



**ANNUAL INFORMATION FORM**

**FOR THE YEAR ENDED DECEMBER 31, 2018**

**March 18, 2019**

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## EXPLANATORY NOTES

Unless otherwise stated, the information in this Annual Information Form (“AIF”) is stated as of December 31, 2018, and all references to the Company’s fiscal year are to the year ended December 31, 2018. In this AIF, references to the “Company”, “Cipher”, “we”, “us” and “our” refer to Cipher Pharmaceuticals Inc. and its subsidiaries, unless the context requires otherwise.

Information contained on, or otherwise accessed through, the website of the Company, [www.cipherpharma.com](http://www.cipherpharma.com), shall not be deemed to be a part of this AIF and such information is not incorporated by reference herein and should not be relied upon by readers for the purpose of determining whether to invest in the common shares of the Company (the “Common Shares”) or any other securities of the Company.

Unless otherwise indicated, all charts, tables and figures are prepared by the Company’s management.

### Trademarks

This AIF includes trademarks which are protected under applicable intellectual property laws and are the property of the Company or its affiliates. Solely for convenience, the trademarks of the Company referred to in this AIF may appear with or without the ® or ™ symbol, but such references or the absence thereof are not intended to indicate, in any way, that the Company or its affiliates will not assert, to the fullest extent under applicable law, their respective rights or the right of the applicable licensor to these trademarks. Any other trademarks used in this AIF are the property of their respective owners.

### Currency

All references to “\$” in this AIF refer to Canadian dollars and all references to “US\$” are to United States dollars, unless otherwise indicated.

### Market Data

This AIF contains statistical data, market research and industry forecasts that were obtained, unless otherwise indicated, from independent industry and government publications and reports or based on estimates derived from such publications and reports and management’s knowledge of, and experience in, the markets in which the Company operates. Industry and government publications and reports generally indicate that they have obtained their information from sources believed to be reliable, but do not guarantee the accuracy and completeness of their information. While the Company believes this data to be reliable, market and industry data is subject to variation and cannot be verified due to limits on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties inherent in any statistical survey. The Company has not independently verified the accuracy or completeness of such information contained herein. Accordingly, we do not guarantee the accuracy or completeness of this data. References in this AIF to research reports or to articles and publications should not be construed as depicting the complete findings of the entire referenced report, article or publication. The information in each research report, article or publication is expressly not incorporated by reference into this AIF. In addition, projections, assumptions and estimates of the Company’s future performance and the future performance of the industry in which the Company operates are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described under the heading “Risk Factors” in this AIF.

## CAUTION REGARDING FORWARD-LOOKING STATEMENTS

*This document includes forward-looking statements within the meaning of applicable securities laws. These forward-looking statements include, among others, statements with respect to our objectives, goals and strategies to achieve those objectives and goals, as well as statements with respect to our beliefs, plans, expectations, anticipations, estimates and intentions. The words “may”, “will”, “could”, “should”, “would”, “suspect”, “outlook”, “believe”, “plan”, “anticipate”, “estimate”, “expect”, “intend”, “forecast”, “objective”, “hope” and “continue” (or the negative thereof), and words and expressions of similar import, are intended to identify forward-looking statements.*

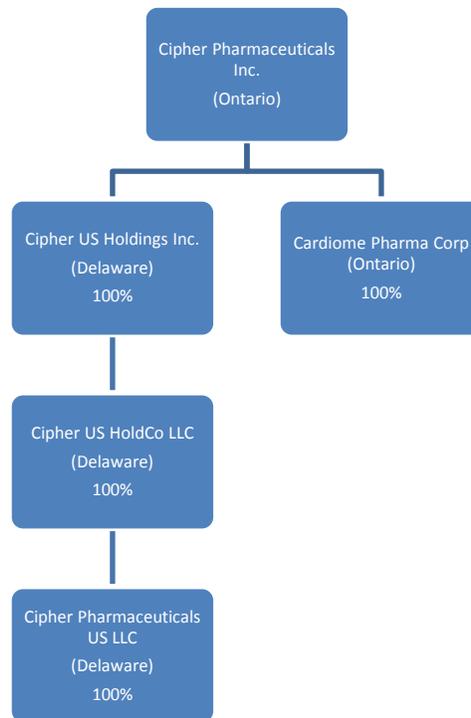
*By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, which give rise to the possibility that predictions, forecasts, projections and other forward-looking statements will not be achieved. Certain material factors or assumptions are applied in making forward-looking statements and actual results may differ materially from those expressed or implied in such statements. We caution readers not to place undue reliance on these statements as a number of important factors, many of which are beyond our control, could cause our actual results to differ materially from the beliefs, plans, objectives, expectations, anticipations, estimates and intentions expressed in such forward-looking statements. These factors include, but are not limited to, our ability to enter into in-licensing, development, manufacturing and marketing and distribution agreements with other pharmaceutical companies and keep such agreements in effect; our dependency on a limited number of products; our dependency on protection from patents that will expire; integration difficulties and other risks if we acquire or in-license technologies or product candidates; reliance on third parties for the marketing of certain products; the product approval process is highly unpredictable; the timing of completion of clinical trials, regulatory submissions and regulatory approvals; reliance on third parties to manufacture our products and events outside of our control that could adversely impact the ability of our manufacturing partners to supply products to meet our demands; we may be subject to future product liability claims; unexpected product safety or efficacy concerns may arise; we generate license revenue from a limited number of distribution and supply agreements; the pharmaceutical industry is highly competitive; requirements for additional capital to fund future operations; products in Canada may be subject to pricing regulation; dependence on key managerial personnel and external collaborators; no assurance that we will receive regulatory approvals in the U.S., Canada or any other jurisdictions and current uncertainty surrounding health care regulation in the U.S.; certain of our products are subject to regulation as controlled substances; limitations on reimbursement in the healthcare industry; limited reimbursement for products by government authorities and third-party payor policies; products may not be included on list of drugs approved for use in hospitals; hospital customers may make late payments or not make any payments; various laws pertaining to health care fraud and abuse; reliance on the success of strategic investments and partnerships; the publication of negative results of clinical trials; unpredictable development goals and projected time frames; rising insurance costs; ability to enforce covenants not to compete; risks associated with the industry in which it operates; we may be unsuccessful in evaluating material risks involved in completed and future acquisitions; we may be unable to identify, acquire or integrate acquisition targets successfully; legacy risks from operations conducted in the U.S.; inability to meet covenants under our long term debt arrangement; compliance with privacy and security regulation; our policies regarding returns, allowances and chargebacks may reduce revenues; certain current and future regulations could restrict our activities; additional regulatory burden and controls over financial reporting; reliance on third parties to perform certain services; general commercial litigation, class actions, other litigation claims and regulatory actions; the difficulty for shareholders to realize in the United States upon judgments of U.S. courts predicated upon civil liability of the Company and its directors and officers who are not residents of the United States; the potential violation of intellectual property rights of third parties; our efforts to obtain, protect or enforce our patents and other intellectual property rights related to our products; changes in U.S., Canadian or foreign patent laws; litigation in the pharmaceutical industry concerning the manufacture and supply of novel and generic versions of existing drugs; inability to protect our trademarks from infringement; shareholders may be further diluted if we issue securities to raise capital; volatility of our share price; the actions of a significant shareholder; we do not currently intend to pay dividends; our operating results may fluctuate significantly; and our debt obligations will have priority over the Common Shares in the event of a liquidation, dissolution or winding up.*

*We caution that the foregoing list of important factors that may affect future results is not exhaustive. When reviewing our forward-looking statements, investors and others should carefully consider the foregoing factors and other uncertainties and potential events. Additional information about factors that may cause actual results to differ materially from expectations, and about material factors or assumptions applied in making forward-looking statements, may be found in the “Risk Factors” section of this AIF and in our Management’s Discussion and Analysis for the year ended December 31, 2018, and elsewhere in our filings with Canadian securities regulators. Except as*

required by Canadian securities law, we do not undertake to update any forward-looking statements, whether written or oral, that may be made from time to time by us or on our behalf; such statements speak only as of the date made. The forward-looking statements included herein are expressly qualified in their entirety by this cautionary language.

## CORPORATE STRUCTURE

Cipher Pharmaceuticals Inc. was formed by articles of incorporation under the *Business Corporations Act* (Ontario) (the “OBCA”) on January 9, 2004. The Company’s head and registered office is located at 209 Oak Park Boulevard, Suite 501, Oakville, Ontario, L5H 0M2. The Company is the successor to the drug development and pharmaceutical research business of CML HealthCare Inc. (“CML”). On October 31, 2008, the Company’s three wholly-owned subsidiaries, Cipher Canada Inc., Cipher Pharmaceuticals Ltd. and Cipher Holdings (Barbados) Ltd., were wound up by way of voluntary dissolution under the OBCA. Since January 1, 2008, all operating activities have been carried out by Cipher Pharmaceuticals Inc. Prior to December 31, 2007, research and development activities were carried out by Cipher Pharmaceuticals Ltd. In conjunction with the acquisition of Innocutis Holdings, LLC on April 13, 2015, the following companies were also added to Cipher’s corporate structure: Cipher US Holdings Inc., Cipher Pharmaceuticals US HoldCo LLC, Cipher Pharmaceuticals US LLC and 3284650 Nova Scotia Company. All of these entities other than 3284650 Nova Scotia Company are wholly-owned by Cipher and are organized in Delaware as of the date of this AIF. On September 29, 2017, 3284650 Nova Scotia Company was wound up by way of voluntary dissolution under *The Companies Act* (Nova Scotia) and in connection therewith its assets and liabilities were distributed to Cipher. On May 14, 2018, Cipher acquired the shares of Cardiome Pharma Corp. (“Cardiome”). The following chart illustrates Cipher’s relationship to its subsidiaries as at December 31, 2018.



## GENERAL DEVELOPMENT OF THE BUSINESS

### History of the Company

This section describes the important developments for the Company in general and for its products over the last three completed financial years. Additional details related to the Company’s products are included in the “Products” section of this document.

## Developments in 2016

On February 22, 2016 Cipher announced the Canadian launch of Actikerall™ (0.5% fluorouracil and 10% salicylic acid), indicated for the topical treatment of slightly palpable and/or moderately thick hyperkeratotic actinic keratosis (Grade I/II) of the face, forehead, and balding scalp in immunocompetent adult patients. Actinic keratosis, also known as solar keratosis, is a skin condition caused by exposure to ultraviolet radiation. Cipher acquired Actikerall from Almirall S.A. (“Almirall”) in May 2015.

On April 5, 2016 Cipher announced the Canadian launch of Beteflam Patch (betamethasone valerate), a novel, patent-protected patch, indicated for the treatment of mild to moderate plaque psoriasis of the elbows and knees. Cipher licensed the Canadian rights to Beteflam from Institut Biochimique SA (“IBSA”). On March 1, 2019, the Company and IBSA mutually agreed to terminate this agreement.

On April 6, 2016 Cipher received Health Canada approvals for SD Cream and AD Cream (also known as Dermadexin and Pruridexin). Both products were approved in Canada by the Natural and Non-Prescription Health Products Directorate (“NNHPD”). In addition, European approval of Helioclin® Pruritus SD Cream (also known as Pruridexin) was achieved. Helioclin® Dermatitis SD Cream (also known as Dermadexin) was approved in Europe in 2014 as a Class III medical device. During the Company decided not to continue to actively pursue partners or continue support for the related intellectual property of Dermadexin and Pruridexin.

On April 22, 2016, Norm Evans, Chief Financial Officer, announced he would be retiring from the Company. Mr. Evans agreed to remain in the role until a replacement was in place. On September 12, 2016, Stephen Lemieux joined Cipher as Chief Financial Officer and Secretary, bringing more than 13 years of public company experience to Cipher, most recently as Vice President and Chief Financial Officer of Nuvo Pharmaceuticals Inc. and Crescita Therapeutics Inc.

On May 2, 2016, Cipher licensed the worldwide rights to develop and commercialize an investigational tattoo removal cream being developed at Dalhousie University in Halifax, Nova Scotia. The product candidate, which is applied topically, has shown encouraging results in pre-clinical testing for the removal or reduction of the appearance of tattoos. The agreement was fostered through Dalhousie's Industry Liaison and Innovation office.

On June 20, 2016, the Company announced that Edesa Biotech Inc. (“Edesa”) licensed the rights to ASF-1096 (R-salbutamol) for use in anorectal disorders (the “Edesa Agreement”). ASF-1096 is a phase II product candidate that Cipher is investigating as a treatment for selected inflammatory skin disorders. Cipher acquired the global rights to the product in February 2015. Under the Edesa Agreement, Cipher retains all rights to ASF-1096 for dermatological conditions.

On July 5, 2016, an Early Warning Report (the “EWR”) was filed by 1207407 Ontario Limited, a company wholly owned by Dr. John D. Mull. In particular, Dr. Mull and Craig Mull expressed concerns regarding Cipher and its business to the board of directors of Cipher (the “Board”) and requested, among other things; (i) changes to the Board; (ii) that the re-constituted Board conduct a review of Cipher’s senior management team; and (iii) that the re-constituted Board consider other cost saving initiatives and review Cipher’s business plan generally.

On August 9, 2016, Cipher announced changes to its Board. A Special Committee of the Board, in response to the EWR, and after communications with a majority of shareholders and careful deliberation with its advisors, determined that a reconstitution of the Board was in the best interests of Cipher and its shareholders. Gerald P. McDole, Dr. William D. Claypool, Dr. Renee P. Tannenbaum and Rosemary A. Crane stepped down from the Board. Incumbent directors Stephen R. Wiseman, Dr. Stefan Aigner, Thomas G. Wellner and Dr. John D. Mull, were joined on the Board by Mark Beaudet, Christian Godin and Harold Wolkin, each of whom was appointed as a director with immediate effect.

On September 12, 2016, Dr. Mull was appointed as Chair of the Board.

On November 11, 2016, pursuant to a review of the Company’s business plan by the Board, the Company announced it was working with Torrey Capital to consider various strategic alternatives available to enhance shareholder value, with a focus on the Company’s U.S. operation.

On November 11, 2016, Stephen Lemieux, Chief Financial Officer and Secretary of the Company, was named Interim Chief Executive Officer, replacing Shawn Patrick O'Brien. Cipher then commenced a search process for a new Chief Executive Officer. Mr. Lemieux continued in the role of Chief Financial Officer and Secretary of the Company during this interim period.

On November 29, 2016, the Company announced the voluntary withdrawal of its Common Shares from NASDAQ and the voluntary de-registration of its Common Shares under the Securities Exchange Act of 1934. Cipher's Common Shares continue to be traded on the Toronto Stock Exchange ("TSX"), where the Company has been listed since 2004. The Common Shares ceased trading on NASDAQ on December 12, 2016. The Company's reporting requirements with the U.S. Securities and Exchange Commission ("SEC") were suspended effective February 22, 2017.

### **Developments in 2017**

On March 20, 2017, Robert D. Tessarolo was appointed as President and Chief Executive Officer of the Company. Mr. Tessarolo joined Cipher on April 17, 2017. Mr. Tessarolo has over 20 years of experience in the pharmaceutical industry spanning business strategy, general management and commercial operations roles across multiple countries and therapeutic areas. Mr. Tessarolo most recently held the position of Vice President and General Manager with Celgene Corporation, where he was responsible for leading its U.S. Inflammation and Immunology business.

On March 31, 2017, the Company completed an amendment to the securities purchase agreement initially entered into with investment funds managed by Athyrium Capital Management (collectively, "Athyrium") on April 13, 2015, allowing the Company to prepay US\$20.0 million of its US\$40.0 million senior secured notes then outstanding (the "Notes").

On April 12, 2017, Cipher proposed adding Robert Tessarolo and Arthur Deboeck to the slate of director nominees to be voted upon at its 2017 Annual General Meeting. Arthur Deboeck is the Vice-President and General Manager of Galephar, a Puerto Rico-based pharmaceutical research company with dermal, oral and pulmonary drug delivery technology, formulation, and manufacturing expertise, and one of Cipher's strategic partners and primary manufacturers.

On April 12, 2017, the Company announced that current Board member Mark Beaudet succeeded Dr. Mull in his role of Chair of the Board. Additionally, Stephen Wiseman, Stefan Aigner and Thomas Wellness did not stand for re-election at the Company's Annual General Meeting held on May 11, 2017.

On May 1, 2017, the Company sold substantially all of the assets of Cipher Pharmaceuticals US LLC (formerly known as Innocutis Holdings LLC) ("Cipher U.S.") to EPI Health, LLC ("EPI"), a wholly owned subsidiary of EPI Group, LLC. Under the terms of the asset purchase agreement (the "EPI Asset Purchase Agreement"), the Company received consideration of US\$13.6 million, subject to certain working capital adjustments and the transfer of certain liabilities as set out in the EPI Asset Purchase Agreement. The Company retained responsibility for certain liabilities and commitments related to the assets sold. The agreement also included a potential regulatory milestone payment of up to US\$0.75 million payable to the Company if certain predefined conditions are achieved, which conditions were subsequently met in the fourth quarter of 2017 with Cipher receiving US\$0.7 million net of administrative costs and included a hold back of US\$1.7 million which Cipher received in the fourth quarter of 2018. The Company received in total US\$11.0.

On May 8, 2017, Health Canada approved OZANEX™, a novel topical antibiotic indicated for the treatment of impetigo in patients aged 2 months and older.

On June 2, 2017, Chris Watters joined Cipher in a new position of Vice President, Corporate Development. Mr. Watters has over 20 years of experience in the pharmaceutical industry, including leadership roles in business strategy, marketing, sales and business development. Previously, Mr. Watters held the position of Vice President of Sales at GlaxoSmithKline, where he led a commercial organization of 300 sales and operations professionals.

On September 7, 2017, the Company commented on a warning letter issued to Cipher by the Office of Prescription Drug Promotion of the U.S. Food and Drug Administration ("FDA") relating to the professional detail aids for ConZip® (tramadol hydrochloride) extended-release capsules. The warning letter was addressed to Cipher as

the New Drug Application (“NDA”) holder. The Company's licensing partner, Vertical Pharmaceuticals, LLC (“Vertical”) holds the exclusive U.S. license to market, sell and distribute ConZip. As the exclusive commercial distributor of ConZip in the U.S., Vertical is responsible for preparing and approving all marketing and promotional materials. The FDA has informed Cipher that all issues raised in the warning letter have been addressed.

On November 3, 2017, the Company entered into a credit agreement with a Canadian lender (the “Credit Agreement”) to extinguish its existing Notes and replace the Notes with a credit facility. The proceeds of US\$20.0 million from the credit facility were used to fully repay the remaining balance on the Notes held by Athyrium.

## Developments in 2018

On January 8, 2018, Cipher launched Ozanex, a topical antibiotic cream indicated for the treatment of impetigo, in Canada.

On January 9, 2018, the Company entered into a distribution and supply agreement with Italmex Pharma S.A. (“Italmex”) granting Italmex with the exclusive rights to market, sell and distribute isotretinoin products in Mexico.

