncertainty of, and adversely impact, our clinical trial outcomes. We do not know whether any clinical trials we may conduct will demonstrate consistent or adequate efficacy and safety sufficient to obtain marketing approval to market our product candidates. Most product candidates that begin clinical trials are never approved by regulatory authorities for commercialization.

Moreover, preclinical studies and clinical data are often susceptible to varying interpretations and analyses and many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials nonetheless failed to obtain FDA or comparable foreign regulatory authority approval. We cannot guarantee that the FDA or comparable foreign regulatory authorities will interpret trial results as we do, and more trials than we anticipated could be required before we are able to submit applications seeking approval of our product candidates. To the extent that the results of the trials are not satisfactory to the FDA or comparable foreign regulatory authorities for support of a marketing application, we may be required to expend significant resources, which may not be available to us, to conduct additional trials in support of potential approval of our product candidates. Even if regulatory approval is secured for any of our product candidates, the terms of such approval may limit the scope and use of our product candidate, which may also limit its commercial potential. Furthermore, the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval, which may lead to the FDA or comparable foreign regulatory authorities delaying, limiting or denying approval of our product candidates.

Interim, initial, "topline", and preliminary data from our clinical trials that we announce or publish in the future may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publicly disclose interim, initial, preliminary or topline data from our clinical trials, which are based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular trial. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available or as patients from our clinical trials continue other treatments for their disease. We will also have to make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the interim, initial, topline or preliminary results that we report may differ from future results of the same trials, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Preliminary or topline data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary or topline data we previously published. As a result, interim, initial, topline and preliminary data should be viewed with caution until the final data are available.

Adverse differences between interim data and final data could significantly harm our reputation and business prospects and may cause volatility in the price of our common stock.

If we and any current or future collaborators are unable to successfully complete clinical development, obtain regulatory approval for, or commercialize any product candidates, or experience delays in doing so, our business may be materially harmed.

We are early in our development efforts. While our most advanced product candidate, SGR-1505, has been cleared by the FDA to be tested in humans, we have only recently initiated a clinical trial of SGR-1505. We have not yet dosed any patients with SGR-1505 or any other product candidate. Our ability to generate product revenues, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of our product candidates. The success of our and any current or future collaborators' development and commercialization programs will depend on several factors, including the following:

- successful completion of necessary preclinical studies to enable the initiation of clinical trials;
- successful enrollment of patients in, and the completion of, the clinical trials;
- acceptance by the FDA or other regulatory agencies of regulatory filings for any product candidates we and our current or future collaborators may develop;
- expanding and maintaining a workforce of experienced scientists and other technical specialists to continue to develop any product candidates;
- obtaining and maintaining intellectual property protection and regulatory exclusivity for any product candidates we and our current or future collaborators may develop;
- making arrangements with third-party manufacturers for, or establishing, clinical and commercial manufacturing capabilities;
- establishing sales, marketing, and distribution capabilities for drug products and successfully launching commercial sales, if and when approved;
- acceptance of any product candidates we and our current or future collaborators may develop, if and when approved, by patients, the medical community, and third-party payors;
- effectively competing with other therapies;
- obtaining and maintaining coverage, adequate pricing, and adequate reimbursement from third-party payors, including government payors;

- patients' willingness to pay out-of-pocket in the absence of coverage and/or adequate reimbursement from third-party payors;
- ongoing or future restrictions resulting from the COVID-19 pandemic and its collateral consequences may result in internal and external operational delays and limitations; and
- maintaining a continued acceptable safety profile following receipt of any regulatory approvals.

Many of these factors are beyond our control, including clinical outcomes, the regulatory review process, potential threats to our intellectual property rights, and the manufacturing, marketing, and sales efforts of any current or future collaborator. Clinical drug development involves a lengthy and expensive process, with an uncertain outcome. If we or our current or future collaborators are unable to develop, receive marketing approval for, and successfully commercialize any product candidates, or if we or they experience delays as a result of any of these factors or otherwise, we may need to spend significant additional time and resources, which would adversely affect our business, prospects, financial condition, and results of operations.

We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than we do, thus rendering our products non-competitive, obsolete or reducing the size of our market.

We face competition with respect to our and our collaborators' product candidates from many biopharmaceutical and biotechnology companies. The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary and novel products and product candidates. Our competitors have developed, are developing or may develop products, product candidates that are competitive with or superior to our product candidates. Any product candidates that we successfully develop and commercialize, internally or with our collaborators, will compete with existing therapies and new therapies that may become available in the future.

In particular, there is intense competition in the field of oncology, which is a focus of our drug discovery efforts. We have competitors both in the United States and internationally, including major multinational pharmaceutical companies, established biotechnology companies, specialty pharmaceutical companies, emerging and start-up companies, universities and other research institutions. We also compete with these organizations to recruit management, scientists and clinical development personnel, which could negatively affect our level of expertise and our ability to execute our business plan. We also face competition in finding and establishing clinical trial sites, enrolling subjects for clinical trials, assessing combination studies and recruiting credible principal investigators and advisors from key clinical disciplines and academic centers.

For example, with respect to SGR-1505, our MALT1 inhibitor, which we are advancing for the treatment of patients with relapsed or refractory B-cell lymphomas, we are aware of several MALT1 inhibitors in clinical development, including by Janssen Research and Development, LLC, a Johnson & Johnson company, Ono Pharmaceutical Co., Ltd., AbbVie Inc. and Zentalis Pharmaceuticals. In addition, we compete with other therapeutics, both approved and in clinical development, for the treatment of B-cell lymphomas.

Large pharmaceutical and biotechnology companies, in particular, have extensive experience in building and accessing networks of expert investigators, designing and conducting clinical trials, obtaining regulatory approvals, and manufacturing and commercializing biotechnology products. These companies also have significantly greater research and development and marketing capabilities than we do and may also have products that have been approved or are in late stages of development, and collaborative arrangements in our target markets with leading companies and research institutions. Established pharmaceutical and biotechnology companies may also invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make the product candidates that we develop obsolete. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than our products. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies, as well as in acquiring technologies complementary to, or necessary for, our programs. As a result of all of these factors, our competitors may succeed in obtaining approval from the FDA or other comparable foreign regulatory authorities or in discovering, developing and commercializing products in our field before we do.

Risks Related to Our Operations

Doing business internationally creates operational and financial risks for our business.

For the fiscal year ended December 31, 2022, sales to customers outside of the United States accounted for approximately 32% of our total revenues. Operating in international markets requires significant resources and management attention and subjects us to regulatory, economic, and political risks that are different from those in the United States. We have limited operating experience in some international markets, and we cannot assure you that our expansion efforts into other international markets will be successful. Our experience in the United States and other international markets in which we already have a presence may not be relevant to our ability to expand in other markets. Our international expansion efforts may not be successful in creating further demand for our solutions outside of the United States or in effectively selling our solutions in the international markets we enter. In addition, we face risks in doing business internationally that could adversely affect our business, including:

- the need to localize and adapt our solutions for specific countries, including translation into foreign languages;
- data privacy laws which require that customer data be stored and processed in a designated territory or handled in a manner that differs significantly from how we typically handle customer data;
- difficulties in staffing and managing foreign operations, including employee laws and regulations;
- different pricing environments, longer sales cycles, and longer accounts receivable payment cycles and collections issues;
- differences in healthcare systems, drug regulation and reimbursement, and drug discovery and development practices and technologies;
- new and different sources of competition;
- weaker protection for intellectual property and other legal rights than in the United States and practical difficulties in enforcing intellectual property and other rights outside of the United States;
- laws and business practices favoring local competitors;
- compliance challenges related to the complexity of multiple, conflicting, and changing governmental laws and regulations, including employment, tax, reimbursement and pricing, privacy and data protection, and anti-bribery laws and regulations;
- increased financial accounting and reporting burdens and complexities;
- restrictions on the transfer of funds;
- changes in diplomatic and trade relationships, including new tariffs, trade protection measures, import or export licensing requirements, trade embargoes, and other trade barriers;
- changes in social, political, and economic conditions or in laws, regulations, and policies governing foreign trade, manufacturing, development, and investment both domestically as well as in the other countries and jurisdictions;
- adverse tax consequences, including the potential for required withholding taxes;
- global health pandemics, such as COVID-19; and
- unstable regional, economic and political conditions.

Our international agreements may provide for payment denominated in local currencies and our local operating costs are denominated in local currencies. Therefore, fluctuations in the value of the U.S. dollar and foreign currencies may impact our operating results when translated into U.S. dollars. We do not currently engage in currency hedging activities to limit the risk of exchange rate fluctuations.

Furthermore, with respect to our drug discovery programs, the current conflict involving Russia and Ukraine may impact the ability of our CROs in the region to produce materials we require to conduct certain of our preclinical studies. If the conflict were to be prolonged or worsened, and if we are unable to obtain alternative sources for such materials that we require, the ability for us to timely execute and complete certain of our preclinical studies may be adversely impacted.

Additionally, we could face heightened risks as a result of the withdrawal of the United Kingdom from the European Union, commonly referred to as Brexit. Since the regulatory framework for pharmaceutical products in the United Kingdom covering quality, safety and efficacy of pharmaceutical products, clinical trials, marketing authorization, commercial sales and distribution of pharmaceutical products is derived from European Union directives and regulations, the consequences of Brexit and the future regulatory regime that applies to products and the approval of product candidates in the United Kingdom remains unclear.

A widespread outbreak of an illness or other health issue, such as the COVID-19 pandemic, could negatively affect various aspects of our business and make it more difficult to meet our obligations to our customers, and could result in reduced demand from our customers as well as delays in our drug discovery and development programs.

Our business and operations could be adversely affected by health epidemics, including the ongoing COVID-19 pandemic, impacting the markets and industries in which we and our customers and collaborators operate.

In early March 2020, we implemented a work-from-home policy for all of our employees. Beginning in June 2020, we began limited re-openings of certain of our offices in the United States and abroad. All of our offices are currently open, though we may take future actions that alter our operations as may be required by federal, state, or local authorities, or which we determine are in our best interests. While most of our operations can be performed remotely, there is no guarantee that we will continue to be as effective while working remotely because our team is dispersed, many employees may have additional personal needs to attend to (such as looking after children as a result of school closures or family who become sick), and employees may become sick themselves and be unable to work. Decreased effectiveness of our team could adversely affect our results due to our inability to meet in person with potential or current customers and collaborators, or other decreases in productivity that could seriously harm our business.

On January 30, 2023, the Biden Administration announced that it will end the public health emergency declarations related to COVID-19 on May 11, 2023. On January 31, 2023, the FDA indicated that it would soon issue a Federal Register notice describing how the termination of the public health emergency will impact the agency's COVID-19 related guidance, including the clinical trial guidance and updates thereto. At this point, it is unclear how, if at all, these developments will impact our efforts to develop and commercialize our product candidates.

The full extent of the future impact of the COVID-19 pandemic will depend on many factors outside of our control, including, without limitation, the extent, trajectory and duration of the pandemic, the development, availability and distribution of effective treatments and vaccines, the imposition of protective public safety measures, the emergence of new strains and variants of COVID-19 and the effectiveness of vaccines against such strains and variants, and the impact of the pandemic on the global economy. For instance, if certain of our customers experience downturns or uncertainty in their own business operations and revenue because of the economic effects resulting from the spread of COVID-19, they may decrease their spending, which may result in decreased software revenue.

In addition, as a result of the COVID-19 pandemic, we may experience delays in the progress of certain of our and our collaborators' drug discovery and development programs, particularly those that are in preclinical studies and clinical trials or that are preparing to enter clinical trials. Relative to our and our collaborators' drug discovery programs, the COVID-19 pandemic has resulted in, and may in the future result in, disruptions in current and future IND-enabling studies and clinical trials, manufacturing disruptions, trial site disruptions and impact the ability to obtain necessary institutional review board, institutional biosafety committee, or other necessary site approvals. These disruptions have caused and may in the future cause delays in certain of our and our collaborators' drug discovery programs. For example, our contract manufacturing organizations, or CMOs, and our contract research organizations, or CROs, have experienced reductions in the capacity to undertake research-scale production and have experienced delays in executing preclinical studies, including our IND-enabling studies for SGR-2921. We expect to submit the IND application to the FDA for SGR-2921 in the first half of 2023 and to initiate a Phase 1 clinical trial in the second half of 2023, subject to receipt of regulatory clearance. In addition, the resurgence of COVID-19 in certain cities in China, and related subsequent lockdowns, have also reduced the capacity of a number of CROs that we work with in those affected areas. These reductions and delays may persist in the future, and we, together with our CMOs and CROs, are closely monitoring the impact of the COVID-19 pandemic on these operations, and we are actively working to add supplemental or substitute capacity to minimize the impact of these reduced

operations. Furthermore, if our collaborators experience similar delays with their drug discovery and development programs, that could cause additional delays in our achievement of milestones and related revenue.

Inadequate funding or disruptions at the FDA and other agencies may also slow the time necessary for new product candidates to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years the U.S. government has shut down several times and certain regulatory agencies, such as the FDA and the SEC, have had to furlough critical FDA, SEC and other government employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, future government shutdowns could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

The global impact of COVID-19 continues to rapidly evolve, and we will continue to monitor the situation closely. The ultimate impact of the COVID-19 pandemic or a similar health epidemic is highly uncertain and subject to change. We do not yet know the full extent of potential delays or impacts on our business, operations, or the global economy as a whole. While the spread of COVID-19 may eventually be contained or mitigated, there is no guarantee that a future outbreak of this or any other widespread epidemics will not occur, or that the global economy will recover, either of which could seriously harm our business.

If we fail to manage our technical operations infrastructure, our existing customers, and our internal drug discovery team, may experience service outages, and our new customers may experience delays in the deployment of our solutions.

We have experienced significant growth in the number of users and data that our operations infrastructure supports. We seek to maintain sufficient excess capacity in our operations infrastructure to meet the needs of all of our customers and to support our proprietary drug discovery programs. We also seek to maintain excess capacity to facilitate the rapid provision of new customer deployments and the expansion of existing customer deployments. In addition, we need to properly manage our technological operations infrastructure in order to support version control, changes in hardware and software parameters and the evolution of our solutions. However, the provision of new hosting infrastructure requires adequate lead-time. We have experienced, and may in the future experience, website disruptions, outages, and other performance problems. These types of problems may be caused by a variety of factors, including infrastructure changes, human or software errors, viruses, security attacks, fraud, spikes in usage, and denial of service issues. In some instances, we may not be able to identify the cause or causes of these performance problems within an acceptable period of time. If we do not accurately predict our infrastructure requirements, our existing customers may experience service outages that may subject us to financial penalties, financial liabilities, and customer losses. If our operations infrastructure fails to keep pace with increased sales and usage, customers and our internal drug discovery team may experience delays in the deployment of our solutions as we seek to obtain additional capacity, which could adversely affect our reputation and adversely affect our revenues.

Changes in tax laws or in their implementation or interpretation could adversely affect our business and financial condition.

Changes in tax law may adversely affect our business or financial condition. The Tax Cuts and Jobs Act, or the 2017 Tax Act, as amended by the Coronavirus Aid, Relief, and Economic Security Act, or CARES Act, significantly revises the Internal Revenue Code of 1986, as amended, or the Code. The 2017 Tax Act, among other things, contains significant changes to corporate taxation, including a reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21% and limitation of the deduction for net operating losses, or NOLs, to 80% of current-year taxable income for losses arising in taxable years beginning after December 31, 2017 (though any such NOLs may be carried forward indefinitely. In addition, beginning in 2022, the 2017 Tax Act eliminates the option to deduct research and development expenditures currently and requires corporations to capitalize and amortize them over five years.

In addition to the CARES Act, as part of Congress's response to the COVID-19 pandemic, economic relief legislation was enacted in 2020 and 2021 containing tax provisions. The Inflation Reduction Act, or IRA, was also signed into law in August 2022. The IRA introduced new tax provisions, including a one percent excise tax imposed on certain stock repurchases by publicly traded companies. The one percent excise tax generally applies to any acquisition of stock by the publicly traded company (or certain of its affiliates) from a stockholder of the company in exchange for money or other property (other than stock of the company itself), subject to a de minimis exception. Thus, the excise tax could apply to certain transactions that are not traditional stock repurchases. Regulatory guidance under the 2017 Tax Act, the IRA, and such additional legislation is and continues to be forthcoming, and such guidance could ultimately increase or lessen the

impact of these laws on our business and financial condition. Additional tax legislation may be enacted, and any such additional legislation could have an impact on our company. In addition, it is uncertain if and to what extent various states will conform to the 2017 Tax Act, the IRA, and additional tax legislation.

Our ability to use our NOLs and research and development tax credit carryforwards to offset future taxable income may be subject to certain limitations.

As of December 31, 2022, we had federal NOLs of approximately $270.9 million and state NOLs of approximately $170.0 million, which, if not utilized, generally begin to expire in 2023. As of December 31, 2022, we also had federal research and development tax credit carryforwards of approximately $19.5 million and state research and development tax credit carryforwards of approximately $1.3 million. Unused credits began to expire in 2021 and generally expire over time if they remain unused. These NOLs and research and development tax credit carryforwards could expire unused and be unavailable to offset future income tax liabilities.

In addition, under Section 382 of the Code, and corresponding provisions of state law, a corporation that undergoes an "ownership change," generally defined as a greater than 50 percentage point change (by value) in its equity ownership by certain stockholders over a three-year period, is subject to limitations on its ability to utilize its pre-change NOLs and research and development tax credit carryforwards to offset future taxable income. We have performed an analysis through December 31, 2022 and determined that such an ownership change occurred on March 31, 2021. As a result of such ownership change or future ownership changes, our ability to use our NOLs and research and development tax credit carryforwards may be materially limited.

There is also a risk that due to regulatory changes, such as suspension of the use of NOLs, or other unforeseen reasons, our existing NOLs could expire or otherwise become unavailable to offset future income tax liabilities. As described above in "Changes in tax laws or in their implementation or interpretation could adversely affect our business and financial condition," the 2017 Tax Act as amended by the CARES Act, includes changes to U.S. federal tax rates and rules governing NOL carryforwards that may significantly impact our ability to utilize NOLs to offset taxable income in the future. In addition, state NOLs generated in one state cannot be used to offset income generated in another state. For these reasons, we may be unable to use a material portion of our NOLs and other tax attributes.

Our international operations subject us to potentially adverse tax consequences.

We report our taxable income in various jurisdictions worldwide based upon our business operations in those jurisdictions. These jurisdictions include Germany, United Kingdom, Japan, India and South Korea. The international nature and organization of our business activities are subject to complex transfer pricing regulations administered by taxing authorities in various jurisdictions. The relevant taxing authorities may disagree with our determinations as to the income and expenses attributable to specific jurisdictions. If such a disagreement were to occur, and our position were not sustained, we could be required to pay additional taxes, interest, and penalties, which could result in one-time tax charges, higher effective tax rates, reduced cash flows, and lower overall profitability of our operations.

Taxing authorities may successfully assert that we should have collected or in the future should collect sales and use, value added, or similar taxes, and we could be subject to tax liabilities with respect to past or future sales, which could adversely affect our results of operations.

We do not collect sales and use, value added, and similar taxes in all jurisdictions in which we have sales, based on our belief that such taxes are not applicable or that we are not required to collect such taxes with respect to the jurisdiction. Sales and use, value added, and similar tax laws and rates vary greatly by jurisdiction. Certain jurisdictions in which we do not collect such taxes may assert that such taxes are applicable, which could result in tax assessments, penalties, and interest, and we may be required to collect such taxes in the future. Such tax assessments, penalties, and interest or future requirements may adversely affect our results of operations.

Unanticipated changes in our effective tax rate could harm our future results.

We are subject to income taxes in the United States and various foreign jurisdictions, and our domestic and international tax liabilities are subject to the allocation of expenses in differing jurisdictions. Forecasting our estimated annual effective tax rate is complex and subject to uncertainty, and there may be material differences between our forecasted and actual tax rates. Our effective tax rate could be adversely affected by changes in the mix of earnings and losses in countries with differing statutory tax rates, certain non-deductible expenses as a result of acquisitions, the

valuation of deferred tax assets and liabilities, and changes in federal, state, or international tax laws and accounting principles. Increases in our effective tax rate would reduce our profitability or in some cases increase our losses.

In addition, we may be subject to income tax audits by many tax jurisdictions throughout the world. Although we believe our income tax liabilities are reasonably estimated and accounted for in accordance with applicable laws and principles, an adverse resolution of one or more uncertain tax positions in any period could have a material impact on the results of operations for that period.

We have acquired, and we may again in the future acquire, companies or technologies, which could divert our management's attention, result in additional dilution to our stockholders, and otherwise disrupt our operations and adversely affect our operating results.

We have acquired, and we may again in the future seek to acquire or invest in, businesses, solutions, or technologies that we believe could complement or expand our solutions, enhance our technical capabilities, or otherwise offer growth opportunities. For example, in January 2022, we acquired XTAL, a company that provides structural biology services, including biophysical methods, protein production and purification, and X-ray crystallography, which we believe will augment our ability to produce high quality target structures for our drug discovery programs. The pursuit of potential acquisitions may divert the attention of management and cause us to incur various expenses in identifying, investigating, and pursuing suitable acquisitions, whether or not they are consummated.

In addition, other than our acquisition of XTAL, we have limited experience in acquiring other businesses. If we acquire additional businesses, we may not be able to integrate the acquired personnel, operations, and technologies successfully, effectively manage the combined business following the acquisition or preserve the operational synergies between our business units that we believe currently exist. We cannot assure you that following any acquisition we would achieve the expected synergies to justify the transaction, due to a number of factors, including:

- inability to integrate or benefit from acquired technologies or services in a profitable manner;
- unanticipated costs or liabilities associated with the acquisition;
- acquisition-related costs;
- difficulty integrating the accounting systems, operations, and personnel of the acquired business;
- difficulties and additional expenses associated with supporting legacy products and hosting infrastructure of the acquired business;
- difficulty converting the customers of the acquired business onto our solutions and contract terms, including disparities in the revenues, licensing, support, or professional services model of the acquired company;
- diversion of management's attention from other business concerns;
- adverse effects to our existing business relationships with business partners and customers as a result of the acquisition;
- the potential loss of key employees;
- use of resources that are needed in other parts of our business; and
- use of substantial portions of our available cash to consummate the acquisition.

In addition, a significant portion of the purchase price of companies we acquire may be allocated to acquired goodwill and other intangible assets, which must be assessed for impairment at least annually. In the future, if our acquisitions do not yield expected returns, we may be required to take charges to our operating results based on this impairment assessment process, which could adversely affect our results of operations.

Acquisitions could also result in dilutive issuances of equity securities or the incurrence of debt, which could adversely affect our operating results. In addition, if an acquired business fails to meet our expectations, our operating results, business, and financial position may suffer.

Our operations may be interrupted by the occurrence of a natural disaster or other catastrophic event at our primary facilities.

Our operations are primarily conducted at our facilities in New York, New York, Portland, Oregon, and Hyderabad, India, and our internal hosting facility located in Clifton, New Jersey. The occurrence of natural disasters or other catastrophic events could disrupt our operations. Any natural disaster or catastrophic event in our facilities or the areas in which they are located could have a significant negative impact on our operations.

Risks Related to Our Intellectual Property

If we fail to comply with our obligations under our existing license agreements with Columbia University, under any of our other intellectual property licenses, or under any future intellectual property licenses, or otherwise experience disruptions to our business relationships with our current or any future licensors, we could lose intellectual property rights that are important to our business.

We are party to a number of license agreements pursuant to which we have been granted exclusive and non-exclusive worldwide licenses to certain patents, software code, and software programs to, among other things, reproduce, use, execute, copy, operate, sublicense, and distribute the licensed technology in connection with the marketing and sale of our software solutions and to develop improvements thereto. In particular, the technology that we license from Columbia University pursuant to our license agreements with them are used in and incorporated into a number of our software solutions which we market and license to our customers. For further information regarding our license agreements with Columbia University, see "Business—License Agreements with Columbia University". Our license agreements with Columbia University and other licensors impose, and we expect that future licenses will impose, specified royalty and other obligations on us.

In spite of our best efforts, our current or any future licensors might conclude that we have materially breached our license agreements with them and might therefore terminate the license agreements, thereby delaying our ability to market and sell our existing software solutions and develop and commercialize new software solutions that utilize technology covered by these license agreements. If these in-licenses are terminated, or if the underlying intellectual property fails to provide the intended exclusivity, competitors could market, products and technologies similar to ours. This could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

Disputes may arise regarding intellectual property subject to a licensing agreement, including:

- the scope of rights granted under the license agreement and other interpretation related issues;
- the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- the sublicensing of patent and other rights under any collaborative development relationships;
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our current or future licensors and us and our collaborators; and
- the priority of invention of patented technology.

In addition, license agreements are 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. For example, our counterparties have in the past and may in the future dispute the amounts owed to them pursuant to payment obligations. If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may experience delays in the development and commercialization of new software solutions and in our ability to market and sell existing software solutions, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Our obligations under our existing or future drug discovery collaboration agreements may limit our intellectual property rights that are important to our business. Further, if we fail to comply with our obligations under our existing or future collaboration agreements, or otherwise experience disruptions to our business relationships with our prior, current, or future collaborators, we could lose intellectual property rights that are important to our business.

We are party to collaboration agreements with biopharmaceutical companies, pursuant to which we provide drug discovery services but have no ownership rights, or only co-ownership rights, to certain intellectual property generated through the collaborations. We are also party to a collaboration agreement with BMS for the development and potential commercialization of product candidates we discover internally, which also provides for co-ownership rights to certain intellectual property generated through the collaboration in certain scenarios. We may enter into additional collaboration agreements in the future, pursuant to which we may have no ownership rights, or only co-ownership rights, to certain intellectual property generated through the future collaborations. If we are unable to obtain ownership or license of such intellectual property generated through our prior, current, or future collaborations and overlapping with, or related to, our own proprietary technology or product candidates, then our business, financial condition, results of operations, and prospects could be materially harmed.

Our existing collaboration agreements contain certain exclusivity obligations that require us to design compounds exclusively for our collaborators with respect to certain specific targets over a specified time period. Our future collaboration agreements may grant similar exclusivity rights to future collaborators with respect to target(s) that are the subject of such collaborations. Existing or future collaboration agreements may also impose diligence obligations on us. For example, existing or future collaboration agreements may impose restrictions on us from pursuing the drug development targets for ourselves or for our other current or future collaborators, thereby removing our ability to develop and commercialize, or to jointly develop and commercialize with other current or future collaborators, product candidates, and technology related to the drug development targets. Under our collaboration with BMS, for example, we are prohibited from developing and commercializing product candidates anywhere in the world that are directed at the targets specified under the agreement, until the earlier of such target ceasing to be included under the agreement or the expiration of the last to expire royalty term for the program related to the target. In spite of our best efforts, our prior, current, or future collaborators might conclude that we have materially breached our collaboration agreements. If these collaboration agreements are terminated, or if the underlying intellectual property, to the extent we have ownership or license of, fails to provide the intended exclusivity, competitors would have the freedom to seek regulatory approval of, and to market, products and technology identical to ours. This could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

Disputes may arise regarding intellectual property subject to a collaboration agreement, including:

- the scope of ownership or license granted under the collaboration agreement and other interpretation related issues;
- the extent to which our technology and product candidates infringe on intellectual property of the collaborator of which we do not have ownership or license under the collaboration agreement;
- the assignment or sublicense of intellectual property rights and other rights under the collaboration agreement;
- our diligence obligations under the collaboration agreement and what activities satisfy those diligence obligations; and
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by us and our current or future collaborators.

In addition, collaboration agreements are 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 increase what we believe to be our obligations under the relevant agreements, either of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Moreover, if disputes over intellectual property that we have owned, co-owned, or in-licensed under the collaboration agreements prevent or impair our ability to maintain our current collaboration arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected technology or product candidates, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

If we are unable to obtain, maintain, enforce, and protect patent protection for our technology and product candidates or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize technology and products similar or identical to ours, and our ability to successfully develop and commercialize our technology and product candidates may be adversely affected.

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 or may license from others, particularly patents, in the United States and other countries with respect to any proprietary technology and product candidates we develop. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our technology and any product candidates we may develop that are important to our business and by in-licensing intellectual property related to our technology and product candidates. If we are unable to obtain or maintain patent protection with respect to any proprietary technology or product candidate, our business, financial condition, results of operations, and prospects could be materially harmed.

The patent prosecution process is expensive, time-consuming, and complex, and we may not be able to file, prosecute, maintain, defend, or license all necessary or desirable 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. Moreover, in some circumstances, we may not have the right to control the preparation, filing, and prosecution of patent applications, or to maintain, enforce, and defend the patents, covering technology that we co-own with third parties or license from third parties. Therefore, these co-owned and in-licensed patents and applications may not be prepared, filed, prosecuted, maintained, defended, and enforced in a manner consistent with the best interests of our business.

The patent position of software and biopharmaceutical companies generally is highly uncertain, involves complex legal and factual questions, and has in recent years been the subject of much litigation. In addition, the scope of patent protection outside of the United States is uncertain and laws of non-U.S. countries may not protect our rights to the same extent as the laws of the United States or vice versa. With respect to both owned and in-licensed patent rights, we cannot predict whether the patent applications we, our collaborators, and our licensor are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient protection from competitors. Further, we may not be aware of all third-party intellectual property rights or prior art potentially relating to our computational platform, technology, and any product candidates we may develop. In addition, 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 18 months after filing of the priority application, or in some cases not published at all. Therefore, neither we nor our collaborators, or our licensor can know with certainty whether either we, our collaborators, or our licensor were the first to make the inventions claimed in the patents and patent applications we own or in-license now or in the future, or that either we, our collaborators, or our licensor were the first to file for patent protection of such inventions. As a result, the issuance, scope, validity, enforceability, and commercial value of our owned, co-owned, and in-licensed patent rights are highly uncertain. Moreover, our owned, co-owned, and in-licensed pending and future patent applications may not result in patents being issued that protect our technology and product candidates, in whole or in part, or that effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our owned, co-owned, or in-licensed current or future patents and our ability to obtain, protect, maintain, defend, and enforce our patent rights, narrow the scope of our patent protection and, more generally, could affect the value of, or narrow the scope of, our patent rights. For example, recent Supreme Court decisions have served to curtail the scope of subject matter eligible for patent protection in the United States, and many software patents have since been invalidated on the basis that they are directed to abstract ideas.

In order to pursue protection based on our pending provisional patent applications, we will need to file Patent Cooperation Treaty applications, non-U.S. applications, and/or U.S. non-provisional patent applications prior to applicable deadlines. Even then, as highlighted above, patents may never issue from our patent applications, or the scope of any patent may not be sufficient to provide a competitive advantage.

Moreover, we, our collaborators, or our licensor may be subject to a third-party preissuance submission of prior art to the U.S. Patent and Trademark Office, or USPTO, or become involved in opposition, derivation, revocation, reexamination, *inter partes* review, post-grant review or interference proceedings challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights or allow third parties to commercialize our technology or product candidates and compete directly with us, without payment to us. If the breadth or strength of protection provided by our owned, co-owned, or in-licensed current or future 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 technology or product candidates.

Additionally, 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 our owned, co-owned, and in-licensed current and future patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors from competing with us, or otherwise provide us with any competitive advantage. The issuance of a patent is not conclusive as to its inventorship, scope, validity, or enforceability, and our owned and in-licensed patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or in patent claims being narrowed, invalidated, or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and product candidates. Such proceedings also may result in substantial cost and require significant time from our management and employees, even if the eventual outcome is favorable to us. In particular, given the amount of time required for the development, testing, and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. Furthermore, our competitors may be able to circumvent our owned, co-owned, or in-licensed current or future patents by developing similar or alternative technologies or products in a non-infringing manner. As a result, our owned, co-owned, and in-licensed current or future patent portfolio may not provide us with sufficient rights to exclude others from commercializing technology and products similar or identical to any of our technology and product candidates.

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

Changes in either the patent laws or interpretation of patent laws in the United States, including patent reform legislation such as the Leahy-Smith America Invents Act, or the Leahy-Smith Act, could increase the uncertainties and costs surrounding the prosecution of our owned and in-licensed patent applications and the maintenance, enforcement or defense of our owned and in-licensed issued patents. The Leahy-Smith Act includes a number of significant changes to United States patent law. These changes include provisions that affect the way patent applications are prosecuted, redefine prior art, provide more efficient and cost-effective avenues for competitors to challenge the validity of patents, and enable third-party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent at USPTO-administered post-grant proceedings, including post-grant review, *inter partes* review, and derivation proceedings. Assuming that other requirements for patentability are met, prior to March 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. After March 2013, under the Leahy-Smith Act, the United States transitioned to a first-to-file system in which, assuming that the other statutory 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. As such, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

In addition, the patent positions of companies in the development and commercialization of software, biologics and pharmaceuticals are particularly uncertain. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. This combination of events has created uncertainty with respect to the validity and enforceability of patents once obtained. Depending on future actions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could have a material adverse effect on our patent rights and our ability to protect, defend and enforce our patent rights in the future.

A number of recent cases decided by the U.S. Supreme Court have involved questions of when claims reciting abstract ideas, laws of nature, natural phenomena and/or natural products are eligible for a patent, regardless of whether the claimed subject matter is otherwise novel and inventive. These cases include Association for Molecular Pathology v. Myriad Genetics, Inc., 569 U.S. 12-398 (2013) or Myriad; Alice Corp. v. CLS Bank International, 573 U.S. 13-298 (2014); and Mayo Collaborative Services v. Prometheus Laboratories, Inc., or Prometheus, 566 U.S. 10-1150 (2012). In response to these cases, federal courts have held numerous patents invalid as claiming subject matter ineligible for patent protection. Moreover, the USPTO has issued guidance to the examining corps on how to apply these cases during examination. The full impact of these decisions is not yet known.

In addition to increasing uncertainty with regard to our ability to obtain future patents, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on these and other decisions by Congress, the federal courts and the USPTO, the laws and regulations governing patents could change or be interpreted in unpredictable ways that would weaken our ability to obtain new patents or to enforce any patents that may issue to us in the future. In addition, these events may adversely affect our ability to defend any patents that may issue in procedures in the USPTO or in courts.

We, our prior, existing, or future collaborators, and our existing or future licensors, may become involved in lawsuits to protect or enforce our patent or other intellectual property rights, which could be expensive, time-consuming and unsuccessful.

Competitors and other third parties may infringe, misappropriate, or otherwise violate our, our prior, current and future collaborators', or our current and future licensors' issued patents or other intellectual property. As a result, we, our prior, current, or future collaborators, or our current or future licensor may need to file infringement, misappropriation, or other intellectual property related claims, which can be expensive and time-consuming. Any claims we assert against perceived infringers could provoke such parties to assert counterclaims against us alleging that we infringe, misappropriate, or otherwise violate their intellectual property. In addition, in a patent infringement proceeding, such parties could assert that the patents we, our collaborators, or our licensors have asserted are invalid or unenforceable. In patent litigation in the United States, defenses 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. Third parties may institute such claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post-grant review, *inter partes* review, interference proceedings, derivation proceedings, and equivalent proceedings in non-U.S. jurisdictions (e.g., opposition proceedings). The outcome following legal assertions of invalidity and unenforceability is unpredictable.

An adverse result in any such proceeding could put one or more of our owned, co-owned, or in-licensed current or future patents at risk of being invalidated or interpreted narrowly and could put any of our owned, co-owned, or in-licensed current or future patent applications at risk of not yielding an issued patent. A court may also refuse to stop the third party from using the technology at issue in a proceeding on the grounds that our owned, co-owned, or in-licensed current or future patents do not cover such technology. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information or trade secrets could be compromised by disclosure during this type of litigation. Any of the foregoing could allow such third parties to develop and commercialize competing technologies and products in a non-infringing manner and have a material adverse impact on our business, financial condition, results of operations, and prospects.

Interference or derivation proceedings provoked by third parties, or brought by us or by our collaborators or licensor, or declared by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms or at all, or if a non-exclusive license is offered and our competitors gain access to the same technology. Our defense of litigation or interference or derivation proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. In addition, the uncertainties associated with litigation could have a material adverse effect on our ability to raise the funds necessary to conduct clinical trials, continue our research programs, license necessary technology from third parties, or enter into development collaborations that would help us bring any product candidates to market.

Third parties may initiate legal proceedings alleging that we are infringing, misappropriating or otherwise violating their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Our commercial success depends upon our ability and the ability of our collaborators and licensor to develop, manufacture, market and sell any product candidates we may develop and for our collaborators, licensor, customers and partners to use our proprietary technologies without infringing, misappropriating or otherwise violating the intellectual property and proprietary rights of third parties. There is considerable patent and other intellectual property litigation in the software, pharmaceutical, and biotechnology industries. We may become party to, or threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our technology and product candidates,

including interference proceedings, post grant review, *inter partes* review, and derivation proceedings before the USPTO and similar proceedings in non-U.S. jurisdictions such as oppositions before the European Patent Office. Numerous U.S. and non-U.S. issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are pursuing development candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our technologies or product candidates that we may identify may be subject to claims of infringement of the patent rights of third parties.

The legal threshold for initiating litigation or contested proceedings is low, so that even lawsuits or proceedings with a low probability of success might be initiated and require significant resources to defend. Litigation and contested proceedings can also be expensive and time-consuming, and our adversaries in these proceedings may have the ability to dedicate substantially greater resources to prosecuting these legal actions than we can. The risks of being involved in such litigation and proceedings may increase if and as any product candidates near commercialization and as we gain the greater visibility associated with being a public company. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of merit. We may not be aware of all such intellectual property rights potentially relating to our technology and product candidates and their uses, or we may incorrectly conclude that third-party intellectual property is invalid or that our activities and product candidates do not infringe such intellectual property. Thus, we do not know with certainty that our technology and product candidates, or our development and commercialization thereof, do not and will not infringe, misappropriate or otherwise violate any third party's intellectual property.

Third parties may assert that we are employing their proprietary technology without authorization. There may be third-party patents or patent applications with claims to materials, formulations or methods, such as methods of manufacture or methods for treatment, related to the discovery, use or manufacture of the product candidates that we may identify or related to our technologies. Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that the product candidates that we may identify may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. Moreover, as noted above, there may be existing patents that we are not aware of or that we have incorrectly concluded are invalid or not infringed by our activities. If any third-party patents were held by a court of competent jurisdiction to cover, for example, the manufacturing process of the product candidates that we may identify, any molecules formed during the manufacturing process or any final product itself, the holders of any such patents may be able to block our ability to commercialize such product candidate unless we obtained a license under the applicable patents, or until such patents expire.

Parties making claims against us may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize the product candidates that we may identify. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, pay royalties, redesign our infringing products, be forced to indemnify our customers, licensor, or collaborators or obtain one or more licenses from third parties, which may be impossible or require substantial time and monetary expenditure.

We may choose to take a license or, if we are found to infringe, misappropriate or otherwise violate a third party's intellectual property rights, we could also be required to obtain a license from such third party to continue developing, manufacturing and marketing our technology and product candidates. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us and could require us to make substantial licensing and royalty payments. We could be forced, including by court order, to cease developing, manufacturing and commercializing the infringing technology or product. A finding of infringement could prevent us from commercializing any product candidates or force us to cease some of our business operations, which could materially harm our business. In addition, we may be forced to redesign any product candidates, seek new regulatory approvals and indemnify third parties pursuant to contractual agreements. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar material adverse effect on our business, financial condition, results of operations and prospects.

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

Certain of our employees, consultants, and contractors were previously employed at universities or other software or biopharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants and contractors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that these individuals or we have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such individual's current or former employer. Litigation may be necessary to defend against these claims.

In addition, while it is our policy to require that our employees, consultants and contractors who may be involved in the 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 develops intellectual property that we regard as our own. Our intellectual property assignment agreements with them may not be self-executing or may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property. Such claims could have a material adverse effect on our business, financial condition, results of operations, and prospects.

If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel, which could have a material adverse effect on our competitive business position and prospects. Such intellectual property rights could be awarded to a third party, and we could be required to obtain a license from such third party to commercialize our technology or products, which license may not be available on commercially reasonable terms, or at all, or such license may be non-exclusive. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to our management and employees.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position may be harmed.

In addition to seeking patents for any product candidates and technology, we also rely on trade secrets and confidentiality agreements to protect our unpatented know-how, technology, and other proprietary information, to maintain our competitive position. We seek to protect our trade secrets and other proprietary technology, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, contract research organizations, contract manufacturers, consultants, advisors, collaborators, and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants, but we cannot guarantee that we have entered into such agreements with each party that may have or has had access to our trade secrets or proprietary technology. Despite these efforts, any of these parties may inadvertently or intentionally 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. Detecting the disclosure or misappropriation of a trade secret and enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive, and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside of the United States are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor or other third party, our competitive position may be materially and adversely harmed.

Risks Related to Regulatory and Other Legal Compliance Matters

Even if we complete the necessary preclinical studies and clinical trials, the regulatory approval process is expensive, time consuming and uncertain and may prevent us from obtaining approvals for the commercialization of some or all of our product candidates. As a result, we cannot predict when or if, and in which territories, we will obtain marketing approval to commercialize a product candidate.

The research, testing, manufacturing, labeling, approval, selling, marketing, promotion and distribution of products are subject to extensive regulation by the FDA and comparable foreign regulatory authorities. We are not permitted to market our product candidates in the United States or in other countries until we receive approval of an NDA from the FDA or marketing approval from applicable regulatory authorities outside the United States. Our product

candidates are in various stages of development and are subject to the risks of failure inherent in drug development. We have not submitted an application for or received marketing approval for any of our product candidates in the United States or in any other jurisdiction. We have no experience as a company in filing and supporting the applications necessary to gain marketing approvals and expect to rely on third-party CROs to assist us in this process.

The process of obtaining marketing approvals, both in the United States and abroad, is lengthy, expensive and uncertain. It may take many years, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Securing marketing approval requires the submission of extensive preclinical and clinical data and supporting information, including manufacturing information, to regulatory authorities for each therapeutic indication to establish the product candidate's safety and efficacy. The FDA or other regulatory authorities may determine that our product candidates are not safe and effective, only moderately effective or have undesirable or unintended side effects, toxicities or other characteristics that preclude our obtaining marketing approval or prevent or limit commercial use.

In addition, changes in marketing approval policies during the development period, changes in or the enactment or promulgation of additional statutes, regulations or guidance or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. Regulatory authorities have substantial discretion in the approval process and varying interpretations of the data obtained from preclinical and clinical testing could delay, limit or prevent marketing approval of a product candidate. Any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

In order to market and sell our products in the European Union and other foreign jurisdictions, we must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The marketing approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. We may not obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. We may file for marketing approvals but not receive necessary approvals to commercialize our products in any market.

We may seek certain designations for our product candidates, including Breakthrough Therapy, Fast Track and Priority Review designations in the United States, and PRIME Designation in the European Union, but we might not receive such designations, and even if we do, such designations may not lead to a faster development or regulatory review or approval process.

We may seek certain designations for one or more of our product candidates that could expedite review and approval by the FDA. A Breakthrough Therapy product is defined as a product that is intended, alone or in combination with one or more other products, to treat a serious condition, and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For products that have been designated as Breakthrough Therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens.

The FDA may also designate a product for Fast Track review if it is intended, whether alone or in combination with one or more other products, for the treatment of a serious or life threatening disease or condition, and it demonstrates the potential to address unmet medical needs for such a disease or condition. For Fast Track products, sponsors may have greater interactions with the FDA and the FDA may initiate review of sections of a Fast Track product's application before the application is complete. This rolling review may be available if the FDA determines, after preliminary evaluation of clinical data submitted by the sponsor, that a Fast Track product may be effective.

We may also seek a priority review designation for one or more of our product candidates. If the FDA determines that a product candidate offers major advances in treatment or provides a treatment where no adequate therapy exists, the FDA may designate the product candidate for priority review. A priority review designation means that the goal for the FDA to review an application is six months, rather than the standard review period of ten months.

These designations are within the discretion of the FDA. Accordingly, even if we believe that one of our product candidates meets the criteria for these designations, the FDA may disagree and instead determine not to make such designation. Further, even if we receive a designation, the receipt of such designation for a product candidate may not result in a faster development or regulatory review or approval process compared to products considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our product candidates qualifies for these designations, the FDA may later decide that the product candidates no longer meet the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

In the EU, we may seek PRIME designation for our product candidates in the future. PRIME is a voluntary program aimed at enhancing the EMA's role to reinforce scientific and regulatory support in order to optimize development and enable accelerated assessment of new medicines that are of major public health interest with the potential to address unmet medical needs. The program focuses on medicines that target conditions for which there exists no satisfactory method of treatment in the EU or even if such a method exists, it may offer a major therapeutic advantage over existing treatments. PRIME is limited to medicines under development and not authorized in the EU and the applicant intends to apply for an initial marketing authorization application through the centralized procedure. To be accepted for PRIME, a product candidate must meet the eligibility criteria in respect of its major public health interest and therapeutic innovation based on information that is capable of substantiating the claims. The benefits of a PRIME designation include the appointment of a CHMP rapporteur to provide continued support and help to build knowledge ahead of a marketing authorization application, early dialogue and scientific advice at key development milestones, and the potential to qualify products for accelerated review, meaning reduction in the review time for an opinion on approvability to be issued earlier in the application process. PRIME enables an applicant to request parallel EMA scientific advice and health technology assessment advice to facilitate timely market access. Even if we receive PRIME designation for any of our product candidates, the designation may not result in a materially faster development process, review or approval compared to conventional EMA procedures. Further, obtaining PRIME designation does not assure or increase the likelihood of EMA's grant of a marketing authorization.

Current and future legislation may increase the difficulty and cost for us to obtain reimbursement for any of our product candidates that do receive marketing approval.

In the United States and foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any product candidates for which we obtain marketing approval. We expect that current laws, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we may receive for any approved products. If reimbursement of our products is unavailable or limited in scope, our business could be materially harmed.

In March 2010, President Obama signed into law the ACA. In addition, other legislative changes have been proposed and adopted since the ACA was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. These changes included aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, which went into effect in April 2013 and will remain in effect through 2031 under the Coronavirus Aid, Relief, and Economic Security Act, or the CARES Act. Pursuant to subsequent legislation, these Medicare sequester reductions were suspended and reduced in 2021 and 2022 but, as of July 1, 2022, the full 2% cut has resumed. The American Taxpayer Relief Act of 2012, among other things, reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These laws may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used. Indeed, under current legislation, the actual reductions in Medicare payments may vary up to 4%.

Since enactment of the ACA, there have been, and continue to be, numerous legal challenges and Congressional actions to repeal and replace provisions of the law. For example, with enactment of the Tax Cuts and Jobs Act, or TCJA, in 2017, Congress repealed the "individual mandate." The repeal of this provision, which requires most Americans to carry a minimal level of health insurance, became effective in 2019. Further, in December 2018, a U.S. District Court judge in the Northern District of Texas ruled that the individual mandate portion of the ACA is an essential and inseverable feature of the ACA and therefore because the mandate was repealed as part of the TCJA, the remaining provisions of the ACA are invalid as well. The U.S. Supreme Court heard this case and in June 2021, dismissed this action after finding that the

plaintiffs do not have standing to challenge the constitutionality of the ACA. Litigation and legislation over the ACA are likely to continue, with unpredictable and uncertain results.

The Trump Administration also took executive actions to delay implementation of the ACA, including directing federal agencies with authorities and responsibilities under the ACA to waive, defer, grant exemptions from, or delay the implementation of any provision of the ACA that would impose a fiscal or regulatory burden on states, individuals, healthcare providers, health insurers or manufacturers of pharmaceuticals or medical devices. On January 28, 2021, however, President Biden revoked those orders and issued a new executive order which directs federal agencies to reconsider rules and other policies that limit Americans' access to health care, and consider actions that will protect and strengthen that access. Under this order, federal agencies are directed to re-examine: policies that undermine protections for people with pre-existing conditions, including complications related to COVID-19; demonstrations and waivers under Medicaid and the ACA that may reduce coverage or undermine the programs, including work requirements; policies that undermine the Health Insurance Marketplace or other markets for health insurance; policies that make it more difficult to enroll in Medicaid and the ACA; and policies that reduce affordability of coverage or financial assistance, including for dependents.

We expect that these healthcare reforms, as well as other healthcare reform measures that may be adopted in the future, may result in additional reductions in Medicare and other healthcare funding, more rigorous coverage criteria, new payment methodologies and additional downward pressure on the price that we receive for any approved product and/or the level of reimbursement physicians receive for administering any approved product we might bring to market. Reductions in reimbursement levels may negatively impact the prices we receive or the frequency with which our products are prescribed or administered. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. Accordingly, such reforms, if enacted, could have an adverse effect on anticipated revenue from product candidates that we may successfully develop and for which we may obtain marketing approval and may affect our overall financial condition and ability to develop or commercialize product candidates.

The prices of prescription pharmaceuticals in the United States and foreign jurisdictions are subject to considerable legislative and executive actions and could impact the prices we obtain for our products, if and when licensed, as well as impact our ability to find collaborators and/or partners for our drug discovery programs on commercially acceptable terms.

The prices of prescription pharmaceuticals have been the subject of considerable discussion in the United States. There have been several recent Congressional inquiries, as well as proposed and enacted state and federal legislation designed to, among other things, bring more transparency to pharmaceutical pricing, review the relationship between pricing and manufacturer patient programs, and reduce the costs of pharmaceuticals under Medicare and Medicaid. In 2020 President Trump issued several executive orders intended to lower the costs of prescription products and certain provisions in these orders have been incorporated into regulations. These regulations include an interim final rule implementing a most favored nation model for prices that would tie Medicare Part B payments for certain physician-administered pharmaceuticals to the lowest price paid in other economically advanced countries, effective January 1, 2021. That rule, however, has been subject to a nationwide preliminary injunction and, on December 29, 2021, CMS issued a final rule to rescind it. With issuance of this rule, CMS stated that it will explore all options to incorporate value into payments for Medicare Part B pharmaceuticals and improve beneficiaries' access to evidence-based care.

In addition, in October 2020, HHS and the FDA published a final rule allowing states and other entities to develop a Section 804 Importation Program, or SIP, to import certain prescription drugs from Canada into the United States. The final rule is currently the subject of ongoing litigation, but at least six states (Vermont, Colorado, Florida, Maine, New Mexico, and New Hampshire) have passed laws allowing for the importation of drugs from Canada with the intent of developing SIPs for review and approval by the FDA. Further, on November 20, 2020, HHS finalized a regulation that would eliminate the current safe harbor for Medicare drug rebates and create new safe harbors for beneficiary point-of-sale discounts and pharmacy benefit manager, or PBM, service fees. It originally was set to go into effect on January 1, 2022, but with passage of the Inflation Reduction Act has been delayed by Congress until January 1, 2032.

In September 2021, acting pursuant to an executive order signed by President Biden, the Department of Health and Human Services, or HHS, released its plan to reduce pharmaceutical prices. The key features of that plan are to: (a) make pharmaceutical prices more affordable and equitable for all consumers and throughout the health care system by supporting pharmaceutical price negotiations with manufacturers; (b) improve and promote competition throughout the prescription pharmaceutical industry by supporting market changes that strengthen supply chains, promote biosimilars and generic drugs, and increase transparency; and (c) foster scientific innovation to promote better healthcare and improve health by supporting public and private research and making sure that market incentives promote discovery of valuable and accessible new treatments.

More recently, on August 16, 2022, the Inflation Reduction Act of 2022, or IRA, was signed into law by President Biden. The new legislation has implications for Medicare Part D, which is a program available to individuals who are entitled to Medicare Part A or enrolled in Medicare Part B to give them the option of paying a monthly premium for outpatient prescription drug coverage. Among other things, the IRA requires manufacturers of certain drugs to engage in price negotiations with Medicare (beginning in 2026), with prices that can be negotiated subject to a cap; imposes rebates under Medicare Part B and Medicare Part D to penalize price increases that outpace inflation (first due in 2023); and replaces the Part D coverage gap discount program with a new discounting program (beginning in 2025). The IRA permits the Secretary of the Department of Health and Human Services (HHS) to implement many of these provisions through guidance, as opposed to regulation, for the initial years.

Specifically, with respect to price negotiations, Congress authorized Medicare to negotiate lower prices for certain costly single-source drug and biologic products that do not have competing generics or biosimilars and are reimbursed under Medicare Part B and Part D. CMS may negotiate prices for ten high-cost drugs paid for by Medicare Part D starting in 2026, followed by 15 Part D drugs in 2027, 15 Part B or Part D drugs in 2028, and 20 Part B or Part D drugs in 2029 and beyond. This provision applies to drug products that have been approved for at least 9 years and biologics that have been licensed for 13 years, but it does not apply to drugs and biologics that have been approved for a single rare disease or condition. Nonetheless, since CMS may establish a maximum price for these products in price negotiations, we would be fully at risk of government action if our products or those of our partners are the subject of Medicare price negotiations. Moreover, given the risk that could be the case, these provisions of the IRA may also further heighten the risk that we would not be able to achieve the expected return on our drug products or full value of our patents protecting our products if prices are set after such products have been on the market for nine years.

Furthermore, these provisions of the IRA may cause some companies to shift their research portfolio and priorities more towards large molecules (i.e. biologics such as antibodies) rather than small molecules. Although we do have applications of our technology to biologics, we do not yet have the same validation or value for large molecule discovery as we do for small molecule discovery. Accordingly, if the IRA causes the pharmaceutical industry to pivot investment and portfolio strategy away from small molecule drug discovery and towards biologics, it could have a material adverse effect on the expected value of our drug discovery programs and also on the perceived value of using our software to develop product candidates. In addition, if investment levels and development interest in small molecule therapeutics decreased, it may become more difficult for us to enter into collaborations on commercially acceptable terms, or at all, for our proprietary programs. If we are unable to find suitable collaborators and/or partners for our programs, we may be forced to fund and undertake development or commercialization activities on our own for more programs than we would otherwise expect to, or plan for, which could adversely affect our business and financial condition.

Further, the legislation subjects drug manufacturers to civil monetary penalties and a potential excise tax for failing to comply with the legislation by offering a price that is not equal to or less than the negotiated "maximum fair price" under the law or for taking price increases that exceed inflation. The legislation also requires manufacturers to pay rebates for drugs in Medicare Part D whose price increases exceed inflation. The new law also caps Medicare out-of-pocket drug costs at an estimated $4,000 a year in 2024 and, thereafter beginning in 2025, at 2,000 a year. In addition, the IRA potentially raises legal risks with respect to individuals participating in a Medicare Part D prescription drug plan who may experience a gap in coverage if they required coverage above their initial annual coverage limit before they reached the higher threshold, or "catastrophic period" of the plan. Individuals requiring services exceeding the initial annual coverage limit and below the catastrophic period, must pay 100% of the cost of their prescriptions until they reach the catastrophic period. Among other things, the IRA contains many provisions aimed at reducing this financial burden on individuals by reducing the co-insurance and co-payment costs, expanding eligibility for lower income subsidy plans, and price caps on annual out-of-pocket expenses, each of which could have potential pricing and reporting implications.

Accordingly, while it is currently unclear how the IRA will be effectuated, we cannot predict with certainty what impact any federal or state health reforms will have on us, but such changes could impose new or more stringent regulatory requirements on our activities or result in reduced reimbursement for approved products, any of which could adversely affect our business, results of operations and financial condition.

At the state level, individual states are increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. In addition, regional healthcare organizations and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts

that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

In the European Union, similar political, economic and regulatory developments may affect our ability to profitably commercialize our product candidates, if approved. In markets outside of the United States and the European Union, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. In many countries, including those of the European Union, the pricing of prescription pharmaceuticals is subject to governmental control and access. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we or our collaborators may be required to conduct a clinical trial that compares the cost-effectiveness of our product to other available therapies. If reimbursement is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be materially harmed.

Compliance with global privacy and data security requirements could result in additional costs and liabilities to us or inhibit our ability to collect and process data globally, and the failure to comply with such requirements could subject us to significant fines and penalties, which may have a material adverse effect on our business, financial condition, or results of operations.

The regulatory framework for the collection, use, safeguarding, sharing, transfer, and other processing of information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. Globally, virtually every jurisdiction in which we operate has established its own data security and privacy frameworks with which we must comply. For example, the collection, use, disclosure, transfer, or other processing of personal data regarding individuals in the European Union, including personal health data and employee data, is subject to the European Union General Data Protection Regulation, or the GDPR, which took effect across all member states of the European Economic Area, or EEA, in May 2018. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, including requirements relating to processing health and other sensitive data, obtaining consent of the individuals to whom the personal data relates, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, providing notification of data breaches, and taking certain measures when engaging third-party processors. The GDPR would increase our obligations with respect to any clinical trials conducted in the EEA by expanding the definition of personal data to include coded data and requiring changes to informed consent practices and more detailed notices for clinical trial subjects and investigators. In addition, the GDPR also imposes strict rules on the transfer of personal data to countries outside the European Union, including the United States and, as a result, increases the scrutiny that such rules should apply to transfers of personal data from any clinical trial sites located in the EEA to the United States. The GDPR also permits data protection authorities to require destruction of improperly gathered or used personal information and/or impose substantial fines for violations of the GDPR, which can be up to four percent of global revenues or 20 million Euros, whichever is greater, and confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. In addition, the GDPR provides that European Union member states may make their own further laws and regulations limiting the processing of personal data, including genetic, biometric, or health data.

Given the breadth and depth of changes in data protection obligations, preparing for and complying with the GDPR's requirements is rigorous and time intensive and requires significant resources and a review of our technologies, systems and practices, as well as those of any third-party collaborators, service providers, contractors, or consultants that process or transfer personal data collected in the European Union. The GDPR and other changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as healthcare data or other personal information, could require us to change our business practices and put in place additional compliance mechanisms, may interrupt or delay our development, regulatory and commercialization activities and increase our cost of doing business, and could lead to government enforcement actions, private litigation, and significant fines and penalties against us, and could have a material adverse effect on our business, financial condition, or results of operations.

Similar privacy and data security requirements are either in place or underway in the United States. There are a broad variety of data protection laws that may be applicable to our activities, and a range of enforcement agencies at both the state and federal levels that can review companies for privacy and data security concerns. The Federal Trade Commission and state Attorneys General are aggressive in reviewing privacy and data security protections for consumers. New laws also are being considered at both the state and federal levels. For example, the California Consumer Privacy Act, or CCPA, which went into effect on January 1, 2020, is creating similar risks and obligations as those created by GDPR. Because of this, we may need to engage in additional activities (e.g., data mapping) to identify the personal information we are collecting and the purposes for which such information is collected. In addition, we will need to ensure that our policies

recognize the rights granted to consumers (as that phrase is broadly defined in the CCPA and can include business contact information), including granting consumers the right to opt-out of the sale of their personal information. Many other states are considering similar legislation. . In November 2020, California voters passed a ballot initiative for the California Privacy Rights Act, or the CPRA, which went into effect on January 1, 2023 and significantly expanded the CCPA to incorporate additional GDPR-like provisions including requiring that the use, retention, and sharing of personal information of California residents be reasonably necessary and proportionate to the purposes of collection or processing, granting additional protections for sensitive personal information, and requiring greater disclosures related to notice to residents regarding retention of information. At the same time, a broad range of legislative measures also have been introduced at the federal level. Accordingly, failure to comply with current and any future federal and state laws regarding privacy and security of personal information could expose us to fines and penalties. We also face a threat of consumer class actions related to these laws and the overall protection of personal data. Even if we are not determined to have violated these laws, investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our reputation and our business.

We, and the collaborators who use our computational platform, may be subject to applicable anti-kickback, fraud and abuse, false claims, transparency, health information privacy and security, and other healthcare laws and regulations. Failure to comply with such laws and regulations, may result in substantial penalties.

We, and the collaborators who use our computational platform, may be subject to broadly applicable healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell, and distribute our software solutions and any products for which we obtain marketing approval. Such healthcare laws and regulations include, but are not limited to, the federal health care Anti-Kickback Statute; federal civil and criminal false claims laws, such as the federal False Claims Act; the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA; the Federal Food, Drug, and Cosmetic Act; the federal Physician Payments Sunshine Act; and analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws and transparency laws.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations, or case law involving applicable fraud and abuse or other healthcare laws and regulations. Violations of applicable healthcare laws and regulations may result in significant civil, criminal, and administrative penalties, damages, disgorgement, fines, imprisonment, exclusion of products from government funded healthcare programs, such as Medicare and Medicaid, additional reporting requirements, and/or oversight if a corporate integrity agreement or similar agreement is executed to resolve allegations of non-compliance with these laws and the curtailment or restructuring of operations. In addition, violations may also result in reputational harm, diminished profits, and future earnings.

We are subject to anti-corruption laws, as well as export control laws, customs laws, sanctions laws, and other laws governing our operations. If we fail to comply with these laws, we could be subject to civil or criminal penalties, other remedial measures, and legal expenses, be precluded from developing, manufacturing, and selling certain products outside the United States or be required to develop and implement costly compliance programs, which could adversely affect our business, results of operations and financial condition.

Our operations are subject to anti-corruption laws, including the U.K. Bribery Act 2010, or Bribery Act, the U.S. Foreign Corrupt Practices Act, or FCPA, and other anti-corruption laws that apply in countries where we do business and may do business in the future. The Bribery Act, FCPA, and these other laws generally prohibit us, our officers, and our employees and intermediaries from bribing, being bribed, or making other prohibited payments to government officials or other persons to obtain or retain business or gain some other business advantage. Compliance with the FCPA, in particular, is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the FCPA presents particular challenges in the biopharmaceutical industry, because, in many countries, hospitals are operated by the government, and doctors and other hospital employees are considered foreign officials. Certain payments to hospitals in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions.

We may in the future operate in jurisdictions that pose a high risk of potential Bribery Act or FCPA violations, and we may participate in collaborations and relationships with third parties whose actions could potentially subject us to liability under the Bribery Act, FCPA, or local anti-corruption laws. In addition, we cannot predict the nature, scope or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted. If we further expand our operations outside of the United States, we

will need to dedicate additional resources to comply with numerous laws and regulations in each jurisdiction in which we plan to operate.

We are also subject to other laws and regulations governing our international operations, including regulations administered by the governments of the United Kingdom and the United States, and authorities in the European Union, including applicable export control regulations, economic sanctions on countries and persons, customs requirements, and currency exchange regulations, collectively referred to as the Trade Control laws. In addition, various laws, regulations, and executive orders also restrict the use and dissemination outside of the United States, or the sharing with certain non-U.S. nationals, of information classified for national security purposes, as well as certain products and technical data relating to those products. If we expand our presence outside of the United States, it will require us to dedicate additional resources to comply with these laws, and these laws may preclude us from developing, manufacturing, or selling certain products and product candidates outside of the United States, which could limit our growth potential and increase our development costs.

There is no assurance that we will be completely effective in ensuring our compliance with all applicable anti-corruption laws, including the Bribery Act, the FCPA, or other legal requirements, including Trade Control laws. If we are not in compliance with the Bribery Act, the FCPA, and other anti-corruption laws or Trade Control laws, we may be subject to criminal and civil penalties, disgorgement and other sanctions and remedial measures, and legal expenses, which could have an adverse impact on our business, financial condition, results of operations, and liquidity. The U.S. Securities and Exchange Commission, or SEC, also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions. Any investigation of any potential violations of the Bribery Act, the FCPA, other anti-corruption laws or Trade Control laws by the United Kingdom, U.S., or other authorities could also have an adverse impact on our reputation, our business, results of operations, and financial condition.

Our employees, independent contractors, consultants, and vendors may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading laws, which could cause significant liability for us and harm our reputation.

We are exposed to the risk of fraud or other misconduct by our employees, independent contractors, consultants, and vendors. Misconduct by these partners could include intentional failures to comply with FDA regulations or similar regulations of comparable foreign regulatory authorities, provide accurate information to the FDA or comparable foreign regulatory authorities, comply with manufacturing standards, comply with federal and state healthcare fraud and abuse laws and regulations and similar laws and regulations established and enforced by comparable foreign regulatory authorities, report financial information or data accurately, or disclose unauthorized activities to us. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. This could include violations of HIPAA, other U.S. federal and state law, and requirements of non-U.S. jurisdictions, including the European Union Data Protection Directive. We are also exposed to risks in connection with any insider trading violations by employees or others affiliated with us. It is not always possible to identify and deter employee misconduct, and the 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 be in compliance with such laws, standards, regulations, guidance, or codes of conduct. Furthermore, our employees may, from time to time, bring lawsuits against us for employment issues, including injury, discrimination, wage and hour disputes, sexual harassment, hostile work environment, or other employment issues. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and results of operations, including the imposition of significant fines or other sanctions.

Our internal information technology systems, or those of our third-party vendors, contractors, or consultants, may fail or suffer security breaches, loss or leakage of data, and other disruptions, which could result in a material disruption of our services, compromise sensitive information related to our business, or prevent us from accessing critical information, potentially exposing us to liability or otherwise adversely affecting our business.

We are increasingly dependent upon information technology systems, infrastructure, and data to operate our business. In the ordinary course of business, we collect, store, and transmit confidential information (including but not limited to intellectual property, proprietary business information, and personal information). It is critical that we do so in a secure manner to maintain the confidentiality and integrity of such confidential information. We also have outsourced elements of our operations to third parties, and as a result we manage a number of third-party vendors and other contractors and consultants who have access to our confidential information.

Despite the implementation of security measures, given the size and complexity of our internal information technology systems and those of our third-party vendors and other contractors and consultants, and the increasing amounts of confidential information that they maintain, our information technology systems are potentially vulnerable to breakdown or other damage or interruption from service interruptions, system malfunction, natural disasters, terrorism, war, and telecommunication and electrical failures, as well as security breaches from inadvertent or intentional actions by our employees, third-party vendors, contractors, consultants, business partners, and/or other third parties, or from cyber-attacks by malicious third parties (including the deployment of harmful malware, ransomware, denial-of-service attacks, social engineering, and other means to affect service reliability and threaten the confidentiality, integrity, and availability of information), which may compromise our system infrastructure, or that of our third-party vendors and other contractors and consultants or lead to data leakage. The risk of a security breach or disruption, particularly through cyber-attacks or cyber intrusion, including by computer hackers, foreign governments, and cyber terrorists, has generally increased as the number, intensity, and sophistication of attempted attacks and intrusions from around the world have increased. 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. For example, third parties have in the past and may in the future illegally pirate our software and make that software publicly available on peer-to-peer file sharing networks or otherwise. 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, terrorist organizations, or hostile foreign governments or agencies. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or those of our third-party vendors and other contractors and consultants, or inappropriate disclosure of confidential or proprietary information, we could incur liability and reputational damage and the further development and commercialization of our software could be delayed. The costs related to significant security breaches or disruptions could be material and exceed the limits of the cybersecurity insurance we maintain against such risks. If the information technology systems of our third-party vendors and other contractors and consultants become subject to disruptions or security breaches, we may have insufficient recourse against such third parties and we may have to expend significant resources to mitigate the impact of such an event, and to develop and implement protections to prevent future events of this nature from occurring.

While we have not experienced any significant system failure, accident, or security breach to date, and believe that our data protection efforts and our investment in information technology reduce the likelihood of such incidents in the future, we cannot assure you that our data protection efforts and our investment in information technology will prevent significant breakdowns, data leakages, breaches in our systems, or those of our third-party vendors and other contractors and consultants, or other cyber incidents that could have a material adverse effect upon our reputation, business, operations, or financial condition. For example, if such an event were to occur and cause interruptions in our operations, or those of our third-party vendors and other contractors and consultants, it could result in a material disruption of our programs and the development of our services and technologies could be delayed. Furthermore, significant disruptions of our internal information technology systems or those of our third-party vendors and other contractors and consultants, or security breaches could result in the loss, misappropriation, and/or unauthorized access, use, or disclosure of, or the prevention of access to, confidential information (including trade secrets or other intellectual property, proprietary business information, and personal information), which could result in financial, legal, business, and reputational harm to us. For example, any such event that leads to unauthorized access, use, or disclosure of personal information, including personal information regarding our customers or employees, could harm our reputation directly, compel us to comply with federal and/or state breach notification laws and foreign law equivalents, subject us to mandatory corrective action, and otherwise subject us to liability under laws and regulations that protect the privacy and security of personal information, which could result in significant legal and financial exposure and reputational damages that could potentially have an adverse effect on our business. Further, sophisticated cyber attackers (including foreign adversaries engaged in industrial espionage) are skilled at adapting to existing security technology and developing new methods of gaining access to organizations' sensitive business data, which could result in the loss of sensitive information, including trade secrets. Additionally, actual, potential, or anticipated attacks may cause us to incur increasing costs, including costs to deploy additional personnel and protection technologies, train employees, and engage third-party experts and consultants.

Risks Related to Employee Matters and Managing Growth

Our future success depends on our ability to retain key executives and to attract, retain, and motivate qualified personnel.

We are highly dependent on the research and development, clinical, financial, operational, scientific, software engineering, and other business expertise of our executive officers, as well as the other principal members of our management, scientific, clinical, and software engineering teams. Although we have entered into employment agreements

with our executive officers, each of them may terminate their employment with us at any time. We do not maintain "key person" insurance for any of our executives or other employees.

The loss of the services of our executive officers or other key employees could impede the achievement of our development and sales goals in our software business and the achievement of our research, development, and commercialization objectives in our drug discovery business. In either case, the loss of the services of our executive officers or other key employees could seriously harm our ability to successfully implement our business strategy. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals with the breadth of skills and experience required to successfully develop, gain regulatory approval of, and commercialize products in the life sciences industry.

Recruiting and retaining qualified scientific, clinical, manufacturing, accounting, legal, and sales and marketing personnel, as well as software engineers and computational chemists, will also be critical to our success. In the technology industry, there is substantial and continuous competition for engineers with high levels of expertise in designing, developing, and managing software and related services, as well as competition for sales executives, data scientists, and operations personnel. Competition to hire these individuals is intense, and we may be unable to hire, train, retain, or motivate these key personnel on acceptable terms given the competition among numerous biopharmaceutical and technology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors to assist us in formulating our research and development and commercialization strategy and advancing our computational platform. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited and our business would be adversely affected.

We are pursuing multiple business strategies and expect to expand our development and regulatory capabilities, and as a result, we may encounter difficulties in managing our multiple business units and our growth, which could disrupt our operations.

Currently, we are pursuing multiple business strategies simultaneously, including activities in research and development, software sales, and collaborative and proprietary drug discovery. We believe pursuing these multiple business strategies offers financial and operational synergies, but these diversified operations place increased demands on our limited resources. Furthermore, we have recently experienced, and we expect to continue to experience, significant growth in the number of our employees and the scope of our operations, particularly in the areas of drug development, clinical and regulatory affairs. To manage our multiple business units and our ongoing and anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities, and continue to recruit and train additional qualified personnel. Due to our limited financial resources and our management team's limited attention and limited experience in managing a company with such ongoing and anticipated growth, we may not be able to effectively manage our multiple business units and the expansion of our operations or recruit and train additional qualified personnel. The expansion of our operations has led to and may continue to lead to significant costs and may divert our management and business development resources. In addition, in order to meet our obligations as a public company and to support our anticipated long-term growth, we will need to increase our general and administrative capabilities. Our management, personnel, and systems may not be adequate to support this future growth. Any inability to manage our multiple business units and growth could delay the execution of our business plans or disrupt our operations and the synergies we believe currently exist between our business units. In addition, adverse developments in one of these business units may disrupt these synergies.

Risks Related to Ownership of Our Common Stock

An active trading market for our common stock may not be sustained.

Our shares of common stock began trading on the Nasdaq Global Select Market on February 6, 2020. Prior to February 6, 2020, there was no public market for our common stock, and we cannot assure you that an active trading market for our shares will be sustained. As a result, it may be difficult for our stockholders to sell their shares without depressing the market price of our common stock, or at all.

Our executive officers, directors, and principal stockholders, if they choose to act together, have the ability to influence all matters submitted to stockholders for approval.

As of February 21, 2023, our executive officers and directors and our stockholders who beneficially owned more than 5% of our outstanding common stock, in the aggregate, beneficially owned shares representing approximately 34.3% of our common stock and all of our limited common stock, or, if the holder of our limited common stock exercised its right to convert each share of its limited common stock for one share of our common stock, approximately 42.8% of our common stock. As a result, if these stockholders were to choose to act together, they would be able to influence all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons, if they choose to act together, would influence the election of directors and approval of any merger, consolidation, or sale of all or substantially all of our assets.

This concentration of ownership control may:

- delay, defer, or prevent a change in control;
- entrench our management and board of directors; or
- delay or prevent a merger, consolidation, takeover, or other business combination involving us that other stockholders may desire.

This concentration of ownership may also adversely affect the market price of our common stock.

The price of our common stock is volatile and fluctuates substantially, which could result in substantial losses for our stockholders.

Our stock price has been, and is likely to continue to be, volatile. Since our initial public offering in February 2020 and through February 21, 2023, the intraday price of our common stock has fluctuated from a low of $15.85 to a high of $117.00. As a result of volatility, our stockholders may not be able to sell their common stock at or above the price paid for the shares. The market price for our common stock may be influenced by many factors, including:

- our investment in, and the success of, our software solutions;
- the success of our research and development efforts for our proprietary drug discovery programs;
- initiation and progress of preclinical studies and clinical trials for any product candidates that we may develop;
- results of or developments in preclinical studies and clinical trials of any product candidates we may develop or those of our competitors or potential collaborators;
- the success of our drug discovery collaborators and any milestone or other payments we receive from such collaborators;
- the success of competitive products or technologies;
- regulatory or legal developments in the United States and other countries;
- the recruitment or departure of key personnel;
- variations in our financial results or the financial results of companies that are perceived to be similar to us;
- guidance or announcements by us with respect to our anticipated financial or operational performance;
- sales of common stock by us, our executive officers, directors or principal stockholders, or others, or the anticipation of such sales;
- market conditions in the biopharmaceutical sector;
- general economic, industry, and market conditions;

- the societal and economic impact of public health epidemics, such as the ongoing COVID-19 pandemic; and
- the other factors described in this "Risk Factors" section.

In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation has often been instituted against that company. Any lawsuit to which we are a party, with or without merit, may result in an unfavorable judgment. We also may decide to settle lawsuits on unfavorable terms. Any such negative outcome could result in payments of substantial damages or fines, damage to our reputation, or adverse changes to our offerings or business practices. Such litigation may also cause us to incur other substantial costs to defend such claims and divert management's attention and resources.

Our actual operating results may differ significantly from our guidance.

We have released, and may in the future release, guidance in our annual or quarterly earnings conference calls, annual or quarterly earnings releases, or otherwise, regarding our future performance that represents our management's estimates as of the date of such guidance. Our guidance, which includes forward-looking statements, is based on projections prepared by our management. Neither our registered public accountants nor any other independent expert or outside party compiles or examines the projections. Accordingly, no such person expresses 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 have released, and would continue to 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 any 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.

We and our collaborators may not achieve projected discovery and development milestones and other anticipated key events in the time frames that we or they announce, which could have an adverse impact on our business and could cause our stock price to decline.

From time to time, we expect that we will make public statements regarding the expected timing of certain milestones and key events, such as the commencement and completion of preclinical and IND-enabling studies and clinical trials in our proprietary drug discovery programs as well as developments and milestones under our collaborations. For example, Morphic and Structure Therapeutics have also made public statements regarding their expectations for the development of programs under collaboration with us and they and other collaborators may in the future make additional statements about their goals and expectations for collaborations with us. The actual timing of these events can vary dramatically due to a number of factors such as delays or failures in our or our current and future collaborators' drug discovery and development programs, including as a result of COVID-19, the amount of time, effort, and resources committed by us and our current and future collaborators, and the numerous uncertainties inherent in the development of drugs. As a result, there can be no assurance that our or our current and future collaborators' programs will advance or be completed in the time frames we or they announce or expect. If we or any collaborators fail to achieve one or more of these milestones or other key events as planned, our business could be materially adversely affected and the price of our common stock could decline.

If securities analysts do not publish or cease publishing research or reports or publish misleading, inaccurate or unfavorable research about our business or if they publish negative evaluations of our stock, the price and trading volume of our stock could decline.

The market price and trading volume for our common stock relies, in part, on the research and reports that industry or financial analysts publish about us or our business. We do not have control over these analysts. There can be no assurance that existing analysts will continue to cover us or that new analysts will begin to cover us. There is also no

assurance that any covering analyst will provide favorable coverage. Although we have obtained analyst coverage, if one or more of the analysts covering our business downgrade their evaluations of our stock or publish inaccurate or unfavorable research about our business, or provides more favorable relative recommendations about our competitors, the price of our stock could decline. If one or more of these analysts cease to cover our stock, we could lose visibility in the market for our stock, which in turn could cause our stock price and trading volume to decline.

We have broad discretion in the use of our cash, cash equivalents, and marketable securities and may not use them effectively.

Our management has broad discretion in the deployment and use of our cash, cash equivalents, and marketable securities and could use such funds in ways that do not improve our results of operations or enhance the value of our common stock or in ways that our stockholders may not agree with. The failure by our management to apply these funds effectively could harm our business, financial condition, results of operations, and prospects and could cause the price of our common stock to decline.

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

We have never declared or paid cash dividends on our common stock. We currently intend to retain all of our future earnings to fund the development and expansion of our business. Any determination to pay dividends in the future will be at the discretion of our board of directors. As a result, capital appreciation of our common stock, if any, will be the sole source of gain for our stockholders for the foreseeable future.

Sales of a substantial number of shares of our common stock in the public market could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock, impair our ability to raise capital through the sale of additional equity securities, and make it more difficult for our stockholders to sell their common stock at a time and price that they deem appropriate. As of February 21, 2023, we had outstanding 62,321,454 shares of common stock and 9,164,193 shares of limited common stock. All of our outstanding shares of common stock, including shares of common stock issuable upon the conversion of shares of our limited common stock, are available for sale in the public market, subject only to the restrictions of Rule 144 under the Securities Act in the case of our affiliates. In addition, certain of our executive officers, directors and affiliated stockholders have entered or may enter into Rule 10b5-1 plans providing for sales of shares of our common stock from time to time. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the executive officer, director or affiliated stockholder when entering into the plan, without further direction from the executive officer, director or affiliated stockholder. A Rule 10b5-1 plan may be amended or terminated in some circumstances. Our executive officers, directors and affiliated stockholders also may buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material, nonpublic information.

We have also filed a universal shelf registration statement on Form S-3 which allows us to offer and sell an indeterminate number of shares of common stock, preferred stock, depositary shares or warrants, or an indeterminate principal amount of debt securities, from time to time pursuant to one or more offerings at prices and terms to be determined at the time of the sale. Moreover, certain holders of our common stock and our limited common stock have rights, subject to specified conditions, to include their shares in registration statements that we may file for ourselves or other stockholders and may require us to file Form S-3 registration statements covering their shares.

We also have filed registration statements on Forms S-8 to register shares of common stock that we may issue under our equity compensation plans. Shares registered under such registration statements are available for sale in the public market upon issuance, subject to volume limitations applicable to affiliates, vesting arrangements and exercise of options.

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

As a public company, we have incurred and will continue to incur significant legal, accounting, and other expenses that we did not incur as a private company. The Exchange Act, Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of Nasdaq, 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 devote and will need to continue to devote a substantial amount of time and resources to these compliance initiatives, potentially at the expense of other business concerns, which could harm our business, financial condition, results of operations, and prospects. Moreover, these rules and regulations will increase our legal and financial compliance costs, and will make some activities more time-consuming and costly compared to when we were a private company.

We are evaluating these rules and regulations, and cannot predict or estimate the amount of additional costs we may incur or the timing of such costs. 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.

As a result of becoming a public company, we are obligated to develop and maintain proper and effective internal control over financial reporting. Any failure to maintain the adequacy of these internal controls may adversely affect investor confidence in our company and, as a result, the value of our common stock.

Pursuant to Section 404 of the Sarbanes-Oxley Act, we are required to furnish a report by our management on our internal control over financial reporting on an annual basis. This assessment will need to include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. Pursuant to Section 404, we are also required to have our independent registered public accounting firm issue an opinion on the effectiveness of our internal control over financial reporting on an annual basis.

During our evaluation of our internal control, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal control over financial reporting is effective. In addition, if we have an unremediated material weakness, we would receive an adverse opinion regarding our internal control over financial reporting from our independent registered public accounting firm. In connection with the audit of our consolidated financial statements for the year ended December 31, 2022, we and our independent registered public accounting firm identified a material weakness in our internal control over financial reporting. We cannot assure you that we can remedy our existing material weakness or that there will not be material weaknesses or significant deficiencies in our internal control over financial reporting in the future. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition, or results of operations. 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, we could lose investor confidence in the accuracy and completeness of our financial reports, we may be unable to maintain compliance with securities law requirements regarding timely filing of periodic reports in addition to applicable stock exchange listing requirements, the market price of shares 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.

We identified a material weakness in our internal control over our financial reporting. If we are unable to remediate this material weakness, we may not be able to accurately or timely report our financial condition or results of operations, and we may conclude that our internal control over financial reporting is not effective, which could adversely impact our investors' confidence and our stock price.

A material weakness is a deficiency, or a 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 or interim financial statements will not be prevented or detected on a timely basis. In connection with the audit of our consolidated financial statements for the year ended December 31, 2022, we and our independent registered public accounting firm identified a material weakness in our internal control over financial reporting. The material weakness related to a deficiency in the design of our control in our revenue process to determine whether performance milestones in a newly executed drug

discovery arrangement were probable of achievement and the constraint on variable consideration in the form of milestone payments can be removed. The deficiency was a result of ineffective risk assessment, as our existing controls were designed insufficiently to identify a change in timing of performance milestones in the newly executed contract. This material weakness resulted in a $1.7 million understatement of drug discovery revenue and a related understatement of contract assets that were corrected prior to the issuance of our consolidated financial statements as of and for the year ended December 31, 2022.

We have developed a detailed remediation plan and are making progress in what will be a multi-step process to fully remediate the material weakness described above. Specifically, as of December 31, 2022, we are in the process of implementing and expanding our controls and procedures in our revenue process in order to timely identify changes to the timing of when a performance milestone becomes probable of achievement in drug discovery arrangements and to ensure such determinations are made through the end of the reporting period. In addition, we will continue to assess risks on an ongoing basis to timely identify changes in our business that may create new exposures or risk categories, and we plan to conduct a comprehensive review and, as applicable, update our existing internal control framework to ensure that we have identified, developed, and deployed the appropriate business process controls to address the new exposures or risk categories that are identified.

While we have designed and are implementing new controls to remediate this material weakness, they have not operated for a sufficient period of time to demonstrate the material weakness has been remediated. We cannot assure you that the measures we have taken to date, together with any measures we may take in the future, will be sufficient to remediate the material weakness we identified or avoid the identification of additional material weaknesses in the future. If the steps we take do not remediate the material weakness in a timely manner, there could continue to be a reasonable possibility that this control deficiency or others could result in a material misstatement of our annual or interim financial statements that would not be prevented or detected on a timely basis.

Furthermore, investors' perceptions that our internal controls are inadequate or that we are unable to produce accurate financial statements on a timely basis may harm our stock price.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

As a public company, we are subject to certain reporting requirements of the Exchange Act. Our disclosure controls and procedures are designed to reasonably assure that information required to be disclosed by us in reports we file or submit under the Exchange Act is accumulated and communicated to management, recorded, processed, summarized, and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements or insufficient disclosures due to error or fraud may occur and not be detected.

Provisions in our corporate charter documents and under Delaware law could make an acquisition of our company, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current directors and members of management.

Provisions in our certificate of incorporation and our bylaws may discourage, delay, or prevent a merger, acquisition, or other change in control of our company 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, because our board of directors is responsible for appointing the members of our management team, 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. Among other things, these provisions:

- establish a classified board of directors such that only one of three classes of directors is elected each year;
- allow the authorized number of our directors to be changed only by resolution of our board of directors;
- limit the manner in which stockholders can remove directors from our board of directors;

- establish advance notice requirements for stockholder proposals that can be acted on at stockholder meetings and nominations to our board of directors;
- require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by our stockholders by written consent;
- limit who may call stockholder meetings to the board of directors or to the secretary at the request of the holders of at least 25% of the outstanding shares of our common stock and limited common stock; and
- authorize our board of directors to issue preferred stock without stockholder approval, which could be used to institute a "poison pill" that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, or the DGCL, 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.

Our certificate of incorporation designates the state courts in the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could discourage lawsuits against the company and our directors, officers, and employees.

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 (or, if the Court of Chancery of the State of Delaware does not have jurisdiction, the federal district court for the District of Delaware) will be the sole and exclusive forum for: (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees or stockholders to our company or our stockholders, (3) any action asserting a claim arising pursuant to any provision of the DGCL 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 arising pursuant to any provision of our certificate of incorporation or bylaws (in each case, as they may be amended from time to time) or governed by the internal affairs doctrine. These choice of forum provisions will not apply to suits brought to enforce a duty or liability created by the Securities Act of 1933, as amended, the Exchange Act or any other claim for which federal courts have exclusive jurisdiction.

This exclusive forum provision may limit the ability of our stockholders to bring a claim in a judicial forum that such stockholders find favorable for disputes with us or our directors, officers, or employees, which may discourage such lawsuits against us and our directors, officers, and employees. Alternatively, if a court were to find the choice of forum provision contained in our certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could materially adversely affect our business, financial condition, and operating results.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our principal facilities consist of office space. We occupy approximately 136,047 square feet of office space in New York, New York under a lease that currently expires in December 2037. We also occupy approximately 35,000 square feet of office space in Portland, Oregon under a lease that currently expires in September 2026, and we lease additional office space at our other office locations around the world. We believe our facilities are adequate and suitable for our current needs and that should it be needed, suitable additional or alternative space will be available to accommodate our operations.

Item 3. Legal Proceedings.

From time to time, we may become involved in legal proceedings arising in the ordinary course of our business. We are not currently subject to any material legal proceedings.

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

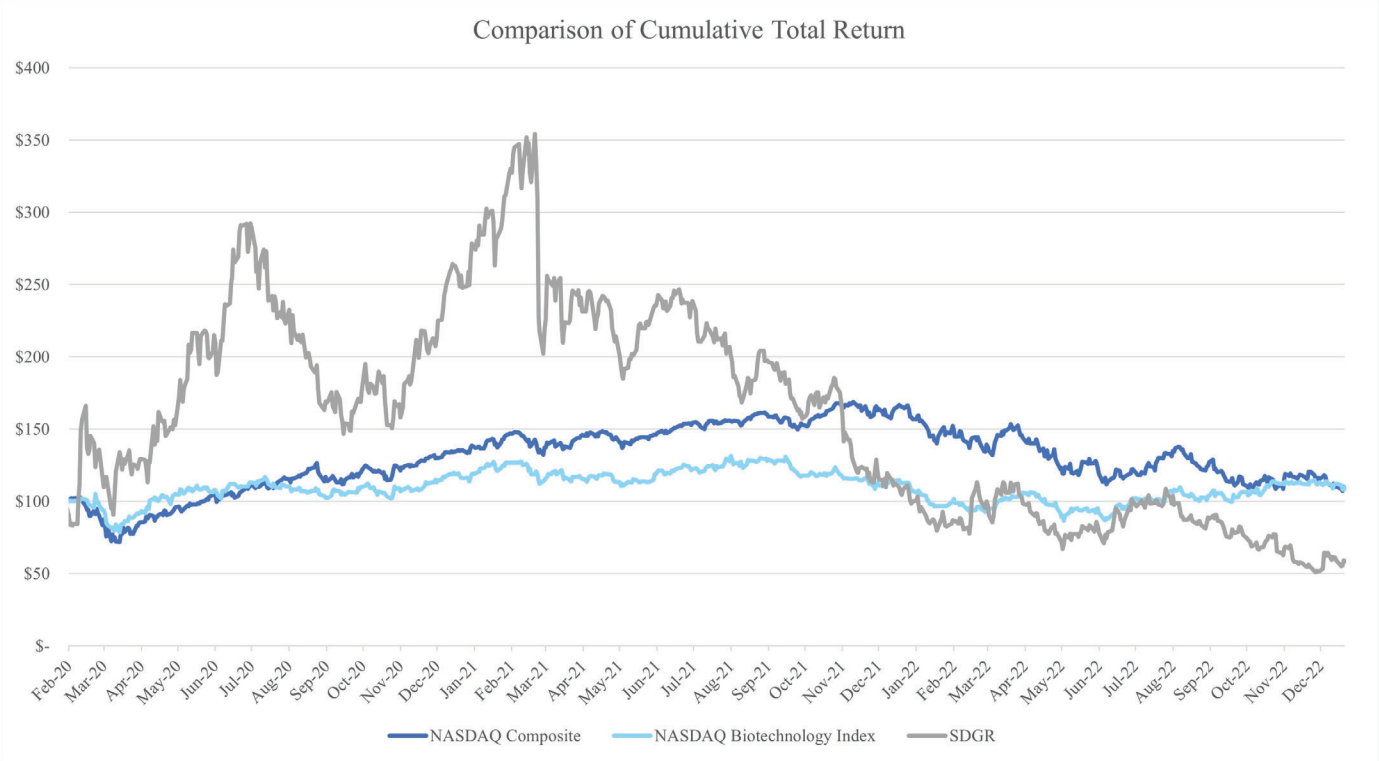
Market Information

Our common stock has been publicly traded on the Nasdaq Global Select Market under the symbol "SDGR" since February 6, 2020. Prior to that date, there was no public market for our common stock. Our limited common stock is not listed or traded on any stock exchange.

Performance Graph

The following performance graph related information shall not be deemed to be "soliciting material" or to be "filed" with the Securities and Exchange Commission for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or otherwise subject to the liabilities under that Section, nor shall such information be incorporated by reference into any future filing under the Exchange Act or the Securities Act of 1933, as amended, or the Securities Act, except to the extent that we specifically incorporate it by reference into such filing.

The following graph compares the cumulative total return on our common stock with the cumulative total return of the Nasdaq composite and the Nasdaq Biotechnology Index from February 6, 2020 (the first date that shares of our common stock were publicly traded on the Nasdaq Global Select Market) through December 31, 2022. The graph assumes an investment of $100 on February 6, 2020, in each of the foregoing indices and in our common stock. Data for each of the indices and our common stock assumes that all dividends were reinvested on the day of issuance, if any. The comparisons are not intended to forecast or be indicative of future performance of our common stock.



Holders of Record

As of February 21, 2023, there were approximately 112 holders of record of our common stock and one holder of record of our limited common stock. The actual number of stockholders is greater than this number of holders of record and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Dividends

We have never declared or paid cash dividends on our common stock or our limited common stock. We currently intend to retain all available funds and any future earnings to fund the development and expansion of our business and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination to declare and pay dividends will be made at the discretion of our board of directors and will depend on then-existing conditions, including our results of operations, financial condition, contractual restrictions, capital requirements, business prospects, and other factors our board of directors may deem relevant.

Recent Sales of Unregistered Securities

Not applicable.

Issuer Purchases of Equity Securities

Not applicable.

Item 6. [Reserved.]

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

You should read the following discussion and analysis of our financial condition and results of operations together with our consolidated financial statements and related notes appearing elsewhere in this Annual Report. Some of the information contained in this discussion and analysis or set forth elsewhere in this Annual Report, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties.

The following discussion and analysis of our financial condition and results of operations covers fiscal 2022 and fiscal 2021 items and year-over-year comparisons between fiscal 2022 and fiscal 2021. Discussions of fiscal 2020 items and year-over-year comparisons between fiscal 2021 and 2020 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of our Annual Report on Form 10-K for the fiscal year ended December 31, 2021, that was filed with the SEC on February 24, 2022.

As a result of many factors, including those factors set forth in "Risk Factors" of this Annual Report, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. For further information regarding our forward-looking statements, see "Cautionary Note Regarding Forward-Looking Statements and Industry Data" in this Annual Report.

Overview

We are transforming the way therapeutics and materials are discovered. Our differentiated, physics-based computational platform enables discovery of high-quality, novel molecules for drug development and materials applications more rapidly and at a lower cost, compared to traditional methods. Our software platform is licensed by biopharmaceutical and industrial companies, academic institutions, and government laboratories around the world. We are applying our computational platform to discover and advance a broad pipeline of development programs in collaboration with leading biopharmaceutical companies. In addition, we use our platform to advance a pipeline of partnered and wholly-owned drug discovery programs, which we refer to collectively as our proprietary drug discovery programs.

Since our founding, we have been primarily focused on developing our computational platform, which is capable of predicting critical properties of molecules with a high degree of accuracy, as well as advancing drug discovery programs both with our collaborators and on our own. We have devoted substantially all of our resources to introducing new capabilities and refining our software, conducting research and development activities, recruiting skilled personnel, and providing general and administrative support for these operations.

Over the last decade, we have entered into a number of collaborations with biopharmaceutical companies that have provided us with significant income and have the potential to produce additional milestone payments, option fees, and future royalties. In 2018, we began to develop a pipeline of wholly-owned drug discovery programs with the goal of using our platform to produce a portfolio of novel, high value therapeutics. We submitted an investigational new drug

application, or IND, for our MALT1 inhibitor, which we refer to as SGR-1505, and the U.S. Food and Drug Administration, or FDA, cleared the IND in June 2022. We recently initiated a Phase 1 clinical trial of SGR-1505 in patients with relapsed or refractory B-cell lymphomas and currently have clinical trial sites open for screening and enrollment, but we have not yet dosed any patients with SGR-1505. In addition, we continue to advance other wholly-owned programs through IND-enabling studies. We expect to submit an IND application to the FDA for our CDC7 inhibitor, which we refer to as SGR-2921, in the first half of 2023 and an IND application to the FDA for our WEE1 inhibitor, which we refer to as SGR-3515, in 2024, subject to favorable data from IND-enabling studies. In addition, we plan to initiate a Phase 1 clinical trial of SGR-2921 in the second half of 2023, subject to receipt of regulatory clearance.

We have funded our operations to date principally from the sale of our equity securities, including our initial public offering and our follow-on public offering, and to a lesser extent, from sales of our software solutions and from upfront payments, research funding and milestone payments from our drug discovery collaborations, and from distributions on account of, or proceeds from the sale of, our equity stakes in our collaborators.

We currently conduct our operations through two reportable segments: software and drug discovery. The software segment is focused on selling our software to transform drug discovery across the life sciences industry, as well as to customers in materials science industries. The drug discovery segment is focused on generating revenue from a diverse portfolio of preclinical and clinical programs, internally and through collaborations, that have advanced to various stages of discovery and development.

Our software segment generates revenue from software product licenses, hosted software subscriptions, software maintenance, professional services, and contributions. The revenue we generate through our software solutions from each of our customers varies largely depending on the number of software licenses our customers purchase from us. The licenses that our customers purchase from us provide them the ability to perform a certain number of calculations used in the design of molecules for drug discovery or materials science. We deliver our software through either (i) a product license that permits our customers to install the software solution directly on their own in-house hardware and use it for a specified term, or (ii) a subscription that allows our customers to access our cloud-based software solution on their own hardware without taking control of licenses.

We currently generate drug discovery revenue from our collaborations, including upfront payments, research funding payments and discovery and development milestones. In the future, we may also derive drug discovery revenue from our collaborations from option fees, the achievement of commercial milestones, and royalties on commercial drug sales. In addition to revenue from our collaborations, we may also derive drug discovery revenue from collaborating on or out-licensing our wholly-owned drug discovery programs when we believe it will help maximize clinical and commercial opportunity for the program.

In November 2020, we entered into an exclusive, worldwide collaboration and license agreement with Bristol-Myers Squibb Company, or BMS, pursuant to which we and BMS agreed to collaborate in the discovery, research and development of small molecule compounds for biological targets in the oncology, neurology and immunology therapeutic areas. The initial collaboration targets included HIF-2 alpha and SOS1/KRAS, which were two of our wholly-owned pipeline programs. In November 2021, we and BMS mutually agreed to replace the HIF-2 alpha target with another precision oncology target. Following the replacement election, all rights to the HIF-2 alpha target program reverted to us. In September 2022, BMS elected not to proceed with further development of another target and all rights to this program reverted to us. In December 2022, we and BMS entered into an amendment to the agreement to include an additional target in neurology on terms similar to the original agreement. Under the terms of the agreement, as amended, we received an upfront payment of $55.0 million from BMS in November 2020 and an additional upfront payment in December 2022, and we are eligible to receive up to $2.7 billion in total milestone payments across all potential targets, as well as a tiered percentage royalty on net sales of each product commercialized by BMS ranging from mid-single digits to low-double digits, subject to certain specified reductions. See “Collaboration and License Agreement” in Note 3 to our consolidated financial statements for additional information relating to this agreement.

In August 2021, we entered into a global discovery, development and commercialization collaboration with Zai Lab Limited focused on a novel program in oncology targeting DNA damage response. Under the terms of the agreement, we received an upfront payment to help fund our share of research costs, and if we elect to co-fund clinical development of a product candidate under the collaboration, we will be entitled to receive 50% of any profits from the commercialization of an approved therapeutic in the United States. We are also eligible to receive up to approximately $338.0 million in preclinical, clinical, regulatory and sales-based milestone payments from Zai Lab Limited for any product candidate developed under the collaboration, and we are entitled to receive tiered royalties on net sales outside the United States.

In January 2022, we acquired XTAL BioStructures, Inc., or XTAL, a company that provides structural biology services, including biophysical methods, protein production and purification, and X-ray crystallography, which we believe will augment our ability to produce high quality target structures for our drug discovery programs. See "Business Acquisition" in Note 5 to our consolidated financial statements for additional information relating to this acquisition.

In September 2022, we entered into a collaboration with Eli Lilly and Company, or Lilly, under which we are responsible for the discovery and optimization of small molecule compounds addressing a specific target. Lilly will be responsible for the completion of preclinical development, clinical development and commercialization. Under the terms of the agreement we received an upfront payment and we are eligible to receive up to $425 million in discovery, development and commercial milestone payments. We are also eligible to receive low single- to low double-digit royalties on net sales of any products emerging from the collaboration in all markets.

We generated revenue of $181.0 million and $137.9 million in 2022 and 2021, respectively, representing year-over-year growth of 31%. Our net losses were $149.2 million and $101.2 million for the years ended December 31, 2022 and 2021, respectively.

Business Impact of COVID-19 Pandemic

In order to safeguard the health of our employees in light of the COVID-19 pandemic, in early March 2020 we implemented a company-wide work-from-home policy. Beginning in June 2020, we began limited re-openings of certain of our offices in the United States and abroad. All of our offices are currently open, though we may take future actions that alter our operations as may be required by federal, state, or local authorities, or which we determine are in our best interests.

We did not see material impacts to our business from the COVID-19 pandemic during 2022. While we do not expect the COVID-19 pandemic to have future material impacts on our business, the full extent of the future impact will depend on many factors outside of our control, including, without limitation, the extent, trajectory and duration of the COVID-19 pandemic, the development, availability and distribution of effective treatments and vaccines, the imposition of protective public safety measures, the emergence of new strains and variants of COVID-19 and the effectiveness of vaccines against such strains and variants, and the impact of the COVID-19 pandemic on the global economy. For instance, with respect to our software business, some of our customers may experience increasing budgetary pressures as a result of downturns or uncertainty in their respective businesses, which may cause them to delay or reduce purchases. Relative to our and our collaborators' drug discovery programs, the COVID-19 pandemic has resulted in, and may in the future result in, disruptions in current and future IND-enabling studies and clinical trials, manufacturing disruptions, trial site disruptions and impact the ability to obtain necessary institutional review board, institutional biosafety committee, or other necessary site approvals. These disruptions have caused, and may in the future cause, delays in certain of our and our collaborators' drug discovery programs. For example, our contract manufacturing organizations, or CMOs, and our contract research organizations, or CROs, have experienced reductions in the capacity to undertake research-scale production and delays in executing some preclinical studies, including our IND-enabling studies for SGR-2921. We expect to submit the IND application to the FDA for SGR-2921 in the first half of 2023 and to initiate a Phase 1 clinical trial in the second half of 2023, subject to regulatory clearance. In addition, the recent resurgence of COVID-19 in certain cities in China, and related subsequent lockdowns, have also reduced the capacity of a number of CROs that we work with in those affected areas. We, together with our CMOs and CROs, are closely monitoring the impact of the COVID-19 pandemic on these operations, and we are actively working to add supplemental or substitute capacity to minimize the impact of these reduced operations. Furthermore, if our collaborators experience similar delays with their drug discovery and development programs, that could cause additional delays in our achievement of milestones and related revenue. While there remains uncertainty about the extent of the effect of the COVID-19 pandemic, we do not envision a long-term impact from the COVID-19 pandemic on our ability to execute on our strategy.

Management is actively monitoring the COVID-19 pandemic and its possible effects on our financial condition, liquidity, operations, customers, contractors, and workforce. For additional information on risks posed by the COVID-19 pandemic, please see "Risk Factors – Risks Related to Our Operations – A widespread outbreak of an illness or other health issue, such as the COVID-19 pandemic, could negatively affect various aspects of our business and make it more difficult to meet our obligations to our customers, and could result in reduced demand from our customers as well as delays in our drug discovery and development programs," included elsewhere in this Annual Report.

In response to the COVID-19 pandemic, we have joined a multi-company philanthropic effort to discover and develop novel small-molecule antiviral therapeutics to address COVID-19. The intent of the alliance, which to date also includes Takeda Pharmaceutical Company Limited, Novartis AG, Alphabet, Inc., Gilead Sciences, Inc., and WuXi

AppTec, Inc., is to make any discoveries from this alliance available to the public. There is no expectation that this effort will generate revenue for any of the companies involved in the alliance, including us.

Key Factors Affecting Our Performance

Ability to drive additional revenue from our software solutions from existing customers

Our large existing base of customers represents a significant opportunity for us to expand our revenue through increased utilization of our software. The revenue that we generate through our software solutions from each of our customers varies depending on the number of licenses for each software solution that each customer purchases from us. Accordingly, we work with our customers to improve their experience and increase the utility of our platform in order to expand the scale at which they deploy our platform in their business. Biopharmaceutical companies are increasingly adopting our software at a larger scale, and we anticipate that this scaling-up will drive future revenue growth. Our ability to expand within our customer base is demonstrated by the increasing number of our customers with an annual contract value, or ACV, of over $100,000. We had 227 and 190 of these customers for the years ended December 31, 2022 and 2021, respectively. This subset of customers represented approximately 82% and 80% of our total ACV for the years ended December 31, 2022 and 2021, respectively. In addition, we had 18 and 15 customers with an ACV of over $1.0 million for the years ended December 31, 2022 and 2021, respectively. We also had four customers with an ACV in excess of $5.0 million for the year ended December 31, 2022, compared to two such customers for the year ended December 31, 2021.

With respect to contracts that have a duration of one year or less, or contracts of more than one year in duration that are billed annually, we define ACV as the contract value billed during the applicable period. For contracts with a duration of more than one year that are billed upfront, ACV in each period represents the total billed contract value divided by the term. ACV should be viewed independently of revenue and does not represent revenue calculated in accordance with generally accepted accounting principles in the United States, or U.S. GAAP, on an annualized basis, as it is an operating metric that can be impacted by contract execution start and end dates and renewal rates. ACV is not intended to be a replacement for, or forecast of, revenue. Our ACV was $140.6 million and $112.1 million for the years ended December 31, 2022 and 2021, respectively.

Another important driver of our ability to expand our customer relationships is the retention of our customers with an ACV over $100,000. For the year ended December 31, 2022, our year-over-year customer retention rate for such customers was 96% and was 96% or higher for each of the previous nine fiscal years. We calculate year-over-year customer retention for our customers with an ACV over $100,000 by starting with the number of such customers we had in the previous fiscal year. We then calculate how many of these customers were active customers in the current fiscal year. We then divide this number by the number of customers with an ACV over $100,000 we had in the previous fiscal year to arrive at the year-over-year customer retention rate for such customers. We aim to continue to grow our software sales by increasing the adoption of our software by our existing customers and identifying and adding new customers. If we are unable to continue to increase revenue from existing customers or identify new customers, our financial performance will be adversely impacted.

Ability to increase our customer base for our software solutions

We believe that we have significant opportunity to continue to increase the number of customers who use our solutions. We had 1,748 and 1,647 active customers for the years ended December 31, 2022 and 2021, respectively. We define the number of active customers as the number of customers who had an ACV of at least $1,000 in the fiscal year. We use $1,000 as a threshold for defining our active customers as this amount will generally exclude customers who only license our PyMOL software, which is our open-source molecular visualization system broadly available at low cost.

While we have significantly penetrated the pharmaceutical industry, with all of the top 20 pharmaceutical companies, measured by 2021 revenue, licensing our software in 2022, our strategy is to grow our customer base. We believe there remains a large opportunity for growth as there are thousands of biopharmaceutical companies that could benefit from our solutions. Additionally, since the physics underlying the properties of drug molecules and materials is the same, we have been able to extend our computational platform to materials science applications in fields such as aerospace, energy, semiconductors, and electronic displays.

We sell our software solutions to a growing number of materials science customers, and we believe materials science industries are only beginning to recognize the potential of computational methods. We continue to provide education and information to increase the awareness of our computational platform across different industries. As part of our strategy, we have driven the adoption of our software by researchers, and we had more than 1,720 academic institutions

across the world using our software in 2022. We believe that by introducing the benefits of our computational software at the academic stage, we will drive brand awareness and expand the use of our platform to industries that have historically relied on traditional methods for discovery of molecules. Our ability to continue to grow our customer base is dependent upon our ability to educate the market and support the business through investment in our sales and marketing efforts and the ongoing enhancement of our software solutions.

Advancement of our collaborative programs

We have entered into a number of collaborations with various biopharmaceutical companies to advance drug discovery. We will seek to enter into additional collaboration agreements, driven by the synergies we expect to achieve between our platform and the capabilities and expertise of our potential collaborators. We believe that our collaborations will be a significant driver of value for us in the form of equity stakes, research fees, preclinical, clinical, and commercial milestone payments, and option fees, as well as royalties on any potential future sales of products, if approved. We continue to work with our current collaborators to advance existing programs through discovery research stages and initiate additional programs. However, we do not generally exercise control over the development programs of our collaborators and often rely on decisions of the management of such companies with respect to clinical development and commercialization. Our ability to continue to derive value from our collaborations will be driven by both our capability to make progress in these programs as well as whether our collaborators successfully advance such programs beyond the discovery stage. We track the aggregate number of collaborative and partnered programs for which we are eligible to receive any amount of royalties on sales and as of December 31, 2022, we had an aggregate of 15 collaborative and partnered programs for which we are eligible to receive future royalties compared to 13 collaborative and partnered programs as of December 31, 2021.

Ability to progress our proprietary drug discovery programs

We are advancing our pipeline of proprietary drug discovery programs through extensive application of our software platform. Our initial programs were focused on discovering and developing inhibitors for targets in DNA damage response pathways and genetically defined cancers. Since then, we have expanded into other therapeutic areas, including in the areas of immunology and neurology. We recently initiated a Phase 1 clinical trial of SGR-1505 in patients with relapsed or refractory B-cell lymphomas and currently have clinical trial sites open for screening and enrollment, but we have not yet dosed any patients with SGR-1505. In addition, we continue to advance other wholly-owned programs through IND-enabling studies. We expect to submit an IND application to the FDA for SGR-2921 in the first half of 2023 and for SGR-3515 in 2024, subject to favorable data from IND-enabling studies. In addition, we plan to initiate a Phase 1 clinical trial of SGR-2921 in the second half of 2023, subject to receipt of regulatory clearance.

As we progress these programs, we will strategically evaluate on a program-by-program basis advancing them into preclinical and clinical development ourselves, entering into collaborations to co-develop them with leading industry partners, or out-licensing them to maximize their probability of clinical and commercial success. As part of this strategy, we entered into an exclusive, worldwide collaboration and license agreement with BMS in November 2020, as well as collaboration agreements with Zai Lab Limited in August 2021 and Lilly in September 2022. We will need to continue to devote substantial resources to develop and expand our proprietary drug discovery programs. Our ability to advance and build value in our proprietary drug discovery programs will impact our financial performance, especially as we increasingly shift our focus to these programs.

Components of Results of Operations

Software Products and Services Revenue

Our software business generates revenue from five sources: (i) on-premise software license fees, (ii) hosted software subscription fees, (iii) software maintenance fees, (iv) professional services fees, and (v) contributions.

On-premise software. Our on-premise software license arrangements grant customers the right to use our software on their own in-house servers or their own cloud instances for a specified term, typically for one year. We recognize revenue for on-premise software license fees upfront, either upon delivery of the license or the effective date of the agreement, whichever is later.

Hosted software. Hosted software revenue consists primarily of fees to provide our customers with hosted licenses, which allows these customers to access our cloud-based software solution on their own hardware without taking control of the licenses, and is recognized ratably over the term of the arrangement, which is typically one year. When a

customer enters into a hosted arrangement for which revenue is recognized over time, the amount paid upfront that is not recognized in the current period is included in deferred revenue in our statement of financial position until the period in which it is recognized.

Software maintenance. Software maintenance includes technical support, updates, and upgrades related to our on-premise software licenses. Software maintenance revenue is recognized ratably over the term of the arrangement. Software maintenance activities are performed in connection with the use of our on-premise software, and may fluctuate from period to period.

Professional services. Professional services include training, technical setup, installation or assisting customers with modeling and structural biology services, where we use our software to perform tasks such as virtual screening and homology modeling on behalf of our customers. These services are generally not related to the core functionality of our software and are recognized as revenue when resources are consumed. Since each professional services agreement represents a unique, ad hoc engagement, professional services revenue may fluctuate from period to period.

Software contribution revenue. Software contribution revenue consists of funds received under a non-reciprocal agreement with Gates Ventures, LLC entered into in June 2020. The agreement is an unconditional non-exchange contribution without restrictions. Revenue was recognized upon execution of the agreement and on the first anniversary of the agreement when invoiced, in accordance with Accounting Standard Codification, or ASC Topic 958*, Not-for-Profit Entities* as the agreement is not an exchange transaction.

Drug Discovery Revenue

Drug discovery services. We currently generate drug discovery revenue from discovery collaboration arrangements, including research and development payments and discovery and development milestones. We expect our drug discovery revenue to trend higher over time as collaboration arrangements advance and we receive additional revenue from research funding payments, the achievement of discovery, development, and commercial milestones, option fees, and royalties on commercial drug sales. The majority of our current collaborations are in the discovery stage. Milestone payments typically increase in magnitude as a program advances. In addition to revenue from our collaborations, we may also derive drug discovery revenue from out-licensing our wholly-owned drug discovery programs when we believe it will help maximize the probability of clinical and commercial success of the program. Accordingly, in November 2020, we entered into an exclusive, worldwide collaboration and license agreement with BMS, pursuant to which we received an upfront payment of $55.0 million from BMS, of which approximately $22.1 million and $13.7 million were included in our drug discovery revenue for the years ended December 31, 2022 and 2021, respectively. Overall, we expect that our drug discovery revenue will fluctuate from period to period due to the inherently uncertain nature of the timing of milestone achievement and our dependence on the program decisions of our collaborators.

Drug discovery contribution revenue. Contribution revenue consists of funds received under an agreement with the Bill and Melinda Gates Foundation on a cost reimbursement basis, to perform services aimed at accelerating drug discovery in women's health. Revenue is recognized as conditions are met in accordance with ASC Topic 958, *Not-for-Profit Entities*.

Cost of Revenues

Software products and services. Cost of revenues for software includes personnel-related expenses (comprised of salaries, benefits, and stock-based compensation) for employees directly involved in the delivery of software solutions, maintenance and professional services, royalties paid for products sold and services performed using third-party licensed software functionality, and allocated overhead (facilities and information technology support) costs. Pursuant to various third-party arrangements, we license technology that is used in our software. These arrangements require us to pay royalties based on sales volume, and such royalty payments represented 4.8% and 7.1% of software revenues in the years ended December 31, 2022 and 2021, respectively.

Drug discovery. Costs of revenue for drug discovery includes personnel-related expenses and costs of third-party contract research organizations, or CROs, that support discovery activities in our collaborations, royalties paid for services performed using third-party licensed software functionality, allocated compute capacity and overhead costs. While we have incurred costs associated with discovery efforts since late 2017, we have recognized and expect to continue to recognize revenues in the future if and when milestones are achieved. Generally, drug discovery costs of revenue for collaborations are incurred in advance of the revenue milestone achievement.

Royalty payments to third-parties represented 4.8% and 4.6% of drug discovery revenues in the years ended December 31, 2022 and 2021, respectively. We expect our drug discovery costs of revenue to trend higher over time as our discovery collaborations advance.

Gross Profit and Gross Margin

Gross profit represents revenue less cost of revenues. Gross margin is gross profit expressed as a percentage of revenue. Our software products and services gross margin may fluctuate from period to period as our revenue fluctuates, and as a result of changes in sales mix between on-premise and hosted software solutions. For example, the cost of royalties due for sales of our hosted software arrangements are recognized upfront, whereas the associated revenue is recognized over the term of the underlying agreement. Currently, gross margin is less meaningful for measuring the operating results of our drug discovery business.

Research and Development Expense

Research and development expense accounts for a significant portion of our operating expenses. We recognize research and development expense as incurred. Research and development expense consists of drug discovery and development program costs and costs incurred for continuous development of the technology and science that supports our computational platform, primarily:

- personnel-related expenses, including salaries, benefits, bonuses, and stock-based compensation for employees engaged in research and development functions;
- expenses incurred under agreements with third-party CROs and consultants involved in our proprietary drug discovery and development programs; and
- allocated compute capacity on our internal discovery and development programs and overhead (facilities and information technology support) costs.

We expect our research and development expense to increase substantially in absolute dollars for the foreseeable future as we continue to invest in activities related to discovery and development of our proprietary drug discovery programs, in advancing our computational platform, and as we incur expenses associated with hiring additional personnel directly involved in such efforts. At this time, we do not know, nor can we reasonably estimate, the nature, timing, or costs of the efforts that will be necessary to complete the development of any of our proprietary drug discovery programs. Since our proprietary drug discovery efforts are in the early stages, currently we do not track research and development expense on a program-by-program basis.