On February 27, 2018, the Company acquired the exclusive Canadian rights to develop, market, distribute and sell TRULANCE (plecanatide) from Synergy Pharmaceuticals Inc. (“Synergy”). TRULANCE is a once-daily tablet approved by the FDA for the treatment of adults with chronic idiopathic constipation (“CIC”) and irritable bowel syndrome with constipation (“IBS-C”). The Company filed an NDS with Health Canada in the fourth quarter of 2018, which was subsequently accepted by Health Canada for review. Under the terms of the licensing agreement, the Company made an upfront payment of US\$5.0 million. The transaction also includes a regulatory milestone payment of US\$0.8 million and royalties on net product sales in Canada. According to IQVIA, formerly IMS Health/IMS Quintiles, the total Canadian laxative and antispasmodic market (prescription and over-the-counter) is estimated at over \$200.0 million for the 12 months ended September 2018, of which the prescription market size is estimated at \$19.0 million

On April 5, 2018, the Company acquired the exclusive Canadian rights to distribute and commercialize A-101 from Aclaris Therapeutics, Inc. (“Aclaris”). A-101 is an FDA-approved topical product indicated for the treatment of raised seborrheic keratoses (“SK”), which are commonly occurring non-cancerous skin growths that affect more than nine million Canadian adults and can be an aesthetic skin concern. A-101 was approved by the FDA in December 2017 and is marketed by Aclaris in the U.S. under the tradename Eskata™. A-101 is a proprietary, high-concentration hydrogen peroxide-based topical solution designed for in-office application by a healthcare provider and is a targeted treatment applied directly to the raised SK using a pen-like applicator. The most common treatment for SK are surgical procedures such as cryosurgery, which can cause discomfort, cosmetic imperfections, and require wound management. Under the terms of the licensing agreement, the Company made an upfront payment of US\$1.0 million, is required to make payments of up to US\$2.8 million upon the achievement of certain regulatory and commercial milestone payments events and make royalty payments based on net product sales in Canada. The Company filed an NDS with Health Canada in the fourth quarter of 2018, which was subsequently accepted by Health Canada for review. The Company made a US\$0.5 million milestone payment upon Health Canada acceptance for review.

On May 10, 2018, healthcare executive Dr. Laurence Terrisse-Rulleau was elected to the Board. Dr. Rulleau is currently a partner at CTI Life Sciences, a biotech venture capital firm that makes investments in high quality emerging life sciences companies at the pre-clinical, clinical and revenues stage in Canada and the U.S.

On May 15, 2018, the Company completed its acquisition of all the outstanding shares of Cardiome, pursuant to which Cipher acquired the Canadian business portfolio of Cardiome, following a restructuring of Cardiome pursuant to a statutory plan of arrangement under the *Canada Business Corporations Act*. Refer to “General Developments of the Business – Significant Acquisition” section for additional information.

On June 5, 2018, Dr. Diane Gajewczyk joined the Company in the position of Vice President, Scientific and Medical Affairs. Dr. Gajewczyk has more than 25 years of pharmaceutical industry experience in the research, clinical development and commercialization of pharmaceutical, biologics, vaccine and medical device products.

On July 30, 2018, Cipher amended its distribution and supply agreement with Sun Pharmaceutical Industries, Inc. (“Sun”) (previously Ranbaxy Laboratories Inc.) for Absorica (the “Absorica Amendment”). The Absorica Amendment provides Sun with the right to launch new isotretinoin products prior to the expiration of the agreement in November 2022.

On September 10, 2018, the Company received Health Canada approval for Xydalba™ (dalbavancin hydrochloride), the only one-dose treatment option for acute bacterial skin and skin structure infections (ABSSSI) in adults.

On September 18, 2018, the Company entered into an exclusive license agreement with Moberg Pharma AB (“Moberg”) to commercialize, promote, sell and distribute MOB-015. Moberg is currently running the phase III trial that is required for the regulatory submission to Health Canada. MOB-015 is a patented proprietary formulation of terbinafine for the topical treatment of onychomycosis. Onychomycosis is a fungal nail infection with an estimated prescription market of \$58.0 million according to IQVIA. Under the terms of the agreement, the Company made an upfront payment of US\$0.5 million. Additional payments of up to US\$14.1 million are required upon successful achievement of certain development and regulatory milestones and upon reaching certain annual net sales in Canada. Moberg will supply finished product to the Company.

On October 24, 2018, Cipher launched Brinavess® (vernakalant hydrochloride) for the rapid conversion of recent onset atrial fibrillation (an irregular and often rapid heart rate that can increase your risk of stroke, heart failure and other heart-related complications) to sinus rhythm (a normal heart beat) for non-surgery patients with duration of atrial fibrillation less than seven days and post-cardiac surgery patients with duration of atrial fibrillation less than three days.

On December 4, 2018, Michael Milloy joined Cipher in the position of Vice President, Canadian Commercial Operations. Mr. Milloy has more than 20 years of pharmaceutical industry experience in the commercialization of pharmaceutical products.

On December 17, 2018, Cipher announced the New Drug Submission (“NDS”) for plecanatide was accepted for review by Health Canada. Plecanatide is for the treatment of irritable bowel syndrome with constipation.

On December 18, 2018, the Company announced the NDS for A-101 was accepted for review by Health Canada. A-101 40% topical solution is for the treatment of raised seborrheic keratoses.

### **Significant Acquisition**

On May 15, 2018, the Company completed its acquisition of all of the outstanding shares of Cardiome, pursuant to which Cipher acquired the Canadian business portfolio of Cardiome, following a restructuring of Cardiome pursuant to a statutory plan of arrangement under the Canada Business Corporations Act. Pursuant to the arrangement, former Cardiome shareholders received common shares, on a one-for-one basis, of a newly created Canadian entity named Correvio Pharma Corp. (“Correvio”). The Company subsequently acquired from Correvio all of the outstanding common shares of Cardiome, which held only the Canadian business portfolio, for cash consideration of \$25.5 million. The total transaction costs incurred for the acquisition were \$0.8 million. The Company financed this acquisition with a combination of cash and an amendment to its current credit facility to draw an additional US\$5.0 million. Other than an increase in the Company’s quarterly principal repayment amounts over the remainder of the term of the credit facility from US\$1.7 million to US\$2.0 million, there were no material changes to the terms of the credit facility.

The Canadian business portfolio acquired by Cipher included commercial and pipeline hospital products administered in the acute care setting, including:

- Brinavess® (vernakalant IV), for the rapid conversion of recent onset atrial fibrillation to sinus rhythm;
- Aggrastat® (tirofiban hydrochloride), for the reduction of thrombotic cardiovascular events in patients with acute coronary syndrome;
- Xydalba™ (dalbavancin hydrochloride), the first and only 30-minute, one-dose treatment option for the treatment of acute bacterial skin and skin structure infections; and

- Trevynt<sup>®</sup> a drug device combination that delivers treprostinil, the world's leading treatment for pulmonary arterial hypertension.

Brinavess and Aggrastat are currently on the market in Canada. Xydalba, which is approved and marketed by Allergan in the U.S. under the trade name Dalvance, received Health Canada approval in the third quarter of 2018 and the Company plans on launching the product in the first half of 2019.

The Company filed a business acquisition report on SEDAR with the information prescribed by Form 51-102F4 – *Business Acquisition Report* under National Instrument 51-102- *Continuous Disclosure Obligations* in connection with the acquisition of the Canadian business portfolio from Cardiome.

## THE BUSINESS

### General

Cipher is a specialty pharmaceutical company with a diversified portfolio of commercial and early to late-stage products. Cipher acquires products that fulfill unmet medical needs, manages the required clinical development and regulatory approval process, and markets those products either directly in Canada or indirectly through partners in Canada, the U.S., and Latin America.

### Significant Partnerships

#### *Galephar*

In 2002, the Company entered into a Master Licensing and Clinical Supply Agreement ("the Galephar Agreement") with Galephar, a Puerto Rico based pharmaceutical research and manufacturing company. Under the Galephar Agreement, the Company acquired the rights to package, test, obtain regulatory approvals and market CIP-FENOFIBRATE, CIP-ISOTRETINOIN and CIP-TRAMADOL ER (collectively, "the CIP Products") in various territories. In particular, the Company has the rights to sell, market and distribute, on a perpetual basis, as follows:

- exclusive rights throughout the world for Galephar's capsule formulation of Tramadol;
- exclusive rights in North, South and Central America, the Caribbean and Bermuda for Galephar's capsule formulation of Isotretinoin and non-exclusive rights in certain other countries; and
- exclusive rights in North, South and Central America, the Caribbean and Bermuda for Galephar's capsule formulation of Fenofibrate and non-exclusive rights in certain other countries.

The Galephar Agreement gives the Company the right to conduct all studies and tests required by the FDA and other regulatory authorities in the geographic area where the pharmaceutical product is being packaged, tested, approved and/or marketed, as well as the right to prepare, file and prosecute any regulatory submissions for approval in such geographic area. Milestone payments for these products have been paid in full.

On sales by Cipher or its affiliates of those products set out in the Galephar Agreement, Cipher is obliged to pay Galephar fifty percent (50%) of any (i) distribution fees it receives, (ii) net sales revenue less manufacturing costs and (iii) royalties received, except that if a patent has not yet been issued for such product, only 30% of royalties are payable. If Cipher or its affiliates are directly selling to wholesalers, 12% of net sales received by Cipher is payable to Galephar, or 7% prior to issuance of a patent. No payments are required with respect to a sale of a product occurring 20 years after the first sale of that product in the country or, if a patent is obtained, when the patents lapse in that country for the product, whichever is later. Galephar also supplies product to Cipher through commercial supply agreements for each product.

In 2016, Galephar entered into a contract with a third party (the "Galephar Assignee") to assign certain rights relating to CIP-ISOTRETINOIN in the U.S. market under the Galephar Agreement. The Company is a party to this contract, agreeing to remit revenue on the same terms as the Galephar Agreement from licensing and distribution within the U.S. for CIP-ISOTRETINOIN directly to the Galephar Assignee.

On May 11, 2017, the founder, vice president and a shareholder of Galephar was elected to the Company's Board of Directors as a non-independent member. As a result, Galephar is considered a related party.

Certain of the Company's marketed products utilize drug delivery technologies licensed from Galephar:

*Oral Lidose® Technology.* Galephar's oral semi-liquid capsule drug delivery technology is a patent-protected drug delivery system. Active ingredients are incorporated in semi-solid or liquid compositions contained in capsules. This delivery system facilitates low manufacturing costs, while delivering super-bioavailability for relatively water-insoluble compounds. CIP-FENOFIBRATE and CIP-ISOTRETINOIN are based on the Lidose drug delivery system.

*Oral Controlled-Released Bead Technology.* Galephar's multiple particle-controlled release capsule technology ("MPCRC"), is based on unique extrusion and spherization methods, and produces beads containing up to 80% active ingredient. Each coated bead is a controlled release system in itself, and the multi-particulate system provides smooth consistent plasma levels over an extended period of time. The system is virtually pH-independent enabling the product to be taken with or without food. MPCRC enables CIP-TRAMADOL ER.

## Commercial Products

The following is a description of the Company's currently marketed products:

### ***CIP-ISOTRETINOIN (Absorica®/Epuris®)***

CIP-ISOTRETINOIN is an innovative formulation of the active ingredient isotretinoin, which is used in the treatment of severe acne. CIP-ISOTRETINOIN has been in-licensed from Galephar and is based on the Lidose drug delivery system. The Company's marketing rights to CIP-ISOTRETINOIN include North and South America, and a majority of the Pacific Rim. CIP-ISOTRETINOIN provides more consistent absorption under fed and fasted conditions. Due to its high lipophilicity, oral absorption of isotretinoin is enhanced when given with a high fat meal. CIP-ISOTRETINOIN is bioequivalent to Accutane (isotretinoin) capsules when both drugs are taken with a high-fat meal. However, when both drugs are taken under fasted conditions, CIP-ISOTRETINOIN provides 83% greater absorption than Accutane® (isotretinoin) capsules.

#### *United States*

In August 2008, the Company entered into a definitive development, distribution and supply agreement with Sun, under which Sun was granted the exclusive right to market, sell and distribute CIP-ISOTRETINOIN in the U.S. Under the terms of the agreement, the Company received an initial upfront payment of US\$1.0 million. The agreement also provided for additional pre- and post-commercialization milestone payments of up to US\$23.0 million, all of which have been received. The Company receives a royalty percentage in the mid-teens on net sales. After product-related expenses are deducted, approximately 50% of net revenue received by Cipher under the agreement is paid to the Galephar Assignee. The Company is responsible for product supply and manufacturing, which is fulfilled by Galephar. Cipher's agreement with Sun is for a period of 10 years from the first commercial sale and Sun has the right to extend the term for additional two year periods.

In May 2012, the Company received FDA approval for CIP-ISOTRETINOIN in the U.S., and in November 2012, Sun launched Absorica in the U.S. market.

In September 2013, Sun received a Paragraph IV Certification Notice of filing from Actavis of an abbreviated new drug application ("ANDA") to the FDA for a generic version of Absorica (isotretinoin capsules). A Paragraph IV Certification Notice is filed when the sponsor company of the ANDA believes that its generic product is not infringing on a particular patent, and/or that such patent is not valid. A patent infringement lawsuit against Actavis was filed by Sun, Cipher and Galephar in October 2013 and, as a result, the ANDA was subject to a 30-month stay of FDA approval, beginning on the date the notification letter was received. In October 2015, the Company, along with Sun and Galephar, entered into a settlement agreement with Actavis that dismissed the patent litigation suit. As part of the settlement agreement, Cipher, Sun and Galephar entered into a non-exclusive license agreement with Actavis under which Actavis may begin selling its generic version of Absorica in the U.S. on December 27, 2020 (approximately nine months prior to the expiration of Absorica's five patents in September 2021) or earlier under

certain circumstances. The settlement agreement was subject to review and no further action was requested by the U.S. Federal Trade Commission and the U.S. Department of Justice.

Absorica is currently protected by five issued patents which are listed in the FDA's Approved Drug Products List (the "Orange Book") which expire in September 2021. Galephar was issued a product patent (Patent Number 7,435,427) from the U.S. Patent and Trademark Office ("USPTO") in 2008 with a second patent (Patent Number 8,367,102) issued in 2013. A third patent (Patent Number 8,952,064) was issued in February 2015 and the fourth and fifth patents (Patent Numbers 9,078,925 and 9,089,534) were issued in July 2015. The five patents are formulation-related patents describing the product ingredients.

In July 2018, the Company entered into the Absorica Amendment which provides Sun with the right to launch new isotretinoin products prior to the expiration of the agreement in November 2022. The Company will receive a royalty until December 2024 based on U.S. net sales from Sun's isotretinoin product portfolio. In addition, the Absorica NDA will be returned to the Company on expiry of the agreement in November 2022.

On December 19, 2018, the Company received notice of a Paragraph IV Certification in ANDA No. 212333 advising Sun, Sun Pharmaceutical Industries, Ltd and Galephar that Upsher Smith Laboratories, LLC ("Upsher Smith") has filed an ANDA with the FDA seeking approval to manufacture, use, or sell a generic version of Absorica (10 mg, 20 mg, and 30 mg) prior to the expiration of U.S. Patent Nos. 7,435,427; 8,367,102; 8,952,064; 9,078,925; and 9,089,534. On January 30, 2019, Sun, Cipher and Galephar filed a complaint against Upsher Smith asserting infringement of the five patents. On February 12, 2019, Upsher Smith filed its answer to the complaint.

According to IQVIA, the U.S. isotretinoin prescription market increased by 10% from December 2017 to December 2018.

#### *Canada*

In November 2012, the Company received approval from Health Canada for CIP-ISOTRETINOIN under the trade name Epuris. In June 2013, Cipher launched Epuris in the Canadian market with a dedicated sales force. According to IQVIA, the Canadian market for oral isotretinoin was approximately \$21.8 million in 2018 compared to \$20.4 million in 2017. In December 2018, Epuris had a prescription market share of over 33% in Canada. There is no patent protection for Epuris in Canada. The Company purchases Epuris from Galephar and pays a single-digit royalty to Galephar on net sales of Epuris in Canada.

#### *Rest of World*

In 2014, the Company entered into a distribution and supply agreement with Andrómaco under which Cipher granted Andrómaco the exclusive right to market, sell and distribute Cipher's isotretinoin capsules in Chile. The registration process is completed for 10 mg, 20 mg and 30 mg strengths. Andrómaco has not launched the product and in January 2017 Cipher sent a notice of material breach to Andrómaco that was not cured in the required period. The Company is looking for a new licensing partner for this market.

In 2014, the Company entered into a definitive distribution and supply agreement with Ranbaxy Laboratories Ltd. ("Ranbaxy India"), a Sun Pharma Company, pursuant to which Cipher granted to Ranbaxy India the exclusive right to market, sell and distribute isotretinoin capsules in Brazil. Ranbaxy India plans to promote the product through a brand dermatology division in Brazil. Under the terms of this agreement, Cipher received an upfront payment and is eligible for additional pre-commercial milestone payments. Cipher will supply the product and product manufacturing will be fulfilled by Galephar. Ranbaxy India will be responsible for all regulatory-related activities associated with gaining and maintaining regulatory approval of the product in Brazil. The product is not currently approved in Brazil.

In January 2018, the Company entered into a distribution and supply agreement with Italmex granting Italmex with the exclusive rights to market, sell and distribute isotretinoin products in Mexico. Under the terms of the agreement with Italmex, Cipher will receive an upfront payment and is eligible for additional regulatory and commercial milestone payments. Cipher will supply the product to Italmex and product manufacturing will be fulfilled by Cipher's partner, Galephar. Italmex will be responsible for all regulatory activities associated with gaining and maintaining regulatory approval of the product in Mexico. The product is currently not approved in Mexico.

## **OZENOXACIN**

On January 7, 2015, Cipher announced that it had licensed the Canadian rights to Ozenoxacin, a topical treatment for adult and paediatric patients with impetigo, from Ferrer International SA (“Ferrer”), a privately-held Spanish pharmaceutical company. In 2013, Ferrer successfully completed a first phase III clinical trial of Ozenoxacin in adult and paediatric patients aged two years and older with impetigo. The study demonstrated the superiority of Ozenoxacin one per cent cream versus a placebo, applied topically twice daily for five days, on both the clinical and bacteriological endpoints by end of therapy visit. In addition, Ozenoxacin demonstrated a superior bacteriological cure compared to placebo by the second visit (day three-four). The trial also demonstrated that Ozenoxacin is safe and very well tolerated in the adult and paediatric populations. Ferrer commenced a second phase III trial of Ozenoxacin which was completed in July 2015. The multicenter, randomized, double-blinded, clinical study comparing Ozenoxacin one per cent cream versus placebo was conducted in approximately 412 patients aged two months and older with a clinical diagnosis of non-bullous or bullous impetigo. Ferrer obtained exclusive worldwide rights (except China, Japan, Korea and Taiwan) to Ozenoxacin from Toyama. Ozenoxacin, formulated as a one per cent topical cream, is the subject of a number of granted and pending patent applications.

Under the terms of the agreement, Ferrer received an upfront payment and is eligible for development milestones and royalties from product sales in Canada. The term of the agreement is for 12 years, which commenced in January 2018 with an automatic renewal for an additional two year period. Ferrer will manufacture Ozenoxacin and deliver finished product to Cipher. All development milestones have been paid.

In Q2 2017, Cipher received a Notice of Compliance from Health Canada, approving the sale of Ozenoxacin under the trade name OZANEX. Cipher is not responsible for any future development costs, should any be required.