Sales and Marketing Expense

Sales and marketing expense consists primarily of personnel-related costs for our sales and marketing staff and application scientists supporting our sales efforts, including salaries, benefits, bonuses, and stock-based compensation. Other sales and marketing costs include promotional events that promote and expand knowledge of our company and platform, including industry conferences and events and our annual user group meetings in the United States and Europe, advertising, and allocated overhead costs. Due to the inherent scientific complexity of our software solutions, a high level of scientific expertise is needed to support our sales and marketing efforts. We plan to make focused investments in sales and marketing over the foreseeable future to foster the growth of our business as we aim to expand software sales to existing customers and increase our customer base.

General and Administrative Expense

General and administrative expense consists of personnel-related expenses associated with our executive, legal, finance, human resources, information technology, and other administrative functions, including salaries, benefits, bonuses, and stock-based compensation. General and administrative expense also includes professional fees for external legal, accounting and other consulting services, allocated overhead costs, and other general operating expenses.

We expect to increase the size of our general and administrative staff to support the anticipated growth of our business. We expect to continue to incur additional expenses as a result of operating as a public company, including costs to comply with the rules and regulations applicable to companies listed on a U.S. securities exchange and costs related to compliance and reporting obligations pursuant to the rules and regulations of the Securities and Exchange Commission, or SEC. In addition, as a public company, we expect to continue to incur increased expenses such as insurance and

professional services. As a result, we expect the dollar amount of our general and administrative expense to increase for the foreseeable future.

Gain (Loss) on Equity Investments

Gain (loss) on equity investments consists of realized gains in the form of cash distributions received from our equity investments offset by realized losses on the sale of equity.

Change in Fair Value

Fair value gains and losses consist of adjustments to the fair value of our equity investments, including Nimbus Therapeutics, Inc., or Nimbus, Structure Therapeutics Inc., formerly known as ShouTi Inc., or Structure Therapeutics, Eonix, LLC, or Eonix, and Morphic Holding, Inc., or Morphic. We remeasure our investments at each period end.

We expect that fair value gains and losses will fluctuate significantly in future periods.

Other Income

Other income consists of interest earned on our cash equivalents and marketable securities, interest expense, and transactional foreign exchange gains and losses.

Income Tax Expense

Income tax expense consists of U.S. federal and state income taxes and income taxes in certain foreign jurisdictions in which we conduct business. We maintain a full valuation allowance on our federal and state deferred tax assets as we have concluded that it is not more likely than not that the deferred tax assets will be realized.

Results of Operations

Comparison of the years ended December 31, 2022 and 2021

The following table summarizes our results of operations data for the years ended December 31, 2022 and 2021:

	Year Ended December 31,		Change	
	2022	2021	$	%
	(in thousands)			
Revenues:				
Software products and services	$ 135,578	$ 113,236	$ 22,342	20%
Drug discovery	45,377	24,695	20,682	84%
Total revenues	180,955	137,931	43,024	31%
Cost of revenues:				
Software products and services	29,576	26,495	3,081	12%
Drug discovery	50,357	45,816	4,541	10%
Total cost of revenues	79,933	72,311	7,622	11%
Gross profit	101,022	65,620	35,402	54%
Operating expenses:				
Research and development	126,372	90,904	35,468	39%
Sales and marketing	30,642	22,150	8,492	38%
General and administrative	90,825	64,009	26,816	42%
Total operating expenses	247,839	177,063	70,776	40%
Loss from operations	(146,817)	(111,443)	(35,374)	32%
Other income (expense):				
Gain (loss) on equity investments	11,825	(1,781)	13,606	
Change in fair value	(18,084)	11,359	(29,443)	
Other income	3,950	1,057	2,893	
Total other (expense) income	(2,309)	10,635	(12,944)	
Loss before income taxes	(149,126)	(100,808)	(48,318)	
Income tax expense	63	411	(348)	
Net loss	(149,189)	(101,219)	(47,970)	
Net loss attributable to noncontrolling interest	(3)	(826)	823	
Net loss attributable to Schrödinger stockholders	$ (149,186)	$ (100,393)	$ (48,793)	

Revenues

	Year Ended December 31,		Change	
	2022	2021	$	%
	(in thousands)			
Revenues:				
Software				
On-premise software	$ 84,487	$ 74,598	$ 9,889	13%
Hosted software	14,890	11,076	3,814	34%
Software maintenance	19,996	17,294	2,702	16%
Professional services	15,205	9,268	5,937	64%
Software contribution	1,000	1,000	—	—%
Total software products and services	135,578	113,236	22,342	20%
Drug Discovery				
Drug discovery services	43,427	24,584	18,843	77%
Drug discovery contribution	1,950	111	1,839	1657%
Total drug discovery	45,377	24,695	20,682	84%
Total revenues	$ 180,955	$ 137,931	$ 43,024	31%

Software Products and Services Revenue

On-premise software. The increase in revenues for on-premise software during the year ended December 31, 2022 as compared to the year ended December 31, 2021 was primarily attributable to growth from existing customers, new customer growth, and an increase in multi-year arrangements for which revenue was recognized ahead of annual billings during the year ended December 31, 2022 as compared to the year ended December 31, 2021.

Hosted software. The increase in revenues for hosted software during the year ended December 31, 2022 as compared to the year ended December 31, 2021 was primarily due to increased spend from existing hosted customers, as well as growth in new customers purchasing hosted software subscriptions, for which revenue is recognized ratably over time.

Software maintenance. The increase in revenues for software maintenance during the year ended December 31, 2022 as compared to the year ended December 31, 2021 was primarily due to the increase in on-premise software sales in current and previous years. Software maintenance revenue is recognized ratably over time.

Professional services. The increase in revenues from professional services during the year ended December 31, 2022 as compared to the year ended December 31, 2021 was primarily due to the addition of XTAL service revenue subsequent to the acquisition, and the increased sales and timing of technology and modeling service projects.

Software contribution revenue. Contribution revenue during the year ended December 31, 2022 and the year ended December 31, 2021 was due to funds received under an agreement with Gates Ventures, LLC, which began in June 2020.

Drug Discovery Revenue

Drug discovery services. The increase in revenues for drug discovery services during the year ended December 31, 2022 as compared to the year ended December 31, 2021 was primarily due to the progress of existing and new collaborations accomplished during the period, the timing and amount of collaboration milestones achieved, as well as research funding received during 2022 as compared to 2021. We expect that our revenue will fluctuate from period to period due to the inherently uncertain nature of the timing of milestone achievement and our dependence on the program decisions of our collaborators.

Drug discovery contribution revenue. Contribution revenue during the year ended December 31, 2022 was due to services performed under an agreement with the Bill and Melinda Gates Foundation, aimed at accelerating drug discovery in women's health, which began in November 2021.

Cost of Revenues

	Year Ended December 31,		Change	
	2022	2021	$	%
	(in thousands)			
Cost of revenues:				
Software products and services	$ 29,576	$ 26,495	$ 3,081	12%
Gross margin	78 %	77 %		
Drug discovery	50,357	45,816	4,541	10%

Software products and services. The increase in cost of revenues for software products and services during the year ended December 31, 2022 as compared to the year ended December 31, 2021 was attributable to increases of approximately $3.3 million in personnel-related expense and approximately $1.5 million in other expenses, offset by decreases of approximately $1.5 million in royalty expense and approximately $0.2 million in cloud computing expense.

Software products and services gross margin. The increase in software gross margin during the year ended December 31, 2022 as compared to the year ended December 31, 2021 was primarily due to the reduction of $0.7 million in royalty expense as a result of replacing third-party licensed code with internally built functionality, as well as the sales mix.

Drug discovery. The increase in cost of revenues for drug discovery during the year ended December 31, 2022 as compared to the year ended December 31, 2021 was attributable to increases of approximately $1.3 million in third-party CRO costs associated with the expansion and progression of collaboration drug discovery programs, approximately $1.3 million in personnel-related expense, approximately $1.0 million in royalty expense, approximately $0.1 million in cloud computing expense, and approximately $0.8 million in other expenses.

Research and Development Expense

	Year Ended December 31,		Change	
	2022	2021	$	%
	(in thousands)			
Research and development	$ 126,372	$ 90,904	$ 35,468	39%

The increase in research and development expense during the year ended December 31, 2022 as compared to the year ended December 31, 2021 was attributable to increases of approximately $21.8 million in personnel-related expense, approximately $5.4 million in CRO costs associated with the expansion and progression of our proprietary drug discovery programs, approximately $4.0 million in cloud computing expense, approximately $2.0 million related to office rent, and approximately $2.3 million in other expenses.

Sales and Marketing Expense

	Year Ended December 31,		Change	
	2022	2021	$	%
	(in thousands)			
Sales and marketing	$ 30,642	$ 22,150	$ 8,492	38%

The increase in sales and marketing expense during the year ended December 31, 2022 as compared to the year ended December 31, 2021 was attributable to increases of approximately $4.9 million in personnel-related expense,

approximately $1.3 million in travel and entertainment expenses, approximately $0.7 million in cloud computing expense, and approximately $1.6 million in other expenses.

General and Administrative Expense

	Year Ended December 31,		Change	
	2022	2021	$	%
	(in thousands)			
General and administrative	$ 90,825	$ 64,009	$ 26,816	42%

The increase in general and administrative expense during the year ended December 31, 2022 as compared to the year ended December 31, 2021 was attributable to increases of approximately $16.6 million of personnel-related expense, approximately $2.6 million related to professional services, approximately $1.3 million related to one-time non-recurring state and local tax items, approximately $1.2 million in travel and entertainment expense, approximately $1.2 million in cloud computing expense, approximately $1.2 million related to office rent, and approximately $2.7 million in other expenses, primarily reflecting costs necessary to build and maintain a public company infrastructure.

Gain (Loss) on Equity Investments

	Year Ended December 31,		
	2022	2021	Change
	(in thousands)		
Gain (loss) on equity investments	$ 11,825	$ (1,781)	$ 13,606

The gain on equity investments during the year ended December 31, 2022 was due to cash received from a third party, who previously acquired a collaborator in which we held an equity stake, in exchange for the termination of our rights to receive potential earnouts under the acquisition agreement. The loss on equity investments during the year ended December 31, 2021 was primarily due to the realized loss on the disposal of our equity stake in Relay Therapeutics, or Relay.

Change in Fair Value

	Year Ended December 31,		
	2022	2021	Change
	(in thousands)		
Change in fair value	$ (18,084)	$ 11,359	$ (29,443)

The change in fair value during the year ended December 31, 2022 was primarily due to a loss on our investment in Morphic. The change in fair value during the year ended December 31, 2021 was primarily due to a gain on our investment in Morphic.

Other Income

	Year Ended December 31,		
	2022	2021	Change
	(in thousands)		
Other income	$ 3,950	$ 1,057	$ 2,893

The increase in other income during the year ended December 31, 2022 as compared to the year ended December 31, 2021 was attributable to an increase in interest rates on our investment portfolio offset by exchange rate variances.

Income Tax Expense

	Year Ended December 31,		
	2022	2021	Change
	(in thousands)		
Income tax expense	$ 63	$ 411	$ (348)

Due to the full valuation allowance on our U.S. federal and state deferred tax assets, income tax expense represents our income tax obligations in certain states and taxes in foreign jurisdictions in which we conduct business.

At December 31, 2022, we had federal and state net operating loss carryforwards of approximately $270.9 million and $170.0 million, respectively. These carryforwards, with the exception of federal net operating losses generated post 2017, will expire between 2023 and 2042 if not used by us to reduce income taxes payable in future periods. Utilization of post-2017 federal net operating loss carryforwards is limited to 80% of taxable income generated in a given tax year and carry forward indefinitely. At December 31, 2022, we had federal and state research and development tax credit carryforwards of approximately $19.5 million and $1.3 million, respectively. These carryforwards will expire between 2023 and 2042 if not used by us to reduce income taxes payable in future periods.

As required by ASC Topic 740, Income Taxes, our management has evaluated the positive and negative evidence bearing upon the realizability of our deferred tax assets, which are composed principally of net operating loss carryforwards and research and development credit carryforwards. Management has determined that it is more likely than not that we will not realize the benefits of our federal and state deferred tax assets and, as a result, a valuation allowance of $138.0 million and $95.3 million has been established at December 31, 2022 and 2021, respectively. The change in the valuation allowance for the years ended December 31, 2022 and 2021 was $42.7 million and $37.1 million, respectively. We recorded income tax expense of $0.1 million and $0.4 million for the years ended December 31, 2022 and 2021, respectively.

Quarterly Results of Operations

The following tables summarize our selected unaudited quarterly results of operations data for each of the eight quarters in the period ended December 31, 2022. The information for each of these quarters has been prepared on the same basis as our audited annual consolidated financial statements and reflect, in the opinion of management, all adjustments of a normal, recurring nature that are necessary for the fair statement of the results of operations for these periods. This data should be read in conjunction with our audited consolidated financial statements included elsewhere in this Annual Report.

Historical results are not necessarily indicative of the results that may be expected for the full fiscal year or any other period.

	Three Months Ended							
	December 31, 2022	September 30, 2022	June 30, 2022	March 31, 2022	December 31, 2021	September 30, 2021	June 30, 2021	March 31, 2021
	(in thousands)							
Revenues:								
Software products and services	$ 47,819	$ 24,667	$ 30,011	$ 33,081	$ 38,564	$ 24,280	$ 24,052	$ 26,340
Drug discovery	9,024	12,313	8,458	15,582	7,606	5,570	5,732	5,787
Total revenues	56,843	36,980	38,469	48,663	46,170	29,850	29,784	32,127
Cost of revenues:								
Software products and services[(1)]	8,098	6,866	7,101	7,511	8,337	6,611	5,641	5,906
Drug discovery[(1)]	10,041	12,913	14,234	13,169	11,472	12,124	12,163	10,057
Total cost of revenues	18,139	19,779	21,335	20,680	19,809	18,735	17,804	15,963
Gross profit	38,704	17,201	17,134	27,983	26,361	11,115	11,980	16,164
Operating expenses:								
Research and development[(1)]	34,542	32,885	31,123	27,822	25,145	23,219	21,092	21,448
Sales and marketing[(1)]	9,382	7,161	7,428	6,671	5,975	5,556	5,380	5,239
General and administrative[(1)]	23,318	23,318	22,056	22,133	17,756	17,014	15,850	13,389
Total operating expenses	67,242	63,364	60,607	56,626	48,876	45,789	42,322	40,076
Loss from operations	(28,538)	(46,163)	(43,473)	(28,643)	(22,515)	(34,674)	(30,342)	(23,912)
Other (expense) income:								
(Loss) gain on equity investments	—	(3)	11,828	—	—	—	—	(1,781)
Change in fair value	(1,493)	5,273	(15,700)	(6,164)	(7,920)	(627)	(4,918)	24,824
Other income (expense)	2,687	1,231	(296)	328	(6)	286	357	420
Total other income (expense)	1,194	6,501	(4,168)	(5,836)	(7,926)	(341)	(4,561)	23,463
Loss before income taxes	(27,344)	(39,662)	(47,641)	(34,479)	(30,441)	(35,015)	(34,903)	(449)
Income tax (benefit) expense	(136)	194	33	(28)	274	(4)	67	74
Net loss	(27,208)	(39,856)	(47,674)	(34,451)	(30,715)	(35,011)	(34,970)	(523)
Net (loss) income attributable to noncontrolling interest	(1)	(3)	12	(11)	(2)	(4)	(326)	(494)
Net loss attributable to Schrödinger stockholders	$ (27,207)	$ (39,853)	$ (47,686)	$ (34,440)	$ (30,713)	$ (35,007)	$ (34,644)	$ (29)

(1) Includes stock-based compensation as indicated in the table located further below.

Revenues:

	Three Months Ended							
	December 31, 2022	September 30, 2022	June 30, 2022	March 31, 2022	December 31, 2021	September 30, 2021	June 30, 2021	March 31, 2021
	(in thousands)							
Revenues:								
Software								
On-premise software	$ 33,627	$ 12,579	$ 16,595	$ 21,686	$ 27,295	$ 15,496	$ 14,452	$ 17,355
Hosted software	4,125	3,914	3,596	3,255	3,088	2,684	2,704	2,600
Software maintenance	5,255	5,063	4,952	4,726	4,612	4,401	4,176	4,105
Professional services	4,812	3,111	3,868	3,414	3,569	1,699	1,720	2,280
Revenue from contracts with customers	47,819	24,667	29,011	33,081	38,564	24,280	23,052	26,340
Software contribution	—	—	1,000	—	—	—	1,000	—
Total software products and services revenue	47,819	24,667	30,011	33,081	38,564	24,280	24,052	26,340
Drug discovery								
Drug discovery services	8,450	11,717	8,019	15,241	7,495	5,570	5,732	5,787
Drug discovery contribution	574	596	439	341	111	—	—	—
Total drug discovery	9,024	12,313	8,458	15,582	7,606	5,570	5,732	5,787
Total revenues	$ 56,843	$ 36,980	$ 38,469	$ 48,663	$ 46,170	$ 29,850	$ 29,784	$ 32,127

Deferred Revenue:

	As of							
	December 31, 2022	September 30, 2022	June 30, 2022	March 31, 2022	December 31, 2021	September 30, 2021	June 30, 2021	March 31, 2021
	(in thousands)							
Deferred revenue	$ 83,529	$ 65,897	$ 67,545	$ 78,353	$ 85,432	$ 76,318	$ 78,526	$ 78,115

Gross Margin:

	Three Months Ended							
	December 31, 2022	September 30, 2022	June 30, 2022	March 31, 2022	December 31, 2021	September 30, 2021	June 30, 2021	March 31, 2021
Software products and services gross margin	83 %	72 %	76 %	77 %	78 %	73 %	77 %	78 %

Stock-Based Compensation:

	Three Months Ended							
	December 31, 2022	September 30, 2022	June 30, 2022	March 31, 2022	December 31, 2021	September 30, 2021	June 30, 2021	March 31, 2021
	(in thousands)							
Stock-based compensation:								
Cost of revenues:								
Software products and services	$ 580	$ 596	$ 584	$ 485	$ 389	$ 396	$ 382	$ 229
Drug discovery	$ 626	$ 764	$ 944	$ 803	$ 626	$ 669	$ 738	$ 428
Research and development	$ 3,231	$ 3,026	$ 2,977	$ 2,582	$ 2,157	$ 2,130	$ 1,925	$ 1,228
Sales and marketing	$ 867	$ 728	$ 699	$ 524	$ 331	$ 370	$ 362	$ 218
General and administrative	$ 4,902	$ 4,750	$ 5,223	$ 4,740	$ 3,953	$ 4,087	$ 3,609	$ 2,263
Total stock-based compensation expense	$ 10,206	$ 9,864	$ 10,427	$ 9,134	$ 7,456	$ 7,652	$ 7,016	$ 4,366

Depreciation and Amortization:

	Three Months Ended							
	December 31, 2022	September 30, 2022	June 30, 2022	March 31, 2022	December 31, 2021	September 30, 2021	June 30, 2021	March 31, 2021
	(in thousands)							
Depreciation and amortization:								
Cost of revenues:								
Software products and services	$ 113	$ 106	$ 118	$ 99	$ 61	$ 56	$ 68	$ 86
Drug discovery	$ 97	$ 117	$ 127	$ 112	$ 82	$ 106	$ 167	$ 232
Research and development	$ 425	$ 384	$ 351	$ 308	$ 212	$ 163	$ 195	$ 247
Sales and marketing	$ 114	$ 101	$ 118	$ 79	$ 65	$ 59	$ 57	$ 66
General and administrative	$ 393	$ 399	$ 412	$ 371	$ 232	$ 197	$ 240	$ 256
Total depreciation and amortization expense	$ 1,142	$ 1,107	$ 1,126	$ 969	$ 652	$ 581	$ 727	$ 887

Quarterly Revenue Trends

On-premise software revenue is subject to seasonality that generally favors the first and fourth quarter of each year, primarily due to the timing of customer renewals for on-premise software arrangements, for which revenue is recognized at a single point in time. Hosted software revenue grew more steadily over the periods presented, as existing

customers and new customers increased their spend on hosted solutions, for which revenue is recognized over time. As a result, a portion of the software products and services revenue we reported in each period was attributable to sales we made in prior periods. Software maintenance revenue is related to on-premise software sales and also is recognized ratably over the term of the underlying agreement. Therefore, increases or decreases in customer sales, customer expansion, or renewals in a period may not be immediately reflected in revenue for the period. Our professional services arrangements are typically project-based and, therefore, fluctuated based on individual customer needs and ongoing project support. Drug discovery revenue fluctuated from period to period based on the achievement of specific collaboration milestones, as well as advancements of collaborative services. The majority of our current collaborations are in the discovery stage. Milestone payments typically increase in magnitude as a program advances.

Quarterly Deferred Revenue Trends

Deferred revenue consists of the unearned portion of customer billings, which is recognized as revenue in accordance with our revenue recognition policy, as well as the unearned portion of unbilled collaboration milestones that are deemed probable in advance of actual achievement. Deferred revenue balances have fluctuated based on the timing of sales, shifts in product mix, fluctuations to the number and size of milestones that were deemed probable in advance of actual achievement, and the measurement of progress toward completion for service projects.

Quarterly Gross Margin Trends

Our software products and services gross margin experienced fluctuations over the periods presented due to increased headcount and the product mix for software and services, as the cost of royalties due on sales of our hosted software is recognized upfront, while the associated revenue is recognized over the term of the related agreement. Currently, gross margin is less meaningful for measuring the operating results of our drug discovery business.

Quarterly Operating Expense Trends

Operating expenses generally increased during the periods presented due to increased headcount and personnel-related expenses involved in research and development, sales and marketing, general and administrative activities, and CRO costs related to our proprietary drug discovery programs. These increases in headcount across our operations have supported the overall growth and management of our business. CRO cost increases were driven by the expansion and progression of our proprietary drug discovery programs.

Quarterly Other Income (Expense) Trends

Other income (expense) during the periods presented consisted primarily of fair value gains and losses related to our equity investments in Morphic and Structure Therapeutics, and, to a lesser degree, interest income.

Segment Information

The following tables summarize segment information for the years ended December 31, 2022 and 2021. See Note 16 – Segment Reporting in our audited consolidated financial statements for additional information regarding our segments.

Segment gross profit is derived by deducting operational expenditures, with the exception of research and development, sales and marketing, and general and administrative activities, from U.S. GAAP revenue. Operational expenditures are expenditures made that are directly attributable to the reportable segment. In many cases, these expenditures are allocated to the segments based on headcount. The reportable segment expenditures include compensation, supplies, and services from contract research organizations.

Certain cost items are not allocated to our reportable segments. These cost items primarily consist of compensation and general operational expenses associated with our research and development, sales and marketing, and general and administrative activities. These costs are incurred by both segments and, due to the integrated nature of our software and drug discovery segments, any allocation methodology would be arbitrary and provide no meaningful analysis.

Additionally, we report assets on a consolidated basis and do not allocate assets to our reportable segments for purposes of assessing segment performance or allocating resources.

	Year Ended December 31,	
	2022	2021
	(in thousands)	
Segment revenues:		
Software	$ 135,578	$ 113,236
Drug discovery	45,377	24,695
Total segment revenues	$ 180,955	$ 137,931
Segment gross profit:		
Software	$ 106,002	$ 86,741
Drug discovery	$ (4,980)	$ (21,121)
Total segment gross profit	$ 101,022	$ 65,620
Unallocated (expense) income:		
Research and development	(126,372)	(90,904)
Sales and marketing	(30,642)	(22,150)
General and administrative	(90,825)	(64,009)
Gain (loss) on equity investment	11,825	(1,781)
Change in fair value	(18,084)	11,359
Interest	3,950	1,057
Income taxes	(63)	(411)
Consolidated net loss	$ (149,189)	$ (101,219)

Liquidity, Capital Resources and Funding Requirements

We have a history of significant operating losses and have incurred negative cash flows from operations from inception through the year ended December 31, 2022. As of December 31, 2022, we had an accumulated deficit of $379.1 million.

We have funded our operations to date principally from the sale of our equity securities, including our initial public offering and our follow-on public offering, and to a lesser extent, from sales of our software solutions and from upfront payments, research funding and milestone payments from our drug discovery collaborations, and from distributions on account of, or proceeds from the sale of, our equity stakes in our collaborators. Our operating cash flows are impacted by the magnitude and timing of our software sales and by the magnitude and timing of our drug discovery milestone achievements and research funding fees.

As of December 31, 2022, we had cash, cash equivalents, restricted cash, and marketable securities of $456.3 million. On February 13, 2023, on account of our equity stake in Nimbus, we received a $111.3 million cash distribution from Nimbus in connection with Takeda's acquisition of Nimbus Lakshmi, Inc., a wholly-owned subsidiary of Nimbus, and its TYK2 inhibitor NDI-034858.

On March 4, 2021, we filed a universal shelf registration statement on Form S-3 which allows us to offer and sell an indeterminate number of shares of common stock, preferred stock, depositary shares or warrants, or an indeterminate principal amount of debt securities, from time to time pursuant to one or more offerings at prices and terms to be determined at the time of the sale. As of December 31, 2022, no securities had been sold under the Form S-3.

We believe our existing cash, cash equivalents, and marketable securities as of December 31, 2022, together with the $111.3 million cash distribution received from Nimbus in February 2023, will be sufficient to fund our operating expenses and capital expenditure requirements through at least the next 24 months. Our future capital requirements will depend on many factors, including the growth of our software revenue, the timing and extent of spending to support research and development efforts, the continued expansion of software sales and marketing activities, the timing and receipt of milestone payments from our collaborations, as well as spending to support, advance, and broaden our

proprietary drug discovery programs. Furthermore, our capital requirements will also change depending on the timing and receipt of any distributions we may receive from our equity stakes in our drug discovery collaborators and partners. The potential for these distributions, and the amounts which we may be entitled to receive, are difficult to predict due to the inherent uncertainty of the events which may trigger such distributions.

We plan to utilize the existing cash, cash equivalents, and marketable securities on hand primarily to fund our software and drug discovery activities. With respect to our wholly-owned programs, as part of our strategy we may choose to advance them into preclinical and clinical development ourselves, enter into collaborations to co-develop them with leading industry partners, or out-license them to maximize their clinical and commercial opportunities.

We may be required to seek additional equity or debt financing. In the event that we require additional financing, we may not be able to raise such financing on terms acceptable to us or at all. If we are unable to raise additional capital or generate cash flows necessary to maintain or expand our operations and invest in our platform, we may not be able to compete successfully, which would harm our business, operations and financial condition. In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans.

Our contractual obligations as of December 31, 2022 include operating lease obligations of $187.1 million, consisting of our continuing rent obligations through December 2037, primarily for our principal offices located in New York, New York for $152.2 million, Cambridge, Massachusetts for $18.1 million and Portland, Oregon for $5.0 million, which expire in December 2037, June 2032 and September 2026, respectively. In addition, see Note 7 – Commitments and Contingencies to our consolidated financial statements appearing in Item 8 of this Annual Report for more information relating to our operating lease obligations.

In December 2022, we entered into an agreement with a third-party to establish an exclusive integrated drug discovery dedicated facility. The agreement contains a minimum payment obligation, which totals $21.8 million over five years after the date of first occupancy.

In June 2022, we entered into an agreement with a third-party CRO to provide approximately $10.5 million of services, with an estimated service period extending through March 2025.

In June 2022, we entered into a non-cancelable contract to purchase laboratory equipment of $4.2 million, with payment terms extending through June 2023.

In December 2020, we entered into a five-year agreement with a third-party cloud provider for compute power. The agreement contains a minimum payment obligation, which totals $60 million over the five years after the date we entered into the agreement. There is no annual commitment.

We also enter into agreements in the normal course of business with CRO vendors for research, preclinical studies, and clinical trials, professional consultants for expert advice, and other vendors for various products and services. These contracts do not contain any minimum purchase commitments and are cancellable at any time by us, generally upon 30 days prior written notice, and therefore we believe that our non-cancelable obligations under these agreements are not material. We have also agreed to pay volume-based royalties to third-parties for use of software functionality under various licensing and related agreements. See Note 2 - Significant Accounting Policies to our audited consolidated financial statements appearing in Item 8 of this Annual Report for more information relating to our royalties.

Cash Flows

The following table presents a summary of our cash flows for the periods shown:

	Year Ended December 31,	
	2022	2021
	(in thousands)	
Net cash used in operating activities	$ (119,683)	$ (70,669)
Net cash provided by (used in) investing activities	90,023	(16,812)
Net cash provided by financing activities	2,110	7,952
Net decrease in cash and cash equivalents and restricted cash	$ (27,550)	$ (79,529)

Operating activities

During the year ended December 31, 2022, operating activities used approximately $119.7 million in cash primarily resulting from net loss of $149.2 million, which included an $11.8 million gain from equity investments, partially offset by $5.0 million of non-cash operating expenses included in net loss, including depreciation and investment accretion costs, $39.6 million in stock-based compensation, and $18.1 million of non-cash loss on changes in fair value. Changes in our operating assets and liabilities used cash of approximately $21.4 million.

During the year ended December 31, 2021, operating activities used approximately $70.7 million in cash primarily resulting from net loss of $101.2 million, which included an $11.4 million non-cash gain from changes in fair value, $26.5 million in stock-based compensation costs and $9.0 million of other non-cash operating expenses included in net loss, including depreciation and investment accretion costs, and a $1.8 million loss on equity investment that is classified as an investing activity. Changes in our operating assets and liabilities provided cash of approximately $4.7 million.

Investing activities

During the year ended December 31, 2022, investing activities provided approximately $90.0 million of cash, consisting of $93.2 million provided by marketable securities, net of purchases and $11.8 million in cash from a third party, who previously acquired a collaborator in which we held an equity stake, in exchange for the termination of our rights to receive potential earnouts under the acquisition agreement. These items are partially offset by $8.0 million in cash used for purchases of property and equipment, $0.6 million used to make equity investments in Structure Therapeutics, and $6.4 million used to acquire XTAL, net of cash acquired.

During the year ended December 31, 2021, investing activities used approximately $16.8 million of cash, consisting of $22.1 million used for purchases of marketable securities, net of maturities, $7.2 million used for purchases of property and equipment and $3.7 million used to make equity investments in Ajax Therapeutics, Inc. and Structure Therapeutics, partially offset by $15.7 million provided by the sale of our equity stake in Relay and $0.4 million provided by the distribution of funds from Petra Pharma Corporation in connection with its acquisition by a third party.

Financing activities

During the year ended December 31, 2022, financing activities provided approximately $2.1 million of cash, primarily attributable to proceeds from stock option exercises.

During the year ended December 31, 2021, financing activities provided approximately $8.0 million of cash, primarily attributable to proceeds from stock option exercises.

Seasonality

Generally, the first and fourth quarter of each year have typically been our largest quarters for software products and services revenue, primarily due to the timing of customer renewals of on-premise software arrangements, for which revenue is recognized at a single point in time. Seasonality has been a less significant factor for our hosted software arrangements, for which revenue is recognized ratably over time. Seasonality has not been a factor for our drug discovery revenues. Historical seasonality may not be indicative of future periods.

Critical Accounting Policies and Estimates

Critical accounting policies are those that are both most important to the portrayal of a company's financial condition and results, and that require management's most difficult, subjective, and complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. Our management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these consolidated financial statements requires us to make judgments and estimates that affect the reported amounts of assets, liabilities, revenues, and expenses and the disclosure of contingent assets and liabilities in our consolidated financial statements and the accompanying notes. We base our estimates on historical experience, known trends and events, and our beliefs of what could occur in the future considering available information. Actual results may differ from these estimates under different assumptions or conditions. On an ongoing basis, we evaluate our judgments and estimates in light of changes in circumstances, facts, and experience. The effects of material revisions in estimates, if any, are reflected in the consolidated financial statements prospectively from the date of change in estimates.

While our significant accounting policies are described in more detail in Note 2 – Significant Accounting Policies to our consolidated financial statements appearing in Item 8 of this Annual Report, we believe the following critical accounting estimates used in the preparation of our consolidated financial statements require the most difficult, subjective and complex judgments and estimates and have had, or are reasonably likely to have a material impact on our financial condition or results of operations.

Revenue

We recognize revenue in accordance with ASC 606, Revenue from Contracts with Customers, except for contracts that are within the scope of other standards, such as contribution grants and certain collaboration arrangements. In accordance with ASC 606, we recognize revenue when our customer obtains control of promised goods or services, in an amount that reflects the consideration which we expect to receive in exchange for those goods or services. To determine revenue recognition for arrangements that we determine are within the scope of ASC 606, we perform the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when or as we satisfy a performance obligation.

Significant management judgment is applied to determine the allocation of the transaction price and measurement of progress, including (1) the constraint on variable consideration, (2) the allocation of the transaction price to the performance obligations using their standalone selling price, or SSP, and (3) the appropriate input or output based method to recognize collaboration revenue and the extent of progress to date.

Variable consideration: Our revenue may include upfront payments for the performance of services in the future, which have both fixed and variable consideration. We include the unconstrained amount of estimated variable consideration in the transaction price. The amount included in the transaction price is constrained to the amount for which it is probable that a significant reversal of cumulative revenue recognized will not occur. At the end of each subsequent reporting period, we re-evaluate the estimated variable consideration included in the transaction price and any related constraint and, if necessary, adjust our estimate of the overall transaction price.

Research and development, regulatory or commercial milestones in our collaboration agreements may include some, but not necessarily all, of the following types of events:

- completion of preclinical research and development work leading to selection of product candidates;
- initiation of Phase 1, Phase 2, and Phase 3 clinical trials;
- filing of regulatory applications for marketing approval in the United States, Europe or Japan;
- marketing approval in major markets, such as the United States, Europe, or Japan;
- commercial milestones and/or commercial royalties; and
- achievement of certain other technical, scientific, or development criteria.

At the inception of each arrangement that includes research, development, or regulatory milestone payments, we evaluate whether the milestones are considered probable of being reached and estimate the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur,

the associated milestone value is included in the transaction price. Milestone payments that are not within our control or that of the licensee, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. The transaction price is then allocated to each performance obligation on an SSP basis, for which we recognize revenue as or when the performance obligations under the contract are satisfied. At the end of each subsequent reporting period, we re-evaluate the probability of achievement of such development milestones and any related constraint, and if necessary, adjust our estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which may affect license, collaboration, and other revenues and earnings in the period of adjustment. The process of successfully achieving the criteria for the milestone payments is highly uncertain. Consequently, there is a risk that we may not earn all of the milestone payments from each of our collaborators. We recognized $14.7 million and $6.3 million from drug discovery milestones for the years ended December 31, 2022 and 2021, respectively.

Software performance obligations and transaction price allocation: At contract inception, we assess the goods or services promised within each contract that falls under the scope of ASC 606 to identify distinct performance obligations, which requires significant judgment based on the nature of each transaction. We allocate the transaction price to each distinct performance obligation on an SSP basis. We determine the SSP using information that includes historical discounting practices, market conditions, cost-plus analysis, and other observable inputs. We typically have more than one SSP for individual performance obligations due to the stratification of those items by classes of customers and circumstances. In these instances, we may use information such as the size and geographic region of the customer in determining the SSP. We may also estimate SSP based on management judgment by considering available data such as internal cost and margin objectives, pricing strategies, market/competitive conditions, historical profitability data, as well as other observable inputs. We establish SSP ranges for our products and services and reassesses them periodically. The determination of SSP required significant management judgment.

Collaboration agreement transaction price allocation and measurement of progress: At the inception of each arrangement, we utilize judgment to assess the nature of the performance obligations to determine whether they are distinct or a single combined performance obligation. We allocate the transaction price to each performance obligation based on the relative SSP of each performance obligation at inception, which will be determined based on each performance obligation's estimated SSP. We determine the SSP at contract inception of the research activities based on internal estimates of the costs to perform the services, inclusive of a reasonable profit margin. Significant judgment is used to determine the inputs for total costs to perform the research activities, which may include the length of time required, the internal hours expected to be incurred on the services and the number and costs of various studies that will be performed by third-parties to complete the research plan. Revenue is recognized on a proportional performance basis over the period of service, using input-based measurements to estimate the performance. Changes to these assumptions may have a material effect on the amount and timing of revenue recognized. We recognized revenue of $24.3 million and $14.6 million related to collaboration agreements with proportional performance measurement for the years ended December 31, 2022 and 2021, respectively.

Recent Accounting Pronouncements

See Note 2 – Significant Accounting Policies to our consolidated financial statements appearing elsewhere in this Annual Report for a discussion of recently issued accounting pronouncements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments, including cash equivalents and marketable securities, are in the form of U.S. Treasury and corporate bonds and a money market fund that is invested in U.S. Treasury and corporate bonds. Due to the nature of these investments, an immediate 10% change in interest rates would not have a material effect on the fair market value of this investment portfolio.

We are also exposed to market risk related to changes in foreign currency exchange rates. We maintain bank accounts denominated in Japanese yen, British pound sterling, Indian rupee, European Union euro, and Korean Republic won to accommodate deposits of amounts due from certain customers. We also contract with certain vendors that are located outside of the United States whose invoices are denominated in foreign currencies. We are subject to fluctuations in foreign currency rates in connection with these arrangements. We do not currently hedge our foreign currency exchange rate risk. Our cash balances and outstanding vendor invoices denominated in foreign currencies were not material as of December 31, 2022 and 2021, and our market risk associated with foreign currency exchange rates was deemed insignificant. An immediate 10% change in foreign exchange rates would not have a material effect on our consolidated financial statements.

Inflation generally affects us by increasing our cost of labor and target development costs. We do not believe that inflation had a material effect on our business, financial condition, or results of operations for the years ended December 31, 2022 and 2021.

Item 8. Financial Statements and Supplementary Data.

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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Schrödinger, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Schrödinger, Inc. and subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, convertible preferred stock and stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated 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 each of the years in the three-year period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 28, 2023 expressed an adverse opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the 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 consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated 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 consolidated 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 consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Estimation of total costs to perform for Bristol-Myers Squibb Company collaboration and license agreement

As discussed in Note 3(c) to the consolidated financial statements, the Company recorded revenue of $22.1 million during the year ended December 31, 2022 related to research activities for the Bristol-Myers Squibb Company ("BMS") collaboration and license agreement on a proportional performance basis. The proportional performance is determined using input-based measurements of total costs of research activities incurred for the agreement relative to the total estimate of costs of research activities for the agreement. The Company remeasures proportional performance at the end of each reporting period based on measuring progress towards completion.

We identified the estimation of total costs to perform research activities for the BMS collaboration and license agreement as a critical audit matter. There was subjective auditor judgment in evaluating the Company's estimate of total costs to perform research activities.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's process to account for the BMS collaboration and license agreement, including controls related to the determination of total costs to perform research activities. We evaluated the Company's estimate of costs to be incurred by:

— comparing the estimated length of time required to complete the research plan to both industry publications and actual time incurred to achieve development candidate for a selection of the Company's proprietary drug discovery programs

—comparing the estimated internal employee hours and external contract research organizations costs to be incurred to historical actual results for the BMS collaboration and license agreement

—attending the fourth quarter forecast review meeting and inspecting quarterly meeting minutes to evaluate factors impacting total costs to perform research activities

—inspecting minutes of Joint Steering Committee meetings between the Company and BMS to evaluate factors impacting total costs to perform research activities and comparing them with the outcome of the inquiries stated above

Identification of performance obligations in complex or unusual revenue arrangements

As discussed in Notes 3(a) and 3(b) to the consolidated financial statements, the Company reported on-premise software revenue of $84.5 million, hosted software revenue of $14.9 million, and drug discovery revenue of $45.4 million for the year ended December 31, 2022. As discussed in Note 3(d), the Company's contracts with customers often include promises to transfer multiple software products and services, including training, professional services, technical support services, and rights to unspecified updates. At contract inception, the Company assesses the products and services promised within each contract to determine distinct performance obligations that should be accounted for separately.

We identified the determination of distinct performance obligations in complex or unusual revenue arrangements as a critical audit matter. There was subjective auditor judgment in evaluating whether promised products and services in complex or unusual revenue arrangements are separate performance obligations or inputs into a combined performance obligation.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the revenue process, including controls related to the determination of distinct performance obligations. For a selection of complex or unusual revenue arrangements, we evaluated whether the performance obligations identified by the Company were capable of being distinct in the context of the contract by obtaining an understanding of the Company's product and service offerings, obtaining and inspecting contracts, and evaluating the application of the revenue recognition accounting guidance for the selected contract.

/s/ KPMG LLP

We have served as the Company's auditor since 2010.

Portland, Oregon
February 28, 2023

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Schrödinger, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Schrödinger, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, because of the effect of the material weakness, described below, on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, convertible preferred stock and stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements), and our report dated February 28, 2023 expressed an unqualified opinion on those consolidated financial statements.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. A material weakness was identified and included in management's assessment related to a deficiency in the design of a control in the Company's revenue process to determine whether performance milestones in a newly executed drug discovery arrangement were probable of achievement and the constraint on variable consideration in the form of milestone payments can be removed. The deficiency was the result of ineffective risk assessment as the Company's existing controls were designed insufficiently to identify a change in timing of performance milestones in the newly executed contract. The material weakness was considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2022 consolidated financial statements, and this report does not affect our report on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and

directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's 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. Also, 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.

/s/ KPMG LLP

Portland, Oregon
February 28, 2023

SCHRÖDINGER, INC. AND SUBSIDIARIES
Consolidated Balance Sheets
(in thousands, except for share and per share amounts)

Assets	December 31, 2022	December 31, 2021
Current assets:		
Cash and cash equivalents	$ 90,474	$ 120,267
Restricted cash	5,243	3,000
Marketable securities	360,613	456,212
Accounts receivable, net of allowance for doubtful accounts of $125 and $108	55,953	31,744
Unbilled and other receivables, net for allowance for unbilled receivables of $100 and $30	13,137	8,807
Prepaid expenses	8,569	5,030
Total current assets	533,989	625,060
Property and equipment, net	14,244	10,025
Equity investments	25,683	43,167
Goodwill	4,791	—
Intangible assets, net	587	—
Right of use assets	105,982	75,384
Other assets	3,311	2,851
Total assets	$ 688,587	$ 756,487
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 9,470	$ 8,079
Accrued payroll, taxes, and benefits	24,882	18,405
Deferred revenue	57,931	55,368
Lease liabilities	11,006	2,042
Other accrued liabilities	5,510	7,317
Total current liabilities	108,799	91,211
Deferred revenue, long-term	25,598	30,064
Lease liabilities, long-term	105,485	77,827
Other liabilities, long-term	800	300
Total liabilities	240,682	199,402
Commitments and contingencies (Note 7)		
Stockholders' equity:		
Preferred stock, $0.01 par value. Authorized 10,000,000 shares; zero shares issued and outstanding at December 31, 2022 and December 31, 2021, respectively	—	—
Common stock, $0.01 par value. Authorized 500,000,000 shares; 62,163,739 and 61,834,515 shares issued and outstanding at December 31, 2022 and December 31, 2021, respectively	622	618
Limited common stock, $0.01 par value. Authorized 100,000,000 shares; 9,164,193 shares issued and outstanding at December 31, 2022 and December 31, 2021, respectively	92	92
Additional paid-in capital	828,700	786,964
Accumulated deficit	(379,138)	(229,952)
Accumulated other comprehensive loss	(2,382)	(651)
Total stockholders' equity of Schrödinger stockholders	447,894	557,071
Noncontrolling interest	11	14
Total stockholders' equity	447,905	557,085
Total liabilities and stockholders' equity	$ 688,587	$ 756,487

See accompanying notes to consolidated financial statements.

SCHRÖDINGER, INC. AND SUBSIDIARIES
Consolidated Statements of Operations
(in thousands, except for share and per share amounts)

	Year Ended December 31,		
	2022	2021	2020
Revenues:			
Software products and services	$ 135,578	$ 113,236	$ 92,530
Drug discovery	45,377	24,695	15,565
Total revenues	180,955	137,931	108,095
Cost of revenues:			
Software products and services	29,576	26,495	18,003
Drug discovery	50,357	45,816	26,620
Total cost of revenues	79,933	72,311	44,623
Gross profit	101,022	65,620	63,472
Operating expenses:			
Research and development	126,372	90,904	64,695
Sales and marketing	30,642	22,150	17,795
General and administrative	90,825	64,009	41,898
Total operating expenses	247,839	177,063	124,388
Loss from operations	(146,817)	(111,443)	(60,916)
Other income (expense):			
Gain (loss) on equity investments	11,825	(1,781)	4,108
Change in fair value	(18,084)	11,359	28,263
Other income	3,950	1,057	2,253
Total other (expense) income	(2,309)	10,635	34,624
Loss before income taxes	(149,126)	(100,808)	(26,292)
Income tax expense	63	411	345
Net loss	(149,189)	(101,219)	(26,637)
Net loss attributable to noncontrolling interest	(3)	(826)	(2,174)
Net loss attributable to Schrödinger common and limited common stockholders	$ (149,186)	$ (100,393)	$ (24,463)
Net loss per share attributable to Schrödinger common and limited common stockholders, basic and diluted:	$ (2.10)	$ (1.42)	$ (0.41)
Weighted average shares used to compute net loss per share attributable to Schrödinger common and limited common stockholders, basic and diluted:	71,173,419	70,594,950	60,024,658

See accompanying notes to consolidated financial statements.

SCHRÖDINGER, INC. AND SUBSIDIARIES
Consolidated Statements of Comprehensive Loss
(in thousands)

	Year Ended December 31,		
	2022	2021	2020
Net loss attributable to Schrödinger common and limited common stockholders	$ (149,186)	$ (100,393)	$ (24,463)
Changes in market value of investments, net of tax:			
Unrealized (loss) gain on marketable securities	(1,731)	(968)	301
Comprehensive loss	$ (150,917)	$ (101,361)	$ (24,162)

See accompanying notes to consolidated financial statements.

SCHRÖDINGER, INC. AND SUBSIDIARIES

Consolidated Statements of Convertible Preferred Stock and Stockholders' Equity (Deficit)

(in thousands, except for share amounts)

	Series E preferred stock		Series D preferred stock		Series C preferred stock		Series B preferred stock		Series A preferred stock		Common stock		Limited common stock		Additional paid-in	Accumulated	Accumulated other comprehensive	Non controlling	Total stockholders'
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	capital	deficit	loss (income)	interest	equity (deficit)
Balance at December 31, 2019	73,795,777	$109,270	39,540,611	$ 22,000	47,242,235	$ 19,844	29,468,101	$ 9,840	134,704,785	$ 30,626	6,121,821	$ 61	—	$ —	$ 11,655	$ (105,096)	$ 16	$ 41	$ (93,323)
Change in unrealized gain on marketable securities	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	301	—	301
Issuances of common stock upon stock option exercises	—	—	—	—	—	—	—	—	—	—	1,398,177	14	—	—	4,169	—	—	—	4,183
Stock-based compensation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10,545	—	—	—	10,545
Issuances of common stock upon initial public offering, net of issuance costs of $22,667	—	—	—	—	—	—	—	—	—	—	13,664,704	136	—	—	209,497	—	—	—	209,633
Issuances of common stock upon follow-on offering, net of issuance costs of $20,901	—	—	—	—	—	—	—	—	—	—	5,250,000	53	—	—	325,547	—	—	—	325,600
Conversion of convertible preferred stock into common stock	(73,795,777)	(109,270)	(17,844,124)	(9,928)	—	—	—	—	(134,704,785)	(30,626)	30,278,832	303	—	—	149,521	—	—	—	149,824
Exchange of convertible preferred stock into limited common stock	—	—	(21,696,487)	(12,072)	(47,242,235)	(19,844)	(29,468,101)	(9,840)	—	—	—	—	13,164,193	132	41,624	—	—	—	41,756
Conversion of limited common stock into common stock	—	—	—	—	—	—	—	—	—	—	4,000,000	40	(4,000,000)	(40)	—	—	—	—	—
Contributions by non-controlling interest	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	—	2,137	2,137
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(24,463)	—	(2,174)	(26,637)
Balance at December 31, 2020	—	—	—	—	—	—	—	—	—	—	60,713,534	607	9,164,193	92	752,558	(129,559)	317	4	624,019
Change in unrealized loss on marketable securities	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(968)	—	(968)
Issuances of common stock upon stock option exercises	—	—	—	—	—	—	—	—	—	—	1,120,981	11	—	—	7,916	—	—	—	7,927
Stock-based compensation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26,490	—	—	—	26,490
Contributions by non-controlling interest	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	—	836	836
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(100,393)	—	(826)	(101,219)
Balance at December 31, 2021	—	—	—	—	—	—	—	—	—	—	61,834,515	618	9,164,193	92	786,964	(229,952)	(651)	14	557,085
Change in unrealized loss on marketable securities	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(1,731)	—	(1,731)
Issuances of common stock upon stock option exercises	—	—	—	—	—	—	—	—	—	—	329,224	4	—	—	2,106	—	—	—	2,110
Stock-based compensation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39,630	—	—	—	39,630
Contributions by non-controlling interest	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	—	—	—
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(149,186)	—	(3)	(149,189)
Balance at December 31, 2022	—	$ —	—	$ —	—	$ —	—	$ —	—	$ —	62,163,739	622	9,164,193	92	828,700	(379,138)	(2,382)	11	447,905

See accompanying notes to consolidated financial statements.

SCHRÖDINGER, INC. AND SUBSIDIARIES
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,		
	2022	2021	2020
Cash flows from operating activities:			
Net loss	$ (149,189)	$ (101,219)	$ (26,637)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:			
(Gain) loss on equity investments	(11,825)	1,781	(4,108)
Noncash revenue from equity investments	—	(107)	(397)
Fair value adjustments	18,084	(11,359)	(28,263)
Depreciation and amortization	4,344	2,847	3,658
Stock-based compensation	39,630	26,490	10,545
Noncash research and development expenses	—	811	2,137
Noncash investment amortization	629	5,270	646
Loss on disposal of property and equipment	19	140	—
(Increase) decrease in assets, net of acquisition:			
Accounts receivable, net	(23,697)	(321)	(12,747)
Unbilled and other receivables	(4,253)	(5,187)	3,468
Reduction in the carrying amount of right of use assets	7,287	5,799	5,342
Prepaid expenses and other assets	(7,067)	(1,121)	187
Increase (decrease) in liabilities, net of acquisition:			
Accounts payable	1,179	(411)	4,882
Accrued payroll, taxes, and benefits	6,477	6,405	4,966
Deferred revenue	(1,903)	(1,028)	59,705
Lease liabilities	1,900	(2,949)	(5,417)
Other accrued liabilities	(1,298)	3,490	(1,210)
Net cash (used in) provided by operating activities	(119,683)	(70,669)	16,757
Cash flows from investing activities:			
Purchases of property and equipment	(8,014)	(7,167)	(2,538)
Purchases of equity investments	(600)	(3,700)	(2,869)
Distribution from equity investment	11,825	375	4,582
Proceeds from sale of equity investments	—	15,735	—
Acquisition, net of acquired cash	(6,427)	—	—
Purchases of marketable securities	(271,472)	(414,802)	(519,668)
Proceeds from maturity of marketable securities	364,711	392,747	138,772
Net cash provided by (used in) investing activities	90,023	(16,812)	(381,721)
Cash flows from financing activities:			
Issuances of common stock upon initial public offering, net	—	—	211,491
Issuances of common stock upon follow-on public offering, net	—	—	325,600
Issuances of common stock upon stock option exercises	2,110	7,927	4,183
Contribution by noncontrolling interest	—	25	—
Net cash provided by financing activities	2,110	7,952	541,274
Net (decrease) increase in cash and cash equivalents and restricted cash	(27,550)	(79,529)	176,310
Cash and cash equivalents and restricted cash, beginning of year	123,267	202,796	26,486
Cash and cash equivalents and restricted cash, end of year	$ 95,717	$ 123,267	$ 202,796
Supplemental disclosure of cash flow and noncash information			
Cash paid for income taxes	$ 787	$ 448	$ 381
Supplemental disclosure of non-cash investing and financing activities			
Purchases of property and equipment in accounts payable	169	705	8
Purchases of property and equipment in accrued liabilities	293	—	—
Acquisition of right to use assets, contingency resolution	1,513	—	
Acquisitions of right of use assets	34,763	71,054	2,709
Acquisition of lease liabilities	34,430	71,054	—
Reclassification of deferred financing costs to additional paid-in capital	—	—	1,858

See accompanying notes to consolidated financial statements.

SCHRÖDINGER, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements

For the years ended December 31, 2022, 2021, and 2020

(in thousands, except for share and per share amounts and note 3(c))

(1) Description of Business

Schrödinger, Inc. (the "Company") has developed a differentiated, physics-based computational platform that enables discovery of high-quality, novel molecules for drug development and materials applications more rapidly and at a lower cost, compared to traditional methods. The Company's software platform is licensed by biopharmaceutical and industrial companies, academic institutions, and government laboratories around the world. The Company also applies its computational platform to a broad pipeline of drug discovery and development programs in collaboration with biopharmaceutical companies. In addition, the Company uses its platform to advance a pipeline of partnered and wholly-owned drug discovery programs, which the Company refers to as its proprietary drug discovery programs.

(2) Significant Accounting Policies

(a) Recently Issued Accounting Pronouncements

In October 2021, the Financial Accounting Standards Board issued Accounting Standards Update ("ASU") No. 2021-08, *Business Combinations – Accounting for Contract Assets and Contract Liabilities from Contracts with Customers* ("Topic 805"), which requires the measurement and recognition of contract assets and contract liabilities acquired in a business combination in accordance with Accounting Standards Codification ("ASC") 606, *Revenue from Contracts with Customers* ("Topic 606"). This update replaces the existing guidance requiring contract assets and contract liabilities to be measured and recognized at fair value. The standard is effective on a prospective basis for annual periods beginning after December 15, 2022, including interim periods within the fiscal year, with early adoption permitted. The Company early adopted this new standard effective January 1, 2022 with no material impact on its consolidated financial statements.

(b) Basis of Presentation and Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles ("U.S. GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting period. Significant estimates include the assumptions used in the allocation of revenue and estimates regarding the progress of completing performance obligations under collaboration agreements. Actual results could differ from those estimates, and such differences may be material to the consolidated financial statements.

(c) Principles of Consolidation

The Company's consolidated financial statements include the accounts of Schrödinger, Inc., its wholly owned subsidiaries, and its variable interest entity. All intercompany balances and transactions have been eliminated in consolidation. The functional currency for foreign entities is the United States dollar. The Company accounts for investments over which it has significant influence, but not a controlling financial interest, using the equity method.

(d) Cash and Cash Equivalents and Marketable Securities and Restricted Cash

Included in cash and cash equivalents were cash equivalents of $78,066 and $90,477 as of December 31, 2022 and 2021, respectively, which consisted of money market funds and certificates of deposit, and are stated at cost, which approximates market value. The Company classifies all highly liquid investments with an original maturity of 90 days or less to be cash equivalents. The Company classifies all marketable securities, which consist of fixed income securities, as available for sale securities.

At times, cash balances held at financial institutions were in excess of the Federal Deposit Insurance Corporation's insured limits; however, the Company primarily places its cash with high-credit quality financial institutions.

Restricted cash consists of letters of credit held with the Company's financial institution related to facility leases and is classified as current in the Company's balance sheets based on the maturity of the underlying letters of credit. Additionally, funds received from certain grants are restricted as to their use and are therefore classified as restricted cash.

(e) Accounts Receivable

Accounts receivable are stated at original invoice amount less an allowance for doubtful accounts. Management estimates the allowance for doubtful accounts by evaluating individual customer receivables and considering a customer's financial condition, credit history, and current economic conditions. Account balances are considered delinquent if payment is not received by the due date. Accounts receivable are written off when deemed uncollectible. Recovery of accounts receivable previously written off is recorded when received. Changes in the balance of accounts deemed uncollectible were deemed immaterial as of December 31, 2022 and 2021. Interest is not charged on accounts receivable.

(f) Fair Value of Financial Instruments

The carrying values of cash and cash equivalents, accounts receivable, accounts payable, and accrued liabilities approximate fair value due to their short maturities.

(g) Property and Equipment

Property and equipment are stated at cost. The Company did not capitalize any interest during 2022 and 2021. Maintenance and repairs are expensed as incurred.

Depreciation is calculated using the straight-line method over the estimated useful lives of the assets, which range from 3 to 10 years. Amortization of leasehold improvements is calculated using the straight-line method over the remaining life of the lease or the useful life of the asset, whichever is shorter.

Property and equipment are reviewed for impairment as discussed below under Accounting for the Impairment of Long-Lived Assets.

(***h) Goodwill***

Goodwill represents the excess purchase price over the fair value of net assets acquired which is not allocable to separately identifiable intangible assets. Other identifiable intangible assets are separately recognized if the intangible asset is obtained through contractual or other legal right or if the intangible asset can be sold, transferred, licensed or exchanged.

Goodwill is not amortized but tested for impairment at least annually, and more frequently if events or circumstances indicate the carrying amount more likely than not exceeds the fair value. We have the option to qualitatively or quantitatively assess goodwill for impairment.