In January 2018, OZANEX was launched in the Canadian market. The total Canadian impetigo market size in sales is estimated to be over \$33.0 million in 2018, according to IQVIA.

## **BETEFLAM® PATCH**

In 2012, Cipher obtained the exclusive license and distribution rights in Canada to market the Beteflam Patch, a novel, patent-protected, self-adhesive medicated plaster for the treatment of inflammatory skin conditions such as plaque psoriasis from IBSA. The Beteflam Patch is expected to provide distinct advantages over existing treatment options, particularly for patients who suffer from plaque psoriasis in hard to treat areas such as knees and elbows, based on feedback from Canadian dermatologists. The efficacy and safety of the Beteflam Patch has been established in three successful phase III trials and one successful phase IV trial conducted by IBSA. The Beteflam Patch is currently marketed in several European countries and was launched by Cipher in April 2016 after receiving approval from Health Canada in December 2015.

The Beteflam Patch is based on IBSA’s self-adhesive medicated plaster technology. This technology is based on a unique self-adhesive medicated patch providing twenty four hour delivery of medication to the affected skin area. The self-adhesive plaster is 75cm<sup>2</sup> (7.5 x 10 cm) and is composed of multiple layers, including a transparent plastic film layer, an intermediate tissue layer, an adhesive layer containing the drug and a protective layer (to be removed prior to application). The plaster acts as an occlusive dressing and provides a continuous extended-release of the drug. The plaster can be trimmed to exactly cover the affected area, delivering a uniform concentration of the drug specifically to the affected area, thereby reducing the risk of exposure of the drug outside the treated area. The plaster also acts as a barrier, preventing further damage of the area from trauma or scratching, which may aid in the healing process.

Under the terms of the agreement, IBSA is eligible for certain milestones based on commercial and regulatory targets and will supply the finished product to Cipher. The term of the agreement is for 10 years with an automatic renewal for an additional five year period.

## **ACTIKERALL®**

In May 2015, Cipher acquired the Canadian rights to Actikerall from Almirall. Actikerall (0.5% fluorouracil and 10% salicylic acid) is indicated for the topical treatment of slightly palpable and/or moderately thick hyperkeratotic actinic keratosis (Grade I/II) of the face, forehead, and balding scalp in immunocompetent adult patients. Actinic keratosis, also known as solar keratosis, is a skin condition caused by exposure to ultraviolet radiation.

Actikerall has been shown to be superior to placebo and non-inferior to diclofenac gel in the treatment of actinic keratosis. The product was approved by Health Canada on July 31, 2014. Under the terms of the agreement, Almirall received an upfront payment of \$0.45 million for the rights to Actikerall and is eligible for certain milestones from product sales in Canada. The Company pays a royalty on net sales that includes the transfer price for finished goods. Almirall supplies finished product to Cipher. The agreement is for a term of 10 years with automatic annual renewals.

The Company launched Actikerall in the Canadian market on February 22, 2016. As of December 2018, Actikerall obtain approximately 9.0% of the actinic keratosis market on prescription basis, according to IQVIA.

### **VANIQA®**

In May 2015, Cipher acquired the Canadian rights to Vaniqa from Almirall S.A. Vaniqa is a prescription cream clinically proven to reduce the growth of unwanted facial hair in women. Vaniqa cream is an enzyme inhibitor and works by blocking an enzyme necessary for hair to grow. The product was approved by Health Canada in 2001. The Company pays a royalty on net sales that includes the transfer price for finished goods. Almirall supplies finished product to Cipher. The agreement is for a term of 10 years with automatic annual renewals. The Company launched Vaniqa in the Canadian market on June 2, 2015. Vaniqa prescriptions have been stable year over year based on prescription data from IQVIA.

### **CIP-FENOFIBRATE (Lipofen®)**

CIP-FENOFIBRATE was in-licensed from Galephar in November 2000. CIP-FENOFIBRATE is a novel patented formulation of the active ingredient fenofibrate, which is used in the treatment of Hyperlipidemia, a cholesterol disorder. Hyperlipidemia is a condition characterized by high levels of low-density lipoprotein (“LDL”) cholesterol and/or triglycerides (a type of fat found in the blood). Fenofibrate is known to lower LDL cholesterol and triglycerides and increase high-density lipoproteins (“HDL”), known as “good cholesterol”.

The market for existing fenofibrate formulations in the U.S. was US\$317 million in 2018 compared to approximately US\$468 million in 2017, according to IQVIA. CIP-FENOFIBRATE is based on the Lidose delivery system. The drug was approved under the label Lipofen in three dosages: 50 mg, 100 mg, and 150 mg. All patents for this product have expired.

#### *United States*

In July 2007, Cipher entered into a distribution and supply agreement with ProEthic Pharmaceuticals Inc. (“ProEthic”). ProEthic was subsequently acquired by Kowa Company Ltd., a multinational Japanese company actively engaged in manufacturing and trading activities in various fields, including pharmaceuticals and life sciences. ProEthic’s name was changed to Kowa Pharmaceuticals America Inc. (“Kowa”). Under the agreement with Cipher, Kowa is granted the exclusive right to market, sell and distribute Lipofen in the United States. In late 2007, Lipofen 150 mg and 50 mg capsules were launched in the U.S. market.

Cipher’s agreement with Kowa is for a period of 10 years and Kowa has the right to extend the term for two additional two year periods. In 2019, Kowa elected to renew the second two term, expiring in July 2021. Under the terms of the agreement, Cipher received a US\$2.0 million up-front licensing payment and has received other milestone payments totaling US\$2.0 million. The Company also receives a royalty on a percentage of net sales, which increases from the mid-teens to the mid-twenties based on annual sales levels and the amount of promotional effort by Kowa. After product-related expenses are deducted, approximately 50% of net revenue received by Cipher under the agreement is paid to Galephar. The Company is responsible for product supply and manufacturing, which is fulfilled by Galephar.

In 2014, Cipher and Kowa agreed to pre-emptively launch an authorized generic version of Lipofen in advance of the expiration of the product patent in January 2015. Since the beginning of 2015, Kowa has reduced their commercial efforts significantly on the promotion of Lipofen. According to IQVIA, prescriptions for Lipofen and the authorized generic were down 29% in 2018 compared to 2017.

***CIP-TRAMADOL ER (ConZip® / Durela®)***

CIP-TRAMADOL ER was in-licensed from Galephar on an exclusive worldwide basis in January 2001. CIP-TRAMADOL ER is a novel, extended-release formulation of the active ingredient tramadol, which is used for the management of moderate to moderately severe pain. Tramadol is a synthetic opioid molecule, which was developed to have the analgesic efficacy of the opioid family of drugs without the well-known side effects, including addiction. CIP-TRAMADOL ER is enabled by oral controlled-release beads, an extended-release drug delivery technology licensed from Galephar. The novel formulation means that CIP-TRAMADOL ER delivers extended-release drug delivery properties, with once-daily dosing, supporting ease-of-use for physicians, and a high level of compliance among chronic pain sufferers.

In May 2010, the FDA approved CIP-TRAMADOL ER and in October 2010, the USPTO issued a patent for the product that expires in 2022.

***United States***

In June 2011, Cipher entered into a distribution and supply agreement with Vertical Pharmaceuticals Inc. (“Vertical”), a U.S.-based specialty pharmaceutical company, under which Vertical was granted the exclusive right to market, sell and distribute CIP-TRAMADOL ER under the trade name ConZip in the U.S. (the “ConZip Distribution and Supply Agreement”). The Company received an up-front payment of US\$0.5 million and a payment of US\$0.75 million upon launch of the product in 2011. In 2015, a milestone payment of US\$0.75 million was received for the achievement of a sales level. The ConZip Distribution and Supply Agreement provides for additional milestone payments of up to US\$3.0 million based upon the achievement of certain net sales targets. The Company also receives a mid-teen royalty on net sales. After product-related expenses are deducted, approximately 50% of net revenue received by Cipher from Vertical is paid to Galephar. The Company is responsible for product supply and manufacturing, which is fulfilled by Galephar.

According to IQVIA, the U.S. market in 2018 for extended release formulations of tramadol exceeded US\$36.0 million, which represents approximately 40% of the total tramadol immediate release and extended release prescription market compared to US\$46.0 million in 2017, which represented approximately 46% of the total tramadol immediate release and extended release prescription market.

In 2016, the FDA required a new black box warning for tramadol products on the risks of addiction, abuse, misuse, life-threatening respiratory depression and interactions with CNS depressants including alcohol. In addition, the FDA said that a new Risk Evaluation and Mitigation Strategy (“REMS”) program would be required.

In June 2017, the Company requested a full waiver from a post marketing pediatric study to assess the pharmacokinetics, efficacy and safety of tramadol for the management of moderate to moderately severe chronic pain in pediatric patients aged 2 to 17. In August 2017, the Company received a partial waiver from the FDA that amended the age group required for the study. The new requirement is to study the pharmacokinetics, efficacy and safety of ConZip for the management of pain severe enough to require daily around-the-clock, long-term opioid treatment for which alternative treatment options are inadequate in pediatric patients ages 12 to less than 17 years. The Company is drafting a protocol to submit to the FDA in 2019.

In August 2017, the Company received a warning letter issued by the Office of Prescription Drug Promotion of the FDA relating to the professional detail aids for ConZip. The warning letter was addressed to the Company as the NDA holder. The Company's licensing partner, Vertical holds the exclusive U.S. license to market, sell and distribute ConZip. As the exclusive commercial distributor of ConZip in the U.S., Vertical is responsible for preparing and approving all marketing and promotional materials. Vertical has informed Cipher that it took immediate corrective actions and has commenced a corrective action communication to healthcare professionals. The parties are committed to resolving this matter and additional corrective actions will be taken as considered necessary or advisable. The FDA has informed Cipher that all issues raised in the warning letter have been addressed.

In September 2017, the Company received a letter from the FDA for a post-approval REMS. This is an industry REMS program and the Company is working with a consortium of manufacturers to review the requirements and the path forward. Costs related to the REMS program is shared with the consortium. In 2018, Cipher's share of the REMS program cost was less than \$0.1 million.

### *Canada*

In August 2011, Cipher received Health Canada approval for CIP-TRAMADOL ER and in September 2011, Cipher entered into a distribution and supply agreement with Medical Futures Inc. (“Medical Futures”), a Canadian-based pharmaceutical company, under which Cipher granted Medical Futures the exclusive right to market, sell and distribute CIP-TRAMADOL ER under the trade name Durela in Canada. Medical Futures was subsequently acquired by Tribute Pharmaceuticals Canada Inc. (“Tribute”) and during the same month POZEN Inc. announced the completion of the acquisition of Tribute. Effective, February 5, 2016, the new combined company was named Aralez Pharmaceuticals Inc. (“Aralez”), which was subsequently acquired by Nuvo Pharmaceuticals Inc. Upon launch, the Company received a \$150,000 milestone payment. The Company receives a royalty on net sales of Durela in Canada. Under the terms of the Galephar Agreement, after product-related expenses are deducted, approximately 50% of net revenue received by Cipher from Aralez is paid to Galephar. The Company is responsible for product supply and manufacturing, which is fulfilled by Galephar.

According to IQVIA, the Canadian market for extended-release tramadol was approximately \$19.0 million in 2018 compared to \$25.0 million in 2017.

The patents issued for CIP-TRAMADOL ER in Canada will expire in 2022.

Due to the increased focus of opioid abuse in Canada, Health Canada issued an advisement letter on the opioid crisis. In response, in January 2019 the Company submitted to Health Canada a Canadian specific opioid targeted risk management plan to preclude the need for a study. The Company expects the Health Canada review to be completed in April 2019.

### *Rest of World*

In April 2013, Cipher entered into a distribution and supply agreement with Tecnofarma International Ltd. (“Tecnofarma”) under which Tecnofarma was granted the exclusive right to market, sell and distribute CIP-TRAMADOL ER in Latin America. Tecnofarma, headquartered in Uruguay, operates in 18 Latin American countries and plans to launch the product in certain territories, including Brazil and Mexico. Under the terms of the agreement, Cipher received an upfront payment and is eligible for additional milestones based upon regulatory approval in Brazil and Mexico. Cipher will supply product to Tecnofarma and product manufacturing will be fulfilled by Galephar. Tecnofarma launched CIP-TRAMADOL ER in Argentina in May 2016.

In February 2019, the Company was notified by its partner in Brazil that the application for registration was rejected. The Company and its partner are in discussions to address the concerns raised in the rejection notice.

## **Pipeline Products**

### ***Xydalba™***

On March 22, 2018 Health Canada accepted the NDS for review of Xydalba (dalbavancin hydrochloride) and granted priority review status to the application. The Company received regulatory approval from Health Canada in September 2018.

Xydalba for infusion is a second generation, semi-synthetic lipoglycopeptide, which consists of a lipophilic side-chain added to an enhanced glycopeptide backbone. Xydalba is the first and only 30-minute, one-dose treatment option for acute bacterial skin and skin structure infections (ABSSSI) that delivers a full course of IV therapy. Xydalba can be administered as either a one 1,500 mg dose or as a two-dose regimen of a 1,000 mg dose followed one week later by a 500 mg dose, each dose administered over 30 minutes. Xydalba demonstrates bactericidal activity in vitro against a range of Gram-positive bacteria, such as *Staphylococcus aureus* (including methicillin-resistant, also known as MRSA, strains) and *Streptococcus pyogenes*, as well as certain other Streptococcal species.

The Company acquired a licence for Canadian marketing rights to Xydalba through the acquisition of the Canadian business portfolio of Cardiome. The license is for a term of 10 years from commercial launch with a one time renewal option of five years. The license includes a royalty on net sales and milestones. Correvio will supply finished product to the Company.

**TRULANCE®**

On February 27, 2018, the Company acquired the exclusive Canadian rights to develop, market, distribute and sell TRULANCE (plecanatide) from Synergy. TRULANCE is a once-daily tablet approved by the FDA for the treatment of adults with CIC and IBS-C. The Company filed an NDS with Health Canada in the fourth quarter of 2018, which was subsequently accepted by Health Canada for review. Under the terms of the licensing agreement, the Company paid an upfront payment of US\$5.0 million. The transaction also includes a regulatory milestone payment of US\$0.8 million and royalties on net product sales in Canada.

**A-101**

On April 5, 2018, the Company acquired the exclusive Canadian rights to distribute and commercialize A-101 from Aclaris. A-101 is an FDA-approved topical product indicated for the treatment of raised SKs, which are commonly occurring non-cancerous skin growths that affect more than nine million Canadian adults and can be an aesthetic skin concern. A-101 was approved by the FDA in December 2017 and is marketed by Aclaris in the U.S. under the tradename Eskata™. A-101 is a proprietary, high-concentration hydrogen peroxide-based topical solution designed for in-office application by a healthcare provider and is a targeted treatment applied directly to the raised SK using a pen-like applicator. The most common treatment for SKs are surgical procedures such as cryosurgery, which can cause discomfort, cosmetic imperfections, and require wound management. Under the terms of the licensing agreement, Aclaris received an upfront payment of US\$1.0 million and, upon achievement of certain milestone events, additional regulatory and commercial milestone payments of up to US\$2.8 million are payable, as well as royalties from net product sales in Canada.

**Trevyent®**

Trevyent is a development stage drug/device combination product that combines SteadyMed Ltd's ("SteadyMed") PatchPump technology with treprostinil, a vasodilatory prostacyclin analogue to treat pulmonary arterial hypertension ("PAH"). PatchPump is a proprietary, disposable, parenteral drug administration platform that is prefilled and preprogrammed at the site of manufacture. PAH is a type of high blood pressure that occurs in the right side of the heart and in the arteries that supply blood to the lungs. PAH worsens over time and is life-threatening because the pressure in a patient's pulmonary arteries rises to dangerously high levels, putting a strain on the heart. There is no cure for PAH, but several medications are available to treat symptoms, such as Remodulin (treprostinil sodium), the market-leading prostacyclin PAH therapy.

In April 2017, SteadyMed completed a successful clinical study of Trevyent. The study enrolled 60 healthy adult volunteers in an in-clinic setting designed to examine the performance of the PatchPump used by Trevyent. The goals of the study were to evaluate the safety and performance functions of the PatchPump delivery system as well as the tolerability of the on-body application of the six products. According to SteadyMed, the results indicated that the PatchPump devices performed as intended in all categories of evaluation, including dose accuracy and precision. In July 2017, SteadyMed submitted an NDA to the FDA for Trevyent in the United States. On August 31, 2017, SteadyMed announced that it received a Refusal to File ("RTF") letter from the FDA relating to the NDA. On September 28, 2017, SteadyMed announced that it had submitted a Type A Meeting Request and Briefing Document to the FDA in response to the RTF. On December 8, 2017, SteadyMed announced that it had received final minutes from the FDA on the work necessary to resubmit its NDA. SteadyMed was acquired by United Therapeutics Corporation ("United") in April 2018. United expects the NDA re-submission to occur in the first half of 2019.

Cipher acquired a licence for Canadian marketing rights to Trevyent from the acquisition of the Canadian business portfolio of Cardiome. The license is for a term of 10 years from commercial launch. The license includes a royalty on net sales and milestones. Corveio will supply finished product to Cipher.

**CF101**

On March 23, 2015, Cipher announced the licensing of the Canadian distribution rights to CF101, a novel chemical entity being developed by Can-Fite BioPharma Ltd. ("Can-Fite") for moderate to severe plaque psoriasis and rheumatoid arthritis ("RA"). The active agent of CF101 is IB-MECA (methyl 1-[N6-(3-iodobenzyl)-adenin-9-yl]-beta-D-ribofuronamide), that is active by modulating the key signaling proteins such as NF-kB and PI3K, resulting in inhibition of inflammatory cytokine production.

CF101 completed a phase II/III double-blind, placebo-controlled study, which was designed to test the efficacy of CF101 in patients with moderate to severe plaque psoriasis. The study enrolled 326 patients through 17 clinical centers in the U.S., Europe and Israel. Top-line results from the trial were published by Can-Fite at the end of March 2015. Results from this phase II/III trial and final results from the prior phase II trial in psoriasis were both positive, showing that CF101 effectively improved disease symptoms. In addition, at the end of 2013, CF101 completed a phase IIb study for active RA, and Can-Fite has completed the study design for a phase III program. Can-Fite is commencing two phase III programs, one for RA and one for psoriasis. Can-Fite continues to enrol patients into the phase III RA program and has initiated patient enrolment for the psoriasis phase III program. Cipher is not responsible for any of these development costs.

Approximately one million people in Canada have psoriasis, according to Canadian Dermatology Association in 2018. In moderate to severe cases, the most common treatment options are systemic biologic drugs, which are delivered by injection or intravenous infusion and have well-known shortcomings, including increased risk of infection. CF101 is an oral small molecule drug formulated in a tablet and has an excellent human safety profile, demonstrated in more than 1,000 patients.

The timeline to regulatory submissions to Health Canada will be determined by the successful completion of the remaining clinical trial program.

Under the terms of the agreement with Can-Fite, Can-Fite received an upfront payment of US\$1.65 million and is eligible for milestone payments of up to US\$2.0 million and royalties from product sales in Canada. The agreement provides that Can-Fite will deliver finished product to Cipher.

#### ***DTR-001***

On May 2, 2016, the Company licensed the worldwide rights to develop, market and sell an investigational tattoo removal cream from Dalhousie University. The product candidate, which is applied topically, has shown encouraging results in pre-clinical testing for the removal or reduction of the appearance of tattoos. The product candidate is currently at the pre-clinical stage of development.

Under the terms of the agreement, an upfront payment of \$75,000 was made by Cipher upon execution of the agreement and the agreement contains milestone payments of up to \$3.6 million based on future regulatory and commercial sales milestones, as well as royalties on commercial sales.

#### ***The Astion Portfolio***

In February 2015, Cipher announced the acquisition of the worldwide rights to three products from Astion Pharma being Dermadexin, Pruridexin and ASF-1096 (the “Astion Acquisition”). These three products are focused on inflammatory dermatological diseases and are as follows:

##### ***ASF-1096***

ASF-1096 is a product candidate for the treatment of dermatomyositis. The active agent of ASF-1096 is the R-enantiomer of salbutamol that is thought to exert an anti-inflammatory activity. ASF-1096 contains purified R-salbutamol formulated into a cream.

Cipher has an orphan drug indication in the European Union (“EU”) for ASF-1096, a product candidate that the Company believes has promise as a treatment for discoid lupus erythematosus, a highly disfiguring and rare disease with no current cure as well as other potential rare conditions in the European market. In the U.S., this indication does not meet the requirements for orphan drug status. Cipher is reviewing the drug development program and potential indications to support the approval of ASF-1096 in the North American and European markets. In June 2016, Cipher entered into a definitive licensing agreement with Edesa Biotech Inc. (“Edesa”), under which Cipher granted Edesa the exclusive worldwide rights to develop, market and sell ASF-1096 for the treatment of anorectal indications. Under the terms of the agreement, Cipher is eligible to receive clinical, regulatory and commercial milestone payments, along with a royalty on net sales.

## Dermadexin and Pruridexin

Dermadexin is a patent-protected topical barrier-repair cream containing the pharmacologically active ingredient P3GCM, which has dual mechanisms of action. Firstly, P3GCM inhibits fatty acid amide hydrolase (“FAAH”), which is induced in dermal inflammation. FAAH breaks down the anti-pruritic and anti-inflammatory dermal endocannabinoids; thus P3GCM gives rise to enhanced dermal endocannabinoid levels which exert anti-inflammatory and anti-itch effects via cannabinoid receptors on peripheral sensory nerve endings and various inflammatory cells. In addition, P3GCM inhibits Nuclear Factor Kappa B (NF-kB) mediated inflammatory gene expression, giving rise to lower dermal levels of inflammation. The product was approved in the EU in 2014 as a Class III medical device for the treatment of seborrheic dermatitis, an inflammatory skin disorder affecting the scalp, face, and torso. Dermadexin SD Cream has been tested in two placebo-controlled, multicenter clinical trials (436 patients) where it displayed a marked and statistically significant effect on the symptoms of facial seborrheic dermatitis, with a fast onset of action and an increasing effect over time.

Pruridexin is a patent-protected topical cream for the treatment of chronic pruritis (itching). The active agent of Pruridexin is a formulation of P3GCM. Compared to Dermadexin, Pruridexin is less viscous and is more appropriate for use on larger areas of the body such as extremities and the back. Pruridexin Cream has been tested in two placebo-controlled, multicenter clinical trials (352 patients) and displayed a marked and statistically significant effect on the pruritus, with a fast onset of action and an increasing effect over time. Pruridexin exerts its therapeutic effects via similar mechanisms of action as Dermadexin.

In Q3 2015, Cipher received an Acceptance Review Notification for its 510(k) submissions for both Dermadexin and Pruridexin to the FDA. The notification confirms that the submission contained all of the necessary elements and information needed to proceed with the substantive review. The FDA subsequently put the review on hold due to the uncertainty of the functions of the ingredients. The FDA requested that Cipher submit a Request For Designation (“RFD”) to the Office of Combination Products to determine whether the products should be considered drugs or devices. In April 2016, Cipher submitted an informal RFD for Dermadexin and received a non-binding regulatory determination that the product, which contained nicotinamide (a new ingredient not listed in the device database), should be reviewed under the jurisdiction of the Center for Drug Evaluation and Research (“CDER”). In July 2017, the Company submitted a Pre-RFD with additional information in support of its position that the product should not be reviewed by CDER. However, the FDA’s decision remained the same, specifically that the product is a combination product comprised of two components and should be assigned to CDER.

In April 2016, Cipher received Health Canada approvals (via Natural and Non-Prescription Health Products Directorate “NNHPD”) for DexiDerm SD Cream and DexiDerm AD Cream (also known as Dermadexin and Pruridexin). DexiDerm CD was approved by the NNHPD in August 2016 and DexiDerm Scalp was approved on November 3, 2016. In Europe, Helioclin Dermatitis SD Cream (also known as Dermadexin) was approved in 2014 and Helioclin Pruritus SD Cream (also known as Pruridexin) was approved in April 2016, as a Class III medical device.

The Company decided not to continue to actively pursue partners or continue support for the related intellectual property of Dermadexin and Pruridexin.

### Specialized Skill and Knowledge

The Company specializes in selling and acquiring pharmaceutical products. Cipher searches for and acquires/in-licenses prescription products that it can sell with its own sales force in Canada. By enlisting the support of experienced clinical trial, regulatory and legal consultants, the Company is able to use expert knowledge to assist in the successful development of its products and the protection of its intellectual property.

### Strategy

The Company’s corporate strategy is to build a portfolio of prescription products across a broad range of therapeutic areas that each meet an unmet medical need. The focus on the Company’s strategy is to:

- acquire or in-license prescription medicines for the Canadian market;
- acquire businesses with commercial products, proven capabilities or substantial synergies with the Company;
- out-license products in markets where Cipher does not have a commercial presence; and

- selectively invest in drug development programs where we see a favourable risk/return profile.

The Company is actively assessing and sourcing opportunities that would build on the strengths of the organization, including a scalable commercial infrastructure in Canada. The execution of any transaction is contingent on the Company being able to negotiate acceptable terms and obtaining the necessary financing.

### **Competitive Conditions**

The Company competes for both in-licensing and out-licensing opportunities. The pharmaceutical industry is intensely competitive and includes a range of players from large top-tier multinational companies to a smaller group of mid-tier companies and a large number of smaller, regional companies, often owned and operated by researchers. The Company believes that competition in the pharmaceutical industry will continue to increase as disease management and patient compliance become more important in the overall strategy of cost containment in the healthcare sector. In addition, pharmaceutical companies are increasingly taking steps to extend market exclusivity for their products by utilizing new drug delivery technologies and then filing patents on the resulting new formulations. Many of the Company's major drug development competitors have more experience in developing products and obtaining regulatory approvals and many are better capitalized.

The Company believes that its competitive strengths include, management's expertise evaluating drug candidates and launching commercial products, experience with clinical studies and regulatory matters, and the quality and reputation of its strategic partners and management team.

### **Environmental, Health and Safety Matters**

Currently, the Company does not manufacture any of our products. However, the operations of our subcontractors and suppliers are subject to various laws and regulations relating to environmental, health and safety matters, and their failure to comply with such laws and regulations could have a material adverse effect on our business and reputation, result in an interruption or delay in the development or manufacture of our product candidates, or increase the costs for the development or manufacture of our product candidates.

### **Manufacturing, Supply and Production**

The Company does not own or operate manufacturing facilities for the production of our products. The Company relies on third-party contract manufacturers for all of our required raw materials, active ingredients and finished products.

Development and commercial quantities of any products that Cipher develops will need to be manufactured in facilities, and by processes, that comply with the requirements of the FDA and the regulatory agencies of other jurisdictions in which the Company is seeking approval. Cipher employs internal resources to manage our manufacturing contractors and plays an active role in working with manufacturers to maintain the quality of the products supplied to our distribution partners. The manufacturers of our drugs have advised us that they are compliant with both current Good Laboratory Practices ("cGLP") and Good Manufacturing Practices ("cGMP").

Cipher and its contract manufacturers are, and will be, subject to extensive governmental regulation in connection with the manufacture of any pharmaceutical products or medical devices. Cipher and its contract manufacturers must ensure that all of the processes, methods and equipment are compliant with cGMP and cGLP for drugs on an ongoing basis, as mandated by the FDA and foreign regulatory authorities, and conduct extensive audits of vendors, contract laboratories and suppliers. Please see "Risk Factors".

## Employees

As at December 31, 2018, the Company had 39 full-time employees, all located in Canada. The distribution of our full-time employees according to main areas of activities is set forth in the following table:

Area of Activity:	<u>Employees</u>
Corporate Development	6
Regulatory and Quality	6
Sales and Marketing	20
General and Administrative	7
Total	<u>39</u>

The Company also uses senior consultants, hired on a contract basis, and outsources its clinical development programs to various contract research organizations, as needed.

The Company has never experienced any employment-related work stoppages and believes its relationships with its employees are good.

## Liquidity and Capital Resources

The development, licensing, and acquisition of pharmaceutical products is a process that requires significant investment. The Company expects to incur research and development expenses, including expenses related to personnel and clinical trials. The Company also expects that its selling, general and administrative expenses may increase in the future as it expands its selling and business development activity, adds infrastructure and incurs costs in connection with being a public company, including directors' and officers' insurance, investor relations programs and professional fees.

The Company's future capital requirements will depend on a number of factors, including the success of its commercial products, the continued progress of its research and development of product candidates, the timing and outcome of clinical trials and regulatory approvals, payments received or made under licensing or other collaborative agreements, the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims and other intellectual property rights, defending against patent infringement claims, the acquisition of licenses to new products or technologies, the status of competitive products and the success of the Company in developing and maintaining markets for its products and services.

The Company has financial covenants in its credit facility that are based on predefined trailing adjusted earnings before interest, taxes, depreciation and amortization ("EBITDA") formula. The Company's adjusted EBITDA is subject to significant fluctuations based on revenue from its licensing business. A decline in licensing revenue could cause the Company to breach on one or more covenants.

The Company anticipates that its current cash, together with the cash flow that is generated from operations will be sufficient to execute its current business plan for 2019 and meet its debt obligations.

As at December 31, 2018, the Company had cash of US\$10.4 million and debt of US\$17.6 million. The Company expects that its cash on hand and its cash flows from operations will be sufficient to fund current product launches, scheduled debt payments, product development and operating costs.

## Revenues for the Last Two Financial Years

Amounts have been restated upon the full retrospective adoption of IFRS 15, *Revenue from Contracts with Customers*.

The Company reported total revenue, comprised of licensing revenue and product sales, of US\$22.8 million in 2018 compared to US\$40.1 million in 2017, a decrease of US\$17.3 million or 43%.

Licensing revenue was US\$15.9 million in 2018 compared to US\$34.9 million in 2017. Absorica revenue in 2018 was US\$13.0 million, a decrease of US\$17.0 million compared to US\$30.0 million in 2017. Licensing revenue from Lipofen and the authorized generic version of Lipofen was US\$2.3 million in 2018, a decrease of US\$1.5 million

compared to revenue of US\$3.8 million in 2017. Licensing revenue from the extended-release tramadol product (ConZip in the U.S. and Durela in Canada) was US\$0.4 million in 2018, a decrease of US\$0.5 million compared to revenue of US\$1.0 million in 2017.

Total product sales from the Company's commercial products was US\$6.9 million in 2018 compared to US\$6.9 million in 2017, which includes US\$1.3 million in discontinued operations. Revenue from Canadian commercial products marketed by the Company contributed US\$6.9 million in 2018 compared to US\$5.3 million in 2017. The majority of the revenue from Canadian commercial products is related to Epuris. Epuris revenue was US\$5.8 million in 2018 compared to US\$4.6 million in 2017. The balance of the revenue is related to sales of Ozanex, Actikerall, Beteflam and Vaniqa in the aggregate amount of US\$1.1 million in 2018 compared to US\$0.7 million in 2017.

Product Revenue attributable to the U.S. was nil in 2018 compared to US\$1.3 million in 2017. Product revenue attributable to the U.S. in 2017 was only for the four month period prior to the sale of Cipher U.S. on May 1, 2017.

## **RISK FACTORS**

An investment in the securities of the Company is speculative and involves a high degree of risk including, but not limited to, the risk factors discussed in this AIF. Our actual results may differ from those expected as of the date of this AIF. Before making an investment decision, investors should carefully consider these risk factors as well as the other information contained in this AIF. If any of the factors identified as risks actually occur, there could be a material adverse effect on the Company's business, financial condition and results of operations. However, the risks described below are not the only ones the Company faces. Additional risks not currently known to the Company, or those that it currently believes to be immaterial, may also harm the Company's business. The market price of our Common Shares could decline if one or more of those risks and uncertainties develop into actual events and you may lose all or part of your investment.

### **Risks Related to Cipher and its Business Operations**

*Our success depends, in large measure, on our ability to enter into in-licensing, development, manufacturing and marketing and distribution agreements with other pharmaceutical companies and keep such agreements in effect.*

Currently, a significant portion of our marketed product pipeline is in-licensed from Galephar. If Cipher breaches the underlying agreement, Galephar could terminate the agreement in its entirety or with respect to any particular product. Additionally, the Company works with other partners in the specialty pharmaceutical industry.

Factors that may affect the success of our collaborative efforts with partners (including Galephar) include, but are not limited to, the following:

- our partners may be pursuing alternative technologies or developing alternative products, either on their own or in collaboration with others, that may be competitive with the products as to which they are collaborating with us, which could affect their commitment to our product development efforts;
- our partners may not fulfill their contractual obligations and not be able to adequately supply products for us in commercial quantities, which would adversely affect revenues;
- reductions in marketing or sales efforts or a discontinuation of marketing or sales of our products by our commercial partners may reduce future revenues, which will be based on a percentage of net sales by these partners;
- our partners may terminate their collaborations with the Company, which could make it difficult for us to attract new partners or adversely affect how Cipher is perceived in the business and financial communities; and,

- our partners are responsible for complying with all government legislation and regulations related to selling the Company's products in their respective territories. If any of the Company's partners do not comply, this could have a material adverse impact on the cash flows of the Company.

While the Company attempts to minimize risk by maintaining strong relationships with its partners, the development, marketing and commercialization of pharmaceutical products are processes that require large investments and can take years to complete. Projects can be abandoned along the way or regulatory authorities can refuse to approve new products.

*Our current revenues are highly dependent on a limited number of products.*

Our current licensing revenue is highly dependent on CIP-Isotretinoin, CIP-Fenofibrate and CIP-Tramadol. Our current product sales revenue is highly dependent on Epuris. Each of these products faces competition and the ability to grow the market and our market share may be limited.

*Our revenue is dependent on protection from patents that will expire.*

Cipher has and may in the future acquire rights to products that have patent protection, such as Absorica. This patent protection will eventually expire and, in such situations, in order to continue to obtain commercial benefits from these products, Cipher will rely on product manufacturing trade secrets, know-how and related non-patent intellectual property. The effect of this patent expiration depends, among other things, upon the nature of the market and the position of these products in the market from time to time, the growth of the market, the complexities and economics of manufacture of a competitive product and regulatory approval requirements of generic drug laws. In the event that competition develops from generic products, this competition could have a material adverse effect on Cipher's business, financial condition and operating results. The entrance into the market of a generic pharmaceutical product may erode the branded product's market share which may have a material adverse effect on Cipher's business, financial condition and results of operations.

*If in the future Cipher acquires or in-licenses technologies or product candidates, it may incur various costs, may have integration difficulties and may experience other risks that could harm the business and results of operations.*

Any product candidate or technologies Cipher in-licenses or acquires will likely require additional development efforts prior to commercial sale, approval by the FDA, Health Canada and/or applicable foreign regulatory authorities. All product candidates are prone to risks of failure inherent in pharmaceutical product development, including the possibility that the product candidate, or product developed based on in-licensed technology, will not be shown to be sufficiently safe and effective, or otherwise meet the necessary requirements for approval by regulatory authorities. If intellectual property related to product candidates or technologies in-licensed is not adequate, Cipher may not be able to commercialize the affected products, even after expending resources on their development. In addition, the Company may not be able to manufacture economically or successfully commercialize any product candidate that is developed based on acquired or in-licensed technology that is granted regulatory approval, and such products may not gain wide acceptance or be competitive in the marketplace. Moreover, integrating any newly acquired or in-licensed product candidates could be expensive and time-consuming. If Cipher cannot effectively manage these aspects of the business strategy, the business may not succeed.

*Cipher relies on third parties for the marketing of certain products.*

Currently, our out-licensed products are marketed by third parties by way of license arrangements. Even if acceptable and timely marketing arrangements are available, the products developed may not be accepted in the marketplace and, even if such products are initially accepted, sales may thereafter decline.

Additionally, our distribution partners may make important marketing and other commercialization decisions with respect to products they develop without our input or may not perform in the manner expected. As a result, many of the variables that may affect the Company's revenues, cash flows and net income may not be exclusively within its control. The termination of any such contracts or services with such third parties could also have a material adverse effect on our business, financial condition and results of operations.

*The product approval process is highly unpredictable and may take longer than expected.*

Cipher does seek product approvals in foreign jurisdictions and in Canada for a number of products as part of its growth strategy. Approvals may be refused or delayed for a number of reasons, including the requirement for additional clinical and non-clinical studies or patent infringement challenges by patent holders. Challenges of this type are not uncommon and may delay regulatory approvals.

*The timing of completion of clinical trials, anticipated regulatory approvals, pricing approvals, obtaining reimbursement or the timing of product launch may vary due to factors such as delays or setbacks in the conducting of our clinical trials, regulatory approvals or in the manufacturing and marketing of an approved product.*

We may experience numerous unforeseen events that could delay or prevent our ability to receive regulatory approval, including:

- regulatory requests for additional analyses, reports, data, non-clinical studies, and clinical trials;
- clinical trials or non-clinical studies could produce negative or inconclusive results, statistically non-significant results, or regulatory authorities may disagree with our interpretation of the results or the design or conduct of our studies;
- clinical trials or non-clinical studies may reveal unacceptable adverse events or side effects;
- clinical trials may enroll slower than anticipated, may not be completed on schedule, or at all;
- regulators, Institutional Review Boards, or Ethics Committees may not authorize commencement of a clinical trial the continuation of a clinical trial, or amendment of a clinical trial on a timely basis, or at all;
- the applicable regulatory authorities may not accept foreign clinical trial data;
- the Company may elect to suspend or terminate clinical trials due a potential health risk;
- the supply or quality of product necessary to conduct clinical trials of the product candidates may be insufficient or inadequate;
- our clinical or non-clinical studies may not be conducted in accordance with the applicable regulatory requirements;
- regulatory authorities may determine that our product candidates are combination products, requiring additional studies, or that Cipher complies with additional regulatory requirements;
- Cipher may not be able to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks; and
- there may be changes in governmental regulations or guidelines that render our data insufficient for approval.

If Cipher does not meet its timelines within the projected timeframe, our business, financial condition and results of operations could be materially adversely affected. Also, a delay in the launch of a product could negatively impact overall revenues and profitability relating to a product, particularly because the lifespan of our products is expected to be considerably shorter than the average lifespan of new chemical entities.