We test our goodwill for impairment on October 1 of each year. In 2022, we evaluated our goodwill using a qualitative process. If the qualitative factors determine that it is more likely than not that the fair value exceeds the carrying amount, goodwill is not impaired. If the qualitative assessment determines it is more likely than not the fair value is less than the carrying amount, we would further evaluate for potential impairment. We have deemed our goodwill not impaired for the year ended December 31, 2022.

(i) Accounting for the Impairment of Long-Lived Assets

Long-lived assets, such as property and equipment and intangible assets subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If circumstances require a long-lived asset or asset group be tested for potential impairment, the Company first compares undiscounted cash flows expected to be generated by that asset or asset group to its carrying value. If the carrying value of the long-lived asset or asset group is not recoverable on an undiscounted cash flow basis, an impairment is recognized to the extent that carrying value exceeds fair value. Fair value is determined using various valuation techniques, including discounted cash flow models, quoted market values, and third-party independent appraisals, depending on the nature of the asset. No impairment was identified for the years ended December 31, 2022, 2021, and 2020.

(ij Warranties

The Company typically warrants that its products will perform in a manner consistent with the product specifications provided to the customer for a period of 30 days. Historically, the Company has not been required to make payments under these obligations. Therefore, no liabilities for such obligations are presented in the consolidated financial statements.

(k) Concentrations

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of trade receivables and contract assets, which represent contracted unbilled receivables.

The Company does not require customers to provide collateral to support accounts receivable. If deemed necessary, credit reviews of significant new customers may be performed prior to extending credit. The determination of a customer's ability to pay requires judgment, and failure to collect from a customer can adversely affect revenue, cash flows, and results of operations.

As of December 31, 2022, one customer accounted for 26% of total accounts receivable. As of December 31, 2021, three customers accounted for 17%, 15%, and 11% of total accounts receivable, respectively. As of December 31, 2022, two customers accounted for 23% and 17% of total contract assets, respectively. As of December 31, 2021, three customers accounted for 27%, 18%, and 17% of total contract assets, respectively. For the year ended December 31, 2022, one customer accounted for 16% of total revenues. For the year ended December 31, 2021, one customer accounted for 14% of total revenues. For the year ended December 31, 2020, no customers accounted for more than 10% of total revenues.

(l) Royalties

Royalties represent a component of cost of revenues and consist of royalties paid to owners of intellectual property used in or bundled with the Company's software. Generally, royalties are incurred and recorded at the time a customer enters into a binding purchase agreement, although some royalty agreements are based instead on cash collections. Royalty expense was $9,191, $9,826, and 7,663 for the years ended December 31, 2022, 2021, and 2020, respectively.

(m) Software Development Costs

Costs to develop new software products and substantial enhancements to existing software products are expensed as incurred. Historically, the Company has not capitalized any software development costs because the software development process was essentially completed concurrent with the establishment of technological feasibility.

(n) Research and Development and Advertising

Research and development and advertising costs are expensed as incurred. The Company did not incur any significant advertising costs in 2022, 2021, and 2020.

(o) Stock-Based Compensation

The Company calculates stock-based compensation expense utilizing fair value–based methodologies and recognizes expense over the vesting period of such awards.

(p) Commissions

Commissions represent a component of sales and marketing expense and consist of the variable compensation paid to the Company's sales representatives. Generally, sales commissions are earned and recorded as expense at the time that a customer has entered into a binding purchase agreement. Commissions paid to sales representatives are recoverable only in the case that the Company cannot collect against any invoiced fee associated with a sales order. Commission expense was $2,291, $1,829, and $1,362 in 2022, 2021, and 2020, respectively.

(q) Income Taxes

The Company records deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial statement carrying amounts and the tax basis of the assets and liabilities. Deferred tax assets are reduced by a valuation allowance when it is estimated to become more likely than not that a portion of the deferred tax assets will not be realized. Accordingly, the Company currently maintains a full valuation allowance against existing net deferred tax assets.

The Company recognizes the effect of income tax positions only if such positions are deemed "more likely than not" capable of being sustained. Interest and penalties accrued on unrecognized tax benefits are included within income tax expense in the consolidated financial statements.

(r) Comprehensive Loss

Comprehensive loss includes net loss and changes in equity related to changes in unrealized gains or losses on marketable securities.

(s) Equity Investments

In the normal course of business, the Company has entered, and may continue to enter, into collaboration agreements with companies to perform drug design services for such companies in exchange for equity ownership stakes in such companies. If it is determined that the Company has control over the investee, the investee is consolidated in the financial statements. If the investee is consolidated with the Company and less than 100% of the equity is owned by the Company, the Company will present non-controlling interest to represent the portion of the investee owned by other investors. If it is determined that the Company does not have control over the investee, the Company evaluates the investment for the ability to exercise significant influence.

Equity investments over which the Company has significant influence may be accounted for under equity method accounting in accordance with ASC Topic 323, Equity Method and Joint Ventures. If it is determined that the Company does not have significant influence over the investee, and there is no readily determinable fair value for the investment, the equity investment may be accounted for at cost minus impairment in accordance with ASC Topic 321, Equity Securities.

For further information regarding the Company's equity investments, see Note 6, Fair Value Measurements, Note 11, Noncontrolling Interest, and Note 13, Equity Investments.

(t) Net Loss per Share Attributable to Common and Limited Common Stockholders

The outstanding equity of the Company consists of common stock and limited common stock. Under the Company's certificate of incorporation, the rights of the holders of common stock and limited common stock are identical, except with respect to voting and conversion. Holders of limited common stock are precluded from voting such shares in any election of directors or on the removal of directors. Limited common stock may be converted into common stock at any time at the option of the stockholder.

Undistributed earnings allocated to the participating securities are subtracted from net income in determining net (loss) income attributable to common and limited common stockholders. Basic net (loss) income per share is computed by dividing net (loss) income attributable to common and limited common stockholders by the weighted-average number of shares of common and limited common stock outstanding during the period.

For the calculation of diluted net income, net income attributable to common and limited common stockholders for basic net income is adjusted by the effect of dilutive securities, including awards under the Company's equity compensation plans. Diluted net income per share attributable to common and limited common stockholders is computed by dividing the resulting net income attributable to common and limited common stockholders by the weighted-average number of fully diluted shares of common and limited common stock outstanding.

(3) Revenue Recognition

Revenue is recognized upon transfer of control of promised products or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for promised goods or services. The

Company's performance obligations are satisfied either over time or at a point in time, which can result in different revenue recognition patterns.

The following table illustrates the timing of the Company's revenue recognition patterns:

	Year Ended December 31,		
	2022	2021	2020
Software products and services – point in time	47.3 %	55.5 %	55.0 %
Software products and services – over time	27.6	26.6	30.6
Drug Discovery – point in time	8.8	3.3	6.7
Drug Discovery – over time	16.3	14.6	7.7

(a) Software Products and Services

The Company enters into contracts that can include various combinations of licenses, products and services, some of which are distinct and are accounted for as separate performance obligations. For contracts with multiple performance obligations, the Company allocates the transaction price of the contract to each performance obligation on a relative standalone selling price ("SSP") basis. Revenue is recognized net of any sale and value-added taxes collected from customers and subsequently remitted to governmental authorities.

The Company's software business derives revenue from five sources: (i) on-premise software license fees, (ii) hosted software subscription fees, (iii) software maintenance fees, (iv) professional services fees, and (v) contributions.

On-premise software. The Company's on-premise software license arrangements grant customers the right to use its software on their own in-house servers or their own cloud instances for a specified term, typically for one year. The Company recognizes revenue for on-premise software license fees upfront, either upon delivery of the license or the effective date of the agreement, whichever is later. In instances where the timing of delivery differs from the timing of invoicing, the Company considers whether a significant financing component exists. The Company has elected the practical expedient to not assess for significant financing where the term is less than one year. The Company's updates and upgrades are not integral to maintaining the utility of the software licenses. Payments typically are received upfront or annually.

Hosted software. Hosted software revenue consists primarily of fees to provide the Company's customers with hosted licenses, which allows these customers to access the Company's cloud-based software solution on their own hardware without taking control of licenses. Hosted software is recognized ratably over the term of the arrangement.

Software maintenance. Software maintenance includes technical support, updates, and upgrades related to our on-premise software licenses. Software maintenance revenue is considered to be a separate performance obligation and is recognized ratably over the term of the arrangement.

Professional services. Professional services include training, technical setup, installation or assisting customers with modeling and structural biology services, where the Company uses its software to perform tasks such as virtual screening and homology modeling on behalf of the Company's customers. These services are generally not related to the core functionality of the Company's software and are recognized as revenue when resources are consumed. The Company has historically estimated project status with relative accuracy, although a number of internal and external factors can affect such estimates, including labor rates, utilization and efficiency variances. Payments for services are due in advance or upon consumption of resources.

Software contribution revenue. Software contribution revenue consists of funds received under a non-reciprocal agreement with Gates Ventures, LLC. The agreement is an unconditional non-exchange contribution without restrictions. Revenue was recognized upon execution of the agreement and on the first anniversary of the agreement when invoiced in accordance with ASC Topic 958, *Not-for-Profit Entities* as the agreement is not an exchange transaction.

The agreement with Gates Ventures, LLC covers the period from June 23, 2020 through June 22, 2023 for total consideration of up to $3,000. The Company recognized revenue of $1,000 upon entry to the agreement and $1,000 upon each of the first and second anniversary of the agreement. As of December 31, 2022, the Company had no deferred revenue

balance related to this agreement. As of December 31, 2022, the Company had no accounts receivable related to this agreement.

The following table presents the revenue recognized from the sources of software products and services revenue:

	Year Ended December 31,		
	2022	2021	2020
On-premise software	$ 84,487	$ 74,598	$ 58,311
Hosted software	14,890	11,076	9,192
Software maintenance	19,996	17,294	14,465
Professional services	15,205	9,268	9,562
Revenue from contracts with customers	134,578	112,236	91,530
Software contribution	1,000	1,000	1,000
Total software revenue	$ 135,578	$ 113,236	$ 92,530

(b) Drug Discovery

Drug discovery services. Revenue from drug discovery and collaboration services contracts is recognized either over time or at a point in time, typically by using costs incurred, hours expended to measure progress, or based on the achievement of milestones. Payments for services are generally due upfront at the start of a contract, upon achieving milestones stated in a contract, or upon consumption of resources. Services may at times include variable consideration, and the Company has estimated the amount of consideration that is variable using the most likely amount method. The Company evaluates milestones on a case-by-case basis, including whether there are factors outside the Company's control that could result in a significant reversal of revenue, and the likelihood and magnitude of a potential reversal. If achievement of a milestone is not considered probable, the Company constrains (reduces) variable consideration to exclude the milestone payment until it is probable to be achieved. Upon removal of the constraint on variable consideration, revenue may be recognized at a point in time by applying the allocation guidance of Topic 606.

As of December 31, 2022, 2021, and 2020, milestones not yet achieved that were determined to be probable of achievement totaled $4,000, $2,250, and $250, respectively, and $3,939, $2,250, and $85 of those milestones were recognized as revenue for the years ended December 31, 2022, 2021, and 2020, respectively.

Drug discovery contribution revenue. Drug discovery contribution revenue consists of funds received under an agreement with Bill and Melinda Gates Foundation on a cost reimbursement basis, to perform services aimed at accelerating drug discovery in women's health, which began in November 2021. Revenue is recognized as conditions are met in accordance with ASC Topic 958, *Not-for-Profit Entities.* As of December 31, 2022 and 2021, the Company had deferred revenue balances related to this agreement of $1,718 and $1,129, respectively.

The following table presents the revenue recognized from the sources of drug discovery revenue:

	Year Ended December 31,		
	2022	2021	2020
Drug discovery services revenue from contracts with customers	$ 43,427	$ 24,584	$ 15,565
Drug discovery contribution	1,950	111	—
Total drug discovery revenue	$ 45,377	$ 24,695	$ 15,565

(c) Collaboration and License Agreement

On November 22, 2020, the Company entered into an exclusive, worldwide collaboration and license agreement with Bristol-Myers Squibb Company ("BMS"), pursuant to which the Company and BMS have agreed to collaborate in the discovery, research and preclinical development of new small molecule compounds for disease indications in oncology, neurology, and immunology therapeutics areas. Under the agreement, the Company was initially responsible, at its own cost and expense, for the discovery of small molecule compounds directed to five specified biological targets pursuant to a

mutually agreed research plan for each such target. The initial targets included HIF-2 alpha and SOS1/KRAS, which were two of the Company's wholly-owned programs. In November 2021, the Company and BMS mutually agreed to replace the HIF-2 alpha target with another precision oncology target. Following the replacement election, all rights to the HIF-2 alpha target program reverted to the Company. In September 2022, BMS elected not to proceed with further development of another target and all rights to this program reverted to the Company, which increased revenue recognition due to the accelerated completion of our obligations related to the program. In December 2022, the Company and BMS entered into an amendment to the agreement to include an additional target in neurology on terms similar to the original agreement. Once a development candidate meeting specified criteria for a target under the agreement has been identified by the Company, BMS will be solely responsible for the further development, manufacturing and commercialization of such development candidate at its own cost and expense.

Under the terms of the agreement, as amended, BMS paid the Company an initial upfront fee payment of $55.0 million in November 2020 and an additional upfront payment in December 2022. The Company also is eligible to receive up to $2.7 billion in total milestone payments across all potential targets, consisting of: a) up to $585.0 million in milestone payments per oncology target, including $360.0 million in the aggregate for the achievement of certain specified research, development, and regulatory milestones and $225.0 million in the aggregate for the achievement of certain specified commercial milestones; and b) up to $489.0 million in milestone payments per neurology and immunology target, including $264.0 million in the aggregate for the achievement of certain specified research, development, and regulatory milestones and $225.0 million in the aggregate for the achievement of certain specified commercial milestones.

The Company is also entitled to a tiered percentage royalty on annual net sales ranging from mid-single digits to low-double digits, subject to certain specified reductions. Royalties are payable by BMS on a licensed product-by-licensed product and country-by-country basis until the later of the expiration of the last valid claim covering the licensed product in such country, expiration of all applicable regulatory exclusivities in such country for such licensed product and the tenth anniversary of the first commercial sale of such licensed product in such country.

The Company assessed the collaboration and license agreement in accordance with Topic 606, and concluded that BMS is a customer based on the agreement structure. At inception, the Company identified one performance obligation for each of the five programs under the agreement, which includes research activities for each program and a license grant for the underlying intellectual property. The Company determined that the license grant for intellectual property is not separable from the research activities, as the research activities are expected to significantly modify or enhance the license grant over the period of service, and therefore are not distinct in the context of the contract.

The Company determined that the transaction price at the onset of the agreement is $55.0 million. Additional consideration to be paid to the Company upon the achievement of future milestone payments were excluded from the transaction price as they represent milestone payments that are not considered probable as of the inception date such that there is not a significant risk of revenue reversal.

The Company has allocated the transaction price of $55.0 million to each performance obligation based on the SSP of each performance obligation at inception, which was determined based on each performance obligation's estimated SSP. The Company determined the estimated SSP at contract inception of the research activities based on internal estimates of the costs to perform the services, inclusive of a reasonable profit margin. Significant inputs used to determine the total costs to perform the research activities included the length of time required, the internal hours expected to be incurred on the services and the number and costs of various studies that will be performed to complete the research plan.

Revenue associated with the research activities is recognized on a proportional performance basis over the period of service for research activities, using input-based measurements of total costs of research incurred to estimate the proportion performed. Progress towards completion is remeasured at the end of each reporting period.

During the years ended December 31, 2022, 2021, and 2020, the Company recognized $22.1 million, $13.7 million, and $1.0 million, respectively, associated with the agreement based on the research activities performed. As of December 31, 2022 and 2021, there was $25.5 and $40.3 of deferred revenue related to the agreement, which was classified as either current or non-current in the consolidated balance sheet based on the period the services are expected to be performed. There was $8.0 of outstanding receivables for this collaboration as of December 31, 2022.

(d) Significant Judgments

Significant judgments and estimates are required under Topic 606. Due to the complexity of certain contracts, the actual revenue recognition treatment required under Topic 606 for the Company's arrangements may be dependent on contract-specific terms and may vary in some instances.

The Company's contracts with customers often include promises to transfer multiple software products and services, including training, professional services, technical support services, and rights to unspecified updates. Determining whether licenses and services are distinct performance obligations that should be accounted for separately, or are not distinct and therefore should be accounted for together, requires significant judgment. In some arrangements, such as most of the Company's term-based software license arrangements, the Company has concluded that the licenses and associated services are distinct from each other. In other arrangements, including collaboration services arrangements, the licenses and certain services may not be distinct from each other. The Company's time-based software arrangements may include multiple software licenses and a right to updates or upgrades to the licensed software products, and technical support. The Company has concluded that such promised goods and services are separate distinct performance obligations.

The Company is required to estimate the total consideration expected to be received from contracts with customers, including any variable consideration. For collaborative arrangements which we are eligible to receive variable consideration in the form of milestones payments, we evaluate whether the milestones are considered probable of being achieved. If it is probable that a significant revenue reversal would not occur, the constraint is removed and value of the associated milestone is included in the estimated transaction price using the most likely amount method based on contractual requirements and historical experience. Once the estimated transaction price is established, amounts are allocated to the performance obligations that have been identified. The transaction price is allocated to each separate performance obligation on a relative SSP basis consistent with the allocation objectives of Topic 606.

Judgment is required to determine the SSP for each distinct performance obligation. The Company rarely licenses or sells products on a standalone basis, so the Company is required to estimate the range of SSPs for each performance obligation. In instances where the SSP is not directly observable because the Company does not sell the license, product, or service separately, the Company determines the SSP using information that includes historical discounting practices, market conditions, cost-plus analysis, and other observable inputs. The Company typically has more than one SSP for individual performance obligations due to the stratification of those items by classes of customers and circumstances. In these instances, the Company may use information such as the size and geographic region of the customer in determining the SSP. Professional service revenue is recognized as costs and hours are incurred, and judgment is required in estimating both the project status and the costs incurred or hours expended.

If a group of agreements are so closely related to each other that they are, in effect, part of a single arrangement, such agreements are deemed to be one arrangement for revenue recognition purposes. The Company exercises significant judgment to evaluate the relevant facts and circumstances in determining whether the separate agreements should be accounted for separately or as, in substance, a single arrangement. The Company's judgments about whether a group of contracts comprises a single arrangement can affect the allocation of consideration to the distinct performance obligations, which could have an effect on results of operations for the periods involved.

Judgment is required to determine the total costs to perform research activities, which include the length of time required, the internal hours expected to be incurred on the services, and the number and costs of various studies that may be performed by third-parties to complete the research plan.

Generally, the Company has not experienced significant returns or refunds to customers.

The Company's estimates related to revenue recognition may require significant judgment and a change in these estimates could have an effect on the Company's results of operations during the periods involved.

(e) Contract Balances

The timing of revenue recognition may differ from the timing of invoicing to customers and these timing differences result in receivables, contract assets, or contract liabilities (deferred revenue) on the consolidated balance sheets. The Company records a contract asset when revenue is recognized prior to invoicing. A deferred revenue liability is recorded when revenue is expected to be recognized subsequent to invoicing. For the Company's time-based software agreements, customers are generally invoiced at the beginning of the arrangement for the entire term, though when the term spans multiple years the customers may be invoiced on an annual basis. For certain drug discovery agreements where the

milestones are deemed probable in a period prior to when the milestone is achieved, the Company records a contract asset for the full value of the milestone.

Contract assets are included in unbilled and other receivables within the consolidated balance sheets and are transferred to receivables when the Company invoices the customer.

Contract balances were as follows:

	As of December 31, 2022	As of December 31, 2021
Contract assets	$ 11,378	$ 8,271
Deferred revenue, short-term:		
Software products and services	37,085	32,945
Drug discovery	20,846	22,423
Deferred revenue, long-term:		
Software products and services	2,526	3,938
Drug discovery	23,072	26,126

For the years ended December 31, 2022 and 2021, respectively, the Company recognized $60,039 and $42,127 of revenue that was included in deferred revenue at the end of the respective preceding periods. All other deferred revenue activity is due to the timing of invoices in relation to the timing of revenue, as described above. The Company expects to recognize as revenue approximately 69% of its December 31, 2022 deferred revenue balance in the next 12 months and the remainder thereafter. Additionally, contracted but unsatisfied performance obligations that had not yet been billed to the customer or included in deferred revenue were $20,205 as of December 31, 2022.

Payment terms and conditions vary by contract type, although terms typically require payment within 30 to 60 days. In instances where the timing of revenue recognition differs from that of invoicing, the Company has determined that its contracts generally do not include a significant financing component. The primary purpose of invoicing terms is to provide customers with simplified and predictable ways of purchasing the Company's products and services, not to facilitate financing arrangements.

(f) Deferred Sales Commissions

The Company has applied the practical expedient for sales commission expense, as any material compensation paid to sales representatives to obtain a contract relates to a period of one year or less. Therefore, the Company has not capitalized any costs related to sales commissions.

(4) Property and Equipment

Property and equipment consisted of the following:

	As of December 31,	
	2022	2021
Computers and equipment	$ 20,387	$ 16,059
Leasehold improvements	2,229	2,276
Furniture and fixtures	5,665	4,045
Lab equipment	76	—
	28,357	22,380
Less accumulated depreciation	(14,113)	(12,355)
	$ 14,244	$ 10,025

Depreciation expense for 2022, 2021, and 2020 was $3,831, $2,847, and $3,658, respectively, and is included within cost of revenues and research and development, sales and marketing, and general and administrative expenses within the consolidated statements of operations.

(5) Business Acquisition

On January 14, 2022, the Company used cash on hand to acquire all outstanding shares of XTAL BioStructures, Inc. ("XTAL"), a company that provides structural biology services, including biophysical methods, protein production and purification, and X-ray crystallography. The transaction qualified as a business combination for accounting purposes, which involves application of the acquisition method described in Topic 805. The cash purchase price was approximately $7,429 which included $6,427 in upfront purchase price, net of cash acquired. The acquisition of XTAL enables the Company to pursue scientific advancements in the field of structural biology, augment its ability to produce high quality target structures for its drug discovery programs, and expand its offerings to include an advanced and differentiated service that provides customers access to protein structures that have been computationally validated and are ready for structure-based virtual screening and lead optimization, giving rise to expected benefits supporting the amount of acquired goodwill.

The following table summarizes the fair values of the assets acquired and liabilities assumed by the Company as of the January 14, 2022 acquisition date. The business combination accounting under Topic 805 was finalized for this acquisition during the three months ended June 30, 2022, with no changes to the provisional amounts disclosed for the three months ended March 31, 2022. The Company has elected to use both practical expedients provided by ASU No. 2021-08 for the valuation of contract assets and contract liabilities from contracts with customers, with no material impact to the consolidated financial statements.

Cash	$ 1,002
Accounts receivable	588
Other current assets	95
Property, plant and equipment	297
Intangible assets	1,100
Goodwill	4,791
Total assets acquired	7,873
Current liabilities	209
Deferred tax liability	235
Total liabilities assumed	444
Net assets acquired	$ 7,429

The following table summarizes the purchase price allocation to the identifiable intangible assets and their estimated useful lives as of the January 14, 2022 acquisition date:

	Amount	Useful Life (years)
Backlog	$ 270	1
Customer relationships	710	5
Tradename/Trademark	120	1
	$ 1,100	

The results of operations for XTAL beginning as of the January 14, 2022 acquisition date are included in these consolidated financial statements. For the fiscal year ended December 31, 2022, the amount of revenues and net income of XTAL were not material to the consolidated financial statements taken as a whole. Because the pro forma results of operations of the Company for the periods presented in these consolidated financial statements would not be materially different as a result of the acquisition, such information is not presented. The costs incurred to acquire XTAL were not material and have been fully expensed and are included in general and administrative expenses in the consolidated statements of operations. Amortization of intangibles was $513 and zero in general and administrative expenses as of December 31, 2022 and 2021, respectively.

(6) Fair Value Measurements

Various inputs are used in determining the fair value of the Company's financial assets and liabilities. These inputs are summarized into the following three broad categories:

Level 1 – quoted prices in active markets for identical securities

Level 2 – other significant observable inputs, including quoted prices for similar securities, interest rates, credit risk, etc.

Level 3 – significant unobservable inputs, including the Company's own assumptions in determining fair value

The inputs or methodology used for valuing securities are not necessarily an indication of the risk associated with investing in those securities. Marketable securities, which consist primarily of corporate and U.S. government agency bonds, are classified as available for sale and fair value did not differ significantly from carrying value as of December 31, 2022 and 2021. The following table presents information about the Company's assets and liabilities measured at fair value as of December 31, 2022:

	Level 1	Level 2	Level 3	Total
Assets:				
Cash and cash equivalents and restricted cash	$ 95,717	$ —	$ —	$ 95,717
Marketable securities	$ —	$ 360,613	$ —	$ 360,613
Equity investments	22,335	—	1,629	23,964
Total	$ 118,052	$ 360,613	$ 1,629	$ 480,294

The following table presents information about the Company's assets and liabilities measured at fair value as of December 31, 2021:

	Level 1	Level 2	Level 3	Total
Assets:				
Cash and cash equivalents and restricted cash	$ 123,267	$ —	$ —	$ 123,267
Marketable securities	$ —	$ 456,212	$ —	$ 456,212
Equity investments	39,561	—	1,887	41,448
Total	$ 162,828	$ 456,212	$ 1,887	$ 620,927

Fair value of the Company's investments in Nimbus Therapeutics, LLC ("Nimbus"), Structure Therapeutics Inc., formerly known as ShouTi Inc., ("Structure Therapeutics"), and Eonix, LLC ("Eonix"), classified as Level 3 in the fair value hierarchy, was determined under the hypothetical liquidated book value method ("HLBV method"), as further described in Note 13, Equity Investments. Significant unobservable inputs used under the HLBV method include Nimbus', Structure Therapeutics', and Eonix's annual financial statements and the Company's respective liquidation priorities. The following table sets forth changes in fair value of the Company's Level 3 investments:

	Amount
As of December 31, 2020	$ —
Cash contributions	2,000
Unrealized loss	(113)
As of December 31, 2021	1,887
Cash contributions	600
Unrealized loss	(858)
As of December 31, 2022	$ 1,629

Unrealized gains and losses arising from changes in fair value of the Company's equity investments are classified within change in fair value in the consolidated statements of operations. During the years ended December 31, 2022 and

2021, there were no transfers between Level 1, Level 2 and Level 3 investments. See Note 13, Equity Investments, for further information.

(7) Commitments and Contingencies

(a) Leases

The Company leases office space under operating leases that expire at various dates through 2037. The Company has elected the package of practical expedients under the transition guidance of ASC Topic 842, *Leases*, to exclude short-term leases from the balance sheet and to combine lease and non-lease components.

Upon inception of a lease, the Company determines if an arrangement is a lease, if it includes options to extend or terminate the lease, and if it is reasonably certain that the Company will exercise the options. Lease cost, representing lease payments over the term of the lease and any capitalizable direct costs less any incentives received, is recognized on a straight-line basis over the lease term as lease expense.

In determining the present value of lease payments, the Company uses its incremental borrowing rate based on the information available at the lease commencement date if the rate implicit in the lease is not readily determinable. Upon execution of a new lease, the Company performs an analysis to determine its incremental borrowing rate using its current borrowing rate, adjusted for various factors including level of collateralization and lease term. As of December 31, 2022, the remaining weighted average lease term was 13 years.

During the year ended December 31, 2022, right-of-use ("ROU") assets increased by $34,763 due to the accounting commencement of seven new leases and by $2,824 due to a contingency resolution associated with the Company's New York office lease. During the same period, lease liabilities increased by $34,430 due the accounting commencement of the new leases.

On August 15, 2022, the Company entered into an office lease agreement for 17,500 square feet of office space in Framingham, Massachusetts. Under the terms of the agreement, the Company is obligated to pay base rent of approximately $114 per month with a 2% annual rental escalation each year. The Company estimates that the lease commencement date will occur during the three months ending June 30, 2023 and continue to the end of the lease, which is ten years after commencement.

On December 20, 2022, the Company entered into a service agreement with a contract research organization, which includes the use of 12,000 square feet of lab space and lab equipment in Hyderabad, India. This agreement has been identified as an embedded lease in this contract research agreement. Under the terms of the agreement, the Company is obligated to pay a base fee of approximately $29 per month for the first year, and $56 per month for the four remaining years. The Company estimates that the lease commencement date will occur during the three months ending June 30, 2023 and continue to the end of the lease, which is five years after commencement.

Variable and short-term lease costs were immaterial for the year ended December 31, 2022. Additional details of the Company's operating leases are presented in the following table:

	Year Ended December 31,		
	2022	2021	2020
Operating lease costs	$ 11,999	$ 7,627	$ 5,895
Cash paid for operating leases	3,275	4,561	6,050

Maturities of operating lease liabilities as of December 31, 2022 under noncancelable operating leases were as follows:

Year ending December 31:	
2023	$ 11,396
2024	14,454
2025	14,547
2026	14,142
2027	12,978
Thereafter	119,602
Total future minimum lease payments	187,119
Less: imputed interest	(70,628)
Present value of future minimum lease payments	116,491
Less: current portion of operating leases payments	(11,006)
Lease liabilities, long-term	$ 105,485

(b) Legal Matters

From time to time, the Company may become involved in routine litigation arising in the ordinary course of business. While the results of such litigation cannot be predicted with certainty, management believes that the final outcome of such matters is not likely to have a material adverse effect on the Company's financial position or results of operations or cash flows.

(8) Income Taxes

Income tax expense is comprised of the following:

	Year ended December 31,		
	2022	2021	2020
Current:			
Federal	$ (195)	$ —	$ —
State	(280)	67	178
Foreign	538	344	167
Current income tax expense	63	411	345
Deferred:			
Federal	—	—	—
State	—	—	—
Foreign	—	—	—
Deferred income tax expense	—	—	—
Income tax expense	$ 63	$ 411	$ 345

Components of loss before income taxes by tax jurisdiction were as follows:

	Year ended December 31,		
	2022	2021	2020
United States	$ (150,147)	$ (101,341)	$ (24,567)
Foreign	1,021	1,359	449
Loss before income taxes	$ (149,126)	$ (99,982)	$ (24,118)

Reconciliation of income tax expense at the applicable statutory income tax rates to the effective income tax rate is as follows:

	Year ended December 31,		
	2022	2021	2020
Statutory federal income tax rate	21.0 %	21.0 %	21.0 %
State taxes, net of federal benefits	5.1	4.9	14.2
Section 162(m) limitation	(1.1)	(5.2)	(12.8)
Stock compensation	0.6	12.4	68.5
Return-to-provision adjustments	0.2	(1.7)	(1.3)
Research and development credit	3.1	6.3	6.2
Tax contingencies, net of reversals	(0.3)	(0.7)	(0.6)
Change in valuation allowance	(28.6)	(37.2)	(95.0)
Other	—	(0.2)	(1.6)
Effective income tax rate	— %	(0.4)%	(1.4)%

The income tax expense for the years ended December 31, 2022, 2021, and 2020 primarily related to state taxes and taxes in foreign jurisdictions.

The total change in valuation allowance for the year ended December 31, 2022 was $42,653, which primarily was due to the generation of net operating losses.

Tax effects of temporary differences that give rise to significant portions of deferred income tax assets and deferred income tax liabilities were as follows:

	As of December 31,		
	2022	2021	2020
Deferred income tax assets:			
Net operating loss carryforwards	$ 67,758	$ 67,985	$ 51,498
Accrued expenses	48,873	10,309	7,918
Deferred revenue	6,532	10,632	394
Lease liabilities	28,952	18,773	2,165
Credits	18,456	14,559	8,752
Gross deferred tax assets	170,571	122,258	70,727
Less valuation allowance	(137,957)	(95,304)	(58,155)
Net deferred tax assets	32,614	26,954	12,572
Deferred income tax liabilities:			
Unrealized gain on equity investments	(4,439)	(8,545)	(10,185)
Prepaid expenses	(1,435)	(969)	(889)
Depreciation and amortization	(26,740)	(17,440)	(1,498)
Net deferred income tax assets	$ —	$ —	$ —

As of December 31, 2022, the Company had federal and state net operating loss ("NOL") carryforwards of $270,940 and $169,955, respectively. These carryforwards, with the exception of federal NOLs generated post 2017, will expire between 2023 and 2042 if not used by the Company to reduce income taxes payable in future periods. Utilization of post 2017 federal NOL carryforwards are limited to 80% of taxable income generated in a given year and carry forward indefinitely. As of December 31, 2022, the Company had federal and state research and development tax credit carryforwards of $19,521 and $1,318, respectively. These carryforwards will expire between 2023 and 2042 if not used by the Company to reduce income taxes payable in future periods.

Pursuant to Internal Revenue Code Sections 382 and 383, the utilization of NOLs and other tax attributes may be substantially limited due to cumulative changes in ownership greater than 50% that may have occurred or could occur during applicable testing periods. The Company has performed an analysis through December 31, 2022 and determined that such an ownership change occurred on March 31, 2021. There was no material impact to the financial statements due to this ownership change.

The Company has not recognized a deferred tax liability for the undistributed earnings of its foreign operations as the Company considers these earnings to be indefinitely reinvested.

The Company classifies interest and penalties related to unrecognized tax benefits within income tax expense in the consolidated statement of operations. Following is a reconciliation of total gross unrecognized tax benefits:

	Year ended December 31,		
	2022	2021	2020
Balance, January 1	$ 1,702	$ 1,046	$ 902
Additions for tax positions taken in prior years	35	282	25
Reductions for tax positions taken in prior years	(24)	(20)	(16)
Additions for tax positions related to the current year	429	394	135
Balance, December 31	$ 2,142	$ 1,702	$ 1,046

The Company does not anticipate any significant increases or decreases in its uncertain tax positions within the next 12 months.

The Company and its subsidiaries file U.S. federal income tax returns and various state, local and foreign income tax returns. As of December 31, 2022, the Company's statutes of limitations are open for all federal and state years tax returns filed after the years ended December 31, 2018 and 2017, respectively. Net operating loss and credit carryforwards for all years are subject to examination and adjustments for the three years following the year in which the carryforwards are utilized. The Company is not currently under Internal Revenue Service or state examination.

(9) Stockholders' Equity (Deficit)

(a) Common Stock

As of December 31, 2022, the Company had authorized 500,000,000 shares of common stock with a par value of $0.01 per share. Holders of common stock are entitled to one vote per share, to receive dividends, if and when declared by the board of directors, and upon liquidation or dissolution, to receive a portion of the assets available for distributions to stockholders, subject to preferential amounts owed to holders of the Company's preferred stock, if any.

Common stockholders have no preemptive or other subscription rights and there are no redemption or sinking fund provisions with respect to such shares. The rights, preferences and privileges of holders of the common stock are subject to and may be adversely affected by the right of the holders of shares of any series of preferred stock that the Company may designate and issue in the future.

(b) Limited Common Stock

As of December 31, 2022, the Company had authorized 100,000,000 shares of limited common stock with a par value of $0.01 per share. Holders of limited common stock are entitled to one vote per share, however, the holders of limited common stock shall not be entitled to vote such shares in any election of directors or on the removal of directors. Holders of limited common stock are entitled to receive dividends, if and when declared by the board of directors, and upon liquidation or dissolution, to receive a portion of the assets available for distributions to stockholders, subject to preferential amounts owed to holders of the Company's preferred stock, if any. Holders of the Company's limited common stock have the right to convert each share of limited common stock into one share of the Company's common stock.

Limited common stockholders have no preemptive or other subscription rights and there are no redemption or sinking fund provisions with respect to such shares. The rights, preferences and privileges of holders of the limited common stock are subject to and may be adversely affected by the right of the holders of shares of any series of preferred stock that the Company may designate and issue in the future.

(c) Preferred Stock

As of December 31, 2022, the Company had authorized 10,000,000 shares of undesignated preferred stock with a par value of $0.01 per share. The Company's board of directors has the discretion to determine the rights, preferences, privileges, and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges, and liquidation preferences, of each series of preferred stock.

(10) Stock-Based Compensation

Stock Incentive Plans

As of December 31, 2022, the Company's stock incentive plans included the 2010 Stock Plan (the "2010 Plan"), the 2020 Equity Incentive Plan (the "2020 Plan"), the 2021 Inducement Equity Incentive Plan, as amended (the "2021 Plan"), and the 2022 Equity Incentive Plan (the "2022 Plan") (together, the "Plans").

The 2022 Plan provides for the award of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock units, other stock-based awards, and cash-based awards to employees, directors, consultants or advisors. Shares of common stock subject to outstanding awards granted under the 2020 Plan and the 2010 Plan that expire, terminate, or are otherwise surrendered, cancelled, forfeited, or repurchased by the Company are available for issuance under the 2022 Plan.

The 2021 Plan provides for the award of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock units, and other stock-based awards to persons who were not previously an employee or director of the Company or who are commencing employment with the Company following a bona fide period of non-employment, in either case, as an inducement material to such person's entry into employment with the Company and in accordance with the requirements of the Nasdaq Stock Market Rule 5635(c)(4). Neither consultants nor advisors are eligible to participate in the 2021 Plan.

The 2020 Plan provided for the award of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock units, and other stock-based awards to employees, directors, consultants or advisors. As of June 15, 2022, the effective date of the 2022 Plan, no further awards will be made under the 2020 Plan. Any options or awards outstanding under the 2020 Plan remain outstanding and effective.

The 2010 Plan provided for the granting of incentive stock options and nonstatutory stock options to employees, directors, consultants or advisors. As of the effective date of the 2020 Plan, no further awards will be made under the 2010 Plan. Any options or awards outstanding under the 2010 Plan remain outstanding and effective.

As of December 31, 2022, there were 5,470,240 shares available for grant under the Plans. The following table presents classification of stock-based compensation expense within the consolidated statements of operations:

	Year Ended December 31,		
	2022	2021	2020
Cost of sales	$ 5,382	$ 3,858	$ 1,384
Research and development	11,816	7,440	3,050
Sales and marketing	2,818	1,281	516
General and administrative	19,614	13,911	5,595
Total stock-based compensation	$ 39,630	$ 26,490	$ 10,545

Restricted Stock Units

Each restricted stock unit ("RSU") represents the right to receive one share of the Company's common stock upon vesting. The fair value of RSUs granted by the Company was calculated based upon the Company's closing stock price on the date of the grant, and the stock-based compensation expense is recognized over the vesting period. RSUs generally vest over four years with 25% of the grants vesting at the end of the first year and the remaining vesting annually over the following three years.

Restricted stock unit activity was as follows:

	Number of shares	Weighted Average Grant Date Fair Value Per Share
Beginning, January 1, 2022	—	$ —
Granted	57,600	26.86
Vested	—	—
Forfeited	(8,800)	27.76
Balance, December 31, 2022	48,800	26.69

The weighted average grant date fair value for each RSU granted during the year ended December 31, 2022 was $26.86. There was no intrinsic value of RSUs settled during 2022.

As of December 31, 2022, there was $1,012 of unrecognized compensation cost related to RSUs granted under the Plans, which is expected to be recognized over a weighted average period of 3.11 years. No RSUs vested during twelve months ended December 31, 2022.

Performance-Based Restricted Stock Units

In August 2022, the Company awarded performance-based restricted stock units ("PRSUs") under the 2021 Plan. Each PRSU represents a contingent right to receive one share of common stock upon the achievement of specified performance goals. The fair value of PRSUs granted by the Company was calculated based upon the Company's closing stock price on the date of the grant, and the stock-based compensation expense is recognized when the grant date is determined and performance conditions are probable of achievement. At the point where performance conditions are considered probable of achievement, the Company records stock-based compensation expense with a cumulative catch-up expense in the period first recognized and on a straight-line basis over the remaining period for which the performance criteria are expected to be completed.

Performance based restricted stock unit activity was as follows:

	Number of shares	Weighted Average Grant Date Fair Value Per Share
Beginning, January 1, 2022	—	$ —
Granted	30,150	28.55
Vested	—	—
Forfeited	—	—
Balance, December 31, 2022	30,150	28.55

During the year ended December 31, 2022, the Company awarded 90,000 PRSUs to an employee of which 30,150 PRSUs were considered granted under ASC 718, *Compensation—Stock Compensation*. The weighted average grant date fair value for each PRSU granted during the year ended December 31, 2022 was $28.55. There was no intrinsic value of PRSUs settled during the year ended December 31, 2022. No PRSUs vested during the year ended December 31, 2022. Of the 30,150 PRSUs that were considered granted during the year ended December 31, 2022, 18,000 of the PRSUs are scheduled to vest, if at all, upon the certification by the Company's compensation committee of the achievement of the applicable performance conditions following the filing of the Company's Annual Report on Form 10-K for the fiscal year ending December 31, 2023 and 12,150 PRSUs are scheduled to vest, if at all, upon the certification by the Company's compensation committee of the achievement of the applicable performance conditions following the filing of the

Company's Annual Report on Form 10-K for the fiscal year ending December 31, 2024. No conditions were determined to be probable as of December 31, 2022 and no expense was recorded during the year ended December 31, 2022.

Stock Options

Stock options must be granted at an exercise price not less than 100% of the fair market value per share at the grant date. The board of directors or compensation committee determines the exercise price of the Company's stock options based on the closing price of the common stock as reported on the Nasdaq Global Select Market on the day of the grant. The maximum contractual term of options granted under the Plans is typically 10 years, options generally vest over four years with 25% of the shares underlying the option vesting at the end of the first year and the remaining vesting monthly over the following three years.

During the years ended December 31, 2022, 2021, and 2020, 329,224, 1,120,981, and 1,398,177 options under the Plans were exercised for total proceeds of $2,110, $7,927, and $4,183, respectively.

The fair value of each option award is determined on the date of grant using the Black Scholes Merton option-pricing model. The calculation of fair value includes several assumptions that require management's judgment. The expected terms of options granted to employees during the years ended December 31, 2022, 2021, and 2020 were calculated using an average of historical exercises. Estimated volatility for 2022, 2021, and 2020 incorporates a calculated volatility derived from the historical closing prices of shares of common stock of similar entities whose share prices were publicly available for the expected term of the option. The risk-free interest rate is based on the U.S. Treasury constant maturities in effect at the time of grant for the expected term of the option. The Company accounts for forfeitures as they occur, as such, the Company does not estimate forfeitures at the time of grant.

Following are the weighted average valuation assumptions used for option awards during the periods presented:

	Year Ended December 31,		
	2022	2021	2020
Valuation assumptions			
Expected dividend yield	— %	— %	— %
Expected volatility	57 %	59 %	60 %
Expected term (years)	4.78	4.66	4.49
Risk-free interest rate	2.13 %	0.71 %	1.46 %

Stock option activity was as follows:

	Number of shares	Weighted average exercise price	Weighted average remaining contractual term (years)	Aggregate intrinsic value
Beginning, January 1, 2022	7,680,341	$ 30.19		
Granted	4,060,060	27.48		
Exercised	(329,224)	6.41		
Forfeited	(450,653)	37.06		
Expired	(26,297)	74.68		
Balance, December 31, 2022	10,934,227	29.56	7.60	$ 37,823
Exercisable, December 31, 2022	5,210,425	23.39	6.40	$ 35,563

The weighted average grant date fair value per share of options granted during the years ended December 31, 2022, 2021, and 2020 was $13.67, $45.07, and $9.55, respectively. The intrinsic value of options exercised during the years ended December 31, 2022, 2021, and 2020 was $6,548, $71,308, and $87,946, respectively.

As of December 31, 2022, there was $86,628 of unrecognized compensation cost related to unvested stock options granted under the Plans, which is expected to be recognized over a weighted average period of 2.54 years. The fair value of shares vested during the years ended December 31, 2022, 2021, and 2020 was $43,559, $19,080, and $3,153, respectively.

(11) Noncontrolling Interest

The Company reviews each legal entity formed by parties related to the Company to determine whether or not the Company has a variable interest in the entity and whether or not the entity would meet the definition of a variable interest entity ("VIE") in accordance with ASC Topic 810, *Consolidation*. If the entity is a VIE, the Company assesses whether or not the Company is the primary beneficiary of that VIE based on a number of factors, including (i) which party has the power to direct the activities that most significantly affect the VIE's economic performance, (ii) the parties' contractual rights and responsibilities pursuant to any contractual agreements and (iii) which party has the obligation to absorb losses or the right to receive benefits from the VIE. If the Company determines it is the primary beneficiary of a VIE, the Company consolidates the financial statements of the VIE into the Company's consolidated financial statements at the time that determination is made. The Company evaluates whether it continues to be the primary beneficiary of any consolidated VIEs on a quarterly basis. If the Company were to determine that it is no longer the primary beneficiary of a consolidated VIE, or no longer has a variable interest in the VIE, it would deconsolidate the VIE in the period that the determination is made.

If the Company determines it is the primary beneficiary of a VIE that meets the definition of a business, the Company measures the assets, liabilities and noncontrolling interests of the newly consolidated entity at fair value in accordance with Topic 805 at the date the reporting entity first becomes the primary beneficiary.

In October 2018, Faxian Therapeutics, LLC ("Faxian") was formed in the United States. In April 2019, upon consummation of the joint venture, the Company and WuXi AppTech ("WuXi"), each received a 50% equity interest in the entity in exchange for their contributions to the entity. The Company determined that Faxian was a VIE and concluded that it is the primary beneficiary of the VIE. As such, the Company has consolidated Faxian's results into the consolidated financial statements, and eliminated WuXi's ownership as a non-controlling interest.

(12) Net Loss per Share Attributable to Common and Limited Common Stockholders

The following table presents the calculation of basic and diluted net loss per share attributable to common and limited common stockholders for the years presented (in thousands, except for share and per share data):

	Year Ended December 31,		
	2022	2021	2020
Numerator:			
Net loss attributable to Schrödinger common and limited common stockholders	$ (149,186)	$ (100,393)	$ (24,463)
Denominator:			
Weighted average shares used to compute net loss per share attributable to Schrödinger common and limited common stockholders, basic and diluted:	71,173,419	70,594,950	60,024,658
Net loss per share attributable to Schrödinger common and limited common stockholders, basic and diluted:	$ (2.10)	$ (1.42)	$ (0.41)

Since the Company was in a loss position for all years presented, basic net loss per share is the same as diluted net loss per share as the inclusion of all potential common shares and limited common shares outstanding would have been anti-dilutive. Potentially dilutive securities that were not included in the diluted per share calculations because they would be anti-dilutive were as follows:

	Year Ended December 31,		
	2022	2021	2020
Shares subject to outstanding common stock options and RSUs	11,013,177	7,680,341	7,257,460
	11,013,177	7,680,341	7,257,460

(13) Equity Investments

(a) Nimbus

The Company provides collaboration services for Nimbus under the terms of a master services agreement executed on May 18, 2010, as amended. Collaboration agreements are separate from the transaction that resulted in equity ownership and related fees are paid in cash to the Company. As Nimbus is a limited liability company and the Company is not a passive investor due to its collaboration with Nimbus on a number of drug discovery targets, the Company's management determined that it has significant influence over the entity and therefore accounts for the investment as an equity method investment.

The Company has concluded that the carrying value of its equity investment in Nimbus should reflect its contractual rights to substantive profits. The Company further determined that the HLBV method for valuing contractual rights to substantive profits provides the best representation of its financial position in Nimbus.

The HLBV method is a balance sheet-oriented approach to equity method accounting. Under the HLBV method, the Company determines its share of earnings or losses by comparing its claim on the book value at the beginning and end of each reporting period. This claim is calculated as the amount that the Company would receive (or be obligated to pay) if the investee were to liquidate all of its assets at recorded amounts, determined as of the balance sheet date in accordance with U.S. GAAP, and distribute the resulting cash to creditors and investors in accordance with their respective priorities.

The carrying value of the Nimbus investment was zero as of December 31, 2022 and December 31, 2021. The Company has no obligation to fund Nimbus losses in excess of its initial investment. The Company reported losses of zero, zero, and $2,977 on the Nimbus investment during the years ended December 31, 2022, 2021, and 2020, respectively.

(b) Morphic

The Company accounts for its investment in Morphic Holding, Inc. (“Morphic”) at fair value based on the share price of Morphic’s common stock at the measurement date.

During the year ended December 31, 2022, the Company reported a loss of $17,226 on the Morphic investment. During the years ended December 31, 2021 and 2020, the Company reported gains of $11,548, and $13,685 on the Morphic investment, respectively. As of December 31, 2022 and December 31, 2021, the carrying value of the Company’s investment in Morphic was $22,335 and $39,561, respectively.

(c) Ravenna

In connection with the merger of Petra Pharma Corporation ("Petra") and a third party, the Company received 2,676,191 shares of common stock of Ravenna Pharmaceuticals, Inc. (“Ravenna”). The Company concluded that its equity investment in Ravenna should be valued as a non-marketable equity security as the Company does not exercise significant influence over Ravenna. As of each of December 31, 2022 and December 31, 2021, the carrying value of the Company’s investment in Ravenna was $19. The Company reported losses of zero, $75, and zero on the Ravenna investment during 2022, 2021, and 2020, respectively.

(d) Ajax

In May 2021, the Company purchased 631,377 shares of Series B preferred stock of Ajax Therapeutics, Inc. (“Ajax”) for $1,700 in cash. The Company has concluded that its equity investment in Ajax should be valued as a non-marketable equity security as the Company does not exercise significant influence over Ajax. As of each of December 31, 2022 and December 31, 2021, the carrying value of the Company’s investment in Ajax was $1,700.

(e) Structure Therapeutics

In July 2021, the Company purchased 494,035 shares of Series B preferred stock of Structure Therapeutics for $2,000 in cash. In April 2022, the Company purchased an additional 148,210 shares of Series B preferred stock for $600 in cash.

As Structure Therapeutics is structured as an exempted company limited by shares, incorporated under the laws of the Cayman Islands and the Company is not a passive investor due to its collaboration with Structure Therapeutics on a

number of drug discovery targets, the Company's management determined that it has significant influence over the entity and therefore accounts for the investment as an equity method investment.

The Company has determined that the HLBV method for valuing contractual rights to substantive profits provides the best representation of its financial position in Structure Therapeutics. The carrying value of Structure Therapeutics was $1,629 and $1,887 as of December 31, 2022 and December 31, 2021, respectively. The Company has no obligation to fund Structure Therapeutics losses in excess of its initial investment. For the years ended December 31, 2022 and 2021, the Company recorded losses of $858 and $113, respectively, on the Structure Therapeutics investment.

(f) Eonix

On March 31, 2022, the Company received 4,000,000 membership interest units of Eonix in exchange for material science collaboration services under the terms of a master services agreement executed on March 31, 2022. As Eonix is a limited liability company and the Company is not a passive investor due to its collaboration with Eonix on a number of material science targets, the Company's management determined that it has significant influence over the entity and therefore accounts for the investment as an equity method investment.

The Company has determined that the HLBV method for valuing contractual rights to substantive profits provides the best representation of its financial position in Eonix. The carrying value of Eonix was zero as of December 31, 2022. For the year ended December 31, 2022, there was no gain or loss on the Eonix investment.

(14) Employee Benefit Plan

The Company offers a 401(k) employee savings plan to its U.S.-based employees. The Company made discretionary matching contributions equal to 100% of the first 4% of compensation contributed by employees for the years ended December 31, 2022, 2021, and 2020. Matching contributions during 2022, 2021, and 2020 were $3,243, $2,592, and $1,748, respectively.

(15) Related Party Transactions

(a) Board Member

For the years ended December 31, 2022, 2021, and 2020, the Company paid consulting fees of $410, $390, and $364, respectively, to a member of its board of directors.

(b) Bill and Melinda Gates Foundation

The Bill & Melinda Gates Foundation, an entity under common control with Bill and Melinda Gates Foundation Trust, a stockholder of the Company, issued a grant under which it agreed to pay the Company directly for certain licenses and services provided to a specified group of third-party organizations. Revenue recognized for services provided by the Company under this grant were $387, $1,160, and $2,094 for the years ended ended December 31, 2022, 2021, and 2020, respectively. As of December 31, 2022 and 2021, the Company had net receivables of $20 and $165, respectively, due from the Bill & Melinda Gates Foundation.

For the three months and year ended December 31, 2022, the Company recognized $573 and $1,949, respectively, in drug discovery contribution revenue related to funds received under an agreement with the Bill & Melinda Gates Foundation, aimed at accelerating drug discovery in women's health. As of December 31, 2022, the Company had no receivables due under this agreement from the Bill & Melinda Gates Foundation. As of December 31, 2022 and 2021, restricted cash on hand related to the arrangement was $1,742 and $1,130, respectively.

The Company received $1,000 in contribution revenue in connection with its entry into an agreement with Gates Ventures, LLC in the second quarter of 2020, $1,000 in contribution revenue in the second quarter of 2021 on the first anniversary of its entry into the agreement, and $1,000 in contribution revenue in the second quarter of 2022 on the second anniversary of its entry into the agreement. Gates Ventures, LLC is an entity under the control of William H. Gates III, who may be deemed to be the beneficial owner of more than 5% of the Company's voting securities. As of December 31, 2022 and 2021, the Company had no net receivables due from Gates Ventures, LLC.

(c) Structure Therapeutics

During the year ended December 31, 2021, the Company entered into multiple software agreements with Structure Therapeutics and its subsidiary for approximately $650. The Company recognized revenue of approximately $297 in the aggregate related to these agreements during the year ended December 31, 2022.

(16) Segment Reporting

The Company has determined that its chief executive officer ("CEO") is its chief operating decision maker ("CODM"). The Company's CEO evaluates the financial performance of the Company based on two reportable segments: Software and Drug Discovery. The Software segment is focused on licensing the Company's software to transform molecular discovery. The Drug Discovery segment is focused on building a portfolio of preclinical and clinical drug programs, internally and through collaborations.

The CODM reviews segment performance and allocates resources based upon segment revenue and segment gross profit of the Software and Drug Discovery reportable segments. Segment gross profit is derived by deducting operational expenditures, with the exception of research and development, sales and marketing, and general and administrative activities from U.S. GAAP revenue. Operational expenditures are expenditures made that are directly attributable to the reportable segment. These expenditures are allocated to the segments based on headcount. The reportable segment expenditures include compensation, supplies, and services from contract research organizations.

Certain cost items are not allocated to the Company's reportable segments. These cost items primarily consist of compensation and general operational expenses associated with the Company's research and development, sales and marketing, and general and administrative. These costs are incurred by both segments and due to the integrated nature of the Company's Software and Drug Discovery segments, any allocation methodology would be arbitrary and provide no meaningful analysis.

All segment revenue is earned in the United States and there are no intersegment revenues. Additionally, the Company reports assets on a consolidated basis and does not allocate assets to its reportable segments for purposes of assessing segment performance or allocating resources.

Presented below is financial information with respect to the Company's reportable segments for the years presented:

	Year Ended December 31,		
	2022	2021	2020
Segment revenues:			
Software	$ 135,578	$ 113,236	$ 92,530
Drug discovery	45,377	24,695	15,565
Total segment revenues	$ 180,955	$ 137,931	$ 108,095
Segment gross profit:			
Software	$ 106,002	$ 86,741	$ 74,527
Drug discovery	(4,980)	(21,121)	(11,055)
Total segment gross profit	101,022	65,620	63,472
Unallocated:			
Research and development	(126,372)	(90,904)	(64,695)
Sales and marketing	(30,642)	(22,150)	(17,795)
General and administrative	(90,825)	(64,009)	(41,898)
Gain (loss) on equity investments	11,825	(1,781)	4,108
Change in fair value	(18,084)	11,359	28,263
Other income	3,950	1,057	2,253
Income tax (expense) benefit	(63)	(411)	(345)
Consolidated net loss	$ (149,189)	$ (101,219)	$ (26,637)

The following table sets forth revenues by geographic area for the years ended December 31, 2022, 2021, and 2020:

	Year Ended December 31,		
	2022	2021	2020
United States	$ 123,555	$ 90,398	$ 60,737
Europe	33,049	27,810	24,370
Japan	10,469	8,565	14,558
Rest of World	13,882	11,158	8,430
	$ 180,955	$ 137,931	$ 108,095

(17) Subsequent Events

On February 13, 2023, on account of its equity position in Nimbus, the Company reported the receipt of a $111,300 cash distribution from Nimbus following the closing of Takeda's acquisition of Nimbus Lakshmi, Inc., a wholly-owned subsidiary of Nimbus, and its tyrosine kinase 2 inhibitor NDI-034858. The Company expects to receive from Nimbus a second cash distribution of $36,000 in the second quarter of 2023, for a total cash distribution of $147,300. The Company will record a gain on this transaction in the first quarter of 2023.

On February 7, 2023, Structure Therapeutics completed its initial public offering ("IPO"). The Company participated in the IPO and purchased 275,000 American Depository Shares ("ADS") at $15 per ADS in the IPO. Each ADS represents three ordinary shares. The Company also owns 3,260,495 ordinary shares in Structure Therapeutics.