*We have no experience manufacturing products and rely, and intend to rely, on third parties to manufacture our products. The development and commercialization of our products could be stopped or delayed if any such third party fails to provide us with sufficient quantities of product or fails to do so at acceptable quality levels or prices or fails to maintain or achieve satisfactory regulatory compliance.*

Cipher relies on direct contracts with third-party contract manufacturers or our partners who manage their contract manufacturers. The facilities used by our third-party contract manufacturers may undergo pre-approval inspections by the applicable regulatory authorities, including the FDA, after submitting our NDA to the FDA, and must be able to demonstrate readiness for commercial marketing and conformance with FDA cGMP regulations and related requirements of other applicable regulatory authorities.

Third-party manufacturers may not perform as agreed, may be unable to comply with FDA cGMP regulations, applicable guidelines, state and foreign regulatory requirements or may terminate their agreements with us. If any third-party manufacturers cannot successfully manufacture material that conforms to our specifications and the applicable regulatory authorities' strict regulatory requirements, or undergo successful governmental regulatory inspection, our business will be adversely affected. We have no direct day-to-day control over a third-party manufacturers' ability to maintain adequate quality control, quality assurance and qualified personnel. If third-party manufacturers are unable to satisfy the regulatory requirements for the manufacture of our products, or if our suppliers or third-party manufacturers decide they no longer want to manufacture our products, the Company or our licensing partners may need to find alternative manufacturing facilities. The number of third-party manufacturers with the necessary manufacturing and regulatory expertise and facilities is limited, and it could be expensive and take a significant amount of time to arrange for alternative suppliers, which could have a material adverse effect on business, financial condition and results of operations. Changes in the manufacturing site of our product will require prior FDA or Health Canada approval before the products may be marketed in the U.S. or Canada, respectively. We might be unable to identify manufacturers for long-term commercial supply on acceptable terms or at all.

Manufacturers are subject to ongoing periodic announced and unannounced inspections by the FDA and other governmental authorities to ensure compliance with government regulations. If the FDA or other regulatory authority has any concerns following an inspection of these manufacturing facilities, the facility may be ordered to cease operations until such issues are resolved, which could have a material adverse effect on the Company's business, financial condition and operating results. We and our products or product candidates may also be subject to regulatory actions. Manufacturing facilities and companies that import products to the U.S. may further be subject to import detention if inspections identify compliance concerns.

Manufacturers of pharmaceutical products often encounter difficulties in production, particularly in scaling up and validating initial production. These problems include difficulties with production costs and yields, quality control, including stability of the product, quality assurance testing, operator error, shortages of qualified personnel, as well as compliance with strictly enforced U.S. federal, state, Canadian and foreign regulations. Furthermore, if microbial, viral or other contaminations are discovered in our products or in the manufacturing facilities in which our products are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. We cannot be assured that any stability or other issues relating to the manufacture of any of our products will not occur in the future. Additionally, contract manufacturers may experience manufacturing difficulties due to resource constraints or as a result of labor disputes or unstable political environments. If contract manufacturers, component fabricators or secondary service providers were to encounter any of these difficulties, or otherwise fail to comply with their contractual obligations, our ability to provide any product candidates to patients in clinical trials would be jeopardized. Any delay or interruption in the supply of clinical trial supplies could delay the completion of clinical trials, increase the costs associated with maintaining clinical trial programs and, depending upon the period of delay, require us to commence new clinical trials at additional expense or terminate clinical trials completely. Following product approval or clearance, any delay or interruption in supply could also impact our commercial success.

If the Company changes the source or location of supply or modify the manufacturing process, regulatory authorities may require Cipher to provide them with notification of the change, obtain approval for the change, or demonstrate that the product produced by the new source or from the modified process is equivalent to the product used in any clinical trials that were conducted. If Cipher is unable to meet the regulatory authorities' requirements, it will be unable to manufacture products from the new source or location of supply or use the modified process.

Any adverse developments affecting commercial manufacturing of our products may result in shipment delays, inventory shortages, lot failures, product withdrawals or recalls, enforcement actions, import alerts, import detentions, or other interruptions in the supply of our products or product candidates. We may also have to take inventory write-offs and incur other charges and expenses for products or product candidates that fail to meet specifications, undertake costly remediation efforts or seek more costly manufacturing alternatives. Accordingly, failures or difficulties faced at any level of our supply chain could materially adversely affect our business and delay or impede the development and commercialization of any of our products or product candidates and could have a material adverse effect on the Company's business, financial condition and results of operations.

*We may be subject to product liability claims, which can be expensive, difficult to defend and may result in large judgments or settlements.*

Drug development involves the testing of drugs on human subjects. Such studies create a risk of liability for personal injury or death to participants as a result of an unexpected adverse reaction to the tested drug or as a result of negligence or misconduct. Furthermore, the administration of drugs to humans after marketing clearance is obtained can result in product liability claims. Product liability claims can be expensive, difficult to defend and may result in large judgments or settlements against us. In addition, third party collaborators and licensees may not protect us from product liability claims. Product liability claims may also result in regulatory actions.

We currently maintain product liability insurance in connection with the marketing of our products. The Company may not be able to obtain or maintain adequate protection against potential liabilities arising from product sales. In addition, Cipher could become subject to potential liabilities as successor owner of an asset, product or business (even if not specifically assumed by us). In such circumstances, the Company's insurance policies may not provide enough coverage for such liabilities. If Cipher is unable to obtain sufficient levels of insurance at acceptable cost or otherwise protect against potential product liability claims, the Company will be exposed to product liability claims. A successful product liability claim in excess of the Company's insurance coverage could have a material adverse effect on our business, financial condition and results of operations. In addition, any successful claim may prevent the Company from obtaining adequate product liability insurance in the future on commercially desirable terms or at all. Even if a claim is not successful, defending such a claim may be time-consuming and expensive. Product liability claims, whether or not merited, could also result in negative perception of the Company and its products which could have a material adverse effect on the Company's business, financial condition and results of operations.

*Unexpected product safety or efficacy concerns may arise.*

Unexpected safety or efficacy concerns can arise with respect to our marketed and commercialized products, whether or not scientifically justified, leading to product recalls, withdrawals, post-approval requirements, such as studies or REMS, labeling revisions, withdrawal of regulatory approvals for the affected products, issuance of safety alerts, Dear Healthcare Provider letters, or other safety notices, required labeling changes, or declining sales, as well as product liability, consumer fraud and/or other claims. If product safety issues present a public health risk, products in the field may be subject to seizure or injunctive action preventing their distribution. This could have a material adverse effect on our business, financial condition and results of operations.

*We generate license revenue from a limited number of distribution and supply agreements.*

The Company currently generates license revenues from a limited number of distribution and supply agreements. A significant proportion of our revenue is derived from Absorica. The loss of that source of revenue for any reason could have a material adverse effect on our business, financial condition and results of operations.

*The pharmaceutical industry is highly competitive and may be impacted by rapid technological change.*

The Company competes to obtain licenses for products and competes to secure distribution channels. Moreover, our products compete with other products.

The pharmaceutical industry is subject to rapid and substantial technological change. The patents protecting the active ingredients for the products currently in our product pipeline have expired. In order to obtain commercial benefits from our products, Cipher relies on proprietary drug delivery systems. Our products will face intense

competition from conventional forms of drug delivery systems and from delivery systems, which are similar to those in-licensed by the Company. We will compete with companies in North America and abroad, including major pharmaceutical and chemical companies, research and development firms, universities and other research institutions.

Many of the Company's competitors have greater financial resources and market capabilities, have greater experience in drug development and have greater experience in obtaining FDA and other regulatory approvals. The Company's competitors may succeed in developing technologies and products that are more effective or cheaper to use than any products that Cipher may develop or license. These developments could render the Company's technologies and products obsolete or uncompetitive, which could have a material adverse effect on our business, financial condition and results of operations. These competitors could also be viewed as more favourable partners to licensors and/or distributors.

*We may require additional capital to fund future operations.*

We may have a need for capital resources to fund possible future operational needs, scheduled debt payments, product development expenditures and future strategic initiatives. We may expend amounts to fund research and development activities in order to develop new products and, to a lesser degree, to complete existing products under development. These expenditures may cause us to incur operating losses and cash flow deficiencies for the near future and until such time as sales of our products by commercial partners generate sufficient additional revenues. We attempt to mitigate the risk associated with drug development costs through the terms of our in-licensing agreements, where the risk of additional research and development costs is borne by our development partners and Cipher pays milestone amounts only when development milestones are achieved.

As at December 31, 2018, the Company had cash of US\$10.4 million and debt of US\$17.6 million. The Company also generates commercial revenue which provides a source of cash flow. In 2018, the Company reported total revenue of US\$22.8 million.

We expect the cash on hand and the cash generated from operations may be sufficient to fund current product development and operating costs. Additional funding may be required for the development of new products in-licensed from technology partners and/or for additional acquisitions. Although Cipher believes that the Company could obtain additional capital through future equity or debt financing, there can be no assurance that it will be able to do so on terms acceptable to us or at all. If Cipher was unable to obtain sufficient additional capital, the development of our existing principal products and/or additional products could be disrupted, which could have a material adverse effect on our business, financial condition and operating results.

*The Company's products in Canada may be subject to pricing regulation and changes in regulations or pricing adjustments could impact profitability.*

All patented pharmaceutical products introduced in Canada are subject to the post-approval product pricing regulation of the Patented Medicine Prices Review Board ("PMPRB"). Certain patented products may form part of Cipher's portfolio of products from time to time and may be subject to such regulation by the PMPRB. The PMPRB will monitor compliance through a review of the average transaction price of each patented drug product to be reported by Cipher over a recurring six-month reporting period. The PMPRB does not approve prices for drug products in advance of their introduction to the market, rather, it provides guidelines from which companies like Cipher set their prices at the time they launch their products. If the PMPRB's guidelines provide a ceiling price for a patented product that is lower than the Company's expectations, or if the PMPRB deems a patented product to be excessively priced, leading to the reduction of the product's price and the potential imposition of a fine, such restriction and regulation may hamper the Company's ability to profitably commercialize the product to its full market potential or at all. This could materially and adversely affect the Company's business and could have a material adverse effect on the Company and its financial results.

Furthermore, future changes to the regulations and/or guidelines of PMPRB or other relevant regulatory bodies may result in less favourable product pricing directives and requirements. The Company's ability to predict and/or adapt to such directives or requirements may be limited.

*Cipher depends on key managerial personnel and external collaborators for our continued success.*

Product development capacity will depend, to a great extent, on the ability to attract and retain highly qualified staff. The competition in the industry in which the Company operates is intense. Cipher's success will be highly dependent upon our Chief Executive Officer and the Company's small team of senior officers, our scientific personnel as well as our consultants and collaborators. The loss of key employees or collaborators, if any, could compromise the pace and success of our product development.

*Although Cipher obtained regulatory approval in the U.S. and Canada for our commercialized products, there is no assurance that the Company will receive regulatory approvals in the U.S., Canada or any other jurisdictions for the other products in development or for future products.*

The cost of obtaining and complying with government regulation can be substantial. Government authorities in the U.S., Canada and comparable authorities in foreign countries regulate the research and development, manufacture, testing and safety of pharmaceutical products as well as the approval and commercialization of such products. The regulations applicable to our existing and future products may change. There can be long delays in obtaining required clearances from regulatory authorities in any country after applications are filed. Government agencies in the U.S., Canada and other countries in which Cipher intends to carry on business regulate pharmaceutical products intended for human use. Regulations require extensive clinical trials and other testing and government review and final approval before the Company can market our products.

Requirements for approval vary widely from country to country outside of the U.S. and Canada. Whether or not approved in the U.S. or Canada, regulatory authorities in other countries must approve a product prior to the commencement of marketing the product in those countries. The time required to obtain any such approval may be longer or shorter than in the U.S. and Canada. Marketing approval in one country does not ensure marketing approval in another, but a failure or delay in obtaining marketing approval in one country may have a negative effect on the regulatory process in others.

Any failure or delay in obtaining regulatory approvals could adversely affect the market for any products Cipher develops and commercialize and therefore our business, financial condition and results of operations.

Even if Cipher obtains regulatory approval of our products in the U.S., Canada, or elsewhere, any such approval might significantly limit the indications for use, to include a more limited patient population, require that certain precautions, contraindications or warnings be included on the product labeling, including black box warnings, require time-consuming post-approval clinical studies, or require that REMS be followed. For instance, CIP-Isotretinoin, called Absorica in the U.S. is subject to REMS requirements.

Furthermore, in the U.S., Canada, and elsewhere, the manufacturing, packaging, labeling, handling, distribution, importation, exportation, licensing, sale, marketing, promotion and storage of our products are affected by extensive laws, governmental regulations, administrative determinations, court decisions and similar constraints. There can be no assurance that the Company or the Company's third party distributors and manufacturers are in compliance with all of these laws, regulations and other constraints. Failure to comply with these laws, regulations or other constraints or new laws, regulations or constraints could lead to enforcement actions, the imposition of significant penalties or claims or withdrawal of marketing approvals, as a result of which our business, financial condition and financial results could be materially adversely affected. In addition, the adoption of new laws, regulations or other constraints or changes in the interpretation of such requirements may result in significant compliance costs that could be passed on to the Company by its distributors or manufacturers or lead the Company to discontinue product sales and may have an adverse effect on the marketing of our products, resulting in significant loss of sales. For instance, in the U.S., portions of the Drug Quality and Security Act, FDA's law on the tracking and tracing of prescription drug products, went into effect in 2015, which will add to our responsibilities and may increase the cost of doing business.

In the U.S., the FDA prohibits any written, verbal, or implied statement used to promote or sell a product that associates the product with an unapproved use that is not reflected in the product's approved label, referred to as off-label information. If any such evidence is found with respect to our products, the FDA or other regulatory authorities, including the U.S. Department of Justice, Department of Health and Human Services' Office of Inspector General, state attorneys general, and members of Congress may take adverse action against us, ranging from a warning letter

necessitating cessation of use of the statement to injunctions against product sale, seizures of products promoted with the statements, inquiries, and civil and criminal prosecution, fines, and penalties. The federal government has levied large civil and criminal fines against companies for alleged improper promotion and has enjoined several companies from engaging in off-label promotion. The government has also requested that companies enter into consent decrees under which specified promotional conduct is changed or curtailed.

In the U.S., engaging in the impermissible promotion of our products, following approval or clearance, for off-label uses can also subject us to false claims litigation under federal and state statutes, which can lead to civil and criminal penalties and fines, agreements with governmental authorities that materially restrict the manner in which the Company promotes or distributes drug and device products through, for example, corporate integrity agreements, and debarment, suspension or exclusion from participation in federal and state healthcare programs and contracts. These false claims statutes include the federal civil False Claims Act, which allows any individual to bring a lawsuit against a company on behalf of the federal government alleging submission of false or fraudulent claims, or causing others to present such false or fraudulent claims, for payment by a federal program such as Medicare or Medicaid. If the government decides to intervene and prevails in the lawsuit, the individual will share in the proceeds from any fines or settlement funds. If the government declines to intervene, the individual may pursue the case alone. These False Claims Act lawsuits have increased significantly in volume and breadth, leading to several substantial civil and criminal settlements regarding certain sales practices promoting off-label uses involving fines that are as much as US\$3.0 billion. This growth in litigation has increased the risk that a company will have to defend a false claim action, pay settlement fines or restitution, as well as criminal and civil penalties, agree to comply with burdensome reporting and compliance obligations, and be excluded from Medicare, Medicaid and other federal and state healthcare programs. If Cipher does not lawfully promote our products, if any, the Company may become subject to such litigation and, if not successfully defended against such actions, those actions may have a material adverse effect on our business, financial condition, results of operations and prospects.

*Certain of our products are subject to regulation as controlled substances, subjecting them, us, our contract manufacturers, our partners, prescribers, and dispensers to significant regulatory requirements.*

CIP-Tramadol ER, called ConZip in the U.S., is regulated as a schedule IV narcotic controlled substance, subjecting it, us, our contract manufacturers, our partners, prescribers, and dispensers to significant regulation by the U.S. Drug Enforcement Administration (“DEA”). DEA’s regulations address such areas as registration, security, recordkeeping, reporting, storage, distribution, prescribing, importing, exporting, and other requirements. States also may regulate controlled substances, including ConZip. These requirements could limit the commercialization of our controlled substance products, and failure to abide by these requirements could result in enforcement action. Moreover, in recent years FDA and other government authorities have devoted significant attention to the issue of opioids and opioid abuse, including guidance on the development of abuse deterrent opioids and labeling requirements, and these regulatory activities are ongoing. The Company’s products may be subject to these and/or additional requirements that are in effect or may be developed in the future, which could have an adverse impact on our business.

*We expect the healthcare industry to face increased limitations on reimbursement, rebates and other payments as a result of healthcare reform, which could adversely affect third-party coverage of our products and how much, or under what circumstances, healthcare providers will prescribe or administer our products, if approved.*

In the U.S., Canada and other countries, sales of our products, if approved for marketing, will depend in part upon the availability of reimbursement from third-party payors, which include governmental authorities, managed care organizations and other private health insurers. Third-party payors are increasingly challenging the price and examining the cost effectiveness of medical products and services.

Increasing expenditures for healthcare have been the subject of considerable public attention in the U.S. Both private and government entities are seeking ways to reduce or contain healthcare costs. Numerous proposals that would effect changes in the U.S. healthcare system have been introduced or proposed in Congress and in some state legislatures, including reducing reimbursement for prescription products and reducing the levels at which consumers and healthcare providers are reimbursed for purchases of pharmaceutical products.

Cost reduction initiatives and changes in coverage implemented through legislation or regulation could decrease utilization of and reimbursement for any approved products, which in turn would affect the price the

Company can receive for those products. Any reduction in reimbursement that results from federal legislation or regulation may also result in a similar reduction in payments from private payors, as private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates.

In March 2010, then President Barack Obama signed into law the Patient Protection and Affordable Care Act and the Health Care and Education Affordability Reconciliation Act of 2010 (together the “Affordable Care Act”), a legislation intended, among other things, to broaden access to health insurance and reduce or constrain the growth of healthcare spending. The Affordable Care Act increased the minimum rebate due for innovator drugs from 15.1% of average manufacturer price (“AMP”), to 23.1% of AMP and capped the total rebate amount for innovator drugs at 100.0% of AMP. The Affordable Care Act and subsequent legislation also narrowed the definition of AMP.

Furthermore, the Affordable Care Act imposes a significant annual, non-deductible fee on companies that manufacture or import certain branded prescription drug products. Pharmaceutical manufacturers are required to comply with the Sunshine Act, provisions of the Affordable Care Act, which requires pharmaceutical companies to monitor and report payments, gifts, the provision of samples and other remuneration made to physicians and teaching hospitals.

The Affordable Care Act also authorizes the Medicare program to engage in demonstration programs, including programs designed to lower the costs of drugs reimbursed under fee-for-service Medicare, such as drugs reimbursed under Medicare Part B. Proposals under this authority have already been issued, but have not yet been finalized. It is clear, however, that the continued implementation of the Affordable Care Act will continue to put pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs.

In addition, other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. More recently, in August 2011, then President Obama signed into law the Budget Control Act of 2011, which, among other things, creates the Joint Select Committee on Deficit Reduction to recommend to Congress proposals in spending reductions. The Joint Select Committee did not achieve a targeted deficit reduction of an amount greater than US\$1.2 trillion for the years 2013 through 2021, triggering the legislation’s automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to healthcare providers of up to 2.0% per fiscal year, which started in 2013 and continues currently through 2025.