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

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act) as of December 31, 2022. The term "disclosure controls and procedures," means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive officer and principal financial officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Based on such evaluation, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures were not effective as of December 31, 2022 because of the material weakness in our internal control over financial reporting described below.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting for the company, as such term is defined in Rule 13a-15(f) and 15d-15(f) of the Exchange Act. Our internal control over financial reporting is 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.

Management assessed our internal control over financial reporting as of December 31, 2022, using the criteria established in *Internal Control - Integrated Framework (2013)* set forth by the Committee of Sponsoring Organizations of the Treadway Commission.

Based on the results of its evaluation, management has concluded that our internal control over financial reporting was not effective as of December 31, 2022, due to a material weakness in our internal control over financial reporting. The material weakness related to a deficiency in the design of our control in our revenue process to determine whether performance milestones in a newly executed drug discovery arrangement were probable of achievement and the constraint on variable consideration in the form of milestone payments can be removed. The deficiency was a result of ineffective risk assessment as our existing controls were designed insufficiently to identify a change in timing of performance milestones in the newly executed contract.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

The material weakness described above resulted in a $1.7 million understatement of drug discovery revenue and a related understatement of contract assets that were corrected prior to the issuance of our consolidated financial statements as of and for the year ended December 31, 2022.

Our independent registered public accounting firm, KPMG LLP, who audited the consolidated financial statements included in this Annual Report on Form 10-K, issued an adverse opinion on the effectiveness of our internal control over financial reporting. KPMG LLP's report is included in Item 8 of this Annual Report.

Remediation Plan and Status

Our Board of Directors and management are committed to maintaining a strong internal control environment. We have developed a detailed remediation plan and are making progress in what will be a multi-step process to fully remediate

the material weakness described above. Specifically, as of December 31, 2022, we are in the process of implementing and expanding our controls and procedures in our revenue process in order to timely identify changes to the timing of when a performance milestone becomes probable of achievement in drug discovery arrangements and to ensure such determinations are made through the end of the reporting period. In addition, we will continue to assess risks on an ongoing basis to timely identify changes in our business that may create new exposures or risk categories, and we plan to conduct a comprehensive review and, as applicable, update our existing internal control framework to ensure that we have identified, developed, and deployed the appropriate business process controls to address the new exposures or risk categories that are identified.

The material weakness will not be considered remediated until the applicable controls operate for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively. We believe the measures described above will remediate this material weakness and strengthen our internal control over financial reporting. As we continue to evaluate and work to remediate this material weakness, we may determine to take additional measures to address these deficiencies or determine to modify certain of the remediation measures described above.

Changes in Internal Control Over Financial Reporting

Other than the changes related to the ongoing remediation efforts described above, there has been no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the fourth quarter of 2022 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations of Internal Controls

Our management, including our principal executive officer and principal financial officer, do not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent all errors and all fraud due to inherent limitations of internal controls. Because of such limitations, there is risk that material misstatements will not be prevented or detected on a timely basis by internal control over financial reporting or disclosure controls and procedures. However, these inherent limitations are known features of the disclosure and financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk.

Item 9B. Other Information

None.

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 is incorporated herein by reference from the information that will be contained in our proxy statement related to the 2023 Annual Meeting of Stockholders, which we intend to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year ended December 31, 2022 pursuant to General Instruction G(3) of Form 10-K.

We have adopted a written code of business conduct and ethics that applies to our directors, officers, and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. We have posted a current copy of the code on our website, www.schrodinger.com. In addition, we intend to post on our website all disclosures that are required by law or Nasdaq listing standards concerning any amendments to, or waivers from, any provision of the code. Our website is not incorporated by reference into this Annual Report and you should not consider any information contained in or accessible from our website to be a part of this Annual Report.

Item 11. Executive Compensation.

The information required by this Item 11 is incorporated herein by reference from the information that will be contained in our proxy statement related to the 2023 Annual Meeting of Stockholders, which we intend to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year ended December 31, 2022 pursuant to General Instruction G(3) of Form 10-K.

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

The information required by this Item 12 is incorporated herein by reference from the information that will be contained in our proxy statement related to the 2023 Annual Meeting of Stockholders, which we intend to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year ended December 31, 2022 pursuant to General Instruction G(3) of Form 10-K.

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

The information required by this Item 13 is incorporated herein by reference from the information that will be contained in our proxy statement related to the 2023 Annual Meeting of Stockholders, which we intend to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year ended December 31, 2022 pursuant to General Instruction G(3) of Form 10-K.

Item 14. Principal Accountant Fees and Services.

The information required by this Item 14 is incorporated herein by reference from the information that will be contained in our proxy statement related to the 2023 Annual Meeting of Stockholders, which we intend to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year ended December 31, 2022 pursuant to General Instruction G(3) of Form 10-K.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

(1) **Financial Statements**

The following documents are included on pages F-2 through F-11 attached hereto and are filed as part of this Annual Report.

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Reports of Independent Registered Public Accounting Firm	F-2
Consolidated Balance Sheets as of December 31, 2022 and 2021	F-6
Consolidated Statements of Operations for the Years ended December 31, 2022, 2021, and 2020	F-7
Consolidated Statements of Comprehensive Loss for the Years ended December 31, 2022, 2021, and 2020	F-8
Consolidated Statements of Convertible Preferred Stock and Stockholders' Equity (Deficit) for the Years ended December 31, 2022, 2021, and 2020	F-9
Consolidated Statements of Cash Flows for the Years ended December 31, 2022, 2021, and 2020	F-10
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(2) **Financial Statement Schedules**

All financial statement schedules have been omitted because they are not applicable, not required, or the information required is shown in the consolidated financial statements or the notes thereto.

(3) **Exhibits**

The exhibits filed as part of this Annual Report are listed below.

Exhibit Number	Description of Exhibit	Form	File No.	Exhibit	Filing Date	Filed Herewith
3.1	Restated Certificate of Incorporation	8-K	001-39206	3.1	2/10/2020	
3.2	Amended and Restated Bylaws	8-K	001-39206	3.2	2/10/2020	
4.1	Specimen Stock Certificate evidencing the shares of common stock	S-1/A	333-235890	4.1	1/27/2020	
4.2	Amended and Restated Share Exchange Agreement, dated January 24, 2020, by and between the Registrant and Bill & Melinda Gates Foundation Trust	S-1/A	333-235890	4.2	1/27/2020	
4.3	Description of Securities Registered Under Section 12 of the Exchange Act	10-K	001-39206	4.3	3/4/2021	
10.1	Amended and Restated Investors' Rights Agreement, dated as of November 9, 2018, by and among the Registrant and the other parties thereto, as amended	S-1/A	333-235890	10.1	1/27/2020	
10.2+	2010 Stock Plan, as amended	S-1	333-235890	10.2	1/10/2020	
10.3+	Form of Notice of Stock Option Grant and Stock Option Agreement under 2010 Stock Plan	S-1	333-235890	10.3	1/10/2020	
10.4+	2020 Equity Incentive Plan	S-1/A	333-235890	10.4	1/27/2020	
10.5+	Form of Stock Option Agreement and Form of Restricted Stock Unit Agreement for U.S. Participants under the 2020 Equity Incentive Plan	10-K	001-39206	10.5	2/24/2022	

10.6+	Form of Stock Option Agreement for Non-U.S. Participants under the 2020 Equity Incentive Plan	10-Q	001-39206	10.2	11/12/2020	
10.7+	Form of Restricted Stock Unit Agreement for Non-U.S. Participants under the 2020 Equity Incentive Plan	10-K	001-39206	10.6	2/24/2022	
10.8+	2020 Employee Stock Purchase Plan	S-1/A	333-235890	10.6	1/27/2020	
10.9+	Third Amended and Restated Director Compensation Policy	10-Q	001-39206	10.3	5/4/2022	
10.10+	Senior Executive Incentive Compensation Plan	S-1	333-235890	10.8	1/10/2020	
10.11+	Amended and Restated Executive Severance and Change in Control Benefits Plan, as amended	8-K	001-39206	10.2	8/18/2022	
10.12+	Employment Agreement, dated May 11, 2010, by and between the Registrant and Ramy Farid	S-1	333-235890	10.10	1/10/2020	
10.13+	Employment Agreement, dated August 16, 2022, by and between the Registrant and Geoffrey Porges	8-K	001-39206	10.1	8/18/2022	
10.14+	Employment Agreement, dated November 14, 2018, by and between the Registrant and Joel Lebowitz	S-1	333-235890	10.11	1/10/2020	
10.15+	Employment Agreement, dated March 17, 2003, by and between the Registrant and Jenny Herman					X
10.16+	Transition, Separation and Release of Claims Agreement, dated as of February 28, 2022, by and between the Registrant and Joel Lebowitz	8-K	001-39206	10.1	3/2/2022	
10.17+	Consulting Agreement, dated as of February 28, 2022, by and between the Registrant and Joel Lebowitz	8-K	001-39206	10.2	3/2/2022	
10.18+	Employment Agreement, dated May 14, 2018, by and between the Registrant and Karen Akinsanya	S-1	333-235890	10.14	1/10/2020	
10.19+	Employment Agreement, dated April 27, 2010, by and between the Registrant and Yvonne Tran	S-1	333-235890	10.16	1/10/2020	
10.20+	Employment Agreement, dated September 11, 2006, by and between the Registrant and Patrick Lorton	S-1	333-235890	10.17	1/10/2020	
10.21+	Employment Agreement, dated March 9, 2009, by and between the Registrant and Robert Abel	S-1	333-235890	10.19	1/10/2020	
10.22+	Consultant Agreement, dated July 1, 1999, between the Registrant and Richard A. Friesner, as amended	10-Q	001-39206	10.1	11/3/2022	
10.23+	Form of Indemnification Agreement between the Registrant and each of its Executive Officers and Directors	S-1	333-235890	10.21	1/10/2020	
10.24	Office Lease Agreement, dated April 5, 2021, by and between the Registrant and SPUSV5 1540 Broadway, LLC	8-K	001-39206	10.1	4/8/2021	
10.25	First Amendment to Lease, dated May 19, 2022, by and between the Registrant and SPUSV5 1540 Broadway, LLC	10-Q	001-39206	10.1	8/4/2022	
10.26	Lease, dated August 6, 2008, between One Main Place Portland – Oregon, Inc., Landlord, and Registrant, Tenant, as amended	S-1	333-235890	10.23	1/10/2020	
10.27	Office Lease Amendment, dated May 6, 2021, by and between Registrant and MADISON-OFC ONE MAIN PLACE OR LLC	10-Q	001-39206	10.2	8/12/2021	

10.28†	Agreement, dated as of May 5, 1994, between The Trustees of Columbia University in the City of New York and Registrant, as amended	S-1	333-235890	10.24	1/10/2020	
10.29†	Agreement, dated as of July 15, 1998, between The Trustees of Columbia University in the City of New York and Registrant, as amended	S-1	333-235890	10.25	1/10/2020	
10.30†	Agreement, dated as of September 2001, between The Trustees of Columbia University in the City of New York and Schrödinger, LLC, as amended	S-1	333-235890	10.26	1/10/2020	
10.31†	Agreement, dated as of June 19, 2003, between The Trustees of Columbia University in the City of New York and Schrödinger, LLC	S-1	333-235890	10.27	1/10/2020	
10.32†	Software and Patent License Agreement, dated May 27, 2008, between The Trustees of Columbia University in the City of New York and Schrödinger, LLC	S-1	333-235890	10.28	1/10/2020	
10.33†	Services Royalty Amendment, dated November 1, 2008, by and between The Trustees of Columbia University in the City of New York and Schrödinger, LLC	S-1	333-235890	10.29	1/10/2020	
10.34†	Services Agreement, dated June 25, 2013, between D.E. Shaw India Software Private Limited and Schrödinger, LLC, as amended	S-1	333-235890	10.30	1/10/2020	
10.35†	License and Software Development Agreement, dated March 14, 2013, by and between D. E. Shaw Research LLC and Schrödinger, LLC	S-1	333-235890	10.31	1/10/2020	
10.36†	Amended and Restated License and Software Development Agreement, dated May 20, 2014, by and between D. E. Shaw Research, LLC and Schrödinger, LLC	S-1	333-235890	10.32	1/10/2020	
10.37+	Global Bonus Plan	S-1/A	333-235890	10.33	1/27/2020	
10.38†	Independent Contractor Agreement, dated June 23, 2020, by and between the Registrant and Gates Ventures, LLC	10-Q	001-39206	10.2	8/10/2020	
10.39†	Collaboration and License Agreement, dated November 22, 2020, by and between the Registrant and Bristol-Myers Squibb Company	10-K	001-39206	10.37	3/4/2021	
10.40†	First Amendment to Collaboration and License Agreement, dated December 21, 2022, by and between the Registrant and Bristol-Myers Squibb Company					X
10.41+	2021 Inducement Equity Incentive Plan, as amended	10-Q	001-39206	10.4	11/3/2022	
10.42+	Nonstatutory Stock Option Agreement under 2021 Inducement Equity Incentive Plan	10-K	001-39206	10.39	3/4/2021	
10.43+	Form of Option Agreement for Non-U.S. Participants under the 2021 Inducement Equity Incentive Plan	10-Q	001-39206	10.3	8/4/2022	
10.44+	Restricted Stock Unit Agreement for U.S. Participants under 2021 Inducement Equity Incentive Plan	10-K	001-39206	10.40	3/4/2021	
10.45+	Restricted Stock Unit Agreement for Non-U.S. Participants under 2021 Inducement Equity Incentive Plan	10-K	001-39206	10.41	3/4/2021	

10.46+	Schrödinger, Inc. 2022 Equity Incentive Plan	8-K	001-39206	99.1	6/16/2022	
10.47+	Form of Option Agreement for U.S. Participants under the 2022 Equity Incentive Plan	10-Q	001-39206	10.4	8/4/2022	
10.48+	Form of Option Agreement for Non-U.S. Participants under the 2022 Equity Incentive Plan	10-Q	001-39206	10.5	8/4/2022	
10.49+	Form of Restricted Stock Unit Agreement for U.S. Participants under the 2022 Equity Incentive Plan	10-Q	001-39206	10.6	8/4/2022	
10.50+	Form of Restricted Stock Unit Agreement for Non-U.S. Participants under the 2022 Equity Incentive Plan	10-Q	001-39206	10.7	8/4/2022	
21.1	Subsidiaries of the Registrant					X
23.1	Consent of KPMG LLP, independent registered public accounting firm					X
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X
32.1#	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					X
32.2#	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted 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 formatted as Inline XBRL and contained in Exhibit 101.	X

† Portions of this exhibit have been omitted pursuant to Item 601(b)(10)(iv) of Regulation S-K.

The certifications attached as Exhibits 32.1 and 32.2 that accompany this Annual Report, are deemed furnished and not filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Schrödinger, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report, irrespective of any general incorporation language contained in such filing.

\+ Management contract or compensatory plan or arrangement filed in response to Item 15(a)(3) of the Instructions to the Annual Report on Form 10-K.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SCHRÖDINGER, INC.

Date: February 28, 2023

By: /s/ Ramy Farid

Ramy Farid, Ph.D.
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this report has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Name	Title	Date
/s/ Ramy Farid Ramy Farid, Ph.D.	President and Chief Executive Officer, Director (Principal Executive Officer)	February 28, 2023
/s/ Geoffrey Porges, MBBS Geoffrey Porges	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 28, 2023
/s/ Jenny Herman Jenny Herman	Senior Vice President, Finance and Corporate Controller (Principal Accounting Officer)	February 28, 2023
/s/ Michael Lynton Michael Lynton	Chairman of the Board	February 28, 2023
/s/ Jeffrey Chodakewitz Jeffrey Chodakewitz, M.D.	Director	February 28, 2023
/s/ Richard Friesner Richard Friesner, Ph.D.	Director	February 28, 2023
/s/ Gary Ginsberg Gary Ginsberg	Director	February 28, 2023
/s/ Rosana Kapeller-Libermann Rosana Kapeller-Libermann, M.D., Ph.D.	Director	February 28, 2023
/s/ Arun Oberoi Arun Oberoi	Director	February 28, 2023
/s/ Gary Sender Gary Sender	Director	February 28, 2023
/s/ Nancy Thornberry Nancy Thornberry	Director	February 28, 2023

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of the
Securities Exchange Act of 1934
(Amendment No.)

Filed by the Registrant ☒ Filed by a Party other than the Registrant ☐

Check the appropriate box:

- ☐ Preliminary Proxy Statement
- ☐ **Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- ☒ Definitive Proxy Statement
- ☐ Definitive Additional Materials
- ☐ Soliciting Material Pursuant to §240.14a-12

SCHRÖDINGER, INC.

(Name of registrant as specified in its charter)

(Name of person(s) filing proxy statement, if other than the registrant)

Payment of Filing Fee (Check all boxes that apply):

- ☒ No fee required
- ☐ Fee paid previously with preliminary materials
- ☐ Fee computed on table in exhibit required by Item 25(b) per Exchange Act Rules 14a-6(i)(1) and 0-11



1540 Broadway, 24th Floor
New York, New York 10036

NOTICE OF 2023 ANNUAL MEETING OF STOCKHOLDERS

To Be Held on Thursday, June 15, 2023

Dear Stockholders:

You are cordially invited to virtually attend the 2023 annual meeting of stockholders, or the Annual Meeting, of Schrödinger, Inc. The Annual Meeting will be held via the Internet at a virtual audio web conference at www.virtualshareholdermeeting.com/SDGR2023 on Thursday, June 15, 2023, at 10:00 a.m., Eastern time.

At the Annual Meeting, the stockholders will consider and vote on the following matters:

1. Election of three Class III directors, Richard A. Friesner, Rosana Kapeller-Libermann and Gary Sender, each to serve for a three-year term expiring at the 2026 annual meeting of stockholders and until his or her respective successor has been duly elected and qualified;

2. Approval of an advisory vote on executive compensation;

3. Ratification of the appointment of KPMG LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2023; and

4. Transaction of any other business that may properly come before the Annual Meeting or any adjournment or postponement thereof.

Our Annual Meeting will be a "virtual meeting" of stockholders, which will be conducted exclusively via the Internet at a virtual web conference. There will not be a physical meeting location, and stockholders will not be able to attend the Annual Meeting in person. This means that you can attend the Annual Meeting online, vote your shares during the online meeting and submit questions during the online meeting. We believe that hosting a "virtual meeting" will enable greater stockholder attendance and participation from any location around the world.

You can find more information, including the nominees for director, in the proxy statement for the Annual Meeting, which is available for viewing, printing and downloading at www.proxyvote.com. The board of directors recommends that you vote "FOR" each of the Class III directors (Proposal No. 1), "FOR" the approval of the advisory vote on executive compensation, commonly referred to as the "say-on-pay" vote (Proposal No. 2), and "FOR" the ratification of the appointment of our independent registered public accounting firm (Proposal No. 3) as outlined in the attached proxy statement.

We are pleased to comply with the rules of the Securities and Exchange Commission that allow companies to distribute their proxy materials over the Internet under the "notice and access" approach. As a result, we plan to send to our stockholders a Notice of Internet Availability of Proxy Materials, or the Notice of Availability, instead of a paper copy of the proxy statement and our annual report for the fiscal year ended December 31, 2022, or the 2022 Annual Report. We plan to mail the Notice of Availability on or about April 27, 2023, and the Notice of Availability contains instructions on how to access our proxy materials over the Internet. The Notice of Availability also contains instructions on how each of our stockholders can request a paper copy of our proxy materials, including the proxy statement, our 2022 Annual Report, and a form of proxy card.

Stockholders of record at the close of business on April 19, 2023, the record date for the Annual Meeting, are entitled to notice of, and to vote at, the Annual Meeting or any adjournment or postponement thereof.

Your vote is important to us regardless of the number of shares you own. Whether or not you expect to virtually attend the Annual Meeting online, please vote your shares to ensure your representation and the presence of a quorum at the Annual Meeting. If you are a stockholder of record, you may vote your shares by proxy prior to the Annual Meeting on the Internet by visiting www.proxyvote.com, by telephone by calling 1-800-690-6903 and following the recorded instructions, or by completing, signing, dating, and returning a proxy card. If you mail your proxy card or vote by telephone or the Internet and then decide to attend the Annual Meeting and vote your shares online during the Annual Meeting, you may still do so. Your proxy is revocable in accordance with the procedures set forth in the proxy statement.

If your shares are held in "street name," that is, held for your account by a bank, broker or other nominee, you will receive instructions from the bank, broker or other nominee that you must follow for your shares to be voted.

If you have any questions or require any assistance with voting your shares, please contact our proxy solicitor:

Georgeson LLC
1290 Avenue of the Americas, 9th Floor, New York, NY 10104
(800) 561-3947 (toll-free in North America)
+1 (781) 575-2137 (outside of North America)

A complete list of registered stockholders will be available to stockholders of record for examination at 1540 Broadway, 24th Floor, New York, New York 10036 during the 10-day period ending on the day before the Annual Meeting. Further information about how to attend the Annual Meeting online, vote your shares and submit questions is included in the accompanying proxy statement.

By Order of the Board of Directors,
/s/ Yvonne Tran

Yvonne Tran
Chief Legal Officer and Corporate Secretary

New York, New York
April 27, 2023

Important Notice Regarding Internet Availability of Proxy Materials for the 2023 Annual Meeting of Stockholders to be held on June 15, 2023: The attached proxy statement and our 2022 annual report to stockholders, which includes our annual report on Form 10-K for the fiscal year ended December 31, 2022, are available for viewing, printing and downloading at www.proxyvote.com. These documents are also available to any stockholder who wishes to receive a paper copy upon written request to Schrödinger, Inc., 1540 Broadway, 24th Floor, New York, New York 10036, Attention: Investor Relations. The proxy statement and our annual report on Form 10-K for the fiscal year ended December 31, 2022 are also available on the SEC's website at http://www.sec.gov.

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1540 Broadway, 24th Floor
New York, New York 10036
(212) 295-5800

PROXY STATEMENT
2023 ANNUAL MEETING OF STOCKHOLDERS
To Be Held on Thursday, June 15, 2023

INFORMATION CONCERNING SOLICITATION AND VOTING

This proxy statement contains information about the Annual Meeting of Stockholders of Schrödinger, Inc., or the Annual Meeting, to be held on Thursday, June 15, 2023, at 10:00 a.m., Eastern time. The Annual Meeting will be held via the Internet at www.virtualshareholdermeeting.com/SDGR2023. There will not be a physical meeting location, and stockholders will not be able to attend the Annual Meeting in person. Further information about how to attend the Annual Meeting online is included in this proxy statement.

The board of directors of Schrödinger, Inc. is using this proxy statement to solicit proxies for use at the Annual Meeting and at any adjournment or postponement of that meeting. In this proxy statement, unless expressly stated otherwise or the context otherwise requires, references to "Schrödinger," "the Company," "we," "us," "our" and similar terms refer to Schrödinger, Inc. References to our website are inactive textual references only and the contents of our website are not incorporated by reference into this proxy statement.

All properly submitted proxies will be voted in accordance with the instructions contained in those proxies. If no instructions are specified, the shares represented by the proxies will be voted in accordance with the recommendations of our board of directors.

Instead of mailing a paper copy of our proxy materials to all of our stockholders, we are providing access to our proxy materials over the Internet under the Securities and Exchange Commission's "notice and access" rules. As a result, we are mailing to our stockholders a Notice of Internet Availability of Proxy Materials, or the Notice of Availability, instead of a paper copy of this proxy statement and our annual report for the fiscal year ended December 31, 2022, or the 2022 Annual Report. We plan to mail the Notice of Availability on or about April 27, 2023, and the Notice of Availability contains instructions on how to access our proxy materials over the Internet. The Notice of Availability also contains instructions on how each of our stockholders can request a paper copy of our proxy materials, including this proxy statement, our 2022 Annual Report, and a form of proxy card.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting of Stockholders to be Held on June 15, 2023:

This proxy statement and our 2022 Annual Report are available for viewing, printing and downloading at www.proxyvote.com.

A copy of our annual report on Form 10-K for the fiscal year ended December 31, 2022, as filed with the Securities and Exchange Commission, or SEC, except for exhibits, will be furnished without charge to any stockholder upon written request Schrödinger, Inc., 1540 Broadway, 24th Floor, New York, New York 10036, Attention: Investor Relations. This proxy statement and our annual report on Form 10-K for the fiscal year ended December 31, 2022 are also available on the SEC's website at http://www.sec.gov.

IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING

Q: What is the Purpose of the Annual Meeting?

A: At the Annual Meeting, our stockholders will consider and vote on the following matters:

1. Election of three Class III directors, Richard A. Friesner, Rosana Kapeller-Libermann and Gary Sender, each to serve for a three-year term expiring at the 2026 annual meeting of stockholders and until his or her respective successor has been duly elected and qualified;

2. Approval of an advisory vote on executive compensation;

3. Ratification of the appointment of KPMG LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2023; and

4. Transaction of any other business that may properly come before the Annual Meeting or any adjournment or postponement thereof.

As of the date of this proxy statement, we are not aware of any business to come before the meeting other than the first three items noted above.

Q: How Does the Board of Directors Recommend that I Vote on the Proposals?

A: Our board of directors unanimously recommends that you vote:

FOR the election of the three nominees to serve as Class III directors on our board of directors, each for a three-year term expiring at the 2026 annual meeting of stockholders and until his or her respective successor has been duly elected and qualified;

FOR the approval of the advisory vote on executive compensation; and

FOR the ratification of the appointment of KPMG LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2023.

How Can I Access the Proxy Materials?

The proxy materials, including this proxy statement, a proxy card and our 2022 Annual Report are available for viewing, printing and downloading on the Internet at www.proxyvote.com. If you would like to receive a paper copy of our proxy materials, you should follow the instructions for requesting paper materials in the Notice of Availability.

Q: Who Can Vote at the Annual Meeting?

A: Only stockholders at the close of business on the record date of April 19, 2023 are entitled to receive notice of the Annual Meeting and to vote the shares of our common stock and/or limited common stock that they held on that date. As of April 19, 2023, there were 62,365,703 shares of our common stock issued and outstanding and 9,164,193 shares of our limited common stock issued and outstanding. Each share of common stock is entitled to one vote on each matter properly brought before the Annual Meeting. Each share of limited common stock is entitled to one vote on each matter properly brought before the Annual Meeting, except for the election or removal of directors. Accordingly, each share of limited common stock is not entitled to vote on Proposal No. 1, but may vote on Proposal No. 2 and Proposal No. 3.

Q: What is the Difference Between a "Stockholder of Record" and a Beneficial Owner of Shares Held in "Street Name"?

A: *Stockholder of Record*. If your shares are registered directly in your name with our transfer agent, Computershare Trust Company, N.A., then you are considered the "stockholder of record" of those shares. In this case, your Notice of Availability has been sent to you directly by us. You may vote your shares by proxy prior to the Annual Meeting by following the instructions contained in the Notice of Availability and in the section titled "How Do I Vote?" below.

Beneficial Owner of Shares Held in Street Name. If your shares are held by a bank, broker or other nominee, then you are considered the beneficial owner of those shares, which are held in "street name." In this case, your Notice of Availability will be sent to you by that organization. The organization holding your shares is considered the stockholder of record for purposes of voting at the Annual Meeting. As the beneficial owner, you have the right to instruct that organization as to how to vote the shares held in your account by following the instructions contained on the voting instruction form provided to you by that organization.

Q: Why is the Annual Meeting a Virtual, Online Meeting?

A: We believe that hosting a virtual meeting will facilitate stockholder attendance and participation at our Annual Meeting by enabling stockholders to participate from any location around the world. Our virtual meeting will be governed by our Rules of Conduct and Procedures which will be posted and accessible during the Annual Meeting at www.virtualshareholdermeeting.com/SDGR2023. We have designed the virtual annual meeting to provide stockholders with the same rights and opportunities to participate as stockholders would have had at an in-person meeting, including the right to vote and ask questions through the virtual meeting platform.

Q: How Do I Virtually Attend the Annual Meeting?

A: The Annual Meeting will be a virtual meeting and you may not attend in person. The Annual Meeting will start at 10:00 a.m., Eastern time, on June 15, 2023. You may log on to the virtual meeting at www.virtualshareholdermeeting.com/SDGR2023 starting 30 minutes before it begins. We will have technicians standing by and ready to assist you with any technical difficulties you may have accessing the virtual meeting starting at 9:45 a.m., Eastern time, on June 15, 2023. If you encounter any difficulties accessing the virtual Annual Meeting, please contact technical support by following the instructions and technical support contact information, which will be provided to you at the virtual meeting website listed above.

Q: How Do I Vote?

A: **If you are the stockholder of record of your shares**, you can vote your shares by proxy prior to the Annual Meeting or online during the Annual Meeting. If you choose to vote by proxy prior to the Annual Meeting, you may do so by telephone, via the Internet or by mail as follows:

- *By Telephone Prior to the Annual Meeting*. You may transmit your proxy over the phone by calling 1-800-690-6903 and following the instructions provided in the Notice of Availability and on the proxy card. You will need to have your Notice of Availability or proxy card in hand when you call.

- *Via the Internet Prior to the Annual Meeting*. You may transmit your proxy via the Internet by following the instructions provided in the Notice of Availability and on the proxy card. You will need to have your Notice of Availability or proxy card in hand when you access the website. The website for voting is available at www.proxyvote.com.

- *By Mail Prior to the Annual Meeting*. If you requested printed copies of proxy materials, you may vote by mailing your proxy card as described in the proxy materials.

Telephone and Internet voting for stockholders of record will be available until 11:59 p.m. Eastern time on June 14, 2023, and mailed proxy cards must be received by 11:59 p.m. Eastern time on June 14, 2023, in order to be counted at the Annual Meeting. If the Annual Meeting is adjourned or postponed, these deadlines may be extended.

If you choose to vote **online during the Annual Meeting**, you may vote your shares electronically while virtually attending the Annual Meeting by following the instructions found on your Notice of Availability, proxy card and/or voting instruction form. If you vote by proxy prior to the Annual Meeting and choose to attend the Annual Meeting online, there is no need to vote again during the Annual Meeting unless you wish to change your vote.

If your shares are held in street name, your bank, broker or other nominee is required to vote the shares it holds on your behalf according to your instructions. The proxy materials, as well as voting and revocation instructions, will be forwarded to you by the bank, broker or other nominee that holds your shares. In order to vote your shares you will need to follow the instructions that your bank, broker or other nominee provides you. The voting deadlines and availability of telephone and Internet voting for beneficial owners of shares held in "street name" will depend on the voting processes of the bank,

broker or other nominee that holds your shares. Therefore, we urge you to carefully review and follow the voting instruction form and any other materials that you receive from that organization.

Even if you plan to attend the Annual Meeting online, we urge you to vote your shares by proxy in advance of the Annual Meeting so that, if you become unable to attend the Annual Meeting, your shares will be voted as directed by you.

Q: Can I Vote My Shares by Filling Out and Returning the Notice of Internet Availability of Proxy Materials?

A: No. The Notice of Availability and proxy card contain instructions on how to vote by proxy via the Internet, by telephone, by requesting and returning a paper proxy card, or by voting online while virtually attending the Annual Meeting.

Q: How Do I Submit a Question for the Annual Meeting?

A: Questions may be submitted prior to the Annual Meeting at www.proxyvote.com or you may submit questions in real time during the Annual Meeting using our Annual Meeting platform at www.virtualshareholdermeeting.com/SDGR2023. Our virtual meeting will be governed by our Rules of Conduct and Procedures which will be posted and accessible during the Annual Meeting at www.virtualshareholdermeeting.com/SDGR2023. The Rules of Conduct and Procedures will address the ability of stockholders to ask questions during the meeting, including rules on permissible topics, and rules for how questions and comments will be recognized and disclosed to meeting participants. We will answer appropriate questions that are pertinent to the matters to be voted on by the stockholders at the Annual Meeting. Because time is limited at the Annual Meeting, we may not be able to answer all questions that are submitted. If there are any matters of individual concern to a stockholder and not of general concern to all stockholders, or if a question was not otherwise answered, such matters may be raised separately after the Annual Meeting by contacting Investor Relations at ir@schrodinger.com. To promote fairness and the efficient use of our resources and to address all stockholder questions, we will limit each stockholder to two questions, which should each be succinct and should cover only one topic. Questions from multiple stockholders on the same topic or that are otherwise related may be grouped, summarized, and answered together.

Q: May I See a List of Stockholders Entitled to Vote as of the Record Date?

A: A list of stockholders as of the close of business on the record date will be available for examination by the stockholders for any purpose germane to the Annual Meeting for a period of 10 days ending on June 14, 2023 at 1540 Broadway, 24th Floor, New York, New York 10036.

Q: How Many Shares Must Be Represented to Have a Quorum and Hold an Annual Meeting of Stockholders?

A: A quorum of stockholders is necessary to hold a valid meeting. Our amended and restated bylaws provide that a quorum will exist if stockholders holding a majority in voting power of the shares of capital stock issued and outstanding and entitled to vote at the meeting are present at the meeting in person, present by means of remote communication or represented by proxy. Where a separate vote by a class of capital stock is required by law or our restated certificate of incorporation, the holders of a majority in voting power of the shares of such class of the capital stock issued and outstanding and entitled to vote on such matter, present in person, present by means of remote communication or represented by proxy, shall constitute a quorum entitled to take action with respect to the vote on such matter. Shares present virtually during the Annual Meeting will be considered shares present by means of remote communication at the Annual Meeting. Our board of directors has authorized the means of remote communication by which we plan to conduct the Annual Meeting. If a quorum is not present, we expect to adjourn the Annual Meeting until a quorum is obtained.

Abstentions and broker non-votes count as present for establishing a quorum but will not be counted as votes cast. Broker non-votes occur when your bank, broker or other nominee submits a proxy for your shares (because the bank, broker or other nominee has received instructions from you on one or more proposals, but not all proposals, or has not received instructions from you but is entitled to vote on a particular “discretionary” matter) but does not indicate a vote for a particular proposal because the bank, broker or other nominee either does not have the authority to vote on that proposal and has not received voting instructions from you or has discretionary authority but chooses not to exercise it.

Q: What Ballot Measures are Considered "Discretionary" versus "Non-Discretionary"?

A: The election of directors (Proposal No. 1) and the advisory vote on executive compensation (Proposal No. 2) are matters considered non-discretionary under applicable rules. A bank, broker or other nominee cannot vote without instructions on non-discretionary matters, and therefore there may be broker non-votes on Proposal Nos. 1 and 2.

The ratification of the appointment of KPMG LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2023 (Proposal No. 3) is a matter considered discretionary under applicable rules. A bank, broker or other nominee generally may exercise discretionary authority and vote on discretionary matters if no voting instructions have been provided. Therefore, if your shares are held in "street name," your bank, your broker or other nominee may exercise discretionary authority to vote on Proposal No. 3 in the absence of voting instructions from you. If they exercise this discretionary authority, no broker non-votes are expected in connection with Proposal No. 3.

Q: What Vote is Required to Approve Each Proposal?

A: A nominee will be elected as a director in an uncontested election if the votes cast "for" such nominee's election by the stockholders entitled to vote exceed the votes cast "against" the nominee's election (Proposal No. 1). Stockholders are not entitled to vote any shares of limited common stock in an election of directors. Abstentions and broker non-votes will not be counted as votes "for" or "against" such nominee's election. Accordingly, abstentions and broker non-votes will have no effect on the voting on Proposal No. 1.

The affirmative vote of the holders of shares of capital stock having a majority in voting power of the votes cast by the holders of all of the shares present or represented by proxy and voted "for" or "against" such matter will be required for: approval of the advisory vote on executive compensation (Proposal No. 2) and the ratification of the appointment of KPMG LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2023 (Proposal No. 3). Abstentions and broker non-votes will not be counted as votes cast or voted on Proposal Nos. 2 and 3. Accordingly, abstentions and broker non-votes will have no effect on the voting on Proposal Nos. 2 and 3.

As described in more detail in Proposal No. 2, because this proposal is non-binding, our board of directors may decide that it is in our and our stockholders' best interests to compensate our named executive officers in an amount or manner that differs from that which is approved by our stockholders.

Q: What Happens if an Incumbent Director Nominee Fails to Receive More "For" Votes than "Against" Votes in an Uncontested Election?

A: Under our majority vote standard for the election of directors, the votes cast "for" a nominee must exceed the votes cast "against" that nominee. Our Corporate Governance Guidelines set forth a process that takes effect if an incumbent director nominee receives more "against" votes than "for" votes in an uncontested election. Upon such an occurrence, the affected director is expected, promptly following certification of the stockholder vote, to submit to the board of directors his or her offer to resign from the board. Such incumbent director shall continue to serve as a director while our nominating and corporate governance committee decides whether to accept or reject the resignation offer. The nominating and corporate governance committee will promptly consider the resignation offer submitted by such incumbent director and recommend to the board of directors the action to be taken with respect to such resignation offer. Such action may range from accepting the resignation, to maintaining such incumbent director but addressing what the nominating and corporate governance committee believes to be the underlying cause of the votes "against" the director, to resolving that such incumbent director will not be re-nominated for election in the future, to rejecting the resignation, to such other action that the nominating and corporate governance committee determines to be in the best interests of our company and our stockholders. In reaching its recommendation, the nominating and corporate governance committee will consider all factors it deems relevant. The board of directors will then act on the nominating and corporate governance committee's recommendation, considering the factors considered by the nominating and corporate governance committee and such additional factors the board of directors believes to be relevant. After the board's determination, we will promptly publicly disclose the board's decision regarding the action to be taken with respect to such incumbent director's resignation. If the board's decision is to not accept the resignation, such disclosure will include the reasons for not accepting the resignation. If the director's resignation is accepted, then the board of directors may fill the resulting vacancy in accordance with our amended and restated bylaws or may decrease the size of our board of directors. Our Corporate Governance Guidelines are posted on our website at www.schrodinger.com.

Q: Can I Revoke My Proxy and Can I Change My Vote?

A: If you are a stockholder of record, you may revoke your proxy before the vote is taken at the Annual Meeting:

- by submitting by submitting a new proxy with a later date before the applicable deadline either signed and returned by mail or transmitted using the telephone or Internet voting procedures described in the "How Do I Vote?" section above;
- by voting online at the Annual Meeting using the procedures described in the "How Do I Vote?" section above; or
- by filing a written revocation with our corporate secretary.

If your shares are held in "street name," you may submit new voting instructions by contacting your bank, broker or other nominee holding your shares. You may also vote online during the Annual Meeting, which will have the effect of revoking any previously submitted voting instructions.

Your virtual attendance at the Annual Meeting, without voting online during the Annual Meeting, will not automatically revoke your proxy.

Q: How Are the Votes Counted?

A: Votes cast online during the Annual Meeting or by proxy by mail, via the Internet or by telephone will be tabulated by the inspector of election appointed for the Annual Meeting, who will also determine whether a quorum is present.

Q: What are the Costs of Proxy Solicitation?

A: We will bear the costs of soliciting proxies. Our directors, officers and regular employees, without additional remuneration, may solicit proxies by mail, telephone, facsimile, email, personal interviews and other means.

We have retained Georgeson LLC, a proxy solicitation firm, or the Proxy Solicitor, to solicit proxies in connection with the Annual Meeting at a cost of approximately $15,000, plus reimbursement of certain expenses and fees for additional services requested. We will also indemnify the Proxy Solicitor against losses arising out of its provisions of these services on our behalf. Proxies will be solicited by the Proxy Solicitor by mail, telephone, e-mail and in person.

Q: Where Can I Find the Voting Results?

A: We plan to announce preliminary voting results at the Annual Meeting and will publish final results in a Current Report on Form 8-K to be filed with the SEC within four business days following the Annual Meeting.

Cautionary Note Regarding Forward-Looking Statements

This proxy statement contains forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Such forward-looking statements include those regarding our plans, strategies and expectations for our business and the potential benefits of our strategic plans and focus. Statements including words such as "aim," "anticipate," "believe," "contemplate," "continue," "could," "estimate," "expect," "goal," "intend," "may," "might," "plan," "potential," "predict," "project," "should," "target," "will," "would" and statements in the future tense are forward-looking statements. These forward-looking statements reflect our current views about our plans, intentions, expectations, strategies and prospects, which are based on the information currently available to the company and on assumptions the company has made. Actual results may differ materially from those described in these forward-looking statements and are subject to a variety of assumptions, uncertainties, risks and important factors that are beyond our control, including the demand for our software platform, our ability to further develop our computational platform, our reliance upon third-party providers of cloud-based infrastructure to host our software solutions, factors adversely affecting the life sciences industry, fluctuations in the value of the U.S. dollar and foreign currencies, our reliance upon third-party drug discovery collaborators, the uncertainties inherent in drug development and commercialization, such as the conduct of research activities and the timing of and our ability to initiate and complete preclinical studies and clinical trials, whether results from preclinical studies will be predictive of the results of later preclinical studies and clinical trials, uncertainties associated with the regulatory review of investigational new drug submissions, clinical trials and applications for marketing approvals, the ability to retain and hire key personnel and the direct and indirect impacts of the ongoing COVID-19 pandemic on our business and other risks

detailed under the caption "Risk Factors" in our Securities and Exchange Commission filings and reports, including our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with the Securities and Exchange Commission on February 28, 2023, as well as our future filings and reports. Any forward-looking statements contained in this proxy statement speak only as of the date hereof. Except as required by law, we undertake no duty or obligation to update any forward-looking statements contained in this proxy statement as a result of new information, future events, changes in expectations or otherwise.

PROPOSAL NO. 1—ELECTION OF THREE CLASS III DIRECTORS

Our board of directors currently consists of nine members. In accordance with the terms of our restated certificate of incorporation, our board of directors is divided into three classes (Class I, Class II and Class III), with members of each class serving staggered three-year terms. The members of the classes are divided as follows:

- the Class I directors are Ramy Farid, Gary Ginsberg and Arun Oberoi, and their term expires at the annual meeting of stockholders to be held in 2024;
- the Class II directors are Jeffrey Chodakewitz, Michael Lynton and Nancy A. Thornberry, and their term expires at the annual meeting of stockholders to be held in 2025; and
- the Class III directors are Richard A. Friesner, Rosana Kapeller-Libermann and Gary Sender, and their term expires at the Annual Meeting.

Upon the expiration of the term of a class of directors, directors in that class will be eligible to be elected for a new three-year term at the annual meeting of stockholders in the year in which their term expires.

Our restated certificate of incorporation provides that the authorized number of directors may be changed only by resolution of our board of directors. Our restated certificate of incorporation also provides that our directors may be removed only for cause and only by the affirmative vote of the holders of at least a majority of the voting power of all outstanding shares of common stock, and that any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office. Upon the recommendation of our nominating and corporate governance committee, our board of directors has nominated Richard A. Friesner, Rosana Kapeller-Libermann and Gary Sender, for election as Class III directors at the Annual Meeting. Dr. Friesner, Dr. Kapeller-Libermann and Mr. Sender are all presently directors, and have indicated a willingness to continue to serve as directors, if elected.

If no contrary indication is made, proxies are to be voted for Dr. Friesner, Dr. Kapeller-Libermann and Mr. Sender, or in the event that Dr. Friesner, Dr. Kapeller-Libermann or Mr. Sender is not a candidate or is unable to serve as a director at the time of the election (which is not currently expected), for any nominee who is designated by our board of directors to fill the vacancy.

Our Corporate Governance Guidelines provide that the value of diversity should be considered and that director nominees should represent a diverse array of personal and professional characteristics, backgrounds, experiences and skills, including gender, racial or ethnic identity, international experience and/or expertise in a particular discipline or field. Our priority in selection of board members is identification of members who will further the interests of our stockholders through their established records of professional accomplishment, the ability to contribute positively to the collaborative culture among our board members, knowledge of our business, understanding of the competitive landscape in which we operate and adherence to high ethical standards. In addition, as further described under "*Executive Summary — Election of Directors Vote Support*," we regularly solicit feedback from our stockholders, and our nominating and corporate governance committee, together with senior management, consider board, governance and related matters raised by our stockholders during our engagements to ensure that we are identifying and nominating directors who, among other things, have demonstrated business acumen and have a commitment to understanding our industry and company. Certain individual qualifications and skills of our directors that contribute to our board of directors' effectiveness as a whole are described in the following paragraphs.

Nominees for Election as Class III Directors

Biographical information as of April 15, 2023, including principal occupation and business experience during the last five years, for our nominees for election as Class III directors at the Annual Meeting is set forth below.

Richard A. Friesner, Ph.D., age 70, has served as a member of our board of directors since August 1990, when he co-founded us. Dr. Friesner is currently the William P. Schweitzer professor of chemistry at Columbia University, the principal investigator of the Friesner Research Group, a research laboratory within the Department of Chemistry at Columbia University, and he has served as a professor of chemistry at Columbia University since September 1990. Dr. Friesner is a Fellow of the American Academy of Sciences and a member of the National Academy of Sciences. Dr. Friesner received a B.S. in Chemistry from the University of Chicago and a Ph.D. in Chemistry from the University of

California, Berkeley. We believe that Dr. Friesner's extensive experience in theoretical chemistry and his extensive knowledge of our company since inception, as well as his distinguished scientific record, qualifies him to serve on our board of directors.

Rosana Kapeller-Libermann, M.D., Ph.D., age 59, has served as a member of our board of directors since January 2019. Dr. Kapeller-Libermann has served as president and chief executive officer of Rome Therapeutics, Inc., a therapeutics company, since April 2019. She has also served as an entrepreneur in residence at GV, a venture capital investment arm of Alphabet Inc. since November 2018. Prior to that, Dr. Kapeller-Libermann served as founding chief scientific officer of Nimbus Therapeutics, or Nimbus, a biotechnology company, from February 2010 to March 2018. Prior to joining Nimbus, she served as vice president of research at Aileron Therapeutics, Inc., a biopharmaceutical company, from August 2005 to September 2009. Dr. Kapeller-Libermann received an M.D. from Universidade do Estado do Rio de Janeiro and a Ph.D. in Molecular and Cellular Physiology from Tufts University. We believe Dr. Kapeller-Libermann's scientific experience in the field of drug discovery and extensive experience working with life sciences companies qualifies her to serve on our board of directors.

Gary Sender, age 61, has served as a member of our board of directors since July 2019. Mr. Sender previously served as chief financial officer of Nabriva Therapeutics plc, or Nabriva, a publicly traded biopharmaceutical company, from May 2016 to March 2021. Prior to joining Nabriva, Mr. Sender served as chief financial officer and executive vice president at Synergy Pharmaceuticals Inc., or Synergy, a publicly traded biopharmaceutical company, from November 2015 to May 2016. Prior to joining Synergy, from August 2009 to June 2015, Mr. Sender served as senior vice president, finance at Shire plc., or Shire, a biopharmaceutical company since acquired by Takeda Pharmaceutical Company Limited. Prior to joining Shire, Mr. Sender served as founding chief financial officer of Tengion, Inc., a regenerative medicine company, from August 2004 to July 2009. Mr. Sender currently serves on the board of directors of Harmony BioSciences Holdings, Inc., a publicly traded pharmaceutical company, and iBio, Inc., a publicly traded biotechnology company. Mr. Sender also spent over 15 years in several leadership roles within Merck & Co., Inc., a pharmaceutical company. Mr. Sender received a B.S. in Finance from Boston University and an M.B.A. from Carnegie-Mellon University. We believe Mr. Sender's extensive experience in the life sciences industry, and in particular his financial acumen, qualifies him to serve on our board of directors.

The board of directors recommends voting "FOR" the election of Richard A. Friesner, Rosana Kapeller-Libermann and Gary Sender as Class III directors for a three-year term ending at the annual meeting of stockholders to be held in 2026.

Directors Continuing in Office

Biographical information as of April 15, 2023, including principal occupation and business experience during the last five years, for our directors continuing in office after the Annual Meeting is set forth below.

Class I Directors (Term Expires at 2024 Annual Meeting of Stockholders)

Ramy Farid, Ph.D., age 58, has served as our president since January 2008, our chief executive officer since January 2017 and as a member of our board of directors since December 2012. Dr. Farid has been with our company for over 20 years and served as senior vice president from January 2005 to December 2007, vice president, scientific development and product management from January 2003 to December 2004 and product manager from January 2002 to December 2002. Dr. Farid serves on the board of directors of multiple biotechnology companies co-founded by us, and previously served on the board of directors of Morphic Holding, Inc., a biotechnology company. Prior to joining our company, Dr. Farid was an assistant professor in the Chemistry Department at Rutgers University. Dr. Farid received a B.S. in Chemistry from the University of Rochester and a Ph.D. from the California Institute of Technology, and he was a National Institutes of Health postdoctoral fellow in the Department of Biochemistry and Biophysics at the University of Pennsylvania. Dr. Farid currently serves on the board of directors of Structure Therapeutics, Inc., a publicly traded biopharmaceutical company. We believe that Dr. Farid's extensive knowledge of our company and current role as our president and chief executive officer qualifies him to serve on our board of directors.

Gary Ginsberg, age 60, has served as a member of our board of directors since April 2020. Mr. Ginsberg served as the senior vice president and global head of communications at SoftBank Group Corp., or Softbank, an investment bank from November 2018 until December 2020. Before joining SoftBank, Mr. Ginsberg served as executive vice president of corporate marketing and communications at Time Warner Inc., a media company, from February 2010 to August 2018. Prior to that, Mr. Ginsberg spent 11 years at News Corporation, a media company, most recently as executive vice

president of global marketing and corporate affairs and a member of the office of the chairman. Mr. Ginsberg currently serves on the board of directors of Townsquare Media, Inc., a publicly traded media company. Mr. Ginsberg also served on the board of directors of Synacor, Inc. from January 2012 to June 2020. Mr. Ginsberg received an A.B. in History from Brown University and a J.D. from Columbia University School of Law. We believe that Mr. Ginsberg's business and leadership experience qualifies to him to serve on our board of directors.

Arun Oberoi, age 69, has served as a member of our board of directors since May 2022. Mr. Oberoi served as the executive vice president of global sales and services from April 2012 to August 2021 at Red Hat, Inc., a provider of enterprise open-source software solutions, which was acquired by International Business Machines Corporation, or IBM, in July 2019. Prior to that, from December 2010 to January 2012, Mr. Oberoi served as president and chief executive officer of Viridity Software, Inc., a data center infrastructure management company. From March 2008 to June 2010, Mr. Oberoi served as chief executive officer of Aveksa, Inc., an access governance and management software company. From January 2004 to February 2006, Mr. Oberoi was executive vice president of global sales and technical services at Micromuse, Inc., or Micromuse, a provider of network and service management solutions. Micromuse was acquired by IBM in February 2006, where Mr. Oberoi subsequently served as vice president within IBM Tivoli until March 2008. Prior to joining Micromuse, Mr. Oberoi held a series of senior executive positions at Hewlett-Packard Company from August 1997 until December 2003, including as vice president and general manager, worldwide corporate accounts and industries, sales and marketing. Mr. Oberoi serves on the board of directors of Proofpoint, Inc., an enterprise security company, and Talend S.A., an open source integration software provider, which are both portfolio companies of Thoma Bravo, L.P., and Deeplite, Inc., a provider of intelligent AI optimization software. He has also served as an advisor at Paymentus, Inc., an electronic billing and payment vendor, in a consulting capacity since January 2022. Mr. Oberoi received a B.A. from the University of Delhi and an M.B.A. from Northwestern University. We believe that Mr. Oberoi's enterprise software, technology and business leadership experience qualifies him to serve on our board of directors.

Class II Directors (Term Expires at 2025 Annual Meeting of Stockholders)

Jeffrey Chodakewitz, M.D., age 67, has served as a member of our board of directors since April 2020. Dr. Chodakewitz served as senior advisor to Blackstone Life Sciences, a life sciences fund, from March 2019 to January 2022. Before joining Blackstone Lifesciences, Dr. Chodakewitz served as executive vice president, clinical medicine and external innovation, at Vertex Pharmaceuticals Incorporated, or Vertex, a publicly traded pharmaceutical company, from April 2018 to March 2019. Dr. Chodakewitz served as executive vice president, global medicines development and medical affairs, and chief medical officer of Vertex from October 2014 to March 2018. Dr. Chodakewitz served as senior vice president and chief medical officer of Vertex from January 2014 to October 2014. Prior to joining Vertex, Dr. Chodakewitz spent over 20 years at Merck & Co., Inc., a pharmaceutical company, where he held a variety of roles including vice president of clinical research—infectious diseases & vaccines, vice president of clinical pharmacology/early stage development, senior vice president of late stage development, and senior vice president of global scientific strategy (infectious diseases, respiratory/immunology). Dr. Chodakewitz currently serves on the board of directors of Adicet Bio, Inc. (formerly known as resTORbio, Inc.), a publicly traded biopharmaceutical company, Freeline Therapeutics Holdings plc, a publicly traded biopharmaceutical company, and Praxis Precision Medicines, Inc., a publicly traded biotechnology company. Dr. Chodakewitz also served as a member of the board of directors of Tetraphase Pharmaceuticals, Inc., a then publicly-traded biopharmaceutical company, from June 2014 to July 2020. Dr. Chodakewitz received a B.S. in Biochemistry from Yale University and an M.D. from the Yale University School of Medicine. We believe that Dr. Chodakewitz's experience with pharmaceutical and biotechnology companies qualifies him to serve on our board of directors.

Michael Lynton, age 63, has served as a member of our board of directors since January 2018 and chairman of our board of directors since October 2018. Mr. Lynton served as chief executive officer of Sony Entertainment Inc., an international entertainment company, from April 2012 to August 2017, as chairman and chief executive officer of Sony Pictures Entertainment Inc., from January 2004 to May 2017 and as chief executive officer of Sony Corporation of America, from March 2012 to August 2017. Mr. Lynton currently serves as chairman of the board of directors of Snap Inc., a publicly traded technology company, and Warner Music Group Corp., a publicly traded media company, and as a member of the board of directors of Ares Management Corporation, a publicly traded, global alternative asset manager, and The Boston Beer Company, Inc., a publicly traded beverage company. In March 2023, Mr. Lynton informed The Boston Beer Company, Inc. of his intention not to stand for reelection at their 2023 annual meeting of stockholders. Mr. Lynton also served as a member of the board of directors of Pandora Media, Inc. from August 2017 to February 2019, and as a member of the board of directors of Pearson plc., a publicly traded publishing and education company, from February 2018 to June 2021. Mr. Lynton received a B.A. in History and Literature from Harvard College and an M.B.A. from Harvard Business School. We believe that Mr. Lynton's public company board and management experience and his extensive business and leadership experience qualifies him to serve as chairman of our board of directors.

Nancy A. Thornberry, age 66, has served as a member of our board of directors since September 2019. Ms. Thornberry has served as chair, R&D of Kallyope, Inc., or Kallyope, a biotechnology company, since October 2021, and previously she served as chief executive officer of Kallyope from November 2015 to October 2021. Between August 2013 and October 2015, Ms. Thornberry was self-employed as a consultant to companies in the biotechnology and pharmaceutical industries. Prior to that, Ms. Thornberry spent over 30 years at Merck & Co., Inc., a pharmaceutical company, where she held a variety of positions including senior vice president and franchise head, diabetes and endocrinology, from April 2011 to July 2013, senior vice president and franchise head, diabetes and obesity, from September 2009 to April 2011, vice president, worldwide basic research head, diabetes and obesity, from February 2007 to September 2009 and executive director, metabolic disorders, from 2004 to February 2007, among other positions. Ms. Thornberry currently serves on the board of directors of Denali Therapeutics Inc., a publicly traded biopharmaceutical company. Ms. Thornberry received a B.S. in Chemistry and Biology from Muhlenberg College. We believe Ms. Thornberry's scientific background and experience in the life sciences industry qualifies her to serve on our board of directors.

Executive Officers Who Are Not Directors

Biographical information as of April 15, 2023 for our executive officers who are not directors is listed below.

Robert Abel, Ph.D., age 41, has served as our executive vice president, chief computational scientist, and head of modeling R&D since March 2021. Dr. Abel has been with our company for over 10 years and previously served as our executive vice president, science, from January 2020 to March 2021, senior vice president, science, from April 2017 to December 2019, vice president, scientific development from January 2014 to April 2017, director of structure-based science from January 2011 to December 2013, senior principal scientist and product manager from January 2010 to December 2010 and senior scientist from March 2009 to December 2009. Dr. Abel received a B.S. in Chemistry from the University of Florida and a Ph.D. in Chemical Physics from Columbia University. In graduate school, Dr. Abel was a National Science Foundation Graduate Research Fellow and a Department of Homeland Security Research Fellow and worked from May 2005 to August 2005 at Los Alamos National Laboratory under the auspices of the DHS Research Fellowship.