These new laws may result in additional reductions in healthcare funding, which could have a material adverse effect on our customers, which may affect our financial operations. Legislative and regulatory proposals may expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. In addition, in January 2017, newly-elected President Donald Trump signed an executive order intended to “ease[e] the burden of the Affordable Care Act,” the full impact of which is unclear and which the Company believes signals President Trump’s support for a repeal of the Affordable Care Act by the Republican-controlled U.S. Congress. In December 2017, the U.S. Congress successfully passed a repeal of the Affordable Care Act’s individual mandate, a federal requirement under that legislation which stated that most Americans must carry a minimum level of health coverage, which took effect in 2019. Given the individual mandate served as a mechanism to balance insurer risk and costs, as it is perceived that in the absence of such mandate only those individuals who currently need access to the health care system would opt for coverage, the U.S. Congress may attempt to resolve this imbalance by either amending or repealing the Affordable Care Act. However, Cipher cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our products or our other product candidates may be. In response to the repeal of the Affordable Care Act’s individual mandate at the federal level, certain U.S. states including Massachusetts, New Jersey and the District of Columbia have passed legislation to penalize individuals for not having health insurance commencing in 2019 and certain other states are considering introducing similar legislation.

Although Cipher cannot predict the full effect on our business of the implementation of existing legislation or the enactment of additional legislation pursuant to healthcare and other legislative reform, it is believed that legislation or regulations that would reduce reimbursement for, or restrict coverage of, our products could adversely affect how much or under what circumstances healthcare providers will prescribe or administer our products. This could materially and adversely affect our business by reducing our ability to generate revenues, raise capital, obtain additional licensees and market our products. In addition, Cipher believes the increasing emphasis on managed care

in the U.S. has and will continue to put pressure on the price and usage of pharmaceutical products, which may adversely impact product sales.

*It will be difficult for us to profitably market and sell our products if reimbursement for products is limited by government authorities and third-party payor policies.*

In addition to any healthcare reform measures that may affect reimbursement, market acceptance and sales of the Company's products and product candidates, if approved, will depend on the reimbursement policies of government authorities and third-party payors. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels.

In Canada, patented pharmaceutical products are subject to price control by the PMPRB. Third-party payers increasingly challenge the pricing of pharmaceutical products. In addition, the trend toward managed healthcare in the U.S., the growth of organizations such as Health Maintenance Organizations ("HMOs") and Managed Care Organizations ("MCOs") and legislative proposals to reform healthcare and government insurance programs could significantly influence the purchase of pharmaceutical products, resulting in lower prices and reduction in product demand. Such cost containment measures and healthcare reform could affect our partners' ability to sell our products and may have a material adverse effect on our business, financial condition and results of operations.

Uncertainty exists about the reimbursement status of newly approved pharmaceutical products. Reimbursement in the U.S., Canada or other foreign countries may not be available for some of the Company's products. Any reimbursement granted may not be maintained or limits on reimbursement available from third-party payers may reduce demand for, or negatively affect the price of, those products. These issues could have a material adverse effect on the Company's business, financial condition and results of operations. The Company is unable to predict if additional legislation or regulation impacting the healthcare industry or third-party coverage and reimbursement may be enacted in the future, or what effect such legislation or regulation would have on the Company's business.

*If Cipher is not able to convince public payors and hospitals to include its products on the approved formulary lists, revenues may not meet expectations and business, results of operations and financial condition may be adversely affected.*

Hospitals establish formularies, which are lists of drugs approved for use in each such hospital. If a drug is not included on a hospital's formulary, the ability of the Company's distribution partners and key account managers to promote and sell drugs may be limited or denied. If Cipher fails to secure and maintain formulary inclusion for its drugs on favourable terms or are significantly delayed in doing so, Cipher may have difficulty achieving market acceptance of our drugs and our business, results of operations and financial condition could be materially adversely affected.

*Hospital customers may be late in their payments and in some cases may not pay monies owed.*

Hospital customers that purchase our products and product candidates, if approved, generally bill public payors to cover all or a portion of the costs and fees associated with these purchases. Revenue and financial condition depend on the extent to which the customers are reimbursed for these costs and fees, and the extent to which such payments are made to us according to the timelines required by our contracts or general terms and conditions. Such payments may be delayed or withheld for many reasons, including, but not limited to, regulatory requirements of local and national governments, reimbursement requirements of public payors, the financial condition or access to capital of our customers and public payors or the deterioration of general or local economic conditions. The non-payment or late payment of amounts due from customers and public payors may increase the allowance for doubtful accounts or delay the timing of receipt of cash, which would negatively impact our financial condition. In addition, any increase to the allowance for doubtful accounts or write-off accounts receivable would also negatively impact our financial position and results of operations.

*The Company or its distributors may be subject to various laws pertaining to health care fraud and abuse, including anti-kickback, self-referral, false claims and fraud laws, and any violations by us of such laws could result in fines or other penalties.*

The U.S. federal anti-kickback statute prohibits the offer, receipt, or payment of remuneration in exchange for or to induce the referral of patients or the use of products or services that would be paid for in whole or part by Medicare or other federal health care programs. Remuneration has been broadly defined to include anything of value, including cash, improper discounts, and free or reduced price items and services. Many states have similar laws that apply to their state health care programs as well as private payors. Violations of the anti-kickback laws can result in exclusion from federal health care programs and substantial civil and criminal penalties.

The U.S. federal False Claims Act (“FCA”), imposes liability on persons who, among other things, present or cause to be presented false or fraudulent claims for payment by a federal health care program. The FCA has been used to prosecute persons submitting, or causing the submission of, claims for payment that are inaccurate or fraudulent, that are for services not provided as claimed, or for services that are not medically necessary. The FCA includes a whistleblower provision that allows individuals to bring actions on behalf of the federal government and share a portion of the recovery of successful claims. If our marketing or other arrangements were determined to violate anti-kickback or related laws, including the FCA, then our revenues could be adversely affected, which would likely harm our business, financial condition, and results of operations.

State and federal authorities have aggressively targeted medical technology companies for alleged violations of these anti-fraud statutes, based on improper research or consulting contracts with doctors, certain marketing arrangements that rely on volume-based pricing, off-label marketing schemes, and other improper promotional practices. Companies targeted in such prosecutions have paid substantial fines in the hundreds of millions of dollars or more, have been forced to implement extensive corrective action plans, and have often become subject to consent decrees severely restricting the manner in which they conduct their business. If Cipher becomes the target of such an investigation or prosecution based on our contractual relationships with providers or institutions, or our marketing and promotional practices, the company could face similar sanctions, which would materially harm our business.

Also, the U.S. Foreign Corrupt Practices Act, the Canadian Corruption of Foreign Officials Act and similar worldwide anti-bribery laws generally prohibit companies and their intermediaries from making improper payments to non-U.S. officials for the purpose of obtaining or retaining business. Our internal control policies and procedures may not protect us from reckless or negligent acts committed by our employees, future distributors, licensees or agents. Violations of these laws, or allegations of such violations, could result in fines, penalties or prosecution and have a negative impact on our business, results of operations and reputation.

*The Company relies on the success of strategic investments and partnerships.*

Economic, governmental, industry and internal company factors outside our control affect each of the companies in which Cipher may invest or partner. If these companies do not succeed, the value of our assets and the market price of the Common Shares could decline. Some of the material risks relating to the companies in which the Company may invest in, or partner with, include:

- the ability of these companies to successfully develop and manufacture the products which serve as the basis of our investment;
- the ability of competitors to develop similar or more effective products, making the drugs developed by the companies in which Cipher invests difficult or impossible to market;
- the ability of these companies to adequately secure patents for their products that do not infringe existing patents and protect their proprietary information;
- the ability of the companies to remain technologically competitive, and the dependence of these companies upon key scientific and managerial personnel; and
- the ability of these companies to remain financially viable.

Cipher will have limited or no control over the resources that any company in which it invests may devote to developing products in collaboration with us. Any company in which Cipher invests may not perform as expected. These companies may breach or terminate their agreements or otherwise fail to conduct product discovery and development activities successfully or in a timely manner. If any of these events occur, it could have a material adverse effect on the business, financial condition and results of operations.

*The publication of negative results of clinical trials may adversely impact our products.*

From time to time, studies or clinical trials on various aspects of pharmaceutical products, including a product's active ingredient, are conducted by academic researchers or others, including government agencies. The results of these studies or trials, when published or posted on government websites such as [clinicaltrials.gov](http://clinicaltrials.gov), may have a significant effect on the market for the pharmaceutical product that is the subject of the study. The publication of negative results of studies or clinical trials related to our products, an active ingredient in our products, or the therapeutic areas in which our products compete could adversely affect our sales, the prescription trends for our products and the reputation of our products. In the event of the publication of negative results of studies or clinical trials related to our products, an active ingredient in our products, or the therapeutic areas in which our products compete, this could have a materially adverse effect on our business, financial condition and results of operations.

*Development goals and projected time frames are unpredictable and may not be achieved.*

The Company set goals for, and make public statements regarding, timing of the accomplishment of objectives material to our success, such as the commencement and completion of clinical trials, anticipated regulatory approval dates, and the timing of product launches. The actual timing of these events can vary dramatically due to factors such as delays or failures in our clinical trials, the uncertainties inherent in the regulatory approval process, and delays in achieving product development, manufacturing or marketing milestones necessary to commercialize our products. There can be no assurance that our clinical trials will be completed on a timely basis or at all, that Cipher will make regulatory submissions or receive regulatory approvals as planned, or that Cipher will be able to adhere to our current schedule for the scale-up of manufacturing and launch of any of our products. If the Company fails to achieve one or more of these milestones as planned, it could have a material adverse effect on our business, financial condition and results of operations.

*Rising insurance costs could negatively impact our profitability.*

The cost of insurance, including director and officer, product liability and general liability insurance, has risen significantly in recent years and is expected to continue to increase. In response, Cipher may increase deductibles and/or decrease certain coverage to mitigate these costs. These increases, and our increased risk due to increased deductibles and reduced coverage, could have a material adverse effect on our business, financial condition and results of operations.

*Under applicable employment laws, the Company may not be able to enforce covenants not to compete.*

Cipher generally enters into non-competition agreements as part of employment agreements with employees. These agreements generally prohibit Cipher's employees, if they cease working for the Company, from competing directly with us or working for our competitors or clients for a limited period. We may be unable to enforce these agreements under the laws of the jurisdictions in which employees work and it may be difficult to restrict our competitors from benefitting from the expertise our former employees or consultants developed while working for us.

*The Company is subject to risks associated with the industry in which it operates.*

Currently, the Company primarily operates in the North American healthcare industry. Accordingly, the Company is subject to risks associated with operating in a single industry in a concentrated geographic location. Any event affecting this industry could have a material adverse effect on the Company's business, financial condition and results of operations. Moreover, our projected revenues and operating results are based on assumptions concerning certain levels of product purchases in these markets. Any failure to attain the Company's projected revenues and operating results as a result of adverse economic or market conditions could have a material adverse effect on the Company's business and financial condition.

*Cipher may be unsuccessful in evaluating material risks involved in completed and future acquisitions.*

Cipher regularly reviews acquisition opportunities and as part of the review, conducts business, legal and financial due diligence with the goal of identifying and evaluating material risks involved in any particular acquisition. Despite Cipher's efforts, it may be unsuccessful in identifying and/or evaluating all such risks. As a result, Cipher may not realize the expected benefits and synergies of any given acquisition. If Cipher fails to realize the expected benefits and/or synergies from one or more acquisitions or does not identify all of the risks associated with a particular acquisition, this could have a material adverse effect on Cipher's business, financial condition and results of operations.

In addition, Cipher may fail to discover liabilities of any acquired companies for which it may be responsible as a successor owner or operator in spite of any investigation made prior to the acquisition. Such discoveries may divert significant financial, operational and managerial resources from existing operations, and could have a material adverse effect on Cipher's business, financial condition and results of operations.

*The Company may be unable to successfully identify, acquire or integrate acquisition targets.*

Part of Cipher's business strategy includes identifying, acquiring and integrating businesses, products, pharmaceuticals or other assets that Cipher believes are complementary to its existing businesses, products, pharmaceuticals or other assets, and forming strategic alliances, joint ventures and other business combinations, to help drive future growth.

Acquisitions or similar arrangements may be complex, time consuming and expensive. Cipher may enter into negotiations for an acquisition but determine not to, or be unable to, complete any particular acquisition or other arrangement, which could result in a significant diversion of management and other employee time, as well as substantial out-of-pocket fees and costs.

If an acquisition or other arrangement is completed, the integration into Cipher's business with the business, product or asset that is so acquired or subject to such other arrangement may also be complex and time-consuming and, if any such business, product and/or asset is not successfully integrated, Cipher may not achieve the anticipated benefits, cost-savings or growth opportunities and may experience other opportunity costs.

Furthermore, these acquisitions and other arrangements, even if successfully integrated, may not advance or enhance Cipher's business strategy as anticipated (or to an extent that the cost of such acquisitions and other arrangements would be justified), and they may expose Cipher to increased competition or challenges with respect to Cipher's products or geographic markets and expose Cipher to additional liabilities, including litigation, tax and successor liability risks, associated with any business, product or other asset that is acquired or subject to such other arrangement.

Any one of these challenges or risks could impair Cipher's ability to realize any benefit from any such acquisition or other arrangement and this could have a material adverse effect on Cipher's business, financial condition and results of operations.

*Cipher historically conducted certain of its operations through U.S. subsidiaries.*

Cipher historically conducted certain of its operations through U.S. subsidiaries. Cipher may thus be subject to a number of associated legacy risks which are beyond its control. While these factors cannot be accurately predicted, Cipher believes the relative risk of its historic operations in the United States is low on a world-wide scale.

*Cipher may not be able to continue to meet certain covenants under its existing long term debt arrangement and inability to meet these covenants could result in acceleration of the Company's long term liabilities.*

Cipher's existing long term debt arrangement, specifically the credit facility pursuant to the Credit Agreement require the Company to maintain specified coverage ratios and satisfy financial covenants. There can be no assurance that Cipher will be able to continue to meet the covenants under such existing credit facilities. A failure to meet such covenants could result in our lenders seeking to enforce their security under such credit facilities. This could have a

material adverse effect on Cipher's business, financial condition and results of operations. The credit facility also contains restrictive covenants.

The restrictions in our credit facilities governing our other indebtedness may prevent Cipher from taking actions that Cipher believes would be in the best interest of our business and may make it difficult for us to execute our business strategy successfully or effectively compete with companies that are not similarly restricted. The Company may also incur future debt obligations that might subject the Company to additional restrictive covenants that could affect our financial and operational flexibility. We may be unable to refinance our indebtedness, at maturity or otherwise, on terms acceptable to us, or at all.

Our ability to comply with the covenants and restrictions contained in our credit facilities may be affected by economic, financial and industry conditions, beyond our control including credit or capital market disruptions. The breach of any of these covenants or restrictions could result in a default that would permit the lenders to declare all amounts outstanding to be due and payable, together with accrued and unpaid interest. If Cipher is unable to repay the indebtedness, the lenders could proceed against the collateral securing the indebtedness. This could have serious consequences to our financial position and results of operations and could cause us to become bankrupt or insolvent.

There is no assurance that Cipher will be able to secure future additional financing to repay our current credit facilities should cash flows from operations be insufficient to repay these liabilities.

*Compliance with privacy and security regulation.*

The Company may also be subject to various privacy and security regulations, including, but not limited to, the U.S. federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), as amended by the U.S. federal Health Information Technology for Economic and Clinical Health Act of 2009. HIPAA mandates, among other things, the adoption of uniform standards for the electronic exchange of information in common health care transactions (e.g. health care claims information and plan eligibility, referral certification and authorization, claims status, plan enrolment, coordination of benefits and related information), as well as standards relating to the privacy and security of individually identifiable health information, which require the adoption of administrative, physical and technical safeguards to protect such information. In addition to many other jurisdictions, several U.S. states have enacted comparable laws addressing the privacy and security of health information, some of which are more stringent than HIPAA. Failure to comply with any of these laws could result in the imposition of significant civil and criminal penalties. The costs of compliance with these laws or similar laws in other countries and the potential liability associated with any failure to comply with these laws could have a material adverse effect on the Company's business, financial condition and results of operations.

*Our policies regarding returns, allowances and chargebacks may reduce revenues in future fiscal periods.*

We cannot ensure that our estimated reserves are adequate or that actual product returns, allowances and chargebacks will not exceed the estimates, which could have a material adverse effect on our results of operations, financial condition, and cash flows.

*The Company may be subject to certain regulations that could restrict its activities and abilities to generate revenues as planned.*

From time-to-time, governments, government agencies and industry self-regulatory bodies in Canada, the U.S. and other countries in which Cipher will operate have adopted statutes, regulations and rulings that directly or indirectly affect the activities of Cipher and our future clients. These regulations could adversely impact on our ability to execute our business strategy and generate revenues as planned.

*The Company is subject to risks related to additional regulatory burden and controls over financial reporting.*

The Company is subject to the continuous and timely disclosure requirements of Canadian laws and the rules, regulations and policies of the TSX. These rules, regulations and policies relate to, among other things, corporate governance, corporate controls, internal controls, disclosure controls and procedures and financial reporting and accounting systems. The Company has made, and will continue to make, changes in these and other areas, including the Company's internal controls over financial reporting. However, there is no assurance that these and other measures

that it may take will be sufficient to allow the Company to satisfy its obligations as a public company on a timely basis. In addition, compliance with reporting and other requirements applicable to public companies create additional costs for the Company and require the time and attention of management of the Company. The Company cannot predict the amount of the additional costs that the Company may incur, the timing of such costs or the impact that management's attention to these matters will have on the Company's business.

In addition, the Company's inability to maintain effective internal controls over financial reporting could increase the risk of an error in its financial statements. Cipher's management, with the participation of the Company's Chief Executive Officer and Chief Financial Officer, is responsible for establishing and maintaining adequate internal control over financial reporting. The 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 International Financial Reporting Standards. Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives due to its inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is therefore subject to error, improper override or improper application of the internal controls. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis, and although it is possible to incorporate into the financial reporting process safeguards to reduce this risk, they cannot be guaranteed to entirely eliminate it. If the Company fails to maintain effective internal control over financial reporting, then there is an increased risk of an error in the Company's financial statements that could result in the Company being required to restate previously issued financial statements at a later date.

*The Company relies on third parties to perform distribution, logistics, invoicing, regulatory and sales services for its products.*

The Company relies on third parties to provide distribution, logistics, invoicing, regulatory and sales services including warehousing of finished products, accounts receivable management, billing, collection, record keeping and processing of invoices (including with insurance companies). If the third parties cease to be able to provide the Company with these services or do not provide these services in a timely or professional manner, or in accordance with the applicable regulatory requirements, or if contracts with such third parties are terminated for any reason, the Company may not be able to successfully manage the logistics associated with distributing and selling its products which could result in a delay or interruption in delivering products to its customers and could impact product sales and revenues or the Company's ability to integrate new products into its business, any of which could have a material adverse effect on the Company's business, financial condition and results of operations. Such third parties' failure to comply with the applicable regulatory requirements could also subject us to regulatory action.