Karen Akinsanya, Ph.D., age 55, has served as our president, R&D therapeutics since February 2022 and previously served as our executive vice president, chief biomedical scientist, head of discovery R&D from January 2020 to February 2022 and as our senior vice president and chief biomedical scientist from April 2018 to December 2019. Dr. Akinsanya spent 12 years at Merck & Co., Inc., or Merck, a pharmaceutical company, where she held a variety of positions across Merck Research Labs, including associate vice president, early scientific assessment lead, business development & licensing from December 2013 to July 2017, collaboration lead and executive director, cardiovascular research from January 2010 to December 2013, and associate director, clinical pharmacology from October 2005 to December 2009. Prior to Merck, Dr. Akinsanya held a number of roles in drug discovery at Ferring Pharmaceuticals in the United Kingdom and the United States from 1997 to 2005. In 2007, Dr. Akinsanya founded Envision Science Group LLC, or Envision, a translational science consulting company, where she currently serves as president. Dr. Akinsanya provided consulting services on behalf of Envision to companies in the pharmaceutical industry between July 2017 and April 2018. Dr. Akinsanya currently serves on the board of directors of Nautilus Biotechnology, Inc., a publicly traded biotechnology company. Dr. Akinsanya received a B.Sc. in Biochemistry from Queen Mary College, University of London, a Ph.D. in Endocrine Physiology from the Imperial College and completed postdoctoral studies at the Ludwig Institute for Cancer Research, University College, London.

Patrick Lorton, age 39, has served as our executive vice president and chief technology officer since March 2021. Mr. Lorton has been with our company for over 15 years and previously served as our senior vice president and chief technology officer from April 2017 to March 2021, vice president of engineering from January 2016 to April 2017, director of software engineering from January 2015 to January 2016, associate director of software engineering from December 2012 to January 2015, project leader from January 2011 to December 2012 and scientific developer from September 2006 to December 2012. Prior to joining our company, Mr. Lorton served as a chemistry research assistant from December 2005 to September 2006 and a computer science research assistant from August 2004 to July 2006 at Indiana University Bloomington. Mr. Lorton received a B.S. in Computer Science and a B.A. in Mathematics and Chemistry from Indiana University Bloomington.

Geoffrey Porges, age 62, has served as our executive vice president and chief financial officer since August 2022. Dr. Porges previously served as vice chairman of SVB Securities LLC (formerly known as SVB Leerink), the investment banking subsidiary of SVB Financial Group, or SVB Securities, and as venture partner of SVB Capital, the private equity arm of SVB Financial Group, in each case, from January 2022 to August 2022. Prior to his role as vice chairman, Dr. Porges held positions of increasing responsibility at SVB Securities, including serving as senior managing director from

February 2019 to January 2022 and as senior biopharmaceuticals analyst and director of therapeutics research from November 2015 to February 2019. Prior to joining SVB Securities, Dr. Porges spent 13 years at Alliance Bernstein, an investment management firm, most recently serving as managing director. Prior to joining Alliance Bernstein, Dr. Porges was chief operating officer and head of health, medical and biotechnologies programs at BTG Plc, a pharmaceutical company, from 1999 to 2002 and was a member of the board of directors of Acambis plc from 2001 to 2003. Dr. Porges received a Bachelor of Medicine and a Bachelor of Surgery from the University of Sydney and an M.B.A. from Harvard Business School.

Yvonne Tran, age 52, has served as our executive vice president and chief legal officer since April 2017, and previously served as our general counsel from April 2010 to April 2017. Prior to joining our company, Ms. Tran previously served as senior corporate counsel at Oracle America, Inc., or Oracle, a technology company, from January 2008 to April 2010. Prior to joining Oracle, Ms. Tran served as outside legal consultant from January 2006 to January 2008 and deputy general counsel from April 2000 to January 2006 at DoubleClick, Inc., an advertising technology company since acquired by Google LLC. Ms. Tran received a B.A. in Molecular Biophysics and Biochemistry from Yale University and a J.D. from the University of Virginia School of Law.

PROPOSAL NO. 2—ADVISORY VOTE ON EXECUTIVE COMPENSATION

We are providing our stockholders the opportunity to vote to approve, on an advisory, non-binding basis, the compensation of our named executive officers as disclosed in this proxy statement in accordance with the SEC's rules. This proposal, which is commonly referred to as "say-on-pay," is required by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, which added Section 14A to the Exchange Act. At the 2022 annual meeting of stockholders, stockholders approved, on an advisory basis, an annual advisory vote on the compensation of our named executive officers. In accordance with the results of this vote, the Board determined to implement an advisory vote on the compensation of our named executive officers every year.

Our executive compensation program is designed to attract, motivate, and retain our executive officers, who are critical to our success. Under this program, our named executive officers are rewarded for the achievement of our short- and long-term strategic and financial goals and for driving corporate financial performance and stability. The program contains elements of cash and equity-based compensation and is designed to align the interests of our executive officers with those of our stockholders.

The section of this proxy statement titled "Executive and Director Compensation" beginning on page 24, including "Compensation Discussion and Analysis," describes in detail our executive compensation program, including the updates we made to the program to incorporate additional performance-based equity awards to our executives starting in the fiscal year ending December 31, 2023, and the decisions made by our compensation committee and our board of directors with respect to the fiscal year ended December 31, 2022. Highlights of our executive compensation program include the following:

- Using a performance-based annual cash incentive program to link executive compensation to the achievement of long-term and short-term company goals;
- Setting challenging short-term goals for our cash incentive program;
- Providing a significant portion of our executive compensation in the form of equity with time-based vesting;
- Using market data from our peer group to set competitive compensation levels; and
- Maintaining stock ownership guidelines for our executives and non-employee directors.

As we describe in greater detail in the "Compensation Discussion and Analysis" section of this proxy statement, our executive compensation program embodies a pay-for-performance philosophy that supports our business strategy and aligns the interests of our executive officers with our stockholders. The board of directors and compensation committee believe this link between compensation and the achievement of our short- and long-term strategic and financial goals has helped drive our performance over time. At the same time, we believe our program does not encourage excessive risk-taking by management.

Our board of directors is asking stockholders to approve a non-binding advisory vote on the following resolution:

RESOLVED, that the compensation paid to the Company's named executive officers, as disclosed pursuant to the compensation disclosure rules of the Securities and Exchange Commission, including the "Compensation Discussion and Analysis", the compensation tables and any related material disclosed in this proxy statement, is hereby approved.

As an advisory vote, this proposal is not binding. The outcome of this advisory vote does not overrule any decision by the Company or the board of directors (or any committee thereof), create or imply any change to the fiduciary duties of the Company or the board of directors (or any committee thereof), or create or imply any additional fiduciary duties for the Company or the board of directors (or any committee thereof). However, our compensation committee and board of directors value the opinions expressed by our stockholders in their vote on this proposal and will consider the outcome of the vote when making future compensation decisions for our named executive officers.

The board of directors recommends that stockholders vote to approve the compensation of our named executive officers by voting "FOR" this proposal.

PROPOSAL NO. 3—RATIFICATION OF THE APPOINTMENT OF KPMG LLP AS OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE FISCAL YEAR ENDING DECEMBER 31, 2023

Our stockholders are being asked to ratify the appointment by the audit committee of the board of directors of KPMG LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2023. KPMG LLP has served as our independent registered public accounting firm since 2010.

The audit committee is solely responsible for selecting our independent registered public accounting firm for the fiscal year ending December 31, 2023. Stockholder approval is not required to appoint KPMG LLP as our independent registered public accounting firm. However, the board of directors believes that submitting the appointment of KPMG LLP to the stockholders for ratification is good corporate governance. If the stockholders do not ratify this appointment, the audit committee will reconsider whether to retain KPMG LLP. If the selection of KPMG LLP is ratified, the audit committee, in its discretion, may direct the appointment of a different independent registered public accounting firm at any time it decides that such a change would be in the best interest of our company and our stockholders.

A representative of KPMG LLP is expected to virtually attend the Annual Meeting and will have an opportunity to make a statement if he or she desires to do so and is expected to be available to respond to appropriate questions from our stockholders.

We incurred the following fees from KPMG LLP for the audit of the consolidated financial statements and for other services provided during the years ended December 31, 2022 and 2021.

Fee Category	2022	2021
Audit fees (1)	$ 1,713,950	$ 1,421,000
Audit-related fees	—	—
Tax fees (2)	377,705	574,159
All other fees	—	—
Total fees	$ 2,091,655	$ 1,995,159

(1) "Audit fees" consist of professional services provided by KPMG LLP in connection with the integrated audit of our annual consolidated financial statements and the review of our unaudited quarterly consolidated financial statements in 2022 and 2021.

(2) "Tax fees" consist primarily of professional services provided by KPMG LLP that encompass a variety of permissible tax services, including federal and state tax compliance services, technical tax advice related to federal and state income tax matters, assistance with sales tax, and other tax consulting matters.

Audit Committee Pre-Approval Policy and Procedures

Our audit committee has adopted policies and procedures relating to the approval of all audit and other permitted non-audit services provided to us by our independent registered public accounting firm. These policies provide that we will not engage our independent registered public accounting firm to render audit or non-audit services unless the service is specifically approved in advance by our audit committee or the engagement to render the service is entered into pursuant to the pre-approval procedure.

From time to time, our audit committee may pre-approve services that are expected to be provided to us by our independent registered public accounting firm during the next 12 months. These services may include audit services, audit-related services, tax services and other permissible non-audit services. Our independent registered public accounting firm and senior management will periodically report to the audit committee regarding the extent of services provided by our independent registered public accounting firm.

During our 2022 and 2021 fiscal years, no services were provided to us by KPMG LLP other than in accordance with the pre-approval policies and procedures described above.

The board of directors recommends voting "FOR" the ratification of the appointment of KPMG LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2023.

CORPORATE GOVERNANCE

Director Nomination Process

Our nominating and corporate governance committee is responsible for identifying individuals qualified to serve as directors, consistent with criteria approved by our board, and recommending the persons to be nominated for election as directors, except where we are legally required by contract, law or otherwise to provide third parties with the right to nominate director candidates.

The process followed by our nominating and corporate governance committee to identify and evaluate director candidates includes requests to board members and others for recommendations, meetings from time to time to evaluate biographical information and background material relating to potential candidates and interviews of selected candidates by members of the committee and our board. While there are no specific minimum qualifications for a committee-recommended nominee to our board of directors, the qualifications, qualities and skills that our nominating and corporate governance committee believes must be met by a committee-recommended nominee for a position on our board of directors are as follows:

- Nominees should have a reputation for integrity, honesty and adherence to high ethical standards.
- Nominees should have demonstrated business acumen, experience and ability to exercise sound judgments in matters that relate to our current and long-term objectives and should be willing and able to contribute positively to our decision-making process.
- Nominees should have a commitment to understand our company and our industry and to regularly attend and participate in meetings of our board of directors and its committees.
- Nominees should have the interest and ability to understand the sometimes conflicting interests of our various constituencies, which include stockholders, employees, customers, governmental units, creditors and the general public, and to act in the interests of all stockholders.
- Nominees should not have, nor appear to have, a conflict of interest that would impair the nominee's ability to represent the interests of all of our stockholders and to fulfill the responsibilities of a director.
- Nominees shall not be discriminated against on the basis of race, religion, national origin, sex, sexual orientation, disability or any other basis proscribed by law. The value of diversity on our board of directors is considered. Nominees should represent a diverse array of personal and professional characteristics, backgrounds, experiences and skills including gender, racial or ethnic identity, international experience and/or expertise in a particular discipline or field.
- Nominees should normally be able to serve for at least five years before reaching the age of 75.

The nominating and corporate governance committee may use a third-party search firm in those situations where particular qualifications are required or where existing contacts are not sufficient to identify an appropriate candidate.

Stockholders may recommend individuals to the nominating and corporate governance committee for consideration as potential director candidates. Any such proposals should be submitted to our corporate secretary at our principal executive offices and should include appropriate biographical and background material to allow the nominating and corporate governance committee to properly evaluate the potential director candidate and the number of shares of our stock beneficially owned by the stockholder proposing the candidate. The specific requirements for the information that is required to be provided for such recommendations to be considered for an annual meeting are specified in our amended and restated bylaws and must be received by us no later than the date referenced below under the heading "Stockholder Proposals for our 2024 Annual Meeting of Stockholders."

Assuming that biographical and background material has been provided on a timely basis, any recommendations received from stockholders will be evaluated in the same manner as potential nominees proposed by the nominating and corporate governance committee. If our board of directors decides to nominate a stockholder-recommended candidate and recommends his or her election, then his or her name will be included on our proxy card for the next annual meeting.

Director Independence

Applicable Nasdaq rules require a majority of a listed company's board of directors to be comprised of independent directors within one year of listing. In addition, Nasdaq rules require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating and corporate governance committees be independent. Audit committee members must also satisfy the independence criteria set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and compensation committee members must also satisfy the independence criteria set forth in Rule 10C-1 under the Exchange Act. Under applicable Nasdaq rules, a director will only qualify as an "independent director" if, among other things, in the opinion of the listed company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In order to be considered independent for purposes of Rule 10A-3, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee, accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries or otherwise be an affiliated person of the listed company or any of its subsidiaries. In order to be considered independent for purposes of Rule 10C-1, the board must consider, for each member of a compensation committee of a listed company, all factors specifically relevant to determining whether a director has a relationship to such company which is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to: (1) the source of compensation of the director, including any consulting advisory or other compensatory fee paid by such company to the director; and (2) whether the director is affiliated with the company or any of its subsidiaries or affiliates.

In March 2023, our board of directors undertook a review of the composition of our board of directors and its committees and the independence of each director. Based upon information requested from and provided by each director concerning his or her background, employment and affiliations, including family relationships, our board of directors has determined that each of our directors, with the exception of Dr. Farid and Dr. Friesner, is an "independent director" as defined under applicable Nasdaq rules. In making such determinations, our board of directors considered the relationships that each such non-employee director has with our company and all other facts and circumstances that our board of directors deemed relevant in determining his or her independence, including the beneficial ownership of our capital stock by each non-employee director. Dr. Farid is not an independent director under these rules because he is our president and chief executive officer, and Dr. Friesner is not an independent director under these rules because he has received more than $120,000 in consulting fees from us during a 12-month period within the last three years. See "Transactions with Related Persons" for more information regarding Dr. Friesner.

There are no family relationships among any of our directors or executive officers.

Board Committees

Our board of directors has established an audit committee, a compensation committee, a nominating and corporate governance committee and a drug discovery committee. Each of the audit committee, compensation committee, nominating and corporate governance committee and drug discovery committee operates under a charter, and each such committee reviews its respective charter at least annually. A current copy of the charter for each of the audit committee, the compensation committee, the nominating and corporate governance committee and the drug discovery committee is posted on the "Corporate Governance" section of the "Investors & Media" section of our website, which is located at www.schrodinger.com. Our board of directors also appoints from time to time ad hoc committees to address specific matters.

Audit Committee

The members of our audit committee are Gary Sender, Gary Ginsberg, Michael Lynton, and Arun Oberoi. Gary Sender serves as chair of the audit committee. Arun Oberoi was elected to our audit committee in May 2022. Our audit committee met five times during 2022. Our audit committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our registered public accounting firm;
- overseeing the work of our independent registered public accounting firm, including through the receipt and consideration of reports from that firm;

- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures;
- monitoring our internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics;
- discussing our risk identification, risk assessment and risk management policies, including coordinating the board of directors' oversight of major financial risk exposures and risks relating to data privacy and cybersecurity;
- establishing procedures for the receipt and retention of accounting related complaints and concerns;
- meeting independently with our internal auditing staff, if any, our independent registered public accounting firm and management;
- reviewing and approving or ratifying any related person transactions; and
- preparing the audit committee report required by Securities and Exchange Commission, or SEC, rules.

All audit and non-audit services to be provided to us by our independent registered public accounting firm must be approved in advance by our audit committee.

Our board of directors has determined that Gary Sender is an "audit committee financial expert" as defined in applicable SEC rules and that each of the members of our audit committee possesses the financial sophistication required for audit committee members under Nasdaq rules. We believe that the composition of our audit committee meets the requirements for independence under current Nasdaq and SEC rules and regulations.

Compensation Committee

The members of our compensation committee are Gary Sender, Gary Ginsberg and Rosana Kapeller-Libermann. Gary Sender serves as chair of the compensation committee. Prior to the reconstitution of our compensation committee in October 2022, the members of our compensation committee were Gary Sender, Rosana Kapeller-Libermann and Nancy A. Thornberry, with Gary Sender serving as chair. Our compensation committee met seven times during 2022. Our compensation committee's responsibilities include:

- reviewing and approving, or making recommendations to our board of directors with respect to, the compensation of our chief executive officer and our other executive officers;
- overseeing an evaluation of our senior executives;
- overseeing and administering our cash and equity incentive plans;
- reviewing and making recommendations to our board of directors with respect to director compensation;
- reviewing and making recommendations to our board of directors with respect to management succession planning at the request of our board of directors;
- reviewing and discussing annually with management our "Compensation Discussion and Analysis" disclosure;
- overseeing our human capital management strategy and practices, including talent acquisition and retention, diversity and pay equity practices;
- reviewing our equity ownership guidelines for directors and executives and overseeing compliance with such guidelines; and
- preparing the compensation committee report.

We believe that the composition of our compensation committee meets the requirements for independence under current Nasdaq and SEC rules and regulations.

Under its charter, the compensation committee may form, and delegate authority to, subcommittees, consisting of independent directors, as it deems appropriate. In addition, under its charter, the compensation committee may delegate to one or more executive officers the power to grant options or other stock awards pursuant to our 2021 Inducement Equity Incentive Plan and our 2022 Equity Incentive Plan, or the 2022 Plan, to employees who are not directors or executive officers of our company. During 2022, the compensation committee did not delegate authority to such subcommittees or executive officers.

Nominating and Corporate Governance Committee

The members of our nominating and corporate governance committee are Michael Lynton, Jeffrey Chodakewitz, and Nancy A. Thornberry. Michael Lynton serves as chair of the nominating and corporate governance committee. Our nominating and corporate governance committee met two times during 2022. Our nominating and corporate governance committee's responsibilities include:

- recommending to our board of directors the persons to be nominated for election as directors and to each of our board's committees;
- reviewing and making recommendations to our board of directors with respect to our board leadership structure;
- developing and recommending to our board of directors corporate governance principles;
- overseeing an annual evaluation of our board of directors; and
- reviewing and making recommendations to our board of directors with respect to our environmental, social and governance policies and practices, including with respect to corporate sustainability efforts and diversity, equity and inclusion, or DEI, issues.

We believe that the composition of our nominating and corporate governance committee meets the requirements for independence under current Nasdaq and SEC rules and regulations.

Drug Discovery Committee

The members of our drug discovery committee are Jeffrey Chodakewitz, Rosana Kapeller-Libermann, and Nancy A. Thornberry. Jeffrey Chodakewitz serves as chair of the drug discovery committee. The drug discovery committee assists our board's oversight of our drug discovery and research activities and assists us in evaluating related issues. Our drug discovery committee met four times during 2022. Our drug discovery committee's responsibilities include:

- reviewing, evaluating, and advising our board of directors and management regarding our long-term strategic goals and objectives and the quality and direction of our research and development programs;
- monitoring and evaluating trends in research and development, and advising our board of directors and management on such trends;
- reviewing, evaluating, and advising our board of directors and management on significant drug discovery and development transactions;
- regularly reviewing our research and development pipeline;
- assisting our board of directors with its oversight responsibility for enterprise risk management in areas affecting our drug discovery research and development; and
- reviewing such other topics as delegated to the committee from time to time by our board of directors.

Compensation Committee Interlocks and Insider Participation

The directors who served as members of our compensation committee at any point during the year ended December 31, 2022 were Gary Sender, Gary Ginsberg, Rosana Kapeller-Libermann and Nancy A. Thornberry. None of our executive officers serves, or in the past year has served, as a member of the board of directors or compensation committee, or other committee serving an equivalent function, of any other entity that has one or more of its executive officers serving as a member of our board of directors or our compensation committee. None of the members of our compensation committee is, or has ever been, an officer or employee of our company.

Board of Director Meetings and Attendance

Our board of directors recognizes the importance of director attendance at board and committee meetings. The full board of directors met five times during 2022. During 2022, each member of the board of directors attended in person or participated in 75% or more of the aggregate of (i) the total number of meetings held by the board of directors (during the period that such person served as a director) and (ii) the total number of meetings held by all committees of the board of directors on which such person served (during the periods that such person served).

Director Attendance at Annual Meeting of Stockholders

Our corporate governance guidelines provide that directors are responsible for attending the annual meeting of stockholders. Each then-serving member of the board of directors attended the 2022 annual meeting of stockholders.

Code of Business Conduct and Ethics

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. We have posted a current copy of the code on the "Corporate Governance" section of the "Investors & Media" section of our website, which is located at www.schrodinger.com. In addition, we intend to post on our website all disclosures that are required by law or Nasdaq listing standards concerning any amendments to, or waivers from, any provision of the code.

Corporate Governance Guidelines

Our board of directors has adopted corporate governance guidelines to assist the board of directors in the exercise of its duties and responsibilities and to serve the best interests of our company and our stockholders. These guidelines provide that:

- the principal responsibility of our board of directors is to oversee our management;
- a majority of the members of the board of directors must be independent directors, unless otherwise permitted by Nasdaq rules;
- the independent directors meet in executive session at least twice a year;
- directors have full and free access to management and, as necessary, independent advisors;
- new directors participate in an orientation program and all directors are expected to participate in continuing director education on an ongoing basis; and
- our nominating and corporate governance committee will oversee an annual self-evaluation of the board to determine whether it and its committees are functioning effectively.

A copy of the corporate governance guidelines is available on the "Corporate Governance" section of the "Investors & Media" section of our website, which is located at www.schrodinger.com.

Board Leadership Structure and Oversight of Risk

Our corporate governance guidelines provide that the nominating and corporate governance committee shall periodically assess the board of directors' leadership structure, including whether the offices of chief executive officer and chairman of the board of directors should be separate. Our guidelines provide the board of directors with flexibility to determine whether the two roles should be combined or separated based upon our needs and the board of directors' assessment of its leadership from time to time. We do not currently have a lead independent director because the chairman of our board of directors is independent within the meaning of the Nasdaq listing rules.

We currently separate the roles of chief executive officer and chairman of the board of directors. Our president and chief executive officer is responsible for setting the strategic direction for our company and the day-to-day leadership and performance of our company, while the chairman of our board of directors presides over meetings of the board of directors, including executive sessions of the board of directors, and performs oversight responsibilities. Separating the duties of the chairman from the duties of the chief executive officer allows our chief executive officer to focus on our day-to-day business, while allowing the chairman to lead the board of directors in its fundamental role of providing advice to and independent oversight of management. Specifically, our chairman runs meetings of our independent directors, assists with developing the board's meeting agendas facilitates communications between management and the board of directors and assists with other corporate governance matters. Our board of directors believes that this structure ensures a greater role for the independent directors in the oversight of our company and active participation of the independent directors in setting agendas and establishing priorities and procedures for the work of our board of directors. Our board of directors believes its administration of its risk oversight function has not affected its leadership structure. Our board of directors believes that we have an appropriate leadership structure for us at this time which demonstrates our commitment to good corporate governance. Although the roles of chairman and chief executive officer are currently separate, our nominating and corporate governance committee and board of directors believe it is appropriate for our chief executive officer to serve as a member of our board of directors.

Risk is inherent with every business and how well a business manages risk can ultimately determine its success. We face a number of risks, including those described under "Risk Factors" in our annual report on Form 10-K for the year ended December 31, 2022. Our board of directors is actively involved in oversight of risks that could affect us. Our board of directors oversees our risk management processes directly and through its committees. Our board of directors encourages management to promote a culture that incorporates risk management into our corporate strategy and day-to-day business operations. Our management is responsible for risk management on a day-to-day basis and our board of directors and its committees oversee the risk management activities of management. Our board of directors satisfies this responsibility through full reports by each committee chair regarding the committee's considerations and actions, as well as through regular reports directly from officers responsible for oversight of particular risks within our company.

Our audit committee oversees risk management activities related to financial controls and legal, cybersecurity, data privacy and compliance risks. Oversight by the audit committee includes direct communication with our external auditors. Our compensation committee oversees risk management activities relating to our compensation policies and practices and assesses whether any of our compensation policies or programs has the potential to encourage excessive risk-taking. Our compensation committee also oversees risk management activities relating to management succession planning and our human capital management strategy and practices. Oversight by the compensation committee includes direct communication with our compensation consultants. Our nominating and corporate governance committee oversees risk management activities relating to board and committee composition and our corporate responsibility and sustainability efforts. Our drug discovery committee assists our board of directors in its oversight of our drug discovery and research activities, including having oversight responsibility for enterprise risk management in areas affecting our drug discovery research and development. In addition, members of our senior management team attend our board meetings quarterly and are available to address any questions or concerns raised by the board on risk management and any other matters. Our board of directors believes that full and open communication between management and the board of directors is essential for effective risk management and oversight.

Hedging, Pledging and Margin Accounts

Our insider trading policy expressly prohibits short sales and derivative transactions of our stock by our directors, named executive officers and other employees, including short sales "against the box"; purchases or sales of puts, calls or other derivative securities based on the company's securities; and purchases of financial instruments (including prepaid variable forward contracts, equity swaps, collars and exchange funds) or other transactions that hedge or offset, or are designed to hedge or offset, any decrease in the market value of company securities.

In addition, our insider trading policy generally prohibits our directors, named executive officers and other employees from purchasing our securities on margin, borrowing against company securities held in a margin account, or pledging our securities as collateral for a loan. However, an exception may be granted in extraordinary situations where a person wishes to pledge company securities as collateral for a loan (other than a margin loan) and clearly demonstrates the financial capacity to repay the loan without resort to the pledged securities. Any exception must be approved by our chief financial officer or chief legal officer or, in the case of a director or executive officer, by our audit committee. Other than the 373,450 shares of our common stock pledged by Dr. Friesner as collateral for a loan, no director, named executive officer or other employees have pledged any shares of our common stock. Prior to approving the pledge by Dr. Friesner, our audit committee considered that (1) Dr. Friesner's pledge of our shares was not designed to shift or hedge any economic risk associated with his ownership of our common stock, (2) the total number of shares of common stock pledged as collateral for the loan constituted less than 1.0% of our total outstanding shares as the time of the pledge, (3) the amount of the pledged shares was considerably lower than the average daily and weekly trading volume of our common stock, (4) the amount of the contemplated $2.0 million loan relative to the market value of the pledged shares of common stock and (5) Dr. Friesner's representation that he has the financial capacity to repay the borrowed amount under the loan without resort to the pledged shares. Our audit committee also routinely reviews Dr. Friesner's pledge of our shares to assess whether such pledge poses an undue risk to the company based on the above factors.

Our Commitment to Environmental, Social, and Governance Matters

We are committed to embedding a long-term, formal Environmental, Social and Governance, or ESG, strategy within our business, a commitment we refer to as Corporate Sustainability. We believe that a commitment to Corporate Sustainability is integral to our mission to improving human health and quality of life. This commitment requires us to be responsive to ESG-related matters that impact both us and our stakeholders, including the communities in which we operate. We expect to continue to focus on the ESG issues that we have identified as most important to our company, our business and our stakeholders, including, among other things, risk mitigation, impact creation and measurement, and increasing corporate transparency.

More information about our ESG initiatives can be found in *Part I, Item 1. Business — Human Capital* of our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the SEC on February 28, 2023, and in our Corporate Sustainability Report, available on the "Corporate Sustainability" section of our website, which is located at www.schrodinger.com.

Board Diversity Matrix

In accordance with Nasdaq's Board Diversity Rule, we have elected to include our board diversity matrix in this proxy statement as set forth below:

Board Diversity Matrix (as of April 27, 2023)

Board Size:				
Total Number of Directors			9	
Gender:	Female	Male	Non-Binary	Did Not Disclose Gender
Directors	2	7	—	—
Number of Directors who Identify in any of the Categories Below:				
African American or Black	—	—	—	—
Alaskan Native or Native American	—	—	—	—
Asian	—	1	—	—
Hispanic or Latinx	—	—	—	—
Native Hawaiian or Pacific Islander	—	—	—	—
White	2	6	—	—
Two or More Races or Ethnicities	—	—	—	—
LGBTQ+			—	
Did Not Disclose Demographic Background			—	

As part of any director nominee search, our nominating and corporate governance committee is committed to seeking out highly qualified director candidates who represent a diverse array of personal and professional characteristics, backgrounds, experiences and skills including gender, racial or ethnic identity, international experience and/or expertise in a particular discipline or field.

Communication with Our Directors

Any interested party with concerns about our company may report such concerns to the board of directors, or the chairman of our board of directors, or otherwise the chair of the nominating and corporate governance committee, by submitting a written communication to the attention of such director at the following address:

Schrödinger, Inc.
1540 Broadway, 24th Floor
New York, NY 10036
Attention: Board of Directors

You may submit your concern anonymously or confidentially by postal mail. You may also indicate whether you are a stockholder, customer, supplier, or other interested party.

A copy of any such written communication may also be forwarded to our legal counsel and a copy of such communication may be retained for a reasonable period of time. The director may discuss the matter with our legal counsel, with independent advisors, with non-management directors, or with our management, or may take other action or no action as the director determines in good faith using reasonable judgment and discretion.

Communications may be forwarded to all directors if they relate to important substantive matters and include suggestions or comments that may be important for the directors to know. In general, communications relating to corporate governance and long-term corporate strategy are more likely to be forwarded than communications relating to ordinary business affairs, personal grievances, and matters as to which we tend to receive repetitive or duplicative communications.

The audit committee oversees the procedures for the receipt, retention, and treatment of complaints received by us regarding accounting, internal accounting controls, or auditing matters, and the confidential, anonymous submission by

employees of concerns regarding questionable accounting, or auditing matters. Concerns regarding questionable accounting or auditing matters or complaints regarding accounting, internal accounting controls or auditing matters may be submitted to our chief legal officer or our chief financial officer at 1540 Broadway, 24th Floor, New York, New York 10036 or via the toll-free telephone number +1 844 440-0049.

EXECUTIVE AND DIRECTOR COMPENSATION

Compensation Discussion and Analysis

Introduction

Our compensation committee is responsible for reviewing and overseeing our executive compensation policies and programs. Our compensation committee reviews and determines the compensation of our executive officers and makes recommendations to the board of directors with respect to the compensation of our chief executive officer. This section discusses the principles underlying our compensation committee's policies and decisions with respect to the compensation of our named executive officers. Our named executive officers for the fiscal year ended December 31, 2022 were:

- Ramy Farid, our president and chief executive officer;
- Geoffrey Porges, our executive vice president, chief financial officer;[1]
- Jenny Herman, our senior vice president, finance and corporate controller;[2]
- Joel Lebowitz, our former chief financial officer;[3]
- Karen Akinsanya, our president of R&D, therapeutics;
- Robert Abel, our executive vice president, chief computational scientist and head of modeling R&D; and
- Yvonne Tran, our executive vice president, chief legal officer.

Executive Summary

Schrödinger's Business

We are transforming the way therapeutics and materials are discovered. Our differentiated, physics-based computational platform enables discovery of high-quality, novel molecules for drug development and materials applications more rapidly and at lower cost compared to traditional methods. Our software platform is licensed by biopharmaceutical and industrial companies, academic institutions, and government laboratories around the world. We are applying our computational platform to discover and advance a broad pipeline of development programs in collaboration with leading biopharmaceutical companies. In addition, we use our platform to advance a pipeline of partnered and wholly-owned drug discovery programs, which we refer to collectively as our proprietary drug discovery programs.

2022 Highlights and 2023 Strategic Actions and Focus

We had strong results in 2022 and look forward to carrying that momentum through 2023. Our key successes since January 2022 include:

- Generated 2022 total revenue of $181.0 million, up 31 percent over 2021
- Generated 2022 software revenue of $135.6 million, up 20 percent over 2021

[1] On August 16, 2022, the Board appointed Dr. Porges as executive vice president and chief financial officer, effective upon the commencement of his employment with the Company on August 18, 2022.

[2] On December 18, 2021, the Board appointed Ms. Herman as the interim principal financial officer, effective as of March 1, 2022. She served as interim principal financial officer until Dr. Porges was appointed on August 18, 2022.

[3] Mr. Lebowitz retired as our chief financial officer, effective as of February 28, 2022. After his retirement, Mr. Lebowitz continued to assist us under the terms of a consulting agreement. For a description of the consulting agreement with Joel Lebowitz, see "*—Employment Agreements and Other Arrangements*" below.

- Increased our software customer base and ended 2022 with 1,748 active customers, up 6 percent over 2021[4]
- Drove increased adoption of our software by our largest customers, as evidenced by the $46.5 million annual contract value, or ACV, of our top 10 customers, up 36 percent over 2021[5]
- Generated 2022 drug discovery revenue of $45.4 million, up 84 percent over 2021
- Advanced multiple programs into preclinical and clinical development, and currently have a total of nine collaborative programs in the clinic
- Ended the year with 15 ongoing collaborative and partnered programs eligible for royalties
- Initiated a Phase 1 clinical trial of SGR-1505, our MALT1 inhibitor, in patients with relapsed or refractory B-cell lymphomas
- Continued advancing SGR-2921, our CDC7 inhibitor, through investigational new drug, or IND, enabling studies, and presented new preclinical data on SGR-2921 at the American Society of Hematology 2022 Annual Meeting
- Selected SGR-3515 as our development candidate for our WEE1 inhibitor program and initiated IND-enabling studies
- Acquired and integrated XTAL BioStructures, Inc., enabling us to pursue scientific advancements in the field of structural biology and enhance our ability to produce high quality target structures for drug discovery
- Received a total of $147.1 million in cash distributions from Nimbus Therapeutics, LLC, or Nimbus, in connection with Takeda Pharmaceuticals Company Limited's acquisition of Nimbus Lakshmi, Inc., a wholly-owned subsidiary of Nimbus, and its tyrosine kinase 2 (TYK2) inhibitor, on account of our equity stake in Nimbus
- Structure Therapeutics, Inc., our collaborator in which we hold an equity stake, completed an initial public offering for gross proceeds of $185.3 million
- Published 22 peer-reviewed papers across life sciences and materials science in 2022 and co-authored a manuscript describing how our predictive computational methods accelerated Nimbus's discovery of potent, selective TYK2 inhibitors, underscoring our continued scientific advances
- Expanded our presence in India and South Korea to strengthen global expansion efforts, enhance competitive positioning and support both life science and materials sciences customers in the region
- Published our inaugural Corporate Sustainability Report and continued our investment and focus on ESG matters

Stockholder Engagement and Say-on-Pay Vote Support

Our compensation committee strives to ensure that our executive compensation program aligns with the interest of our stockholders and adheres to our pay-for-performance philosophy. In May and June 2022 ahead of our 2022 annual meeting of stockholders, we solicited feedback from institutional investors then-representing approximately 49% of our outstanding shares of common stock on a variety of executive compensation, corporate governance and other issues that

[4] We define an active customer as a customer that had an ACV of at least $1,000 in the fiscal year.

[5] We track the ACV for each of our customers. With respect to contracts that have a duration of one year or less, or contracts of more than one year in duration that are billed annually, we define ACV as the contract value billed during the applicable period. For contracts with a duration of more than one year that are billed upfront, ACV in each period represents the total billed contract value divided by the term.

may impact our business, and we ultimately spoke with six institutional investors then-representing approximately 29% of our outstanding shares of common stock. Our executive compensation program received very strong stockholder support at our 2022 annual meeting of stockholders, including the support of over 92% of votes cast on the non-binding advisory vote on the compensation of our named executive officers, commonly referred to as a "say-on-pay" vote. While this vote is a non-binding advisory vote, our compensation committee and board of directors take the voting results into account in determining the compensation of our named executive officers. Between October 2022 and January 2023, we reached out to institutional investors then-representing approximately 59% of our outstanding shares of common stock to understand any concerns about our executive compensation program, and we ultimately spoke with three institutional investors then-representing approximately 15% of our outstanding shares of common stock. Participants in these discussions included our chief legal officer, our chief human resources officer, our senior vice president, finance and corporate controller, our head of corporate sustainability, our senior vice president, investor relations and corporate communications, and members of our internal legal team.

Over the course of several months, senior management, our compensation committee and Aon's Human Capital Solutions practice, a division of Aon plc, or Aon, our compensation committee's independent consultant, analyzed and discussed what was learned during our stockholder outreach process. In general, we learned that, while we received strong support for our executive compensation program at the 2022 annual meeting of stockholders, certain institutional investors noted they would prefer to see some compensation-related issues addressed in the near future. Compensation-related issues raised during our stockholder outreach process primarily related to (i) the large increase in executive compensation, in particular to our chief executive officer, from 2020 to 2021 and (ii) investor preference for the use of performance-based equity awards. Below are selected highlights from this process:

What We Heard	What We've Done
Stock options with time-based vesting conditions are not sufficiently performance-driven, as stock prices may be influenced by trends within a company's given industry	In 2022, we worked with our compensation consultant and our compensation committee to restructure our executive compensation program to include performance-based equity awards in order to better adhere to our pay-for-performance philosophy. In August 2022, in connection with the commencement of his employment, our chief financial officer was granted a combination of performance-based restricted stock unit awards, or PRSUs, and option awards. In February 2023, our chief executive officer, our chief financial officer and our president, R&D therapeutics, who are our three most highly compensated named executive officers, were each granted a combination of PRSUs and option awards for his or her performance during 2022. Furthermore, in the case of our chief executive officer, a portion of such option awards had an exercise price equal to 110% of the closing price of our common stock on the date of grant, which we refer to as the premium-priced options.
The amount of compensation for our named executive officers, in particular, our chief executive officer, was large in 2021	Equity grants to our named executive officers, in particular to our chief executive officer, in 2021, 2022 and 2023 were reflective of market and peer practices. In January 2023, our compensation committee approved a smaller increase to annual base salaries for our named executive officers, in particular our chief executive officer, from 2022 to 2023, as compared to the increases from 2020 to 2021 and from 2021 to 2022.

Election of Directors Vote Support

Our nominating and corporate governance committee is committed to identifying and nominating directors to serve on our board of directors who, among other things, have demonstrated business acumen, have a commitment to understanding our industry and company and to regularly attending and participating in meetings of the board of directors and its committees, and who adhere to high ethical standards. Our nominating and corporate governance committee is also

committed to regularly considering governance and related matters raised by our stockholders during our engagements to determine what further actions, if any, should be taken in the best interest of our company and its stockholders.

At our 2022 annual meeting of stockholders, we received relatively low support for the election of our Class II directors. Approximately 76% of votes cast supported the election of each of Jeffrey Chodakewitz and Nancy A. Thornberry, and approximately 70% of votes cast supported the election of Michael Lynton.

In May and June 2022 ahead of our 2022 annual meeting of stockholders, and between October 2022 and January 2023, we solicited feedback from institutional investors as discussed above under " *—Stockholder Engagement and Say-on-Pay Vote Support*. The governance and related topics discussed with such institutional investors included board composition and structure, executive compensation, and our corporate sustainability and ESG strategy.

Over the course of several months, senior management and our nominating and corporate governance committee analyzed and discussed what was learned in this stockholder outreach process. In general, we learned that the relatively low level of support for our election of directors proposal last year was primarily related to the number of other public company boards on which our directors served. Below are selected highlights from this process:

What We Heard	What We've Done
Ahead of the 2022 annual meeting of stockholders, Class II director and chairman of the board of directors, Michael Lynton was overboarded, according to certain stockholder governance and voting policies.	We met with Mr. Lynton to discuss his board commitments, and Mr. Lynton committed to reducing, within one year of the 2022 annual meeting of stockholders, the number of other public company boards of directors on which he serves to no more than three. In March 2023, Mr. Lynton informed The Boston Beer Company, Inc. of his intention not to stand for reelection at their 2023 annual meeting of stockholders, and following such meeting, Mr. Lynton will serve on three other public company boards, in addition to serving on our board of directors.
Preference for removing the classified structure of our board of directors.	We periodically discuss our classified board structure with our nominating and corporate governance committee and our board of directors to determine whether or when we should no longer have a classified board of directors. From these discussions, we have determined that maintaining a classified board structure is reflective of peer and industry practice for newly public companies in order to maintain stability of the board during the first few years following the initial public offering. We will continue to discuss this topic with our nominating and corporate governance committee and our board of directors to determine whether or when a change would be in the best interest of our company and our stockholders.
Requests for updates on our Corporate Sustainability and ESG efforts.	We have discussed with stockholders the status of our double materiality assessment, pursuant to which we worked to determine the ESG-related topics most important to our company and our stakeholders, and which serves as the basis for our data-driven Corporate Sustainability strategy. We have provided updates to stockholders regarding our board and committee oversight of ESG matters, including the formal delegation of authority from our board to our nominating and corporate governance committee of oversight of our ESG efforts. We published our inaugural Corporate Sustainability report in April 2023.

We intend to continue our stockholder outreach following the filing of this proxy statement with the SEC, to seek support for our annual meeting proposals and to solicit additional feedback regarding governance, compensation and other matters of importance to our stockholders. We view this outreach effort as a valuable opportunity to discuss measures that are

important to our stockholders. We also intend to continue our stockholder engagement efforts following the Annual Meeting regardless of the vote results on the proposals included herein.

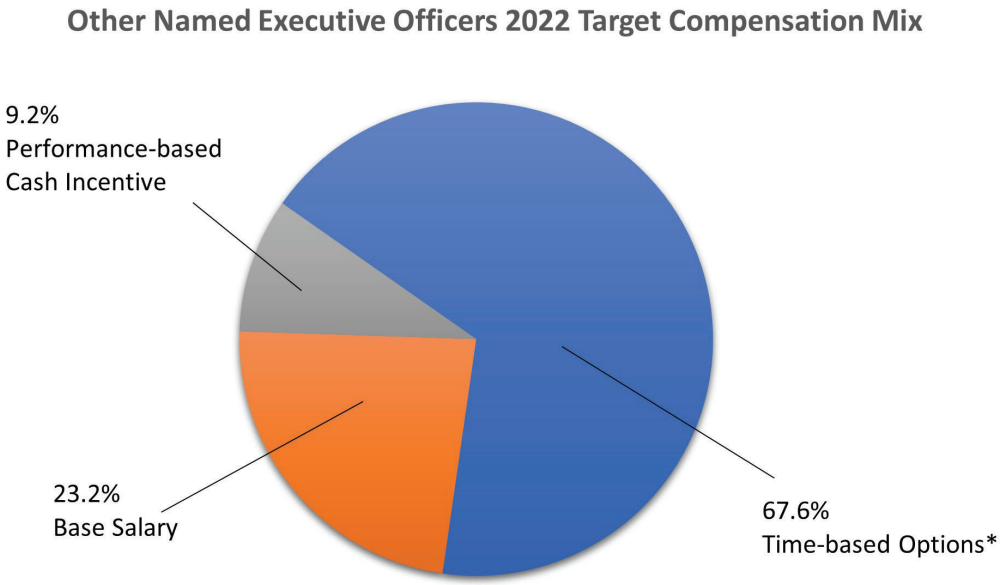
2022 Pay Outcomes and Decisions

The following summarizes the key decisions made with respect to compensation for our named executive officers during the 2022 fiscal year.

- Our compensation committee made adjustments to base salaries based on competitiveness to the external market and individual scope of responsibility and performance.
- Based on our strong performance achievement as described under "*2022 Highlights and 2023 Strategic Actions and Focus*" above, short-term annual performance-based cash incentives were paid out at 96% of target.
- To ensure alignment of the interests of our named executive officers with those of our stockholders, annual equity awards were made in the form of stock options, with vesting based on continued service, the value of which depends on the performance of our common stock price and which the compensation committee considers performance-related, particularly for a newly public company. The equity award made to our chief financial officer in connection with the commencement of his employment included PRSUs.

Compensation Objectives and Philosophy

To foster the future success of the company, our compensation committee rewards our executive officers in a manner that reinforces our pay-for-performance philosophy. Our compensation committee has designed our compensation program to align executive interests with our strategic objectives for growth and with the interests of our stockholders and to attract, retain and motivate employees whose performance is expected to drive long-term stockholder value. Our compensation committee is committed to ensuring that a substantial portion of our executive compensation is "at risk" and "variable".



(*) In addition to time-based options, we granted PRSUs to Dr. Porges, our chief financial officer, in connection with the commencement of his employment in 2022. As of the grant date, the performance conditions for the PRSUs granted to Dr. Porges were considered not probable of occurring and, as a result, the aggregate fair value of those PRSUs, for purposes of this graphic, is $0.

Overview of Our Compensation Programs

The key elements of our executive compensation programs include the following:

Compensation Element	Purpose	Features	Risk Level
Base salary	To attract and retain highly skilled executives	Fixed component of pay to provide financial stability, based on responsibilities, experience, expertise and individual contributions	Not at risk
Annual performance-based cash incentive	To promote and reward the achievement of our key short-term strategic and corporate performance goals; to motivate and attract executives	Variable, performance-based compensation linked to achievement of annual quantitative and qualitative company performance goals	At risk, short-term incentive
Long-term equity incentive awards	To focus executives on long-term performance and further align their interests to that of our stockholders; to promote retention; to reward outstanding company and individual performance	Stock options subject to multi-year vesting based on continued service, the value of which depends on the performance of our common stock price, in order to directly align executive interests with those of our stockholders over the longer-term In 2023, we introduced PRSUs for our chief executive officer, chief financial officer and president, R&D therapeutics, premium-priced stock options for our chief executive officer, and restricted stock units subject to multi-year vesting based on continued service for all of our other executives.	At risk, long-term incentive

We consider increases in base salary based upon an assessment of each executive's performance, skill, knowledge and scope of responsibilities, and an assessment of competitive market data based on our peer group that is approved by the compensation committee.

Focusing on pay-for-performance, our 2022 performance-based cash incentive program was designed to reward achievements for 2022 as measured against pre-established quantitative and qualitative company performance goals.

We typically make equity grants to each of our executive officers upon commencement of employment and annually in conjunction with our review of their individual performance and competitive market data based on our approved peer group. We have historically provided a significant portion of our executive compensation in the form of stock options, including in 2022. In 2022, we also granted PRSUs in connection with the commencement of employment of our chief financial officer. Starting in 2023, we also provide a significant portion of our annual executive compensation in the form of restricted stock units, or RSUs, and PRSUs.

We believe that equity grants provide our executives with a strong link to our long-term performance, create an ownership culture, and help align the interests of our executives and our stockholders. Accordingly, we believe equity compensation is a crucial component of any competitive executive compensation package as it directly ties our executives' success to that of our stockholders and, because we grant a portion of the equity compensation in the form of stock options,

including a premium-priced option granted to our chief executive officer in 2023, such awards result in a potential payout only if there is an appreciation of our stock price following the date of grant.

The mix of compensation components is designed to reward annual performance against corporate goals and drive long-term company performance and create stockholder value. The compensation committee generally established overall target compensation for our executive officers near the 50th percentile of compensation paid to similarly situated executives of companies in our peer group. Competitive market positioning is only one of a multitude of factors that our compensation committee considers in making compensation decisions. As described below under "*Role of Our Compensation Committee and Management in Setting Executive Compensation*," other factors considered by our compensation committee include individual performance, potential, criticality to the business, and internal equity.

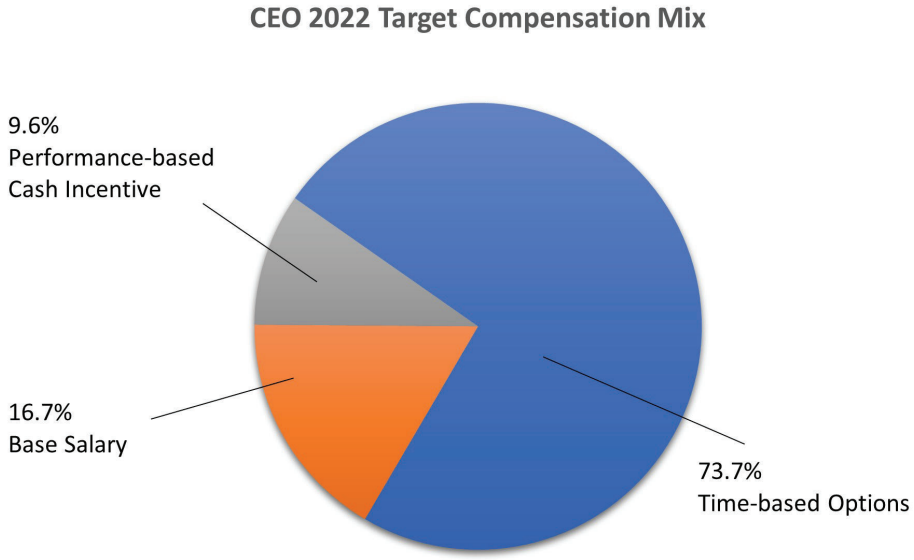
In addition to our direct compensation elements, the following features of our compensation program are designed to align the interests of our executives with those of our stockholders and to follow market best practices:

What We Do	What We Don't Do
☑ Use market data from an industry-specific peer group to set competitive compensation levels	☒ Allow hedging of equity
☑ Deliver executive compensation primarily through performance-based pay	☒ Permit re-pricing of stock options without stockholder approval
☑ Set challenging short-term incentive corporate goals	☒ Provide supplemental executive retirement plans
☑ Offer market-competitive benefits for executives that are consistent with those offered to the rest of our employees	☒ Provide tax gross-up payments for any change-of-control payments
☑ Cap payouts at 150% of target for our PRSUs	☒ Provide perquisites
☑ Maintain stock ownership guidelines applicable to our senior executive officers and non-employee directors	☒ Guarantee annual salary increases or annual equity grants
☑ Hold annual stockholder advisory say-on-pay votes	☒ Include an evergreen provision in our 2022 Equity Incentive Plan
☑ Double-trigger arrangements upon a change of control	
☑ Undertake active stockholder engagement efforts	
☑ Consult with an independent compensation consultant on compensation levels and practices	

Chief Executive Officer Compensation

We believe the target compensation mix provided to our chief executive officer in 2022 focused on our long-term success and was aligned with the long-term interests of our stockholders, in accordance with our compensation philosophy.

The graphic below illustrates the target mix of compensation elements among base salary, annual performance-based cash incentive award, and long-term equity incentive awards that vest over multiple years for our chief executive officer in 2022. **Approximately 83.3% of the target compensation mix was at-risk**. Approximately 73.7% of the target compensation mix consisted of long-term incentive compensation in the form of stock options that vest over multiple years.



Reflecting the strong alignment between pay and performance over the last year, our chief executive officer's total realizable pay in the year ended December 31, 2022, represented by his actual salary and annual incentive earned, is approximately 26.3% of the total compensation disclosed in the *Summary Compensation Table* below on page 44. Approximately 73.7% of Dr. Farid's 2022 total compensation as reported in the *Summary Compensation Table* on page 44 of this proxy statement relates to stock options granted in 2022 which vest over a four-year period. **For more information on total compensation of Dr. Farid as calculated under SEC rules, see the *Summary Compensation Table* on page 44. This discussion of realizable pay is not a substitute for the total compensation of Dr. Farid as reported in the Summary Compensation Table.**

Role of Our Compensation Committee and Management in Setting Executive Compensation

Our compensation committee reviews and oversees our executive compensation policies and programs. Our compensation committee reviews and determines the compensation of our executive officers, including the named executive officers, and makes recommendations to the board of directors with respect to the compensation of our chief executive officer. In connection with this process, the compensation committee evaluates the total mix of compensation vehicles to align each with our business goals and strategy. Our compensation committee believes that executive pay decisions require consideration of a multitude of relevant factors that may vary from year to year. In making executive compensation decisions, our compensation committee generally takes into consideration the factors listed below:

- corporate performance, business needs and business impact;
- each named executive officer's individual performance, experience, job function, change in position or responsibilities, and expected future roles, responsibilities and contributions to our company;
- internal pay equity among named executive officers and positions;
- the need to attract new talent to our executive team and retain existing talent in a highly competitive industry and geographic region;
- a range of market data reference points as described below under "Defining and Comparing Compensation to Market Benchmarks";
- the total compensation cost and stockholder dilution from executive compensation actions;
- trends and compensation paid to similarly situated officers within our market;
- recommendations of the outside, independent compensation consultant;

- a review of a named executive officer's total targeted and historical compensation and equity ownership;

- our chief executive officer's recommendations (with respect to executive officers other than himself), based on his direct knowledge of the performance by our named executive officers; and

- evolving best practices in compensation and governance.

The evaluation of our executive officers is based in part on our overall corporate performance against annual corporate performance goals, which are related to financial and operational measures and objectives. The annual corporate performance goals are proposed by our executive team, discussed with the board of directors and approved by the compensation committee early each year, as discussed in more detail below. These annual corporate performance goals are designed to tie to the company's overall corporate objectives. After the end of each year, our compensation committee determines overall corporate performance against these predetermined corporate performance goals.

As a part of determining our executive officers' compensation, our compensation committee receives recommendations from our chief executive officer (except with respect to his own performance and compensation). In making his recommendations for executive officers other than himself, the chief executive officer receives input from our human resources department and has access to various third-party compensation surveys and compensation data provided by the independent compensation consultant to the compensation committee, as described below. While the chief executive officer discusses his recommendations for the other executive officers with the compensation committee, he does not participate in the deliberations concerning his own compensation.

Our chief executive officer's annual base salary and his annual performance-based cash incentive award is approved by our board of directors, based upon the recommendation of our compensation committee. Either our compensation committee or our board of directors approves annual equity awards to our executive officers, including our chief executive officer.

Annual base salaries, annual performance-based cash incentive awards for prior year performance and annual equity awards are generally determined in the first quarter of each year.

Our compensation committee may also review the compensation of our executive officers throughout the course of the year, including in connection with promotions or other special circumstances that our compensation committee determines to be appropriate.

Role of the Independent Compensation Consultant

Since 2018, our compensation committee has retained Aon as its independent compensation consultant, to provide comparative data on executive compensation and director compensation practices in our industry and to advise on our executive compensation program generally. The compensation committee annually evaluates its engagement of compensation consultants, and selected Aon to advise with respect to compensation matters based on Aon's industry experience and reputation, which our compensation committee concluded gave Aon useful context and knowledge to advise it.

During 2022, our compensation committee directly retained Aon to advise the compensation committee on our compensation program for executive officers and directors. As part of its services, Aon provided the compensation committee with publicly available compensation data from a peer group of similarly situated publicly traded companies. Aon provided guidance to the compensation committee with respect to the amount and form of executive and director compensation, design of the global long-term incentive program and an overview of the latest trends in executive compensation. Following our stockholder engagement, which took place in May and June 2022 and between October 2022 and January 2023, Aon discussed with our compensation committee and our senior management the results of our stockholder outreach process and made recommendations as to actions that could be taken in response to the concerns raised. Although our compensation committee considers the advice and guidance of Aon as to our executive compensation program and our director compensation program, our compensation committee ultimately makes its own determinations about these matters. In the future, we expect that our compensation committee will continue to engage independent compensation consultants to provide additional guidance on our executive compensation programs and to conduct further competitive benchmarking against a peer group of publicly traded companies.

Aon was retained exclusively by the compensation committee and has not been retained by management to perform any work for the company other than projects performed at the direction of the compensation committee.

The compensation committee reviewed information regarding the independence and potential conflicts of interest of Aon, taking into account, among other things, the factors set forth in the Nasdaq listing standards. Based on such review, the compensation committee concluded that the engagement of Aon did not raise any conflict of interest.

Defining and Comparing Compensation to Market Benchmarks

The compensation committee uses competitive compensation data from an annual total compensation study of peer companies, compiled by Aon, to help inform its decisions about overall compensation opportunities and specific compensation elements.

In evaluating the total compensation of our named executive officers, our compensation committee, using information provided by Aon, establishes a peer group of publicly traded companies in the life sciences and software industries.

For purposes of executive and director compensation decisions for 2022, in August 2021, our compensation committee, with the advice of Aon, selected our peer group for 2022, or our 2022 peer group, seeking to have an equal balance of smaller and larger companies by market capitalization and size. The selection criteria for inclusion in the 2022 peer group included:

- A majority of biotechnology companies (including biopharmaceuticals, medical devices and diagnostics companies), supplemented by software technology peers, that had:
- Annual revenues of $50 million to $500 million (to exclude mature, commercial companies);
- A market capitalization of approximately one-third to three times our market capitalization at the time of review;
- Headcount of one-third to three times our projected headcount for the end of 2021, which resulted in a range of approximately 200 to 2,000 employees in size; and
- An initial public offering within the last five years.

In addition, in establishing the peer group for the following compensation cycle, the compensation committee reviews the current peer group with a view to preserve continuity in peer group from year to year, despite the inherent volatility in market capitalization and size of companies in our industries, and to address acquisition activity. For the purposes of determining the 2023 peer group, which the compensation committee used to inform, in part, executive and director compensation levels for 2023, the selection criteria were substantially the same as the criteria for the 2022 peer group, however the market capitalization range was adjusted downward to reflect our lower market capitalization at the time of review in August 2022.