In addition, the supply of the Company's products to its customers (or, in some cases, supply from the Company's contract manufacturers to the Company) is subject to and dependent upon the use of transportation services and third party distribution facilities. Such supply chain logistics result in the Company not being in control of its products at all times, while maintaining liability for such products. Moreover, transportation services or third party distribution facilities may be disrupted (including as a result of weather conditions or due to technical, labour or other difficulties or conditions), any of which could have a material adverse effect on the Company's business, financial condition and results of operations.

*The Company is subject to risks related to general commercial litigation, class actions, employment claims and other litigation claims, as well as potential administrative and regulatory actions, as part of its operations.*

In the course of its business, the Company receives general commercial claims related to the conduct of its business and the performance of its products and services, employment claims and other litigation claims, and the Company also could become subject to class actions. Litigation resulting from these claims could be costly and time-consuming and could divert the attention of management and other key personnel from the Company's business and operations. The complexity of any such claims and the inherent uncertainty of commercial, class action, employment and other litigation increases these risks. In recognition of these considerations, the Company could suffer significant litigation expenses in defending any of these claims and may enter into settlement agreements. If the Company is unsuccessful in its defense of material litigation claims or is unable to settle the claims, the Company may be faced with significant monetary damage awards or other remedies against it including injunctive relief that could have a material adverse effect on the Company's business, financial condition and results of operations. Administrative or

regulatory actions against the Company or its employees could also have a material adverse effect on the Company's business, financial condition and results of operations.

*It may be difficult for shareholders to realize in the United States upon judgments of U.S. courts predicated upon civil liability of the Company and its directors and officers.*

The Company is a corporation existing under the laws of the Province of Ontario, Canada. Many of the Company's assets are located outside of the United States, and certain of its officers and directors are residents of countries other than the United States. As a result, it may be difficult for shareholders to effect service of process within the United States upon the Company and its directors and officers, or to realize in the United States upon judgments of courts of the United States predicated upon civil liability of the Company and its directors and officers under United States federal securities laws.

### **Risks Related to Our Intellectual Property**

*If the Company infringes or is alleged to infringe or otherwise violate intellectual property rights of third parties, our business could be harmed.*

Our research, development and commercialization activities may infringe, or otherwise violate or be claimed to infringe or otherwise violate, patents or patent applications owned or controlled by other parties. Competitors in the field of therapies that are similar to CIPHER, have developed large portfolios of patents and patent applications relating to our business. There may be granted patents that could be asserted against us in relation to such product candidates. There may also be granted patents held by third parties that may be infringed or otherwise violated by our other product candidates and activities, and CIPHER does not know whether or to what extent the Company is infringing or otherwise violating third party patents. There may also be third party patent applications that, if approved and granted as patents, may be asserted against us in relation to our products or any of our product candidates or activities. These third parties could bring claims against CIPHER that would cause us to incur substantial expenses and, if successful against us, could cause us to pay substantial damages and legal fees. Further, if a patent infringement suit were brought against us, we could be temporarily or permanently enjoined or otherwise forced to stop or delay research, development, manufacturing, marketing or sales of the product candidate or method that is the subject of the suit.

As a result of patent infringement claims, or to avoid potential claims, CIPHER may choose or be required to seek licenses from third parties. These licenses may not be available on acceptable terms, or at all. Even if CIPHER is able to obtain a license, the license would likely obligate the Company to pay license fees or royalties or both, and the rights granted to the Company might be nonexclusive, which could result in competitors gaining access to the same intellectual property, or such rights might be restrictive and limit our present and future activities. Ultimately, CIPHER or a licensee could be prevented from commercializing a product or be forced to cease some aspect of business operations if, as a result of actual or threatened patent infringement claims, the Company is unable to enter into or maintain licenses on acceptable terms.

*If efforts to obtain, protect or enforce our patents and other intellectual property rights related to our products or any of our product candidates are not adequate, CIPHER may not be able to compete effectively and otherwise may be harmed.*

Our commercial success depends in part on our ability to obtain and maintain patent protection and utilize trade secret protection for our intellectual property and proprietary technologies, our products and their uses, as well as our ability to operate without infringing upon the proprietary rights of others. We rely upon a combination of patents, trade secret protection and confidentiality agreements, assignment of invention agreements and other contractual arrangements to protect the intellectual property related to our products and our other development programs. There can be no assurance as to the breadth or degree of protection that existing or future patents or patent applications may afford us or that any patent applications will result in issued patents or that our patents will be upheld if challenged. Limitations on the scope of our intellectual property rights may limit our ability to prevent third parties from designing around such rights and competing against us. For example, our patents typically do not claim a new compound. Rather, the active pharmaceutical ingredients of our products are existing compounds and our granted patents and pending patent applications are directed to, among other things, novel formulations of these existing compounds. Accordingly, other parties may compete with us, for example, by independently developing or obtaining competing formulations that design around our patent claims, but which may contain the same active ingredients, or

by seeking to invalidate our patents. Moreover, any disclosure to or misappropriation by third parties of our confidential proprietary information, unless the Company has sufficient patent and/or trade secret protection and are able to enforce such rights successfully, could enable competitors to quickly duplicate or surpass our technological achievements, eroding our competitive position in our market.

However, the patents and patent applications that Cipher owns or license may fail to result in granted patents in the U.S. or foreign jurisdictions or, if granted, may fail to prevent a potential infringer from marketing its product or be deemed invalid and unenforceable by a court. Our ability to obtain and maintain valid and enforceable patents depends on various factors, including interpretation of our technology and the prior art and whether the differences between them allow our technology to be patentable. Patent applications and patents granted from them are complex, lengthy and highly technical documents that are often prepared under very limited time constraints and may not be free from errors that make their interpretation uncertain. The existence of errors in a patent may have a materially adverse effect on the patent, its scope and its enforceability. Our pending patent applications may not issue, and the scope of the claims of patent applications that do issue, may be too narrow to adequately protect our competitive advantage. Also, our granted patents and applications may be subject to challenges, including ownership challenges, or may be narrowly construed and may not provide adequate protection.

Even if these patents do successfully issue, third parties may challenge the validity, enforceability or scope of such granted patents or any other granted patents Cipher owns or licenses, which may result in such patents being narrowed, invalidated or held unenforceable. For example, patents granted by the European Patent Office may be opposed by any person within 9 months from the publication of their grant. Also, patents granted by the USPTO may be subject to re-examination and other challenges. In addition, recent changes to the patent laws of the U.S. provide additional procedures for third parties to challenge the validity of patents issuing from patent applications filed after March 15, 2013. Furthermore, efforts to enforce our patents could give rise to challenges to their validity or unenforceability in court proceedings. If the patents and patent applications Cipher holds or pursues with respect to our products or any of our other product candidates are challenged, it could threaten our competitive advantage for our products or any of our other product candidates. Furthermore, even if they are not challenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing around our claims. To meet such challenges, which are part of the risks and uncertainties of developing and marketing product candidates, the Company may need to evaluate third party intellectual property rights and, if appropriate, to seek licenses for such third party intellectual property or to challenge such third party intellectual property, which may be costly and may or may not be successful, which could also have a material adverse effect on the commercial potential for products and any other product candidates.

Furthermore, for applications filed before March 16, 2013, or patents issuing from such applications, an interference proceeding can be invoked by a third party, or instituted by USPTO, to determine who was the first to invent any of the subject matter covered by the patent claims of our applications and patents. As of March 16, 2013, the U.S. transitioned to a “first-to-file” system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention. A third party that files a patent application in the USPTO under the new first-to-file system before us could therefore be awarded a patent covering an invention of ours even if Cipher had made the invention before it was made by the third party.

The change to “first-to-file” from “first-to-invent” is one of the changes to the patent laws of the U.S. resulting from the Leahy-Smith America Invents Act signed into law on September 16, 2011. Among some of the other changes to the patent laws are changes that limit where a patentee may file a patent infringement suit and providing opportunities for third parties to challenge any issued patent in the USPTO. Because of a lower evidentiary standard in certain USPTO proceedings compared to the evidentiary standard in U.S. federal court necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action.

Even where patent, trade secret and other intellectual property laws provide protection, costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights and the outcome of such litigation would be uncertain. Moreover, any actions Cipher may bring to enforce our intellectual property against our competitors could provoke them to bring counterclaims against us, and our competitors have intellectual

property portfolios of their own, some of which are substantial. An unfavorable outcome could have a material adverse effect on our business and could result in the challenged patent being interpreted narrowly or invalidated, or one or more of our patent applications may be not be granted.

We also rely on trade secret protection and confidentiality agreements to protect our know how, data and information prior to filing patent applications and during the period before they are published. We further rely on trade secret protection and confidentiality agreements to protect proprietary know-how that may not be patentable, processes for which patents may be difficult to obtain or enforce and other elements of our product development processes that involve proprietary know-how, information or technology that is not covered by patents.

In an effort to protect our trade secrets and other confidential information, Cipher incorporates confidentiality provisions in all our employees' agreements and require our consultants, contractors and licensees to which the Company discloses such information to execute confidentiality agreements upon the commencement of their relationships with us. These agreements require that confidential information, as defined in the agreement and disclosed to the individual by us during the course of the individual's relationship with us, be kept confidential and not disclosed to third parties for an agreed term. These agreements, however, may not provide Cipher with adequate protection against improper use or disclosure of confidential information, and these agreements may be breached. Adequate remedies may not exist in the event of unauthorized use or disclosure of the Company's confidential information. A breach of confidentiality could significantly affect our competitive position and Cipher could lose our trade secrets or they could become otherwise known or be independently discovered by our competitors. Also, to the extent that our employees, consultants or contractors use any intellectual property owned by others in their work for us, disputes may arise as to the rights in any related or resulting know-how and inventions. Additionally, others may independently develop the same or substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets and other confidential information. Any of the foregoing could deteriorate our competitive advantages, undermine the trade secret and contractual protections afforded to our confidential information and have material adverse effects on our business.

*Changes in U.S., Canadian or foreign patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.*

The strength of patents in the pharmaceutical field involves complex legal and scientific questions and, in the U.S., Canadian and many foreign jurisdictions, patent policy also continues to evolve, and the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. This uncertainty includes changes to the patent laws through either legislative action to change statutory patent law or court action that may reinterpret existing law in ways affecting the scope or validity of granted patents, or both. Particularly in recent years in the U.S., there have been several major legislative developments and court decisions that have affected patent laws in significant ways and there may be more developments in the future that may weaken or undermine our ability to obtain new patents or to enforce existing and future patents owned or licensed.

*There has been substantial litigation in the pharmaceutical industry concerning the manufacture and supply of novel versions of existing drugs as well as generic versions of existing drugs. Regardless of FDA or Health Canada approval, should anyone commence a lawsuit with respect to any alleged patent infringement by the Company, the uncertainties inherent in patent litigation make the outcome of such litigation difficult to predict and the cost involved in defending every lawsuit can be substantial.*

When a drug developer files a 505(b)(2) NDA or ANDA, it is required to certify to the FDA that no patent information on the drug product and drug substance that claims the reference listed drug, in the case of an ANDA, or on which investigations that were relied on by the developer for approval of its application were conducted, in the case of a 505(b)(2) application, as well as claiming methods of use for such drug, has been submitted to FDA. Alternatively, applicants may certify that such patents have expired, the date any such patent will expire, or that any such patent is invalid or will not be infringed by the manufacture, sale or use of the new drug for which the 505(b)(2) NDA or ANDA is submitted. Approval of an NDA is not effective until each listed patent expires, unless the applicant certifies that the patents are not infringed or invalid, or indicates, in the case of method of use patents, that the applicant is not seeking approval for the patented method of use. If the applicant certifies that the patents are not infringed or are invalid, the applicant must so notify the patent holder and the holder of the branded product NDA within set timeframes. A patent holder or NDA holder may then bring a patent infringement lawsuit within 45 days of receiving notice. In such a case, the FDA is precluded by statute from making an approval effective until the earlier of 30 months

after the receipt of the certification notice by the patent or NDA holder, a final court decision of non-infringement or patent invalidity, settlement, or a shorter or longer period as determined by the court. Challenges of this type are not uncommon. Similar procedures exist in Canada under the Patented Medicines (Notice of Compliance) Regulations.

Third parties own patents relating to product formulations. Claims by these companies that Cipher infringes their proprietary technology may result in liability for damages or may delay the development and commercialization of Cipher's products. In the pharmaceutical industry, it is not uncommon for competitors to advance such claims for strategic purposes. There can be no assurance that additional patent or other litigation will not arise in connection with any of our current or future products or product candidates. Patent litigation, with or without merit, is time-consuming and costly and may significantly impact our financial condition and results of operations, even if the Company prevails. If Cipher does infringe the intellectual property rights of others, the Company could lose the right to develop, manufacture or sell products or could be required to pay monetary damages or royalties to license proprietary rights from third parties. The outcomes of infringement actions are uncertain and infringement actions are costly and divert technical and management personnel from their normal responsibilities.

To the extent our products are patented and the patents are suitable for listing in the FDA's Orange Book, and are listed in the Orange Book, as required, the patents can be challenged, generic products can be approved under an ANDA, or changes to our drug products can be approved under a 505(b)(2) application. In the United States, under the "Hatch-Waxman Act", the FDA can approve an ANDA, for a generic version of a branded drug. In place of clinical studies, an ANDA applicant usually needs only to submit data demonstrating that its product has the same active ingredient(s), dosage form, strength, route of administration, labeling, performance characteristics and intended use as our product. An ANDA applicant must also demonstrate that the proposed generic product is bioequivalent to the reference listed drug. This is referred to as the ANDA process. The "Hatch-Waxman Act" requires an applicant for a drug that relies, at least in part, on the patent of a branded drug, to go through the patent certification process described above.

Any litigation could have a material adverse effect on our business, financial condition and operating results.

*If Cipher is unable to protect our trademarks from infringement, our business prospects may be harmed.*

Cipher owns and has licensed trademarks that identify our products and these trademarks have been registered in the U.S. and Canada. Although steps are taken to monitor the possible infringement or misuse of our trademarks, it is possible that third parties may infringe, dilute or otherwise violate our trademark rights. Any unauthorized use of our trademarks could harm our reputation or commercial interests. In addition, our enforcement against third-party infringers or violators may be unduly expensive and time-consuming and the outcome may be an inadequate remedy.

## **Risks Related to Our Common Shares**

*Shareholders of the Company may be further diluted.*

The Company has financed its operations to date through the sale of securities, specifically, Common Shares. We may need to continue our reliance on the sale of such securities for future financing, resulting in dilution to our existing shareholders. Our long-term capital requirements will depend on many factors, including continued scientific progress in our product discovery and development programs, progress in its pre-clinical and clinical evaluation of products and product candidates, time and expense associated with filing, prosecuting and enforcing its patent claims and costs associated with obtaining regulatory approvals. In order to meet such capital requirements, Cipher will consider contract fees, collaborative research and development arrangements, public financing or additional private financing (including the issuance of additional equity securities) to fund all or part of our particular programs.

Our business, financial condition and results of operations may depend on our ability to obtain additional financing, which may not be available under favourable terms, if at all. Our ability to arrange such financing in the future will depend in part upon the prevailing capital market conditions as well as our business performance. If our capital resources are exhausted and adequate funds are not available, Cipher may have to reduce substantially, or eliminate, expenditures for research and development, testing, production and marketing of our proposed products, or obtain funds through arrangements with corporate partners that require us to relinquish rights to certain of our technologies or products.

*Our share price has been volatile, and an investment in our Common Shares could suffer a decline in value.*

Market prices for the securities of pharmaceutical and biotechnology companies have historically been highly volatile and the market has, from time to time, experienced significant price and volume fluctuations that are unrelated to the operating performance of particular companies. In addition to the risk factors described herein, factors such as fluctuations in our operating results, the aftermath of any public announcements made by us, concern as to the safety of any drugs developed by us, and general market conditions can, and have had an adverse effect on the market price of the Common Shares.

In the past, when the market price of a stock has been volatile, shareholders have often instituted securities class action litigation against that company. If any of our shareholders brought a lawsuit against us, the Company could incur substantial costs defending the lawsuit. The lawsuit could also divert the time and attention of our management.

*We have a significant shareholder.*

A director of the Company, Dr. John D. Mull, owns 9,923,165 Common Shares, representing 37.0% of the total outstanding Common Shares as of March 18, 2019. If Dr. Mull was to sell his interest in the Company into the public market, or even if the market was to perceive that such a sale may occur, such event might lower the market price of the Common Shares. Dr. Mull's interests as a shareholder may not be aligned at all times with the interests of all of the other shareholders of the Company.

*We do not currently intend to pay dividends on our Common Shares.*

We have never declared or paid any cash dividend on our Common Shares and do not currently intend to do so for the foreseeable future. We currently anticipate that Cipher will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Therefore, the success of an investment in our Common Shares will depend upon any future appreciation in their value. There is no guarantee that our Common Shares will appreciate in value or even maintain the price at which our shareholders have purchased their shares. See "Dividends".

*Our operating results may fluctuate significantly and any failure to meet financial expectations may disappoint securities analysts or investors and result in a decline in the price of our Common Shares.*

Our operating results have fluctuated in the past and are likely to do so in the future. These fluctuations could cause the price of the Common Shares to decline. Some of the factors that could cause operating results to fluctuate include the following:

- the inability to complete product development in a timely manner that results in a failure or delay in receiving the required regulatory approvals or allowances to commercialize product candidates;
- the timing of regulatory submissions and approvals;
- the timing and willingness of any current or future collaborators to invest the resources necessary to commercialize our product candidates, and the timing of payments Cipher may make or receive under these arrangements;
- any intellectual property infringement or other lawsuits in which Cipher may become involved;
- foreign currency fluctuations;
- the timing of achievement and the receipt of milestone payments from current or future third parties;
- failure to enter into new or the expiration or termination of current agreements with third parties;
- failure to introduce the product candidates to the market in a manner that generates anticipated revenues;

- changes in costs and/or reimbursement for the Company's products;
- costs related to business development transactions;
- changes in the amount the Company spends to market its products;
- delays between the Company's expenditures to acquire new products, technologies or businesses and the generation of revenues from those acquired products, technologies or businesses;
- changes in treatment practices of physicians that currently prescribe certain of the Company's products;
- increases in the cost of raw materials used to manufacture the Company's products;
- manufacturing and supply interruptions;
- the Company's responses to price competition;
- inventory has a limited shelf life and may require write-downs
- the timing of wholesaler and distributor purchases; and
- general economic and industry conditions, including potential fluctuations in interest rates.

As a result, the Company believes that quarter-to-quarter comparisons of results from operations, or any other similar period-to-period comparisons, should not be construed as reliable indicators of the Company's future performance. The above factors may cause the Company's operating results to fluctuate and could have a material adverse effect on the Company's business, financial condition and results of operations. In any period, the Company's results may be below the expectations of market analysts and investors, which could cause the trading price of the Common Shares to decline.