With reference to these metrics, the compensation committee established the following peer groups for 2022 and 2023 as set forth in the following table:

Peer Group Company	2022 Peer Group	2023 Peer Group
Life Sciences Peers		
Acceleron Pharma Inc.*	X	
Adaptive Biotechnologies Corp.	X	X
Agios Pharmaceuticals, Inc.	X	X
Allogene Therapeutics, Inc.	X	X
bluebird bio, Inc.*	X	
Blueprint Medicines Corp.	X	X
BridgeBio Pharma, Inc.	X	X
CRISPR Therapeutics AG	X	X
Deciphera Pharmaceuticals, Inc.	X	X
Denali Therapeutics Inc.	X	X
Fate Therapeutics, Inc.		X*
Ginkgo Bioworks Holdings, Inc.	X	X
Halozyme Therapeutics, Inc.	X	X
Inspire Medical Systems, Inc.		X*
Reata Pharmaceuticals Inc.	X	X
Recursion Pharmaceuticals, Inc.	X	X
Twist Bioscience Corp.	X	X
Software Peers		
Certara, Inc.	X	X
Yext, Inc.	X	X
Varonis Systems Inc.	X	X
Zuora Inc.	X	X

* Acceleron Pharma Inc. was removed from the 2023 peer group because it was acquired by Merck & Co., Inc. in November 2021, and bluebird bio, Inc. was removed from the 2023 peer group because its market capitalization and revenue range fell below the selection range at the time the 2023 peer group was approved. All additions to the 2023 peer group were to maintain a balance of selection criteria while maintaining a robust sample size of companies.

This market data was used as a reference point, in addition to other factors, in setting our named executive officer's compensation in 2022. Since we operate in a technically advanced environment, the competition for experienced and talented executives is high. Our compensation committee's general aim is for compensation to remain competitive with the market. In 2022, our compensation committee generally targeted total compensation for our executive officers at approximately the 50th percentile of the market data.

Competitive market positioning is only one of a multitude of factors, as described above under "*Role of Our Compensation Committee and Management in Setting Executive Compensation*," that our compensation committee considers in making compensation decisions, including individual performance and potential, criticality to the business, and internal equity.

Base Salary

We provide base salaries to our named executive officers to compensate them with a fair and competitive base level of compensation for services rendered during the year. None of our named executive officers is party to an employment agreement or other agreement or arrangement that provides for automatic or scheduled increases in base salary. On an annual basis, our compensation committee determines (or recommends, in the case of the chief executive officer) the base salary for each executive officer, including our named executive officers, based on the executive officer's performance, skills, knowledge and the responsibilities required of our executive officers. In addition, our compensation committee

reviews and considers the level of base salary paid by companies in our peer group for similar positions. Any changes in base salary made as part of the annual review process are typically effective at the beginning of the fiscal year.

Our compensation committee's annual assessment of our named executive officers' base salaries takes into consideration our objective to retain highly qualified executives, to motivate them to achieve our business goals, and to reward them for the achievement of short- and long-term performance.

At the beginning of 2022, our compensation committee reviewed the compensation of our chief executive officer and each of our other named executive officers. With respect to Dr. Farid, our compensation committee recommended, and our board of directors approved, an increase in his annual base salary from $620,000 to $651,000 for 2022. This determination was based on his critical role at our company and overall company performance.

The compensation committee also approved merit increases in base salary for each of our other named executive officers serving at that time, based on overall company performance (with the input of our chief executive officer), expected roles and responsibilities for 2022, the market conditions and a comparison of their base salaries to the market median base salaries of similarly situated executive officers in our 2022 peer group.

The table below sets forth the adjustments to the base salary for 2022, in dollars and as a percentage, for each of our named executive officers.

Name	2021 Base Salary	2022 Base Salary		Increase(%)
Ramy Farid	$620,000	$651,000		5.0%
Geoffrey Porges	N/A	$580,000		N/A
Jenny Herman	$317,500	$384,167	(1)	21.0%
Joel Lebowitz	$410,000	$430,000		4.9%
Karen Akinsanya	$460,000	$520,000	(2)	13.0%
Robert Abel	$356,000	$374,000		5.1%
Yvonne Tran	$453,000	$475,000		4.9%

(1) During the periods from January 1, 2022 through February 28, 2022 and from September 16, 2022 through December 31, 2022, Ms. Herman's annualized base salary was $330,000. During the period from March 1, 2022 through September 15, 2022, Ms. Herman's annualized base salary was $430,000. The increase in Ms. Herman's base salary during this period was in part due to her additional responsibilities when she served as our interim principal financial officer from March 1, 2022 through August 18, 2022. The amount in the table above reflects the salary earned by Ms. Herman in 2022.

(2) On January 6, 2022, our compensation committee approved an increase in Dr. Akinsanya's base salary to $483,000. On February 16, 2022, Dr. Akinsanya was appointed as President of R&D, Therapeutics. In connection with such appointment, our compensation committee approved an increase in her base salary from $483,000 to $520,000, effective as of February 16, 2022.

Annual Performance-based Cash Incentive. In August 2019, our board of directors adopted our Senior Executive Incentive Compensation Plan. The Senior Executive Incentive Compensation Plan provides for cash incentive payments to be made to certain eligible executive officers, including our named executive officers, based upon the attainment of performance targets established by our compensation committee, which are related to financial and operational measures or objectives with respect to our company. Each executive officer who is selected to participate in the plan has an annual targeted bonus opportunity based on a percentage of salary, but payments under this plan may be higher or lower than the executive's target bonus opportunity, depending upon our performance. This plan is designed to motivate our executive officers to achieve annual goals based on financial and operating performance objectives.

Our compensation committee administers the Senior Executive Cash Incentive Plan, selects the eligible executive officers, and selects the corporate performance goals.

Cash awards paid under the Senior Executive Incentive Compensation Plan are based upon formulas that tie such cash awards to performance targets under the corporate performance goals. The formulas are adopted annually by the compensation committee and communicated to each executive officer at the beginning of each year. The level of

achievement of the corporate performance goals will be determined by the compensation committee. If the corporate performance goals are met, payments are made as soon as practicable following the determination by the compensation committee (or the board of directors, upon the recommendation of the compensation committee, in the case of the chief executive officer) of the cash award payable to each executive officer. Subject to the compensation committee's discretion to pay a pro-rated cash award under limited circumstances, each executive officer must be employed by us on the date the cash award is payable in order to be eligible to receive the cash payment. Our board of directors or the compensation committee may amend or terminate the Senior Executive Incentive Compensation Plan at any time for any reason.

The table below summarizes the predetermined 2022 corporate performance goals, the relative weighting for each corporate performance goal and level of performance achievement for each goal as approved by the compensation committee.

Certain of these corporate performance goals include highly sensitive and competitive data, including preclinical, clinical, regulatory, technical, operational and financial targets. We do not disclose the specific portions of these goals because we believe that such disclosure would result in competitive harm to us. Revealing certain elements of these goals could potentially reveal insights about our preclinical, clinical, regulatory, financial and strategic plans or objectives that our competitors or potential collaborators could use against us.

Based on the assessments and calculations described below, our compensation committee determined that the 2022 corporate performance goals were achieved at an overall level of 96% of target.

2022 Corporate Goals Achievement	Relative Weighting	Percentage Performance Achievement	Weighted Performance
Achieve financial goals			
• Achieve software sales booking target	10%	93.2%	9.3%
• Achieve drug discovery revenue target of $45 million	10%	100%	10%
• Remain within board-approved 2022 annual operating plan budget	10%	110%	11%
Advance science and technology underlying computational platform			
• Increase the number and types of discovery targets our platform can prosecute	10%	100%	10%
• Improve the effectiveness and efficiency with which our platform can prosecute targets	10%	100%	10%
• Expand the applicability of our platform to high-value adjacent areas	10%	100%	10%
Advance collaborative and wholly-owned programs			
• Initiate Phase 1 clinical trial on MALT1 program	7.5%	100%	7.5%
• Complete GLP-toxicology studies and submit pre-IND meeting request for CDC7 program	7.5%	100%	7.5%
• Achieve validated hit series on additional new wholly-owned programs	7.5%	100%	7.5%
• Enter into new materials discovery collaborations	7.5%	70%	5.3%
Achieve communication and leadership goals			
• Execute corporate affairs, investor relations and marketing plans to raise awareness of Schrödinger to software customers, investors, media, potential partners and potential employees; execute on ESG/DEI strategy	5%	100%	5%
• Hire additional key, strategic personnel	5%	50%	2.5%
Approved 2022 Corporate Performance Goal Achievement Level	**100%**		**96%**

In order to arrive at the overall level of 2022 corporate performance goal achievement, our compensation committee determined the percentage of performance achievement for each goal and then multiplied that percentage of achievement by such goal's relative weighting to arrive at the weighted performance for each goal. Our compensation committee then

added the weighted performance percentages together to determine our overall 2022 corporate performance goal achievement level of 96% of target.

In determining the overall level of achievement, our compensation committee made the following assessments:

- *Achieve financial goals* – Assessment of 30.3%, out of a targeted weighting of 30%, was based largely on achievement slightly below target of bookings for our software business, achievement at target of revenue for our drug discovery business, and achievement above target with respect to operating within our board-approved 2022 annual operating plan budget.
- *Advance science and technology underlying computational platform* – Assessment of 30%, out of a targeted weighting of 30%, was based on achievement at target with respect to our ability to increase the number and types of discovery targets our platform can prosecute, improve the effectiveness and efficiency with which our platform can prosecute targets, and expand the applicability of our platform to high-value adjacent areas. In particular, we made progress in advancing our absolute protein-ligand binding free energy perturbation technology, which could improve the hit rates in virtual screening. Additionally, we improved our technologies for computationally enabling structure-based drug design for targets with limited structural biology support, including integrating *de novo* protein and structure prediction methods. Furthermore, we also successfully integrated in-house structural biology capabilities to enable challenging targets for which methods such as *de novo* structure prediction may not be feasible.
- *Advance collaborative and wholly-owned programs* – Assessment of 27.8%, out of a targeted weighting of 30% was based largely on performance at target with respect to our ability to meet specified milestones for our wholly-owned programs, which was partially offset by performance below target with respect to establishing new materials science collaborations.
- *Achieve communication and leadership goals* – Assessment of 7.5%, out of a targeted weighting of 10%, was based on performance at target with respect to executing on corporate affairs, investor relations, marketing plans and our ESG/DEI strategy and performance under target with respect to hiring key, additional strategic personnel. In particular, we made significant progress on our inaugural Corporate Sustainability Report, which we recently published.

The table below shows each named executive officer's target cash incentive award under the Senior Executive Incentive Compensation Plan as a percentage of the named executive officer's annual base salary in 2022, the cash target incentive award opportunity in dollars for 2022 and the actual cash incentive awards paid to our named executive officers for 2022 performance, which were paid in January 2023, as well as the actual 2022 cash incentive award payment as a percentage of the 2022 target cash incentive award opportunity.

Name	2022 Target Incentive Award (% of 2022 Base Salary)	2022 Target Incentive Award Opportunity ($)	2022 Actual Incentive Award ($)(1)	2022 Actual Incentive Award (% of 2022 Target Incentive Award Opportunity)
Ramy Farid	60%	$390,600	$374,976	96%
Geoffrey Porges(2)	50%	$108,055	$102,970	96%
Jenny Herman(3)	40%	$132,000	$126,720	96%
Joel Lebowitz(4)	N/A	N/A	N/A	N/A
Karen Akinsanya	50%	$260,000	$249,600	96%
Robert Abel	40%	$149,600	$143,616	96%
Yvonne Tran	40%	$190,000	$182,400	96%

(1) Under the Senior Executive Incentive Compensation Plan, the actual cash incentive awards were determined for 2022 by multiplying the target incentive award opportunity for each named executive officer by 96%, which is the overall achievement level of the corporate performance goals as determined by our compensation committee.

(2) Dr. Porges' cash incentive award payment was prorated for the period he served in 2022.

(3) Following Mr. Lebowitz's retirement, Ms. Herman served as our interim principal financial officer, effective as of March 1, 2022, until Dr. Porges was appointed as our chief financial officer, effective as of August 18, 2022.

(4) Mr. Lebowitz retired effective as of February 28, 2022.

In March 2023, the compensation committee determined the performance goals that will be used to assess corporate performance in 2023. Cash incentive awards under the 2023 annual incentive program will be determined in substantially the same manner as under the 2022 annual incentive program.

Equity Incentives

Although we do not have a formal policy with respect to the grant of equity incentive awards to our named executive officers, we believe that equity grants provide our executives with a strong link to our long-term performance, create an ownership culture, help to align the interests of our named executive officers and our stockholders and provide competitive levels of executive compensation. We believe that equity grants with a time-based vesting feature promote executive retention because this feature incentivizes our named executive officers to remain in our employment during the vesting period. We also believe that equity awards with performance-based vesting conditions further align executive interests with those of our stockholders. The market for qualified and talented executives in the industry in which we operate is highly competitive, and we compete for talent with many companies that have greater resources than we do. As such, we believe equity compensation is a crucial component of any competitive executive compensation package we offer.

Our compensation committee or our board of directors typically makes equity grants to our named executive officers upon commencement of employment and annually at the beginning of the year in conjunction with our review of their individual performance and competitive market data based on our approved peer group. The size of equity awards varies among our executive officers based on their positions, competitive market data, and annual performance assessments. None of our executive officers is party to an employment agreement that provides for the automatic grant of equity awards.

The options that we grant to our named executive officers typically vest and become exercisable as to 25% of the shares underlying the option on the first anniversary of the vesting commencement date and as to an additional 2.0833% of the original number of shares underlying the option monthly thereafter. Vesting rights cease upon termination of employment and exercise rights for previously vested stock options cease shortly after termination of employment, though exercisability is extended in the case of death or disability. Prior to the exercise of an option, the holder has no rights as a stockholder with respect to the shares subject to such option, including no voting rights and no right to receive dividends or dividend equivalents. The term of options we have granted to our named executive officers is ten years.

All stock options granted (other than the premium-priced stock options granted to our chief executive officer in 2023) have exercise prices equal to the fair market value of our common stock on the date of grant, which is typically the date that either our compensation committee or our board of directors approves such award. The exercise prices are determined by reference to the closing market price of our common stock on the Nasdaq Global Select Market on the date of grant, so that the recipient will not realize any value from his or her options unless our stock price increases above the stock price on the date of grant. Accordingly, this portion of our named executive officers' compensation is at risk and is directly aligned with stockholder value creation.

As part of the ongoing review of our compensation strategy and practices, the compensation committee determines the appropriate mix of the type of equity awards and the size of the award, based in part on recommendations from Aon. The compensation committee may approve different award types in the future as part of the overall compensation strategy.

In connection with the annual review of our named executive officers' compensation and consistent with our compensation philosophy, in February 2022, our compensation committee granted options to purchase shares of our common stock to our named executive officers, in the amounts set forth in the table below, each at an exercise price of $27.76 per share. These option grants were based on the named executive officer's level of responsibility within our company, equity ownership in relation to the peer group benchmark data, and the compensation committee's assessment

of the named executive officer's individual performance (with input from our board of directors, in the case of our chief executive officer) and our overall company performance, in each case without reference to any specific metric.

Name	2022 Option Awards (#) (1)
Ramy Farid	215,000
Geoffrey Porges(2)	—
Jenny Herman(3)	30,000
Joel Lebowitz(4)	—
Karen Akinsanya	80,000
Robert Abel	70,000
Yvonne Tran	60,000

(1) These options vested as to 25% of the original number of shares underlying the options on February 9, 2023, and vest in equal monthly installments for the remaining shares through February 9, 2026.

(2) Dr. Porges was appointed as our chief financial officer, effective as of August 18, 2022. In connection with the commencement of his employment, he was granted options and PRSUs, as more fully described below.

(3) Following Mr. Lebowitz's retirement, Ms. Herman served as our interim principal financial officer, effective as of March 1, 2022, until Dr. Porges was appointed as our chief financial officer, effective as of August 18, 2022.

(4) Mr. Lebowitz retired as our chief financial officer, effective as of February 28, 2022.

The grant date fair values of the stock options granted to our named executive officers in 2022 and shown in the *Summary Compensation Table* and the *Grants of Plan-Based Awards for 2022* table below were determined in accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718. The compensation committee's overall philosophy is to award equity that takes into account individual performance, potential, criticality to the business, internal equity and relative alignment to the peer group median. The stock options granted are reflective of that philosophy and our strong performance for 2021.

Effective as of August 18, 2022, our compensation committee granted Dr. Porges a stock option to purchase 180,000 shares of our common stock, at an exercise price per share equal to $28.55. The option vests as to 25% of the shares underlying the option on August 18, 2023 and, as to the remaining shares, monthly thereafter until the August 18, 2026, subject to continued service. In addition, our compensation committee also granted Dr. Porges PRSUs with respect to 90,000 shares of our common stock. Each PRSU represents a contingent right to receive one share of our common stock upon the achievement of specified performance goals related to financial performance, investor engagement and business development and subject to continued service. The option and the PRSUs were granted pursuant to our 2021 Inducement Equity Incentive Plan, as amended, as an inducement material to Dr. Porges' acceptance of employment with us in accordance with Nasdaq Listing Rule 5635(c)(4).

2023 Executive Compensation Decisions

In 2023, we restructured our executive compensation program, and we introduced PRSUs for certain of our named executive officers to further adhere to our pay for performance philosophy. In 2023, we granted PRSUs to each of our chief executive officer, our chief financial officer and our president, R&D therapeutics that vest as to the percentage assigned to each of three evenly weighted financial, business and software performance metrics, as measured at the end of the measurement period ending on December 31, 2025, upon certification by our compensation committee of achievement of the applicable performance metrics. The level of achievement of the PRSUs provide for a threshold (50%) payout, a target (100%) payout, and a maximum (150%) payout depending upon the level of performance achieved. We also granted options with time-based vesting conditions to our continuing named executive officers, which for our chief executive officer included a premium-priced option with an exercise price equal to 110% of the closing price of our common stock on the date of grant. The target aggregate grant value for the PRSUs and the premium-priced options granted to our chief executive officer in 2023 is expected to equal at least 50% of the total value of the long-term equity incentive award granted to Dr. Farid.

In addition, we granted RSUs to our named executive officers (other than our chief executive officer, chief financial officer and our president, R&D therapeutics), which vest in equal annual installments over a period of four years, subject to continued service to the company. Vesting rights cease upon termination of service. Prior to the vesting of an RSU, the

holder has no rights as a stockholder with respect to the shares subject to such RSU, including no voting rights and no right to receive dividends or dividend equivalents.

In January 2023, our compensation committee (or our board of directors, in the case of our chief executive officer) approved 2023 base salaries and target cash incentive percentages for 2023, and in February 2023, our compensation committee approved (with input from our board of directors, in the case of our chief executive officer) annual equity awards for our named executive officers. The table below sets forth the 2023 compensation levels for each of our named executive officers.

Name	2023 Base Salary (1)	Base Salary Increase over 2022 (%)	2022 Target Cash Incentive Award (% of 2022 Base Salary)	Change in Target Cash Incentive Award from 2022	Options Awards (#)		Stock Awards (#)	
Ramy Farid	$677,000	4.0%	60%	—	150,485	(2)	22,800	(4)
Geoffrey Porges	$603,000	4.0%	50%	—	54,735	(3)	8,810	(4)
Jenny Herman(5)	$369,600	12.0%	40%	—	13,000	(3)	8,000	(6)
Karen Akinsanya	$541,000	4.0%	50%	—	63,270	(3)	10,185	(4)
Robert Abel	$410,000	9.6%	40%	—	63,270	(3)	10,545	(6)
Yvonne Tran	$494,000	4.0%	40%	—	45,525	(3)	7,590	(6)
Joel Lebowitz(7)	—	—	—	—	—		—	

(1) The base salaries were effective as of January 1, 2023. The salary increases reflect merit and market-based adjustments.

(2) Includes an option to purchase 84,960 shares of common stock, with the exercise price and vesting schedule described below in footnote 3 and a premium-priced option to purchase 65,525 shares of common stock at an exercise price per share of $25.62, equal to 110% of the closing price on the date of grant.

(3) On February 9, 2023, our compensation committee approved the grant of these stock option awards at an exercise price of $23.29 per share, the closing price on the date of grant. The options are subject to time-based vesting, with 25% of the shares underlying the option vesting on the first anniversary of the grant date and an additional 2.0833% of the original number of shares underlying the option vesting monthly thereafter.

(4) On February 9, 2023, our compensation committee approved the grant of these PRSUs. The PRSUs vest as to the percentage assigned to each of three evenly weighted financial, business and software performance metrics, as measured at the end of the measurement period ending on December 31, 2025, upon certification by our compensation committee of achievement of the applicable performance metrics. The level of achievement of the PRSUs provide for a threshold (50%) payout, a target (100%) payout, and a maximum (150%) payout. The amounts in the table above are shown at target.

(5) Following Mr. Lebowitz's retirement, Ms. Herman served as our interim principal financial officer, effective as of March 1, 2022, until Dr. Porges was appointed as our chief financial officer, effective as of August 18, 2022. During the periods from January 1, 2022 through February 28, 2022 and from September 16, 2022 through December 31, 2022, Ms. Herman's annualized base salary was $330,000. During the period from March 1, 2022 through September 15, 2022, Ms. Herman's annualized base salary was $430,000. The base salary increase in the table of 12.0% represents the increase in Ms. Herman's base salary in 2023 compared to her base salary at the start of 2022.

(6) On February 9, 2023, our compensation committee approved the grant of these RSUs, which vest in equal annual installments over a period of four years, subject to continued service to the company.

(7) Mr. Lebowitz retired as our chief financial officer, effective as of February 28, 2022.

Severance and Change in Control Benefits

Our Executive Severance and Change in Control Benefits Plan, which we refer to as the Severance Plan, which initially became effective following the closing of our initial public offering and was most recently amended in August 2022, provides severance benefits to certain of our executives, including our named executive officers, if their employment is

terminated by us without "cause" or, only in connection with a "change in control" of our company, they terminate employment with us for "good reason" (as each of those terms is defined in the Severance Plan).

We believe that providing these benefits helps us compete for executive talent. These benefits are designed to promote stability and continuity of our executives and are intended to preserve employee morale and productivity and encourage retention in the face of the disruptive impact of an actual, threatened, or rumored change in control of the company. We prefer to have certainty regarding the potential severance amounts payable to named executive officers, rather than negotiating severance at the time that a named executive officer's employment terminates.

Please refer to "*—Executive Severance and Change in Control Benefits Plan*" below for a more detailed discussion of severance and change in control benefits for our named executive officers. We also have provided estimates of the value of the severance payments made and other benefits provided to our named executive officers under specified termination circumstances under the caption "*—Potential Payments Upon Termination or Change in Control*" below.

Benefits and Other Compensation

Other compensation to our executives consists primarily of the broad-based benefits we provide to all full-time employees in the United States, including medical, dental and vision insurance, group life and disability insurance. We also maintain a defined contribution employee retirement plan for our employees, including our named executive officers. The plan is intended to qualify as a tax-qualified 401(k) plan so that contributions to the 401(k) plan, and income earned on such contributions, are not taxable to participants until withdrawn or distributed from the 401(k) plan (except in the case of contributions under the 401(k) plan designated as Roth contributions). Under the 401(k) plan, each employee is fully vested in his or her deferred contributions. Vesting in our discretionary matching contributions is based on years of service to us, with 25% vesting per year of service to us and 100% vesting at the end of the fourth year of service to us. Employee contributions are held and invested by the plan's trustee as directed by participants. Our 401(k) plan provides that each participant can contribute up to 75% of such participant's eligible compensation (pre-tax or post-tax Roth contributions), up to the statutory limit, which was $19,500 for 2021 and $20,500 for 2022. Participants who are at least 50 years old are also eligible to make "catch-up" contributions of up to an additional $6,500 above the statutory limit in 2021 and up to an additional $6,500 above the statutory limit in 2022. The 401(k) plan provides us with the discretion to match participant contributions up to certain specified amounts. Effective January 1, 2019, we began making discretionary matching contributions to participants under our 401(k) plan equal to 50% of the participant's contribution to the 401(k) plan up to a maximum participant contribution of 8% of participant's eligible compensation.

Currently, we do not view perquisites or other personal benefits as a significant component of our executive compensation program. Accordingly, we do not provide perquisites to our named executive officers. All future practices with respect to perquisites or other personal benefits will be approved and subject to periodic review by our compensation committee.

Equity Ownership Guidelines for Directors and Executives

In 2021, our board of directors adopted equity ownership guidelines applicable to our directors and executives who are required to make filings under Section 16 of the Exchange Act or have the title of executive vice president or senior vice president. To further align the interests of our directors and executive with the interests of our stockholders, our board of directors determined that such directors and executives should hold shares of our common stock and other equity rights that have a fair market value commensurate with their respective roles with us. The board or the compensation committee has the full power to administer and interpret the equity ownership guidelines.

The ownership requirement applicable to our directors and executives will be equal to the following multiple of the individual's base salary or cash retainer, as applicable:

Title	Dollar value of equity
Chief Executive Officer	3.0x base salary
Executive Vice President	2.0x base salary
Senior Vice President	1.0x annual base salary
Non-employee directors	3.0x annual cash retainer

The ownership requirement will be measured as to each director and executive as of June 30 of each year. Our current directors and executives are required to achieve the applicable ownership requirement by June 30, 2026. However, each of

our directors and executive officers, other than Dr. Porges, whose employment commenced in August 2022, currently meets the applicable ownership requirement. Newly hired and newly promoted executives and newly elected directors, in each case, not previously subject to these guidelines are expected to achieve the applicable ownership requirement within five years from the date of hire, promotion, or initial election, as applicable.

In calculating equity ownership level, the following shares and equity rights shall be included: outstanding shares of common stock that are not pledged, vested restricted stock units and performance stock units, unvested restricted stock units and performance stock units that remain subject only to time-based vesting, unexercised, vested in-the-money stock options, and any other vested grants or account balances under share-based company compensation plans. Unvested restricted stock units and performance stock units subject to performance conditions, unvested stock options, and pledged shares of common stock shall not be included in calculating any individual's equity ownership level. Following the conclusion of any applicable phase-in period applicable to a director or executive, in the event that such individual does not satisfy the ownership requirement as of any measurement date, then we may implement such conditions, restrictions or limitations on such individual as we determine to be necessary or appropriate in order to achieve the purposes of our equity ownership guidelines.

Tax and Accounting Considerations

Deductibility of Executive Compensation

We are generally entitled to a U.S. federal income tax deduction with respect to compensation income paid to our service providers. However, section 162(m) of the Internal Revenue Code of 1986, as amended, or the Code, generally disallows a tax deduction to public companies for compensation in excess of $1 million paid in any one year to each of certain of the company's current and former executive officers. While the compensation committee generally considers the tax implications to us of its executive compensation decisions, such implications were not a material consideration in the compensation awarded to our named executive officers in 2022.

Accounting for Stock-Based Compensation

We follow FASB ASC Topic 718 for our stock-based compensation awards. FASB ASC Topic 718 requires us to measure the compensation expense for all share-based payment awards made to our employees and non-employee directors, including options to purchase shares of our common stock and other stock awards, based on the grant date "fair value" of these awards. This calculation is performed for accounting purposes and reported in the executive compensation tables required by the federal securities laws, even though the recipient of the awards may never realize any value from their awards.

Compensation Risk Assessment

We believe that our executive compensation program does not encourage excessive or unnecessary risk taking. As described more fully above, we structure our pay to consist of both fixed and variable compensation, particularly in connection with our pay-for-performance compensation philosophy. We believe this structure motivates our executives to produce short- and long-term results that are in the best interests of our company and our stockholders in order to attain our ultimate objective of increasing stockholder value, and we have established, and our compensation committee endorses, several controls to address and mitigate compensation-related risk. These include equity ownership guidelines for our executive officers and our directors and an anti-hedging policy. As a result, we do not believe that our compensation programs are reasonably likely to have a material adverse effect on us.

Compensation Committee Report

The compensation committee has reviewed and discussed the Compensation Discussion and Analysis required by Item 402(b) of Regulation S-K with management. Based on this review and discussion, the compensation committee recommended to the board of directors that the Compensation Discussion and Analysis be included in this proxy statement.

This report of the compensation committee is not "soliciting material," shall not be deemed "filed" with the SEC and shall not be incorporated by reference by any general statement incorporating by reference this proxy statement into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before

or after the date hereof and irrespective of any general incorporation language in any such filing, except to the extent that we specifically incorporate this information by reference, and shall not otherwise be deemed filed under such acts.

Respectfully submitted,

The Compensation Committee of the Board of Directors

Gary Sender, Chair
Gary Ginsberg
Rosana Kapeller-Libermann

EXECUTIVE COMPENSATION TABLES

Summary Compensation Table

The following table sets forth information regarding compensation awarded to, earned by or paid to each of our named executive officers for the periods presented.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Stock Awards ($)	Option Awards ($)(1)	Non-Equity Incentive Plan Compensation ($)(2)	All Other Compensation ($)	Total ($)
Ramy Farid *President and Chief Executive Officer*	2022	651,000	—	—	2,877,355	374,976	12,701 (3)	3,916,032
	2021	620,000	—	—	7,470,776	390,600	12,101	8,493,477
	2020	525,800	—	—	7,499,672	473,220	11,901	8,510,593
Geoffrey Porges *Chief Financial Officer(4)*	2022	213,474	230,000 (5)	— (6)	2,698,806	102,970	8,625 (7)	3,253,875
Jenny Herman *Senior Vice President, Finance and Corporate Controller*	2022	384,167 (8)	—	—	401,491	126,720	10,751 (9)	923,129
Joel Lebowitz *Former Chief Financial Officer(10)*	2022	71,667	—	—	—	—	374,859 (11)	446,526
	2021	410,000	—	—	1,992,207	172,200	12,101	2,586,508
Karen Akinsanya *President, R&D Therapeutics*	2022	515,375 (12)	—	—	1,070,644	249,600	12,701 (3)	1,848,320
	2021	460,000	—	—	3,984,414	193,200	12,101	4,649,715
	2020	400,000	—	—	1,679,025	240,000	11,901	2,330,926
Robert Abel *Chief Computational Scientist and Head of Modeling R&D*	2022	374,000	—	—	936,813	143,616	10,751 (9)	1,465,180
	2021	356,000	—	—	3,984,414	149,520	10,251	4,500,185
Yvonne Tran *Chief Legal Officer*	2022	475,000	—	—	802,983	182,400	12,701 (3)	1,473,084
	2021	453,000	—	—	1,992,207	190,260	12,101	2,647,568
	2020	428,000	—	—	1,679,025	256,800	11,901	2,375,726

(1) The amounts reported in the "Option Awards" column reflect the aggregate grant date fair value of stock options awarded during the year computed in accordance with FASB ASC, Topic 718. See Note 10 to our consolidated financial statements in our annual report on Form 10-K, which was filed with the SEC on February 28, 2023, regarding assumptions underlying the valuation of stock options. These amounts reflect the accounting cost for these stock options and do not reflect the actual economic value that may be realized by the named executive officer upon the vesting of the stock options, the exercise of the stock options or the sale of the common stock underlying such stock options.

(2) The amounts reported in the "Non-Equity Incentive Plan Compensation" column reflect annual cash incentive payments earned by our named executive officers for their performance in 2022, 2021 and 2020, respectively, under the Senior Executive Incentive Compensation Plan. For a description of the plan, see "*—Annual Performance-based Cash Incentive*" above.

(3) Represents (i) premiums of $501 paid by us during 2022 with respect to group life, accidental death and dismemberment and long-term disability insurance policies consistent with those provided to all of our employees, and (ii) matching contributions of $12,200 made by us under our 401(k) plan.

(4) Dr. Porges was appointed as our chief financial officer, effective as of August 18, 2022. His annual base salary for 2022 was $580,000. The amounts reported in the "Salary" column and the "Non-Equity Incentive Plan Compensation" column for 2022 are prorated to reflect his start date.

(5) Reflects a sign-on bonus of $230,000 in connection with the commencement of his employment as our chief financial officer. If Dr. Porges is terminated by us for cause (as such term is defined in the Severance Plan) or resigns other than for good reason (as such term is defined in the Severance Plan), he will be obligated to repay (i) if such termination or resignation occurs within 12 months following the August 18, 2022, 100% of the gross

amount of the sign-on bonus or (ii) if such termination or resignation occurs between 12 months and 24 months following August 18, 2022, 50% of the gross amount of the sign-on bonus.

(6) The amount reported in the "Stock Awards" column reflects the aggregate fair value of the PRSUs granted to Dr. Porges calculated in accordance with FASB ASC Topic 718 based upon the probable outcome of the applicable performance conditions. As of the grant date, the performance conditions for the PRSUs granted to Dr. Porges were considered not probable of occurring and, as a result, the fair value of those PRSUs, for purposes of this table, is $0. See Note 10 to our consolidated financial statements in our annual report on Form 10-K, which was filed with the SEC on February 28, 2023, regarding assumptions underlying the valuation of PRSUs. Assuming that the highest level of performance vesting conditions of the PRSUs were met as of the grant date, the value of PRSUs would have been $2,569,500.

(7) Represents (i) premiums of $167 paid by us during 2022 with respect to group life, accidental death and dismemberment and long-term disability insurance policies consistent with those provided to all of our employees, and (ii) matching contributions of $8,458 made by us under our 401(k) plan.

(8) During the periods from January 1, 2022 through February 28, 2022 and from September 16, 2022 through December 31, 2022, Ms. Herman's annualized base salary was $330,000. During the period from March 1, 2022 through September 15, 2022, Ms. Herman's annualized base salary was $430,000.

(9) Represents (i) premiums of $501 paid by us during 2022 with respect to group life, accidental death and dismemberment and long-term disability insurance policies consistent with those provided to all of our employees, and (ii) matching contributions of $10,250 made by us under our 401(k) plan.

(10) In February 2022, Mr. Lebowitz retired as our chief financial officer. The amount reported in the "Salary" column for 2022 is prorated to reflect his end date.

(11) Represents (i) premiums of $84 paid by us during 2022 with respect to group life, accidental death and dismemberment and long-term disability insurance policies consistent with those provided to all of our employees, (ii) matching contributions of $12,200 made by us under our 401(k) plan, (iii) severance payments of $322,500 (representing salary continuation payments for nine months following the retirement) and accrued and unused vacation time of $33,076, each pursuant to the terms of the transition agreement with Mr. Lebowitz, and (iv) consulting fees of $7,000, pursuant to the terms of the consulting agreement with Mr. Lebowitz. For information regarding Mr. Lebowitz's transition agreement and his consulting agreement, please refer to "Transition Agreement with Joel Lebowitz" and "Consulting Agreement with Joel Lebowitz" below.

(12) On February 16, 2022, Dr. Akinsanya was appointed as president of R&D, therapeutics. In connection with such appointment, our compensation committee approved an increase in her base salary from $483,000 to $520,000, effective as of February 16, 2022.

Chief Executive Officer Pay Ratio

Our compensation and benefits philosophy and the overall structure of our compensation and benefit programs are broadly similar across the organization to encourage and reward all employees who contribute to our success. We strive to ensure that the compensation of every Schrödinger employee reflects the level of their job impact and their responsibilities and is competitive within our peer group. Compensation rates are benchmarked and are generally set to be market-competitive in the country in which the jobs are performed. Our ongoing commitment to pay equity is critical to our success in supporting a diverse workforce with opportunities for all employees to grow, develop, and contribute.

Under rules adopted pursuant to the Dodd-Frank Act and Item 402(u) of Regulation S-K, we are required to calculate and disclose the annual total compensation paid to our median employee, as well as the ratio of the total annual compensation paid to the median employee as compared to the total annual compensation paid to our chief executive officer, which we refer to as the CEO Pay Ratio. The paragraphs that follow describe our methodology and the resulting CEO Pay Ratio.

Measurement Date

We used October 10, 2022 to determine the employee population (including all employees, whether employed on a full-time, part-time, seasonal or temporary basis) and to apply the compensation measure for purposes of complying with Item 402(u) of Regulation S-K. We identified our median employee by (i) aggregating for each applicable employee (A) annual base salary for 2022, (B) target bonus for 2022, and (C) the estimated fair value of any equity awards granted during 2022 and, (ii) ranking this aggregated compensation measure for our employees from lowest to highest. This calculation was

performed for all employees, excluding our chief executive officer. For employees paid in other than U.S. dollars, we converted their compensation to U.S. dollars using the exchange rates in effect on October 10, 2022.

After the median employee was identified, we estimated the annual total compensation for that employee by applying the same rules as used for determining total compensation for our chief executive officer in the Summary Compensation Table. The total annual compensation for our median employee for 2022 was $178,089. The total annual compensation for our chief executive officer, Dr. Farid, as reported in the Summary Compensation Table above for 2022, was $3,916,032. Therefore, our CEO Pay Ratio is approximately 22:1.

This information is being provided for compliance purposes and is a reasonable estimate calculated in a manner consistent with SEC rules, based on our internal records and the methodology described above. The SEC rules for identifying the median compensated employee allow companies to adopt a variety of methodologies, to apply certain exclusions and to make reasonable estimates and assumptions that reflect their employee populations and compensation practices. Accordingly, the pay ratio reported by other companies may not be comparable to the pay ratio reported above, as other companies have different employee populations and compensation practices and may use different methodologies, exclusions, estimates and assumptions in calculating their own pay ratios. Neither the compensation committee nor our management used the CEO Pay Ratio measure in making compensation decisions.

Pay Versus Performance

The following tables and related disclosures provide information about (i) the "total compensation" of our principal executive officer, or our PEO, and our other named executive officers, or the Non-PEO named executive officers, as presented in the Summary Compensation Table on page 44, (ii) the "compensation actually paid" to our PEO and to our Non-PEO named executive officers, as calculated pursuant to the SEC's pay-versus-performance rules, (iii) certain financial performance measures, and (iv) the relationship of the compensation actually paid amounts to those financial performance measures.

This disclosure has been prepared in accordance with Item 402(v) of Regulation S-K under the Exchange Act and does not necessarily reflect value actually realized by the executives or how our compensation committee evaluates compensation decisions in light of company or individual performance. For a discussion of our compensation philosophy and how our compensation committee seeks to align pay with performance when making compensation decisions, please see "Compensation Discussion and Analysis" beginning on page 24.

					Value of Initial Fixed $100 Investment Based on:			
Year	Summary Compensation Table Total for PEO ($)(1)	Compensation Actually Paid to PEO ($)(2)	Average Summary Compensation Table Total for Non-PEO Named Executive Officers ($)(1)	Average Compensation Actually Paid to Non-PEO Named Executive Officers ($)(2)	Total Shareholder Return ($)	Peer Group Total Shareholder Return ($)(3)	Net Income (Loss) (in thousands) ($)(4)	Total Revenue (in thousands) ($)(5)
2022	3,916,032	(3,046,539)	1,568,352	187,840	58.55	109.79	(149,186)	180,955
2021	8,493,477	(21,063,411)	4,057,728	(2,628,730)	109.12	112.62	(100,393)	137,931
2020	8,510,593	70,031,456	2,353,326	16,202,365	248.06	116.12	(24,463)	108,095

(1) Our PEO was Ramy Farid for all years in the table. Our Non-PEO named executive officers were: (i) for 2022, Geoffrey Porges, Jenny Herman, Joel Lebowitz, Karen Akinsanya, Robert Abel, and Yvonne Tran; (ii) for 2021, Joel Lebowitz, Karen Akinsanya, Robert Abel, and Patrick Lorton; and (iii) for 2020, Karen Akinsanya and Yvonne Tran.

(2) The dollar amounts reported in this column represent the amount of "compensation actually paid" to Dr. Farid and average "compensation actually paid" to our Non-PEO named executive officers, computed in accordance with Item 402(v) of Regulation S-K. In accordance with the requirements of Item 402(v) of Regulation S-K, the following prescribed adjustments were made to Dr. Farid's and to our Non-PEO named executive officers' total compensation as reported in the Summary Compensation Table for each year, to determine the amount of compensation actually paid. The Summary Compensation Table amounts and the "compensation actually paid"

amounts do not reflect the actual amount of compensation earned by or paid to our executives during the applicable years, but rather are amounts determined in accordance with Item 402 of Regulation S-K under the Exchange Act.

	2022		2021		2020	
	PEO	Average Non-PEO Named Executive Officers*	PEO	Average Non-PEO Named Executive Officers*	PEO	Average Non-PEO Named Executive Officers*
Total Compensation from Summary Compensation Table	$ 3,916,032	$ 1,568,352	$ 8,493,477	$ 4,057,728	$ 8,510,593	$ 2,353,326
Adjustments for Equity Awards						
Subtract grant date fair value of equity awards reported in the Summary Compensation Table	(2,877,355)	(985,123)	(7,470,776)	(3,486,362)	(7,499,672)	(1,679,025)
Add year-end fair value of Awards granted in the covered year that are outstanding and unvested at covered year-end	1,995,200	674,500	1,843,500	860,300	57,702,506	12,918,426
Add year-over-year change in year-end fair values for awards granted in prior years that were outstanding and unvested at covered year-end	(3,800,546)	(464,474)	(24,233,997)	(3,857,422)	8,409,293	2,008,460
Add fair value at vest date for awards granted and vested in covered year	—	—	—	—	—	—
Add change in fair values between prior year-end fair values and vest date fair values for awards granted in prior years for which vesting conditions were satisfied during covered year	(2,279,870)	(302,116)	304,385	(202,974)	2,908,736	601,177
Subtract fair value at end of the prior year of awards granted in any prior fiscal year that failed to meet applicable vesting conditions in covered year	—	(303,300)	—	—	—	—
Add dividends or other earnings paid on stock or option awards in the covered year prior to vesting if not otherwise included in the total compensation for the covered year	—	—	—	—	—	—
Total Adjustments for Equity Awards	$ (6,962,571)	$ (1,380,513)	$ (29,556,888)	$ (6,686,458)	$ 61,520,863	$ 13,849,039
Total "Compensation Actually Paid"	$ (3,046,539)	$ 187,840	$ (21,063,411)	$ (2,628,730)	$ 70,031,456	$ 16,202,365

* Amounts presented are averages for the entire group of Non-PEO named executive officers.

For the equity values included in the table above, the valuation assumptions used to calculate fair value were materially different from those used to calculate grant date fair value. The assumptions used in determining fair value of the stock options that vested during 2020, 2021 and 2022, or that were outstanding as of December 31, 2020, December 31, 2021 or December 31, 2022, as applicable, are as follows:

	Options Vested During Year or Outstanding on December 31 of:		
	2022	2021	2020
Expected Volatility	57% - 71%	56% - 62%	46% - 63%
Risk-Free Interest Rate	0.81% - 4.56%	0.13% - 1.46%	0.11% - 1.51%
Expected Dividend Yield	—%	—%	—%
Expected Term (in years)	2.07 - 7.88	1.99 - 7.89	1.82 -6.26

(3) Reflects cumulative total shareholder return on the Nasdaq Biotechnology Index. The Nasdaq Biotechnology Index is used by us for purposes of Item 201(e) of Regulation S-K under the Exchange Act in our Annual Report on Form 10-K for the year ended December 31, 2022.

(4) The dollar amounts reported represent the amount of net loss attributable to Schrödinger common and limited common stock reflected in the Company's audited financial statements for the applicable year.

(5) In the Company's assessment, revenue is the financial performance measure that is the most important financial performance measure used by the Company for the most recently completed fiscal year, to link compensation actually paid to performance.

Tabular List of Most Important Financial and Non-Financial Performance Measures

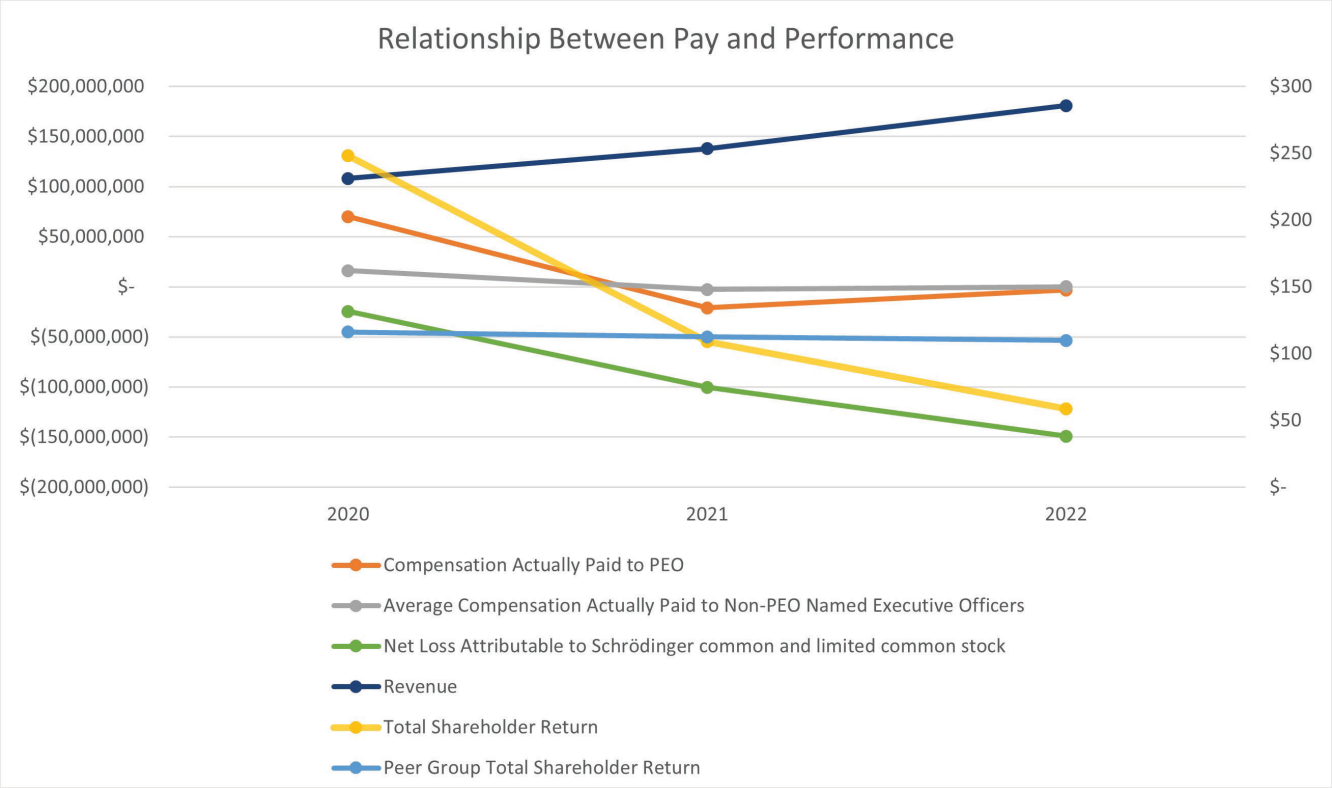
The following table presents the financial and non-financial performance measures that we consider to have been the most important in linking compensation actually paid to our PEO and Non-PEO named executive officers for 2022 to company performance. The measures in this table are not ranked. Of these measures, as noted above, we have identified total revenue as the most important of our financial performance measures (that is not otherwise required to be disclosed in the table) used by us to link compensation actually paid to our PEOs and Non-PEO named executive officers for 2022 to company performance.

Total revenue
Progress of our collaborative and proprietary programs
Advancements in the science and technology underlying our platform

Relationship Between Most Important Financial Performance Measure and Executive Compensation

The following line chart presents a graphical comparison of executive compensation actually paid to our PEO and the average executive compensation actually paid to the Non-PEO named executive officers set forth in the Pay Versus Performance table above, as compared against the following performance measures: the Company's (1) cumulative total shareholder return, (2) peer group total shareholder return, (3) net loss, and (4) total revenue. For purposes of comparison, the Company's cumulative total shareholder return and peer group total shareholder return in the following chart has been presented on a scaled basis, assuming an initial starting value of $100 in each instance.

When reviewing the relationship between pay versus performance in the chart below, it is important to note that a substantial portion of our PEO and non-PEO named executive officers' compensation consisted of stock options with time-based vesting for the years presented. As the compensation actually paid as calculated pursuant to Item 402(v) of Regulation S-K, is based on the accounting changes in the fair value of such options, the value varies significantly with the performance of our common stock. Therefore, notwithstanding the increase in the Company's total revenue (our most important financial performance measure that is not otherwise required to be disclosed in the table), the compensation actually paid to our PEO and the average compensation actually paid to our non-PEO named executive officers were heavily impacted by the Company's total shareholder return.



Grants of Plan Based Awards for 2022

The following table sets forth information concerning each grant of an award made to a named executive officer during the fiscal year ended December 31, 2022 under any plan, contract, authorization or arrangement pursuant to which cash, securities, similar instruments or other property may be received. The cash awards were made under our Senior Executive Incentive Compensation Plan and the equity awards were made under our 2020 Equity Incentive Plan, except for the equity awards made to Dr. Porges, which were made under our 2021 Inducement Equity Incentive Plan, as amended. Each cash award or equity grant was authorized by our compensation committee, or board of directors, as applicable. For more

information on equity acceleration benefits under specified circumstances, see "—Employment, Severance and Change in Control Arrangements."

Name	Type of Award	Grant Date	Date of Committee Action	Estimated Future Payouts Under Non-Equity Incentive Plan Awards(1) Threshold ($)	Target ($)	Maximum ($)	Estimated Future Payouts Under Equity Incentive Plan Awards(2) Threshold (#)	Target (#)	Maximum (#)	All Other Stock Awards: Number of Shares of Stock or Units (#)	All Other Option Awards: Number of Securities Underlying Options (#)(3)	Exercise or Base Price of Option Awards ($)(4)	Grant Date Fair Value of Stock and Option Awards ($)	
Ramy Farid	Cash	—	—	—	390,600	—	—	—	—	—	—	—	—	
	Options	2/9/2022	—	—	—	—	—	—	—	—	215,000	27.76	2,877,355	(5)
Geoffrey Porges	Cash	—	—	—	108,055	—	—	—	—	—	—	—	—	
	Options	8/18/2022	8/9/2022	—	—	—	—	—	—	—	180,000	28.55	2,698,806	(5)
	PRSUs	8/18/2022	8/9/2022	—	—	—	—	90,000	90,000	—	—	—	—	(6)
Jenny Herman(7)	Cash	—	—	—	132,000	—	—	—	—	—	—	—	—	
	Options	2/9/2022	—	—	—	—	—	—	—	—	30,000	27.76	401,491	(5)
Joel Lebowitz(8)	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	—	
Karen Akinsanya	Cash	—	—	—	260,000	—	—	—	—	—	—	—	—	
	Options	2/9/2022	—	—			—	—	—	—	80,000	27.76	1,070,644	(5)
Robert Abel	Cash	—	—	—	149,600	—	—	—	—	—	—	—	—	
	Options	2/9/2022	—	—	—	—	—	—	—	—	70,000	27.76	936,813	(5)
Yvonne Tran	Cash	—	—	—	190,000	—	—	—	—	—	—	—	—	
	Options	2/9/2022	—	—	—	—	—	—	—	—	60,000	27.76	802,983	(5)

(1) Amounts shown in the target column reflect the target amounts, payable under our Senior Executive Incentive Compensation Plan as described above under "*Annual Performance-based Cash Incentives*." There is no threshold or maximum payout. Actual amounts paid are presented in the Summary Compensation Table above.

(2) Each PRSU represents a contingent right to receive one share of common stock upon the achievement of specified performance goals related to financial performance, investor engagement and business development and subject to continued service.

(3) Stock options subject to time-based vesting criteria established by the compensation committee and described in the footnotes to the "Outstanding Equity Awards at Fiscal Year End" table below.

(4) The exercise price per share of these stock options is equal to the closing price of our common stock on the grant date.

(5) The amounts listed represent the aggregate grant date fair value amount computed in accordance with FASB ASC Topic 718. See Note 10 to our consolidated financial statements in our annual report on Form 10-K, which was filed with the SEC on February 28, 2023, regarding assumptions underlying the valuation of the option awards.

(6) The amount listed represents the aggregate fair value of the PRSUs granted to Dr. Porges calculated in accordance with FASB ASC Topic 718 based upon the probable outcome of the applicable performance conditions. As of the grant date, the performance conditions for the PRSUs granted to Dr. Porges were considered not probable of occurring and, as a result, the fair value of those PRSUs, for purposes of this table, is $0. See Note 10 to our consolidated financial statements in our annual report on Form 10-K, which was filed with the SEC on February 28, 2023, regarding assumptions underlying the valuation of the PRSUs.

(7) Following Mr. Lebowitz's retirement, Ms. Herman served as our interim principal financial officer, effective as of March 1, 2022, until Dr. Porges was appointed as our chief financial officer, effective as of August 18, 2022.

(8) Mr. Lebowitz served as our chief financial officer until February 28, 2022.

Outstanding Equity Awards at December 31, 2022

The following table sets forth information regarding all outstanding stock options and PRSUs held by each of our named executive officers as of December 31, 2022. For more information on equity acceleration benefits under specified circumstances, see "*—Employment, Severance and Change in Control Arrangements*."

	Option Awards					Stock Awards			
Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares of Units of Stock That Have Not Vested ($)	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested ($)(9)
Ramy Farid	66,886	— (1)	1.20	1/7/2023	—	—	—	—
	160,527	— (1)	3.07	5/10/2026	—	—	—	—
	334,432	— (1)	4.34	11/29/2028	—	—	—	—
	634,865	261,415 (2)	17.00	2/5/2030	—	—	—	—
	68,750	81,250 (3)	102.48	2/27/2031	—	—	—	—
	—	215,000 (4)	27.76	2/9/2032	—	—	—	—
Geoffrey Porges	—	180,000 (5)	28.55	8/18/2032	—	—	90,000 (6)	1,682,100 (6)
Jenny Herman	4,545	— (1)	1.20	10/3/2023	—	—	—	—
	3,116	— (1)	2.92	6/1/2027	—	—	—	—
	6,688	— (1)	2.92	10/10/2027	—	—	—	—
	13,098	279 (7)	4.34	1/30/2029	—	—	—	—
	18,950	7,804 (2)	17.00	2/5/2030	—	—	—	—
	6,554	7,746 (3)	102.48	2/27/2031	—	—	—	—
	—	30,000 (4)	27.76	2/9/2032	—	—	—	—
Joel Lebowitz(8)	30,165	— (1)	4.34	11/29/2028	—	—	—	—
	15,467	— (1)	17.00	2/5/2030	—	—	—	—
	12,500	— (1)	102.48	2/27/2031	—	—	—	—
Karen Akinsanya	3,345	— (1)	2.92	10/10/2027	—	—	—	—
	13,378	— (1)	3.22	8/3/2028	—	—	—	—
	43,198	— (1)	4.34	11/29/2028	—	—	—	—
	121,952	58,526 (2)	17.00	2/5/2030	—	—	—	—
	36,666	43,334 (3)	102.48	2/27/2031	—	—	—	—
	—	80,000 (4)	27.76	2/9/2032	—	—	—	—
Robert Abel	11,148	— (1)	4.34	11/29/2028	—	—	—	—
	55,738	39,018 (2)	17.00	2/5/2030	—	—	—	—
	36,666	43,334 (3)	102.48	2/27/2031	—	—	—	—
	—	70,000 (4)	27.76	2/9/2032	—	—	—	—
Yvonne Tran	13,377	— (1)	3.07	5/10/2026	—	—	—	—
	11,731	— (1)	2.92	6/1/2027	—	—	—	—
	26,754	— (1)	4.34	11/29/2028	—	—	—	—
	142,133	58,526 (2)	17.00	2/5/2030	—	—	—	—
	18,333	21,667 (3)	102.48	2/27/2031	—	—	—	—
	—	60,000 (4)	27.76	2/9/2032	—	—	—	—

(1) This option is fully vested.

(2) This option vests over four years, with 25% of the original number of shares underlying such option having vested on February 5, 2021, and 2.0833% of the original number of shares underlying such option vesting thereafter in equal monthly installments through February 5, 2024, subject to continued service.

(3) This option vests over four years, with 25% of the original number of shares underlying such option having vested on February 27, 2022, and 2.0833% of the original number of shares underlying such option vesting thereafter in equal monthly installments through February 27, 2025, subject to continued service.

(4) This option vests over four years, with 25% of the original number of shares underlying such option having vested on February 9, 2023, and 2.0833% of the original number of shares underlying such option vesting thereafter in equal monthly installments through February 9, 2026, subject to continued service.

(5) This option vests over four years, with 25% of the original number of shares underlying such option vesting on August 18, 2023, and 2.0833% of the original number of shares underlying such option vesting thereafter in equal monthly installments through August 18, 2026, subject to continued service.

(6) Each PRSU represents a contingent right to receive one share of common stock upon the achievement of specified performance goals related to financial performance, investor engagement and business development and subject to continued service. None of the performance goals have been certified by our compensation committee as achieved as of December 31, 2022.

(7) This option vests over four years, with 25% of the original number of shares underlying such option having vested on January 1, 2020, and 2.0833% of the original number of shares underlying such option vesting thereafter in equal monthly installments through January 1, 2023, subject to continued service.

(8) As of February 28, 2022, the vesting of Mr. Joel Lebowitz's option awards was subject to his continued service under his consulting agreement and transition agreement, which are more fully described below under the heading "*Consulting Agreement with Joel Lebowitz*." Upon the termination of the consulting agreement in May 2022, the vesting of Mr. Lebowitz's options ceased and any unvested options terminated. The exercise period for Mr. Lebowitz's vested stock option awards was extended to February 28, 2023, which was nine months from the cessation of service under the consulting agreement.

(9) For purposes of this table, we have calculated the market value of the PRSUs using the closing price of our common stock on December 30, 2022, or $18.69 per share.

Option Exercises and Stock Vested in 2022

The following table sets forth information concerning option exercises and stock award vesting for each of our named executive officers during the fiscal year ended December 31, 2022:

	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise (#)	**Value Realized on Exercise($)(1)**	**Number of Shares Acquired on Vesting (#)**	**Value Realized on Vesting ($)**
Ramy Farid	—	—	—	—
Geoffrey Porges	—	—	—	—
Jenny Herman	—	—	—	—
Joel Lebowitz	20,000	274,120	—	—
Karen Akinsanya	—	—	—	—
Robert Abel	—	—	—	—
Yvonne Tran	—	—	—	—

(1) The value realized when the stock options were exercised represents the excess of the fair market value of the shares at the time of exercise over the exercise price of the stock options.

Employment, Severance and Change in Control Arrangements

Employment Agreements and Other Arrangements

We have entered into employment agreements with each of our named executive officers. These agreements set forth the terms of employment with us, including initial base salary and benefits.

Employment Agreement with Ramy Farid. We entered into an employment agreement with Ramy Farid, dated May 11, 2010. Under the employment agreement, Dr. Farid is an at-will employee and his employment may be terminated by us or by him at any time, for any reason, upon 30 days' written or verbal notice. In the event we elect to terminate Dr. Farid's employment immediately without 30 days' notice, he is entitled to continued payment of his then-current base salary and continued benefit coverage for a period of 30 days following such termination. The employment agreement provides that Dr. Farid's salary may be increased or decreased in our sole discretion. Dr. Farid's current base salary is $677,000.

Employment Agreement with Geoffrey Porges. We entered into an employment agreement with Geoffrey Porges, dated August 16, 2022. Under the employment agreement, Dr. Porges is an at-will employee and his employment may be terminated by us or by him at any time, for any reason. The employment agreement provides that Dr. Porges' salary may be increased or decreased in our sole discretion. Dr. Porges' current base salary is $603,000. Pursuant to the terms of his employment agreement, Dr. Porges received a sign-on bonus of $230,000, the terms of which are more fully described above under "*Summary Compensation Table.*" For 2022, Dr. Porges was eligible for a target bonus of up to 50% of his annualized base salary, prorated for the period beginning on August 18, 2022 and ending on December 31, 2022. Pursuant to the terms of his employment agreement, Dr. Porges was granted options and PRSUs under our 2021 Inducement Equity Incentive Plan, as amended, as an inducement material to Dr. Porges' acceptance of employment with us in accordance with Nasdaq Listing Rule 5635(c)(4). Such equity awards are more fully described above under "*Executive and Director Compensation — Equity Incentives.*" Dr. Porges is also entitled to severance benefits under our Severance Plan and additional severance benefits pursuant to the terms of his employment agreement which are more fully described below under "*Executive Severance and Change in Control Benefits Plan*" and "*Additional Severance Benefits.*"

Employment Agreement with Jenny Herman. We entered into an employment agreement with Jenny Herman, dated March 17, 2003. Under the employment agreement, Ms. Herman is an at-will employee and her employment may be terminated by us or by her at any time, for any reason, upon 30 days' written or verbal notice. In the event we elect to terminate Ms. Herman employment immediately without 30 days' notice, she is entitled to continued payment of his then-current base salary and continued benefit coverage for a period of 30 days following such termination. The employment agreement provides that Ms. Herman's salary may be increased or decreased in our sole discretion. Ms. Herman's current base salary is $369,600.

Employment Agreement with Joel Lebowitz. We entered into an employment agreement with Joel Lebowitz, dated November 14, 2018. Under the employment agreement, Mr. Lebowitz was an at-will employee and his employment was terminable by us or by him at any time, for any reason, upon 30 days' written or verbal notice. Mr. Lebowitz retired as our chief financial officer effective as of February 28, 2022. The transition, separation and release of claims agreement, or the transition agreement, described below governed the terms of his retirement.

Transition Agreement with Joel Lebowitz. Pursuant to the transition agreement we entered into with Mr. Lebowitz in February 2022, Mr. Lebowitz was entitled to receive the following payments and benefits: (i) salary continuation payments of his monthly base salary for nine months following his retirement in the aggregate amount of $322,500; (ii) payment on Mr. Lebowitz's behalf of the portion of the premiums that we pay on behalf of other active, similarly-situated employees for group health and/or dental insurance coverage under COBRA, if Mr. Lebowitz timely elects to receive such coverage, until the earlier of 18 months following February 28, 2022 or the date on which Mr. Lebowitz becomes eligible to receive group health insurance coverage through another employer; and (iii) certain equipment previously provided to Mr. Lebowitz in connection with his employment for use in his home office; provided, in each case, that Mr. Lebowitz complies with his obligations under the transition agreement and his continuing obligations under his employment agreement.

Consulting Agreement with Joel Lebowitz. We entered into a consulting agreement with Joel Lebowitz, effective following Mr. Lebowitz's retirement from the company. Under the consulting agreement, Mr. Lebowitz agreed to provide financial consulting and advisory services to us. The consulting agreement automatically terminated in May 2022. In consideration for such services, we paid Mr. Lebowitz monthly consulting fees of $3,500 for up to ten hours of services performed and an additional $350 per hour for each hour of service performed in excess of ten hours in any given month, subject to certain limitations. As of the termination of the consulting agreement, we had paid Mr. Lebowitz a total of $7,000 in consulting fees. In addition, for so long as Mr. Lebowitz was providing services to us as a consultant, any outstanding stock options

previously granted to Mr. Lebowitz by us continued to vest and became exercisable in accordance with the applicable equity plans and stock option agreements and any vested stock options were exercisable until February 28, 2023, which is the date that is nine months following the cessation of services provided by Mr. Lebowitz pursuant to the consulting agreement.

Employment Agreement with Karen Akinsanya. We entered into an employment agreement with Karen Akinsanya, dated May 14, 2018. Under the employment agreement, Dr. Akinsanya is an at-will employee and her employment may be terminated by us or by her at any time, for any reason, upon 30 days' written or verbal notice. In the event we elect to terminate Dr. Akinsanya's employment immediately without 30 days' notice, she is entitled to continued payment of her then-current base salary for a period of 30 days following such termination. The employment agreement provides that Dr. Akinsanya's salary may be increased or decreased thereafter in our sole discretion. Dr. Akinsanya's current base salary is $541,000.

Employment Agreement with Robert Abel. We entered into an employment agreement with Robert Abel, dated March 9, 2009. Under the employment agreement, Dr. Abel is an at-will employee and his employment may be terminated by us or by him at any time, for any reason, upon 30 days' written or verbal notice. In the event we elect to terminate Dr. Abel's employment immediately without 30 days' notice, he is entitled to continued payment of his then-current base salary and continued benefit coverage for a period of 30 days following such termination. The employment agreement provides that Dr. Abel's salary may be increased or decreased in our sole discretion. Dr. Abel's current base salary is $410,000.

Employment Agreement with Yvonne Tran. We entered into an employment agreement with Yvonne Tran, dated April 27, 2010. Under the employment agreement, Ms. Tran is an at-will employee and her employment may be terminated by us or by her at any time, for any reason, upon 30 days' written or verbal notice. In the event we elect to terminate Ms. Tran's employment immediately without 30 days' notice, she is entitled to continued payment of her then-current base salary and continued benefit coverage for a period of 30 days following such termination. The employment agreement provides that Ms. Tran's salary may be increased or decreased in our sole discretion. Ms. Tran's current annualized base salary is $494,000.

Employee Non-Competition, Non-Solicitation, Confidentiality, and Assignment of Inventions

As part of their employment agreements, each of our named executive officers has agreed to certain standard non-competition, non-solicitation, confidential information, and assignment of invention restrictions. Pursuant to their employment agreements, each of our named executive officers has agreed that we own all developments that are made, created, developed, conceived or reduced to practice by such officer, alone or with others, (i) in the course of employment with us, whether during regular working hours or other hours, or (ii) during the period of employment with us, whether or not in the course of such employment, to the extent the same is related to our business or actual or demonstrably anticipated research or development or is made, created, developed, conceived or first reduced to practice with the time, private or proprietary information, or facilities of our company, our subsidiaries or our other affiliates, which we refer to collectively as the Schrödinger Companies. In addition, each of our named executive officers has agreed not to, during his or her employment and for a period of one year thereafter, (i) solicit or encourage any customers, prospective customers, vendors, strategic partners or business associates of the Schrödinger Companies to cease or reduce their relationship with the Schrödinger Companies or to refrain from establishing or expanding a relationship with Schrödinger Companies, (ii) solicit or induce any employees, consultants, sales agents, contract researchers, contract programmers or other independent agents of the Schrödinger Companies or of certain D. E. Shaw group entities (except in the case of our chief financial officer) to cease employment or retention with the Schrödinger Companies or such D. E. Shaw group entities (except in the case of our chief financial officer), or (iii) hire or engage any employee of the Schrödinger Companies or of certain D. E. Shaw group entities (except in the case of our chief financial officer). Each of our named executive officers has agreed not to, during the term of his or her employment, knowingly engage in any activity or business which is the same nature as, or substantively similar to, our business or an activity or business which a Schrödinger Company is developing and of which such named executive officer has knowledge, and to protect our confidential and proprietary information indefinitely.

Executive Severance and Change in Control Benefits Plan

The Amended and Restated Executive Severance and Change in Control Benefits Plan, as amended, which we refer to as the Severance Plan, initially became effective following the closing of our initial public offering and was amended and restated in April 2021 and was subsequently amended in August 2022. The Severance Plan provides severance benefits to certain of our executives, including our named executive officers, if their employment is terminated by us without "cause" or, only in connection with a "change in control" of our company, they terminate employment with us for "good reason" (as each of those terms is defined in the Severance Plan).

Under the Severance Plan, if we terminate an eligible executive's employment without cause prior to or more than 12 months following the closing of a change in control of our company, the executive is entitled to (i) continue receiving his or her base salary for a specified period (in the case of Dr. Farid, for 12 months and in the case of each of the other named executive officers, for nine months) following the date of termination, (ii) company contributions to the cost of health care continuation under COBRA for up to 12 months following the date of termination, and (iii) the amount of any unpaid annual bonus determined by our board of directors in its discretion to be payable to the executive for any completed bonus period which ended prior to the date of such executive's termination.

The Severance Plan also provides that, if, within 12 months following the closing of a change in control of our company, we terminate an eligible executive's employment without cause or such executive terminates his or her employment with us for good reason, the executive is entitled to (i) a single lump-sum payment equal to a percentage of his or her annual base salary (in the case of Dr. Farid, 150%, and in the case of each of the other named executive officers (other than Mr. Lebowitz who retired in February 2022), 100%), (ii) a single lump sum payment in an amount equal to a percentage of his or her target annual bonus for the year in which the termination of employment occurs or for the year in which the change in control occurs, if greater (in the case of Dr. Farid, 150% and in the case of each of the other named executive officers (other than Mr. Lebowitz who retired in February 2022), 100%), (iii) company contributions to the cost of health care continuation under COBRA for up to 12 months following the date of termination of employment (18 months in the case of Dr. Farid), and (iv) the amount of any unpaid annual bonus determined by our board of directors to be payable to the executive for any completed bonus period which ended prior to the date of such executive's termination. In addition, all of the executive's outstanding unvested equity awards that vest solely based on the passage of time will vest and become fully exercisable or non-forfeitable on the date of such termination.

To the extent that any severance or other compensation payment to any of our executives pursuant to the Severance Plan, any employment agreement or any other agreement constitutes an "excess parachute payment" within the meaning of Sections 280G and 4999 of the Internal Revenue Code of 1986, as amended, then such executive will receive the full amount of such severance and other payments, or a reduced amount intended to avoid the application of Sections 280G and 4999, whichever provides the executive with the highest amount on an after-tax basis.

All payments and benefits provided under the Severance Plan are contingent upon the execution and effectiveness of a release of claims by the executive in our favor and continued compliance by the executive with any proprietary information and inventions, nondisclosure, non-competition, non-solicitation (or similar) agreement to which we and the executive are party.

Additional Severance Benefits

In addition to being entitled to participate in the Severance Plan, Dr. Porges is also entitled to the following additional severance benefits pursuant to his employment agreement. If Dr. Porges resigns for good reason prior to or more than 12 months after the closing of a change in control (as such term is defined in the Severance Plan), he will be entitled to (i) continue receiving his base salary for nine months, (ii) company contributions to the cost of health care continuation under Consolidated Omnibus Budget Reconciliation Act, or COBRA, for up to 12 months following the date of resignation, and (iii) the amount of any unpaid annual bonus determined by the board of directors in its discretion to be payable to Dr. Porges for any completed bonus period which ended prior to the date of such resignation. If Dr. Porges is terminated by us without cause or resigns for good reason prior to or more than 12 months after the closing of a change in control, the option and the PRSUs granted to Dr. Porges on August 18, 2022 will vest and become fully exercisable and/or non-forfeitable as of the date of such termination or resignation. If Dr. Porges is terminated by us without cause or resigns for good reason within 12 months after the closing of a change in control, all of Dr. Porges' equity awards that vest solely based on the passage of time and that are outstanding and unvested as of such termination or resignation and the PRSUs granted to Dr. Porges on August 18, 2022 will vest and become fully exercisable and/or non-forfeitable on the date of such termination or resignation.

Potential Payments Upon Termination or Change in Control

The following table sets forth potential payments upon termination and change in control that would be made to our named executive officers, assuming that such termination or change in control occurred on December 31, 2022, after giving effect to the Severance Plan, and in the case of Dr. Porges, the additional severance benefits he is entitled to under his employment agreement. In addition to the amounts shown in the table below, each named executive officer would be entitled to receive payments for base salary through the date of termination, payment for any reimbursable business expenses incurred, and the amount of any unpaid annual cash incentive payment determined by our board of directors in its discretion to be payable to the executive for any completed bonus period which ended prior to the date of such executive's termination or resignation.

Name	Benefit	Change in Control (Without Termination of Employment) ($)	Resignation For Good Reason or Termination Without Cause Within 12 Months Following a Change in Control ($)	Termination Without Cause Prior to or More than 12 Months Following a Change in Control ($)	Termination for Good Reason Prior to or More than 12 Months Following a Change in Control ($)
Ramy Farid	Severance Payments	—	976,500 (1)	651,000 (2)	—
	Bonus Payment	—	585,900 (3)	—	—
	Continuation of Benefits	—	8,954 (4)	13,431 (5)	—
	Market Value of Stock Vesting	—	441,791 (6)	—	—
	Total	**—**	**2,013,145**	**664,431**	—
Geoffrey Porges(7)	Severance Payments	—	580,000 (8)	435,000 (9)	435,000 (9)
	Bonus Payment	—	290,000 (10)	—	—
	Continuation of Benefits	—	27,439 (5)	27,439 (5)	27,439 (5)
	Market Value of Stock Vesting	—	1,682,100 (6)	1,682,100 (13)	1,682,100 (13)
	Total	**—**	**2,579,539**	**2,144,539**	**2,144,539**
Jenny Herman(11)	Severance Payments	—	384,167 (8)	288,125 (9)	—
	Bonus Payment	—	132,000 (10)	—	—
	Continuation of Benefits	—	27,439 (5)	27,439 (5)	—
	Market Value of Stock Vesting	—	17,192 (6)	—	—
	Total	**—**	**560,799**	**315,564**	—
Joel Lebowitz(12)	Severance Payments	—	—	355,576	—
	Bonus Payment	—	—	—	—
	Continuation of Benefits	—	—	—	—
	Market Value of Stock Vesting	—	—	—	—
	Total	**—**	**—**	**355,576**	—
Karen Akinsanya	Severance Payments	—	520,000 (8)	390,000 (9)	—
	Bonus Payment	—	260,000 (10)	—	—
	Continuation of Benefits	—	27,439 (5)	27,439 (5)	—
	Market Value of Stock Vesting	—	98,909 (6)	—	—
	Total	**—**	**906,348**	**417,439**	—
Robert Abel	Severance Payments	—	374,000 (8)	280,500 (9)	—
	Bonus Payment	—	149,600 (10)	—	—
	Continuation of Benefits	—	15,940 (5)	15,940 (5)	—
	Market Value of Stock Vesting	—	65,940 (6)	—	—
	Total	**—**	**605,480**	**296,440**	—
Yvonne Tran	Severance Payments	—	475,000 (8)	356,250 (9)	—
	Bonus Payment	—	190,000 (10)	—	—
	Continuation of Benefits	—	27,439 (5)	27,439 (5)	—
	Market Value of Stock Vesting	—	98,909 (6)	—	—
	Total	**—**	**791,348**	**383,689**	—

(1) Represents a lump sum payment equal to 150% of executive's annual base salary.

(2) Represents 12 monthly payments of executive's monthly base salary from the time of termination.

(3) Represents a lump sum payment equal to 150% of the executive's target annual cash incentive bonus.

(4) Represents the cost of continued health and dental benefits under COBRA. These benefits are payable until 18 months following termination.

(5) Represents the cost of continued health and dental benefits under COBRA. These benefits are payable until 12 months following termination.

(6) Represents the acceleration of vesting of 100% of the unvested equity awards held by the named executive officer that vest solely based on the passage of time, and, for Dr. Porges only, also includes the acceleration of vesting of 100% of the unvested PRSUs that were granted to him on August 18, 2022. The value of accelerated unvested stock options is calculated by taking the difference between the closing price of our common stock on the last trading day of 2022 and the exercise price and multiplying it by the number of shares of common stock underlying the unvested stock options. The value of the accelerated unvested PRSUs is equal to the number of unvested PRSUs multiplied by the closing price of our common stock on the last trading day of 2022. The closing price of our common stock on December 30, 2022, the last trading day of the year, was $18.69 per share.

(7) Dr. Porges was appointed as our chief financial officer, effective as of August 18, 2022. The amounts included in the above table for Dr. Porges reflect the amounts that would be payable to Dr. Porges if he were employed by the company for the full year 2022.

(8) Represents a lump sum payment equal to 100% of the executive's annual base salary.

(9) Represents 9 monthly payments of executive's monthly base salary from the time of termination.

(10) Represents a lump sum payment equal to 100% of the executive's target annual cash incentive bonus.

(11) Following Mr. Lebowitz's retirement, Ms. Herman served as our interim principal financial officer, effective as of March 1, 2022, until Dr. Porges was appointed as our chief financial officer, effective as of August 18, 2022.

(12) Mr. Lebowitz resigned as chief financial officer effective February 28, 2022, and the table above includes the separation payments actually received by Mr. Lebowitz in connection with his retirement. For a further description of Mr. Lebowitz's transition agreement and his separation payments, please refer to "*Transition Agreement with Joel Lebowitz*" above.

(13) Represents the acceleration of vesting of 100% of the unvested options and PRSUs that were granted to Dr. Porges on August 18, 2022. The value of accelerated unvested stock options is calculated by taking the difference between the closing price of our common stock on the last trading day of 2022 and the exercise price and multiplying it by the number of shares common stock underlying the unvested stock options. The value of the accelerated unvested PRSUs is equal to the number of unvested PRSUs multiplied by the closing price of our common stock on the last trading day of 2022. The closing price of our common stock on December 30, 2022, the last trading day of the year, was $18.69 per share.

Rule 10b5-1 Sales Plans

Our directors and executive officers have adopted and may adopt written plans, known as Rule 10b5-1 plans, in which they will contract with a broker to buy or sell shares of our common stock on a periodic basis. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the director or officer when entering into the plan, without further direction from the director or officer. A Rule 10b5-1 plan may be amended or terminated in some circumstances. Our directors and executive officers also may buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material, nonpublic information or restricted under our insider trading policy.

Director Compensation

Non-Employee Director Compensation Policy

Our board of directors has adopted a non-employee director compensation policy that is designed to provide a total compensation package that enables us to attract and retain, on a long-term basis, high caliber non-employee directors.

Under our non-employee director compensation policy currently in effect, the fees payable to non-employee directors for service on the board of directors and for service on each committee of the board of directors on which the director is a member are as follows:

	Member Annual Fee	Chair Supplemental Annual Fee
Board of Directors	$ 45,000	$ 35,000
Audit Committee	$ 10,000	$ 10,000
Compensation Committee	$ 7,500	$ 7,500
Nominating and Corporate Governance Committee	$ 5,000	$ 5,000
Drug Discovery Committee	$ 7,500	$ 15,000

The foregoing fee structure was in effect during 2022, except that the member and chair annual fee for service on the drug discovery committee during 2022 was $5,000 and $10,000, respectively.

Under our director compensation policy, effective January 1, 2023, each non-employee director will receive, upon his or her initial election or appointment to our board of directors, an option to purchase 25,000 shares of our common stock and RSUs for 12,500 shares of our common stock (as amended from an option to purchase a number of shares of our common stock having an aggregate value of $380,000 as of the grant date, determined using a Black-Scholes valuation model under our director compensation policy in effect during 2022). Each of these options and RSUs will vest as to one-third of the shares of our common stock underlying such award on each of the first, second and third anniversaries of the grant, subject to the director's continued service to the company through the applicable vesting date. Further, on the date of our annual meeting of stockholders commencing with our Annual Meeting, each then-serving non-employee director will be granted, automatically and without the need for any further action by the board, an option to purchase 12,500 shares of our common stock and RSUs for 6,250 shares of our common stock (as amended from an option to purchase a number of shares having an aggregate value of $190,000 as of the grant date, determined using a Black-Scholes valuation model under our director compensation policy in effect during 2022); provided, however, that for a non-employee director who was initially elected to our board of directors within the 12 months preceding the annual meeting of stockholders, the number of shares subject to such awards shall be pro-rated on a monthly basis for time in service. Each of these options and RSUs will vest on the twelve-month anniversary of the date of grant of the awards (or, if earlier, the date of the next annual meeting of stockholders following the date of grant of the awards), subject to the director's continued service to the company through the applicable vesting dates. All options issued to our non-employee directors under our director compensation policy will be issued at exercise prices equal to the fair market value of our common stock on the date of grant. The options and RSUs will vest in full, and in the case of the options, become exercisable, upon specified change in control events.

Under our 2022 Equity Incentive Plan, the maximum aggregate amount of cash and value of equity awards (calculated based on grant date fair value for financial reporting purposes) granted in any calendar year to any non-employee director cannot exceed $750,000 in the case of an incumbent director; except that such maximum aggregate amount cannot exceed $1,000,000 in any calendar year for such non-employee director's initial year of election. The equity awards granted under our director compensation policy are subject to such limitations and no cash shall be paid nor awards shall be granted pursuant to our director compensation policy that would cause such limitations to be exceeded (with, as needed, the cash, and equity awards being proportionately reduced such that the aggregate cash and value of equity awards does not exceed such limit). The limitations do not apply to cash or equity awards granted to a non-employee director in his or her capacity as an advisor or consultant to the company.

We also reimburse our non-employee directors for reasonable travel and other expenses incurred in connection with attending meetings of our board of directors and any committee of our board of directors on which he or she serves.

Director Compensation Table

The table below shows all compensation awarded to, earned by or paid to our non-employee directors during the year ended December 31, 2022.

Name	Fees Earned or Paid in cash ($)	Option Awards ($)(1)(2)	All Other Compensation ($)	Total ($)
Michael Lynton	100,000	189,993	—	289,993
Jeffrey Chodakewitz, M.D.	60,000	189,993	—	249,993
Richard A. Friesner, Ph.D.	45,000	189,993	410,000 (3)	644,993
Gary Ginsberg	58,383	189,993	—	248,376
Rosana Kapeller-Libermann, M.D., Ph.D.	57,500	189,993	—	247,493
Arun Oberoi	51,181	379,996	—	431,177
Gary Sender	80,000	189,993	—	269,993
Nancy A. Thornberry	59,117	189,993	—	249,110

(1) The amounts reported in the "Option Awards" column reflect the aggregate grant date fair value of options awarded during the year computed in accordance with the provisions of FASB ASC Topic 718. The amounts reported reflect (i) the aggregate grant date fair value with respect to options to purchase 14,907 shares of our common stock granted to each of our non-employee directors (other than Mr. Oberoi) on the date of the 2022 annual meeting of stockholders for their service on the board of directors and (ii) for Mr. Oberoi only, the aggregate grant date fair value with respect to an option to purchase 30,223 shares of our common stock granted to him upon his initial election to our board of directors in May 2022. See Note 10 to our consolidated financial statements appearing in our annual report on Form 10-K, which was filed with the SEC on February 28, 2023, regarding assumptions underlying the valuation of option awards. These amounts reflect the accounting cost for these stock options and do not reflect the actual economic value that may be realized by the directors upon the vesting of the stock options, the exercise of the stock options or the sale of the common stock underlying such stock options.

(2) As of December 31, 2022, the aggregate number of shares of our common stock subject to outstanding option awards for each non-employee director serving during 2022 was as follows: Mr. Lynton, 91,815 shares; Dr. Chodakewitz, 48,859 shares; Dr. Friesner, 732,171 shares; Mr. Ginsberg, 48,859 shares; Dr. Kapeller-Libermann, 89,061 shares; Mr. Oberoi, 30,223 shares; Mr. Sender, 47,908 shares; and Ms. Thornberry, 78,422 shares.

(3) Represents consulting fees paid to Dr. Friesner in connection with his consulting agreement. For further information about our consulting agreement with Dr. Friesner, as well our transactions with Dr. Friesner and his employer, Columbia University, see "*Transactions with Related Persons*" below.

Dr. Farid, one of our directors who also serves as our president and chief executive officer, does not receive any additional compensation for his service as a director. Dr. Farid is one of our named executive officers and, accordingly, the compensation that we pay to Dr. Farid as our president and chief executive officer is discussed above under "*—Summary Compensation Table*" and "*Executive and Director Compensation—Compensation Discussion and Analysis*."

Securities Authorized for Issuance Under Equity Compensation Plans

Equity Compensation Plan Information

The following table contains information about our 2010 Stock Plan, our 2020 Equity Incentive Plan, or 2020 Plan, our 2020 Employee Stock Purchase Plan, or 2020 ESPP, our 2021 Inducement Equity Incentive Plan, as amended, and our 2022 Plan, as of December 31, 2022. Upon adoption of the 2022 Plan, we ceased making awards under the 2020 Plan.

Plan category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available For Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)
Equity compensation plans approved by security holders			
2010 Stock Plan	2,217,811	$ 3.93	—
2020 Plan	7,553,657	$ 36.53 (6)	—
2020 ESPP(1)	—	—	586,845
2022 Plan(2)	524,854	$ 26.42 (7)	4,987,095
Equity compensation plans not approved by security holders			
2021 Inducement Equity Incentive Plan, as amended(3)	776,705 (4)(5)	$ 38.04 (8)	423,295
Total	11,073,027 (5)	$ 29.56 (6)(7)(8)	5,997,235

(1) As of December 31, 2022, 586,845 shares of our common stock were reserved for issuance under the 2020 ESPP.

(2) As of December 31, 2022, 4,987,095 shares of our common stock were available for issuance under the 2022 Plan. The number of shares of our common stock reserved for issuance under the 2022 Plan increases from time to time by the number of shares of common stock subject to awards granted under the 2020 Plan that are outstanding as of such date and which awards expire, terminate or are otherwise surrendered, cancelled, forfeited or repurchased by the registrant at their original issuance price pursuant to a contractual repurchase right.

(3) Under our 2021 Inducement Equity Incentive Plan, as amended, we may grant stock options, restricted stock, restricted stock units and other stock-based awards to persons who (a) were not previously an employee or director or (b) are commencing employment with us following a bona fide period of non-employment, in either case, as an inducement material to such person's entry into employment with us and in accordance with the requirements of the Nasdaq Stock Market Rule 5635(c)(4). Neither consultants nor advisors shall be eligible to participate in the plan. The maximum number of shares of common stock reserved for issuance under the plan is 1,200,000. Such a plan was not adopted by our stockholders. The plan is administered by our board of directors, with authority delegated by our board of directors to our compensation committee. As of December 31, 2022, 423,295 shares of our common stock were available for issuance under the 2021 Inducement Equity Incentive Plan, as amended.

(4) Includes (i) options to purchase 180,000 shares of our common stock and (ii) PRSUs for up to 90,000 shares of our common stock, at an exercise price per share of $28.55, the closing price on the date of grant, in each case, granted Dr. Porges in connection with this commencement of his employment on August 18, 2022. The option vests as to 25% of the shares underlying the option on August 18, 2023 and, as to the remaining shares, monthly thereafter until the August 18, 2026, subject to continued service. Each PRSU represents a contingent right to receive one share of our common stock upon the achievement of specified performance goals related to financial performance, investor engagement and business development and subject to continued service.

(5) The number of shares assumes the highest level of performance conditions are achieved for the outstanding PRSUs.

(6) Represents the weighted average exercise price of outstanding options under the 2020 Plan and does not take into account the 39,900 shares of common stock subject to outstanding RSUs under the 2020 Plan, since RSUs have no exercise price.

(7) Represents the weighted average exercise price of outstanding stock options under the 2022 Plan and does not take into account the 8,900 shares of common stock subject to outstanding RSUs under the 2022 Plan, since RSUs have no exercise price.

(8) Represents the weighted average exercise price of outstanding stock options under the 2021 Inducement Equity Incentive Plan, as amended and does not take into account the 90,000 shares of common stock subject to outstanding PRSUs, since PRSUs have no exercise price.

TRANSACTIONS WITH RELATED PERSONS

Since January 1, 2022, we have engaged in the following transactions in which (i) the amounts involved exceeded $120,000 and (ii) any of our directors, executive officers or holders of more than 5% of our voting securities, or any member of the immediate family of, or person sharing the household with, the foregoing persons, had or will have a direct or indirect material interest, other than the compensation arrangements with our directors and named executive officers described elsewhere in this proxy statement.

Share Exchange Agreement with Bill & Melinda Gates Foundation Trust

On January 24, 2020, we entered into an amended and restated share exchange agreement, or the Share Exchange Agreement, with the Bill & Melinda Gates Foundation Trust, a holder of more than 5% of our voting securities, pursuant to which the Bill & Melinda Gates Foundation Trust has the right to exchange any of their shares of common stock for limited common stock. The Bill & Melinda Gates Foundation Trust has not exchanged any shares of common stock for limited common stock pursuant to the Share Exchange Agreement in 2022 or 2023.

Relationship with Richard Friesner

Consulting Agreement with Richard Friesner

We are party to a consulting agreement with Richard Friesner dated July 1, 1999, as amended, pursuant to which Dr. Friesner provides certain services related to enhancing, improving and further developing of our molecular modeling software. Dr. Friesner is one of our co-founders and has been a member of our board of directors since 1990. Under the consulting agreement, we paid Dr. Friesner $410,000 for consulting services during 2022. Under his consulting agreement, we have agreed to pay Dr. Friesner a monthly consulting fee of $35,000 from January 1, 2023 through June 30, 2023, of which $140,000 was paid as of the date hereof.

Columbia License Agreements and Royalty Payments to Columbia University and Richard Friesner

We have entered into various license agreements with the Trustees of Columbia University, or Columbia University, pursuant to which we license software and code from Columbia University in exchange for our obligation to make specified royalty payments to Columbia University. For a description of certain of our license agreements with Columbia University, see "Item 1. Business—License Agreements with Columbia University" in our annual report on Form 10-K for the year ended December 31, 2022. Dr. Friesner, the William P. Schweitzer Professor of Chemistry at Columbia University and the principal investigator of the Friesner Research Group, a research laboratory within the Department of Chemistry at Columbia University, and one of our co-founders and a member of our board of directors, was the inventor of certain of the technologies licensed to us pursuant to certain of our license agreements with Columbia University. Columbia University distributes a portion of the royalties we pay to it pursuant to such license agreements to Dr. Friesner and to Dr. Friesner's laboratory at Columbia University. Columbia University distributed $176,500 to Dr. Friesner on account of royalties we paid to Columbia University in 2022. Columbia University distributed $296,187 to Dr. Friesner's laboratory on account of royalties we paid to Columbia University in 2022.

Gift to Columbia University for Richard Friesner's Laboratory

On May 31, 2019, we entered into a letter agreement with the Trustees of Columbia University in the City of New York, or the Trustees of Columbia University, pursuant to which we agreed to provide a gift of up to $1,500,000, in five annual installments of $300,000 beginning on June 30, 2019, to the Trustees of Columbia University to establish the Computational Chemistry & Pharmaceutical Sciences Research Fund at Columbia University. Such gift will be used to support Dr. Friesner's laboratory at Columbia University. As of the date hereof, we have provided $1,200,000 of the $1,500,000 gift to the Trustees of Columbia University.

Relationship with Gates Ventures, LLC

We entered into an agreement with Gates Ventures, LLC, effective as of June 23, 2020, in connection with a research project to develop an atomistic simulation platform that is capable of modeling key chemical processes controlling the performance of active materials in an operating battery. As of the date hereof, we have received $3,000,000 pursuant to the agreement ($1,000,000 of which was received in 2021 and $1,000,000 of which was received in 2022). Gates Ventures,

LLC is controlled by William H. Gates III, who may be deemed to be the beneficial owner of more than 5% of our voting securities.

Registration Rights

We are a party to an investor rights agreement with certain holders of our voting securities, including some of our 5% stockholders and their affiliates. This investor rights agreement provides these holders the right, subject to certain conditions, to demand that we file a registration statement or to request that their shares be covered by a registration statement that we are otherwise filing.

Indemnification Agreements

Our certificate of incorporation provides that we will indemnify our directors and officers to the fullest extent permitted by Delaware law. In addition, we have entered into indemnification agreements with all of our directors and executive officers. These indemnification agreements may require us, among other things, to indemnify each such director or executive officer for some expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by him or her in any action or proceeding arising out of his or her service as one of our directors or executive officers.

Policies and Procedures for Related Person Transactions

Our board of directors has adopted written policies and procedures for the review of any transaction, arrangement, or relationship in which our company is a participant, the amount involved exceeds $120,000 and one of our executive officers, directors, director nominees, or 5% stockholders, or their immediate family members, each of whom we refer to as a "related person," has a direct or indirect material interest.

If a related person proposes to enter into such a transaction, arrangement, or relationship, which we refer to as a "related person transaction," the related person must report the proposed related person transaction to our chief legal officer. The policy calls for the proposed related person transaction to be reviewed and, if deemed appropriate, approved by our audit committee. Whenever practicable, the reporting, review and approval will occur prior to entry into the transaction. If advance review and approval is not practicable, the committee will review, and, in its discretion, may ratify the related person transaction. The policy also permits the chairman of the audit committee to review and, if deemed appropriate, approve proposed related person transactions that arise between committee meetings, subject to ratification by the committee at its next meeting. Any related person transactions that are ongoing in nature will be reviewed annually.

A related person transaction reviewed under the policy will be considered approved or ratified if it is authorized by the audit committee after full disclosure of the related person's interest in the transaction. As appropriate for the circumstances, the audit committee will review and consider:

- the related person's interest in the related person transaction;
- the approximate dollar value of the amount involved in the related person transaction;
- the approximate dollar value of the amount of the related person's interest in the transaction without regard to the amount of any profit or loss;
- whether the transaction was undertaken in the ordinary course of our business;
- whether the terms of the transaction are no less favorable to us than terms that could have been reached with an unrelated third party;
- the purpose of, and the potential benefits to us of, the transaction; and
- any other information regarding the related person transaction or the related person in the context of the proposed transaction that would be material to investors in light of the circumstances of the particular transaction.

Our audit committee may approve or ratify the transaction only if it determines that, under all of the circumstances, the transaction is in, or is not inconsistent with, our best interests. Our audit committee may impose any conditions on the related person transaction that it deems appropriate.

In addition to the transactions that are excluded by the instructions to the SEC's related person transaction disclosure rule, our board of directors has determined that the following transactions do not create a material direct or indirect interest on behalf of related persons and, therefore, are not related person transactions for purposes of this policy:

- interests arising solely from the related person's position as an executive officer of another entity, whether or not the person is also a director of the entity, that is a participant in the transaction where the related person and all other related persons own in the aggregate less than a 10% equity interest in such entity, the related person and his or her immediate family members are not involved in the negotiation of the terms of the transaction and do not receive any special benefits as a result of the transaction and the amount involved in the transaction is less than the greater of $200,000 or 5% of the annual gross revenues of the company receiving payment under the transaction; and

- a transaction that is specifically contemplated by provisions of our certificate of incorporation or bylaws.

The policy provides that transactions involving compensation of executive officers shall be reviewed and approved by our compensation committee in the manner specified in the compensation committee's charter.

We did not have a written policy regarding the review and approval of related person transactions prior to our initial public offering in February 2020. Nevertheless, with respect to such transactions, it was the practice of our board of directors to consider the nature of and business reasons for such transactions, how the terms of such transactions compared to those which might be obtained from unaffiliated third parties and whether such transactions were otherwise fair to and in the best interests of, or not contrary to, our best interests.

PRINCIPAL STOCKHOLDERS

Unless otherwise provided below, the following table sets forth information with respect to the beneficial ownership of our capital stock as of April 19, 2023 by:

- each of our directors;
- each of our named executive officers;
- all of our directors and executive officers as a group; and
- each person, or group of affiliated persons, who is known to us to be the beneficial owner of 5% or more of our capital stock.

The column entitled "Percentage of Shares Beneficially Owned" is based on a total of 62,365,703 shares of our common stock and 9,164,193 shares of our limited common stock outstanding as of April 19, 2023.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to our common stock and limited common stock. Shares of our common stock subject to options that are currently exercisable or exercisable within 60 days after April 19, 2023, are considered outstanding and beneficially owned by the person holding the options for the purpose of calculating the percentage ownership of that person but not for the purpose of calculating the percentage ownership of any other person. Except as otherwise noted, the persons and entities in this table have sole voting and investing power with respect to all of the shares of our common stock and limited common stock beneficially owned by them, subject to community property laws, where applicable. Except as otherwise set forth below, the address of the beneficial owner is c/o Schrödinger, Inc., 1540 Broadway, 24th Floor, New York, New York 10036.

	Number of Shares Beneficially Owned		Percentage of Shares Beneficially Owned	
Name of Beneficial Owner	Common Stock	Limited Common Stock	Common Stock	Limited Common Stock
5% Stockholders				
Bill & Melinda Gates Foundation Trust [1]	6,981,664	9,164,193	11.2 %	100.0 %
The Vanguard Group [2]	5,120,349	—	8.2	—
Blackrock, Inc.[3]	3,956,805	—	6.3	—
ARK Investment Management LLC[4]	3,852,037	—	6.2	—
Directors and Named Executive Officers				
Ramy Farid [5]	1,582,332	—	2.5 %	—
Geoffrey Porges	—	—	*	—
Jenny Herman[6]	76,067	—	*	—
Joel Lebowitz	—	—	*	—
Karen Akinsanya[7]	278,621	—	*	—
Robert Abel[8]	162,486	—	*	—
Yvonne Tran[9]	249,298	—	*	—
Michael Lynton[10]	91,815	—	*	—
Jeffrey Chodakewitz[11]	48,859	—	*	—
Richard A. Friesner [12]	1,870,692	—	3.0	—
Gary Ginsberg[13]	48,859	—	*	—
Rosana Kapeller-Libermann[14]	89,061	—	*	—
Arun Oberoi[15]	10,074	—	*	—
Gary Sender[16]	46,236	—	*	—
Nancy A. Thornberry[17]	75,496	—	*	—
All current executive officers and directors as a group (14 persons)[18]	4,756,716	—	7.6 %	—

* Less than 1%

(1) Based solely on a Schedule 13G filed by the Bill & Melinda Gates Foundation Trust, or the Trust, on February 12, 2021. Consists of (i) 6,981,664 shares of common stock held by the Trust, and (ii) 9,164,193 shares of limited common stock held by the Trust. For purposes of Rule 13d-3 under the Securities Exchange Act of 1934, as amended, all shares beneficially owned by the Trust may be deemed to be beneficially owned by William H. Gates III and Melinda French Gates, as Co-Trustees of the Trust. The address of the Trust is 2365 Carillon Point, Kirkland, Washington 98033.

(2) Based solely on a Schedule 13G/A filed by The Vanguard Group, or Vanguard, on February 9, 2023. Vanguard is deemed to be the beneficial owner of 5,120,349 shares of common stock, with respect to which it reported sole voting power over no shares, shared voting power over 93,472 shares, sole dispositive power over 4,971,834 shares and shared dispositive power over 148,515 shares. The principal business address of Vanguard is 100 Vanguard Blvd., Malvern, Pennsylvania 19355.

(3) Based solely on a Schedule 13G filed by Blackrock, Inc., or Blackrock, on February 3, 2023. Blackrock is deemed to be the beneficial owner of 3,956,805 shares of common stock, with respect to which it reported sole voting power over 3,880,757 shares, shares voting power over no shares and sole dispositive power over 3,956,805 shares. The principal business address of Blackrock is 55 East 52nd Street, New York, New York 10055.

(4) Based solely on a Schedule 13G filed by ARK Investment Management LLC, or ARK, on February 10, 2023. ARK is deemed to be the beneficial owner of 3,852,037 shares of common stock. The principal business address of ARK is 200 Central Avenue, St. Petersburg, Florida, 33701.

(5) Consists of (i) 184,432 shares of common stock held by Dr. Farid and (ii) 1,397,900 shares of common stock underlying options held by Dr. Farid that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

(6) Consists of (i) 8,003 shares of common stock held by Ms. Herman and (ii) 68,064 shares of common stock underlying options held by Ms. Herman that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

(7) Consists of 278,621 shares of common stock underlying options held by Dr. Akinsanya that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

(8) Consists of (i) 10,545 shares of common stock held by Dr. Abel and (ii) 151,941 shares of common stock underlying options held by Dr. Abel that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

(9) Consists of (i) 12,721 shares of common stock held by Ms. Tran and (ii) 236,577 shares of common stock underlying options held by Ms. Tran are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

(10) Consists of 91,815 shares of common stock underlying options held by Mr. Lynton that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

(11) Consists of 48,859 shares of common stock underlying options held by Dr. Chodakewitz that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

(12) Consists of (i) 504,450 shares of common stock held by Dr. Friesner, (ii) 694,925 shares of common stock held by RF 2018 GRAT, of which Dr. Friesner is trustee, (iii) 642,989 shares of common stock underlying options held by Dr. Friesner that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date, and (iv) 28,328 shares held by Dr. Friesner's spouse. Dr. Friesner has pledged 373,450 of the shares held by him as collateral for a loan.

(13) Consists of 48,859 shares of common stock underlying options held by Mr. Ginsberg that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

(14) Consists of 89,061 shares of common stock underlying options held by Dr. Kapeller-Libermann that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

(15) Consists of 10,074 shares of common stock underlying options held by Mr. Oberoi that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

(16) Consists of 46,236 shares of common stock underlying options held by Mr. Sender that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

(17) Consists of 75,496 shares of common stock underlying options held by Ms. Thornberry that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

(18) Consists of (i) 1,492,789 shares of common stock and (ii) 3,263,927 shares of common stock underlying options that are exercisable as of April 19, 2023 or will become exercisable within 60 days after such date.

REPORT OF THE AUDIT COMMITTEE OF THE BOARD OF DIRECTORS

The audit committee has reviewed our audited consolidated financial statements for the fiscal year ended December 31, 2022 and our internal control over financial reporting as of December 31, 2022 and has discussed them with the Company's management and KPMG LLP, the Company's independent registered public accounting firm.

The audit committee has also received from, and discussed with, KPMG LLP various communications that KPMG LLP is required to provide to the audit committee, including the matters required to be discussed by the applicable requirements of the Public Company Accounting Oversight Board and the SEC.

In addition, KPMG LLP provided the audit committee with the written disclosures and the letter required by applicable requirements of the Public Company Accounting Oversight Board regarding the independent registered public accounting firm's communications with the audit committee concerning independence, and we have discussed with the Company's independent registered public accounting firm their independence.

Based on the review and discussions referred to above, the audit committee recommended to the board of directors that the audited consolidated financial statements be included in the Company's Annual Report on Form 10-K for the year ended December 31, 2022.

This report of the audit committee is not "soliciting material," shall not be deemed "filed" with the SEC and shall not be incorporated by reference by any general statement incorporating by reference this proxy statement into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing, except to the extent that we specifically incorporate this information by reference, and shall not otherwise be deemed filed under such acts.

By the audit committee of the board of directors of Schrödinger, Inc.

Gary Sender, Chair
Gary Ginsberg
Michael Lynton
Arun Oberoi

April 27, 2023

STOCKHOLDER PROPOSALS FOR OUR 2024 ANNUAL MEETING OF STOCKHOLDERS

A stockholder who would like to have a proposal considered for inclusion in our 2024 proxy statement must submit the proposal in accordance with the procedures outlined in Rule 14a-8 of the Exchange Act so that it is received by us no later than December 29, 2023. However, if the date of the 2024 annual meeting of stockholders is changed by more than 30 days from the date of the previous year's meeting, then the deadline is a reasonable time before we begin to print and send our proxy materials for the 2024 annual meeting of stockholders. SEC rules set standards for eligibility and specify the types of stockholder proposals that may be excluded from a proxy statement. Stockholder proposals should be addressed to Schrödinger, Inc., 1540 Broadway, 24th Floor, New York, New York 10036.

If a stockholder wishes to propose a nomination of persons for election to our board of directors or present a proposal at an annual meeting but does not wish to have the proposal considered for inclusion in our proxy statement and proxy card, our amended and restated bylaws establish an advance notice procedure for such nominations and proposals. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the board of directors or by a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered timely notice in proper form to our corporate secretary of the stockholder's intention to bring such business before the meeting. The required notice must meet the requirements set forth in our amended and restated bylaws (including providing the information required by Rule 14a-19 under the Exchange Act if the stockholder intends to comply with the SEC's universal proxy rules and to solicit proxies in support of director nominees other than the company's nominees).

Under the advance notice provisions, the required notice must be in writing and received by our corporate secretary at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year's annual meeting. However, in the event that the date of the annual meeting is advanced by more than 30 days, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, or if no annual meeting was held in the preceding year, a stockholder's notice must be so received no earlier than the 120th day prior to such annual meeting and not later than the close of business on the later of (A) the 90th day prior to such annual meeting and (B) the tenth day following the day on which notice of the date of such annual meeting was given or public disclosure of the date of such annual meeting was made, whichever first occurs. For stockholder proposals to be brought before the 2024 annual meeting of stockholders in accordance with our advance notice provisions, the required notice must be received by our corporate secretary at our principal executive offices no earlier than February 16, 2024, and no later than March 17, 2024.

STOCKHOLDERS SHARING THE SAME ADDRESS

The SEC has adopted rules that permit companies and intermediaries (e.g., brokers) to satisfy the delivery requirements for notices and, if applicable, our annual report and other proxy materials, with respect to two or more stockholders sharing the same address by delivering a single notice and, if applicable, a single set of our annual report and proxy materials, addressed to those stockholders. This practice, which is commonly referred to as "householding," potentially means extra convenience for stockholders and cost savings for companies.

This year, a number of brokers with account holders who are our stockholders will be "householding" our Notice of Availability, and if applicable, our proxy materials. A single Notice of Availability and, if applicable, a single copy of our annual report and our proxy materials, will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that they will be "householding" communications to your address, "householding" will continue until you are notified otherwise or until you revoke your consent.

If, at any time, you no longer wish to participate in "householding" and would prefer to receive a separate Notice of Availability and, if applicable, a separate set of our annual report and proxy materials in the future, please notify your broker or contact us. If you wish to receive a separate set of our annual report and proxy materials for this year's Annual Meeting, we will deliver them promptly upon written or oral request. Stockholders who currently receive multiple copies of the Notice of Availability, and, if applicable, our annual report and other proxy materials at their addresses and would like to request "householding" of their communications should contact their brokers or us. To contact us, direct your written or oral request to: Schrödinger, Inc., 1540 Broadway, 24th Floor, New York, New York 10036, Attention: Corporate Secretary, (212) 295-5800 or contact Investor Relations at (212) 295-5800.

OTHER MATTERS

Our board of directors does not know of any other matters to be brought before the Annual Meeting. If any other matters not mentioned in this proxy statement are properly brought before the meeting, the individuals named in the proxy intend to use their discretionary voting authority under the proxy to vote the proxy in accordance with their best judgment on those matters.

Schrödinger

SCHRÖDINGER, INC.
1540 BROADWAY, 24TH FLOOR
NEW YORK, NY 10036

SCAN TO VIEW MATERIALS & VOTE

VOTE BY INTERNET
Before The Meeting - Go to **www.proxyvote.com or scan the QR Barcode above**

Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 p.m. Eastern Time the day before the meeting date. Have your proxy card in hand when you access the website and follow the instructions to obtain your records and to create an electronic voting instruction form.

During The Meeting - Go to **www.virtualshareholdermeeting.com/SDGR2023**

You may attend the meeting via the Internet and vote during the meeting. Have the information that is printed in the box marked by the arrow available and follow the instructions. There will be no physical location at which stockholders may attend the meeting.

VOTE BY PHONE - 1-800-690-6903
Use any touch-tone telephone to transmit your voting instructions up until 11:59 p.m. Eastern Time the day before the meeting date. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL
Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

V04403-P88503

KEEP THIS PORTION FOR YOUR RECORDS
DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

SCHRÖDINGER, INC.

The Board of Directors recommends you vote FOR the election of each of the following Class III directors to serve until the 2026 Annual Meeting of Stockholders:

1. Election of Class III Directors

Nominees:		For	Against	Abstain
1a.	Richard A. Friesner	☐	☐	☐
1b.	Rosana Kapeller-Libermann	☐	☐	☐
1c.	Gary Sender	☐	☐	☐

	For	Against	Abstain
The Board of Directors recommends you vote FOR the following proposal:			
2. Approval of an advisory vote on executive compensation.	☐	☐	☐
The Board of Directors recommends you vote FOR the following proposal:			
3. Ratification of the appointment of KPMG LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2023.	☐	☐	☐

NOTE: Such other business as may properly come before the meeting or any adjournment or postponement thereof.

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.

Signature [PLEASE SIGN WITHIN BOX] Date

Signature (Joint Owners) Date

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:
The Notice, Proxy Statement and Annual Report are available at www.proxyvote.com.

V04404-P88503

SCHRÖDINGER, INC.
Annual Meeting of Stockholders
June 15, 2023 10:00 AM Eastern Time
This proxy is solicited by the Board of Directors

The stockholder(s) hereby appoint(s) Ramy Farid, Geoffrey Porges and Yvonne Tran, or any of them, as proxies, each with the power to appoint his or her substitute, and hereby authorize(s) them to represent and to vote, as designated on the reverse side of this ballot, all of the shares of common stock of SCHRÖDINGER, INC. that the stockholder(s) is/are entitled to vote at the Annual Meeting of Stockholders to be held at 10:00 AM, Eastern Time on June 15, 2023, virtually at www.virtualshareholdermeeting.com/SDGR2023, and any adjournment or postponement thereof.

This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the Board of Directors' recommendations and in the discretion of the proxyholders on any other matter that properly comes before the meeting or any adjournment or postponement thereof.

Continued and to be signed on reverse side

Schrödinger

SCHRÖDINGER, INC.
1540 BROADWAY, 24TH FLOOR
NEW YORK, NY 10036

SCAN TO
VIEW MATERIALS & VOTE

VOTE BY INTERNET
Before The Meeting - Go to **www.proxyvote.com or scan the QR Barcode above**

Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 p.m. Eastern Time the day before the meeting date. Have your proxy card in hand when you access the website and follow the instructions to obtain your records and to create an electronic voting instruction form.

During The Meeting - Go to **www.virtualshareholdermeeting.com/SDGR2023**

You may attend the meeting via the Internet and vote during the meeting. Have the information that is printed in the box marked by the arrow available and follow the instructions. There will be no physical location at which stockholders may attend the meeting.

VOTE BY PHONE - 1-800-690-6903
Use any touch-tone telephone to transmit your voting instructions up until 11:59 p.m. Eastern Time the day before the meeting date. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL
Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

V04405-P88503

KEEP THIS PORTION FOR YOUR RECORDS
DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

SCHRÖDINGER, INC.

	For	Against	Abstain
The Board of Directors recommends you vote FOR the following proposal:			
2. Approval of an advisory vote on executive compensation.	☐	☐	☐
The Board of Directors recommends you vote FOR the following proposal:	**For**	**Against**	**Abstain**
3. Ratification of the appointment of KPMG LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2023.	☐	☐	☐

NOTE: Such other business as may properly come before the meeting or any adjournment or postponement thereof.

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.

Signature [PLEASE SIGN WITHIN BOX] Date

Signature (Joint Owners) Date

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:
The Notice, Proxy Statement and Annual Report are available at www.proxyvote.com.

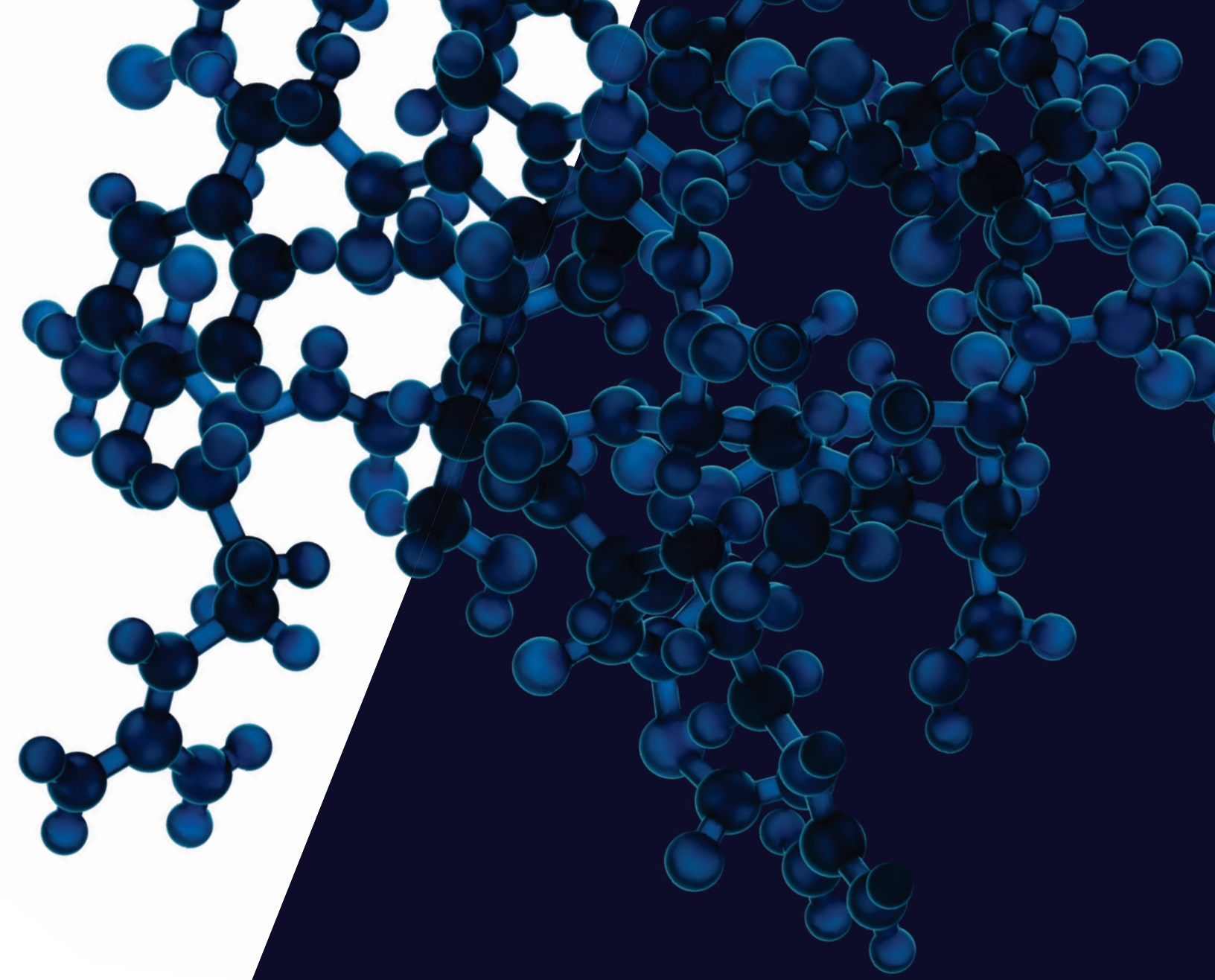
V04406-P88503

SCHRÖDINGER, INC.
Annual Meeting of Stockholders
June 15, 2023 10:00 AM Eastern Time
This proxy is solicited by the Board of Directors

The stockholder(s) hereby appoint(s) Ramy Farid, Geoffrey Porges and Yvonne Tran, or any of them, as proxies, each with the power to appoint his or her substitute, and hereby authorize(s) them to represent and to vote, as designated on the reverse side of this ballot, all of the shares of capital stock of SCHRÖDINGER, INC. that the stockholder(s) is/are entitled to vote at the Annual Meeting of Stockholders to be held at 10:00 AM, Eastern Time on June 15, 2023, virtually at www.virtualshareholdermeeting.com/SDGR2023, and any adjournment or postponement thereof.

This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the Board of Directors' recommendations and in the discretion of the proxyholders on any other matter that properly comes before the meeting or any adjournment or postponement thereof.

Continued and to be signed on reverse side



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