Intangible assets represented a significant portion of the Company's total assets. Finite-lived intangible assets are subject to an impairment analysis whenever events or changes in circumstances indicate the carrying amount of the asset may not be recoverable. Indefinite-lived intangible assets are tested for impairment annually, or more frequently if events or changes in circumstances indicate that the asset may be impaired. If an impairment exists, the Company would be required to take an impairment charge with respect to the impaired asset. Events giving rise to impairment are difficult to predict and are an inherent risk in the pharmaceutical industry. Because of the significance of intangible assets, should such an impairment of intangible assets occur, it could have a material adverse effect on the Company's business, financial condition and results of operations. In 2017, the Company recorded an impairment charge of \$0.6 million related to the voluntary termination of the Melanovus program and \$1.8 million related to Dermadexin and Pruridexin. As at December 31, 2018, the Company's intangible assets are valued at \$14.1 million.

*All of the Company's debt obligations, and any future indebtedness the Company may incur, will have priority over the Common Shares with respect to payment in the event of a liquidation, dissolution or winding up.*

In any liquidation, dissolution or winding up of the Company, the Common Shares would rank below all debt claims against the Company. In addition, any convertible or exchangeable securities or other equity securities that the Company may issue in the future may have rights, preferences and privileges more favourable than those of the Common Shares. As a result, holders of the Common Shares will not be entitled to receive any payment or other distribution of assets upon the liquidation or dissolution until after the Company's obligations to its debt holders and holders of equity securities that rank senior to the Common Shares have been satisfied.

## **DIVIDENDS AND DISTRIBUTIONS**

The Company has not declared or paid any dividends since incorporation and has no present intention to declare or pay any dividends in the foreseeable future. Any decision to declare or pay dividends will be made by the board of directors based upon the Company's earnings, financial requirements and other conditions existing at such

future time. Furthermore, pursuant to the Credit Agreement, there are restrictions on the declaration and payment of dividends.

### DESCRIPTION OF CAPITAL STRUCTURE

The Company's authorized capital consists of an unlimited number of Common Shares and an unlimited number of Preference Shares, issuable in series.

The following is a summary of the rights, privileges, restrictions and conditions attaching to the Common Shares and Preference Shares.

#### Common Shares

The Company is authorized to issue an unlimited number of Common Shares. The Common Shares rank junior to the Preference Shares on any distribution of assets of the Company on the liquidation, dissolution or winding-up of the Company. Holders of Common Shares are entitled to receive notice of and to attend all annual and special meetings of the shareholders of the Company, other than separate meetings of holders of any other class or series of shares, and to one vote in respect of each common share held at such meetings. Holders of Common Shares are entitled to receive dividends if, as and when declared by the board of directors of the Company and to receive pro-rata the remaining assets of the Company upon its liquidation, dissolution or winding-up, subject to the rights of holders of Preference Shares and any other class or series of shares of the Company having priority over the Common Shares. As at March 18, 2019, there were 26,837,571 Common Shares issued and outstanding.

#### Preference Shares

The Preference Shares are issuable in series and have such rights, restrictions, conditions and limitations as the board of directors of the Company may from time to time determine. The Preference Shares rank senior to the Common Shares with respect to the payment of dividends or on any distribution of assets of the Company on the liquidation, dissolution or winding-up of the Company. Holders of Preference Shares are not entitled to receive notice of or to attend or vote at any meeting of the shareholders of the Company, except as required by law. As at March 18, 2019, no Preference Shares were issued and outstanding.

### MARKET FOR SECURITIES

The Common Shares of the Company trade on the TSX under the symbol "CPH". The Company's Common Shares traded on the NASDAQ under the symbol "CPHR" until December 12, 2016 when the Company voluntarily delisted from the NASDAQ. The following table sets forth the reported high and low prices as of the close of the market (TSX) and the trading volume for the periods indicated:

Month (2018)	Toronto Stock Exchange (CDN\$)		
	High	Low	Volume
January	4.49	4.33	272,500
February	4.12	3.94	1,441,530
March	4.07	3.86	2,003,860
April	4.33	4.15	745,520
May	3.59	3.47	491,900
June	2.94	2.80	1,704,700
July	2.84	2.77	1,216,900
August	3.20	3.04	1,742,070
September	3.24	3.11	1,080,190
October	3.06	2.95	604,880
November	2.17	2.01	1,050,810
December	1.85	1.75	886,950

### PRIOR SALES

The following table sets out all the securities issued by the Company during the fiscal year ended December 31, 2018, which are not listed or quoted on a marketplace:

Type of Security	Date Issued	Number of securities	Issue price / Exercise Price
<b>Stock options</b>	March 22, 2018	468,468	NA / \$3.53
	August 14, 2018	75,741	NA/\$3.04
	December 14, 2018	40,000	NA/\$1.75
<b>Restricted Share Units</b>	March 22, 2018	150,897	NA

## DIRECTORS AND OFFICERS

The following table sets forth the name, residence, position with the Company and principal occupation of each director and executive officer of the Company as at December 31, 2018. Directors of the Company hold office until the next annual shareholders' meeting or until successors are duly elected or appointed.

Name and Province/State of Residence	Principal Occupation	Director Since
JOHN D. MULL, M.D., F.R.C.P.(C) <i>Ontario, Canada</i>	2004 Chief Executive Officer, Typhon Group Limited	January 9, 2004
HAROLD WOLKIN <sup>2</sup> <i>Ontario, Canada</i>	Retired. Former Managing Director of BMO Capital Markets, Ex VP and Head of Investment Banking for Dundee Capital Markets	August 9, 2016
CHRISTIAN GODIN <sup>3</sup> <i>Quebec, Canada</i>	Retired. Former Head of Equities, Montrusco Bolton Investments Inc.	August 9, 2016
MARK BEAUDET <sup>4</sup> <i>Quebec, Canada</i>	Retired. Founder and Former Interim President and CEO of Paladin Labs Inc.	August 9, 2016
ARTHUR M. DEBOECK <i>Gurabo, Puerto Rico</i>	Vice-President and General Manager of Galephar Pharmaceutical Research, Inc.	May 11, 2017
LAURENCE TERRISSE-RULLEAU <sup>(4)</sup> <i>Quebec, Canada</i>	Partner at CTI Life Sciences	May 10, 2018
ROBERT TESSAROLO <i>Ontario, Canada</i>	Chief Executive Officer and Board of Directors	May 11, 2017
STEPHEN LEMIEUX, CPA, CA <i>Ontario, Canada</i>	Chief Financial Officer and Secretary of Cipher	N/A

- (1) Mr. Wolkin is Chair of the Audit Committee and a member of the Nominating and Governance Committee and the Compensation Committee
- (2) Mr. Godin is Chair of the Compensation Committee and a member of the Nominating and Governance Committee and member of the Audit Committee
- (3) Mr. Beaudet is Chair of the Nominating and Governance Committee and a member of the Audit Committee and the Compensation Committee
- (4) Ms. Terrisse-Rulleau is a member of the Nominating and Governance Committee

All of the directors and executive officers of the Company have been engaged for more than five years in their present principal occupations or in other capacities with the companies with which they currently hold positions, with the exception of:

- Mark Beaudet was the Founder, interim President and CEO of Paladin Labs Inc. (“Paladin”) from 1996 to 2014 when Paladin was acquired by Endo International PLC (“Endo”). Mr. Beaudet was a member of the executive team of Endo from 2014 to 2016;
- Stephen Lemieux, prior to joining Cipher in September 2016, was the Vice President and Chief Financial Officer of Nuvo Pharmaceuticals Inc. (formerly Nuvo Research Inc.) (“Nuvo”) from January 2012 to September 2016 and the Vice President and Chief Financial Officer of Crescita Therapeutics Inc. from March to September 2016. Mr. Lemieux worked at Nuvo from May 2007 to September 2016;
- Robert Tessarolo, prior to joining Cipher in April 2017, Mr. Tessarolo was the Vice President and General Manager with Celgene Corporation from September 2015 to March 31, 2017. Before that he served as the President and General Manager Canada with Actavis Specialty Pharmaceuticals Company since 2011;
- Christian Godin worked at for Montrusco Bolton Investments Inc. from June 2001 until November 2017. Mr. Godin was the Head of Equities from 2008 until his retirement in November 2017.

As at March 18, 2019, the current directors and executive officers as a group beneficially own or control, directly or indirectly, 10,405,690 of the outstanding Common Shares, representing approximately 39% of the issued and outstanding Common Shares as of such date.

The term of office of all directors of the Company will expire at the next annual and special meeting of the shareholders of the Company to be held on May 9, 2019.

### **Conflicts of Interest**

Arthur M. Deboeck is the Vice-President and General Manager of Galephar, a pharmaceutical research and manufacturing company that is also a significant partner of Cipher. As a manufacturer of and licensor of certain of Cipher’s commercial products, Galephar’s business interests may not align with that of Cipher’s in certain circumstances. Mr. Deboeck has agreed to excuse himself from portions of Board meetings when discussions take place on projects where he may be, or perceived to be, in a potential conflict of interest.

Additionally, circumstances arise where other members of the Board serve as directors or officers of corporations which are in competition to the interests of Cipher or who are suppliers of goods and services to Cipher. However, each director and executive officer must comply with the disclosure requirements of the OBCA regarding any material interest. If a declaration of material interest is made, the declaring director shall not vote on the matter if put to a vote of the Board. In addition, the declaring director and executive officer may be requested to recuse himself or herself from the meeting when such matter is being discussed.

### **TRANSFER AGENT AND REGISTRAR**

The Company’s registrar and transfer agent is Computershare Investor Services Inc. at its principal office in Toronto, Ontario.

### **MATERIAL CONTRACTS**

The following are the material contracts, other than contracts in the ordinary course of business, and material contracts in the ordinary course of business required to be listed, that were entered into by the Company in 2018 or prior to 2017 and are still in effect:

#### **Master Licensing and Clinical Supply Agreement**

In February 2002, the Company entered into a master licensing and clinical supply agreement with Galephar (the “Master Licensing and Clinical Supply Agreement”). Pursuant to the Master Licensing and Clinical Supply Agreement, Galephar granted the Company a license to package, test, obtain regulatory approval and/or market certain

pharmaceutical products in certain geographical areas more particularly described in the agreement. The license gives the Company the right to conduct all studies and tests required by the FDA and other regulatory authorities in the geographic area where the pharmaceutical product is being packaged, tested, approved and/or marketed, as well as the right to prepare, file and prosecute any regulatory submissions for approval in such geographic area. The license granted for each pharmaceutical product is of perpetual duration and is an exclusive license in the relevant geographic area and a non-exclusive license in other geographic areas more particularly specified in the agreement.

### **Lipofen® Distribution and Supply Agreement**

In July 2007, Cipher entered into a licensing and distribution agreement with ProEthic under which ProEthic was granted the exclusive right to market, sell and distribute Lipofen in the U.S. ProEthic was subsequently acquired by Kowa Company, Ltd. and its name was changed to Kowa Pharmaceuticals America Inc. The agreement is for a period of 10 years and Kowa has the right to extend the term for two additional two year periods. Under the terms of the agreement, Cipher received certain milestone payments as well as a royalty on a percentage of net sales, which escalates from the mid-teens to the mid-twenties based on annual sales levels and the degree of promotional effort by Kowa.

### **CIP-ISOTRETINOIN Development, Distribution and Supply Agreement**

In August 2008, Cipher entered into a development, distribution and supply agreement with Sun, under which Cipher granted Sun the exclusive right to market, sell and distribute CIP-ISOTRETINOIN in the U.S., its territories and possessions. Under the terms of the agreement with Sun, Cipher received an initial upfront payment of US\$1.0 million. The agreement provides for additional pre- and post-commercialization milestone payments of up to US\$23.0 million, contingent upon the achievement of certain milestone targets, all of which have now been achieved. Cipher also receives a royalty in the mid-teens on net sales. In addition, Sun has reimbursed Cipher for the costs associated with the clinical studies required to obtain FDA approval up to a predetermined limit. Additional development costs associated with initial FDA approval in excess of the limit were shared equally. Cipher is responsible for all product development activities, including management of the clinical studies required by the FDA to secure NDA approval.

### **ConZip® Distribution and Supply Agreement**

In June 2011, Cipher entered into a distribution and supply agreement with Vertical under which Vertical was granted the exclusive right to market, sell and distribute ConZip in the U.S. The agreement is for a period of 10 years and Vertical has the right to extend the term for two additional five year periods. Under the terms of the agreement, Cipher received a US\$0.5 million up-front payment and a launch milestone of US\$0.75 million in 2011 and a net sales level achievement milestone of US\$0.75 million in 2015. The agreement also provides for additional milestone payments of up to US\$3.0 million based on the achievement of certain additional net sales targets. Cipher also receives a royalty on a percentage of net sales in the mid-teens.

### **Settlement Agreement**

On October 2, 2015, Cipher, Sun and Galephar entered into a Settlement Agreement with Actavis which dismissed the patent litigation suit relating to Actavis' ANDA for a generic version of Absorica (isotretinoin capsules) as described above under "The Business – Commercial Products – CIP ISOTRETINOIN".

### **EPI Asset Purchase Agreement**

On May 1, 2017, the Company completed the sale of substantially all of the assets of Cipher U.S. to EPI pursuant to an asset purchase agreement entered into among the Company, Cipher U.S., EPI and EPI Group, LLC, on April 29, 2017. Refer to "General Developments of the Business – Developments in 2017" section for additional information.

### **Credit Agreement**

On November 3, 2017, the Company entered into the Credit Agreement with CIBC pursuant to which CIBC provided financing of US\$20.0 million to the Company to fully extinguish the Notes held by Athyrium.

## Amendment to Amended and Restated Distribution and Supply Agreement

On July 24, 2018, the Company entered into an amendment (the “Amendment to the Amended and Restated Distribution and Supply Agreement”) to the amended and restated distribution and supply agreement entered into with Sun on November 12, 2012. Under the terms of the Amendment to the Amended and Restated Distribution and Supply Agreement, Cipher agrees that certain authorized generic products developed by Sun, may be commercialized in the U.S. before the expiration of the isotretinoin patents owned by Cipher in consideration for a royalty on the sales of those products.

## Arrangement Agreement

On March 19, 2018, Cipher entered into an arrangement agreement with Cardiome and Correvio to acquire 100% of the outstanding common shares of Cardiome in consideration of \$25.5 million, as described above under “General Development of the Business – Significant Acquisition”.

## AUDIT COMMITTEE INFORMATION

The Audit Committee is currently composed of Messrs. Harold Wolkin (Chair), Christian Godin and Mark Beaudet. All of the committee members have been determined by the Board to be “independent” directors” and “financially literate” as such terms are defined in National Instrument 52-110 *Audit Committees*. A copy of the Audit Committee Charter is attached hereto as Schedule A.

## Relevant Education and Experience of Audit Committee Members

The following is a summary of the education and experience of each member of the Audit Committee relevant to the performance of his responsibility as a member of the Committee.

<u>Audit Committee Member</u>	<u>Relevant Education and Experience</u>
Harold Wolkin (Chair)	Mr. Wolkin is an accomplished investment banker and financial analyst with over 30 years of experience. Mr. Wolkin joined BMO Nesbitt Burns as a senior research analyst in 1983. He went on to serve as managing director in the Diversified Industries Group of BMO Capital Markets until January 2008. Most recently, Mr. Wolkin served as Executive Vice-President and Head of Investment Banking for Dundee Capital Markets. Mr. Wolkin has served on a number of public company and not-for-profit boards and currently serves as a director of Diamond Estates Wines & Spirits and Baylin Technologies Inc. He was the past President of the CFA Society of Toronto and has been a member of the Chartered Financial Institute since 1980. He is a member of the Institute of Corporate Directors. Mr. Wolkin received a Bachelor of Arts in Economics from York University and a Master of Arts in Economics and Finance from The University of Toronto.
Mark Beaudet	Mark Beaudet is a co-founder of Paladin which was acquired by Endo in 2014. Since Paladin's founding in 1996, Mr. Beaudet served as a member of its board of directors and as the company's Vice President of Sales and Marketing until 2011 when he became interim President and Chief Executive Officer. Following Endo's acquisition of Paladin, Mr. Beaudet joined the Endo executive leadership team and continued to lead the Paladin team until his departure in June 2016. Prior to his work with Paladin, Mr. Beaudet held marketing management positions at Procter & Gamble Canada and Pizza Hut Canada. Mr. Beaudet holds a B.Comm in Marketing and Entrepreneurship from McGill University and is recognized as a Certified Market Research Professional (CMRP) by the Canadian Market Research and Intelligence Association and as an Accredited Pharmaceutical Manufacturer's Representative by the Council for Continuing Pharmaceutical Education (CCPE).

Christian Godin

Mr. Godin is the former Head of Equities at Montrusco Bolton Investments Inc. (“Montrusco”), a Montreal-based investment firm, and previously sat on its board of directors. He was also a member of the Management Committee of Montrusco. Prior to joining Montrusco in 2001, Mr. Godin worked for Merrill Lynch Canada where he was a director and senior equity research analyst. He also worked for Midland Walwyn Capital and CTI Capital. Christian holds a Bachelor of Business Administration from Université du Québec à Montréal and a Master of Science in Administration specialized in Finance from HEC Montréal.

### Pre-Approval Policies and Procedures

The Audit Committee has not adopted specific policies and procedures for the engagement of non-audit services by the external auditor. As set out in section 9.1(d) of the Audit Committee charter, the Audit Committee approves any non-audit services provided by the external auditor on a case-by-case basis.

### External Auditor Service Fees

The fees paid or payable by the Company to PricewaterhouseCoopers LLP, the Company’s external auditor, for the periods noted below for all services performed were as follows:

	Fiscal 2018	Fiscal 2017
Audit fees <sup>(1)</sup>	\$411,836	\$439,755
Audit-related fees	-	-
Tax fees <sup>(2)</sup>	-	-
All other fees <sup>(3)</sup>	-	-
<b>TOTAL</b>	<b>\$411,836</b>	<b>\$439,756</b>

- (1) Fees in respect of audit and interim review services performed in order to comply with Canadian generally accepted auditing standards (“GAAS”). In some cases, these may include an appropriate allocation of fees for tax or accounting consultations, to the extent such services were necessary to comply with GAAS.
- (2) Fees in respect of services performed by the auditor’s tax professionals, except those services required in order to comply with GAAS which are included under “Audit Fees”. Tax services include assistance with tax compliance and tax planning and advice.
- (3) Fees in respect of all services not falling under any of the foregoing three categories-

### INTEREST OF EXPERTS

The financial statements of the Company for the fiscal year ended December 31, 2018 have been audited by PricewaterhouseCoopers LLP which is independent with respect to the meaning of the Rules of Professional Conduct as outlined by the Institute of Chartered Accountants of Ontario.

### ADDITIONAL INFORMATION

Additional information relating to the Company may be found on SEDAR at [www.sedar.com](http://www.sedar.com). Additional information, including directors’ and executive officers’ remuneration and indebtedness, principal holders of the Company’s securities and securities authorized for issuance under equity compensation plans is contained in the Company’s management information circular dated March 29, 2018. Additional financial information is available in the Company’s financial statements and notes and MD&A for its most recently completed financial year.

## SCHEDULE A

### CHARTER OF THE AUDIT COMMITTEE OF CIPHER PHARMACEUTICALS INC.

#### GENERAL

#### 1. PURPOSE AND RESPONSIBILITIES OF THE COMMITTEE

##### 1.1 Purpose

The primary purpose of the Committee is to assist Board oversight of:

- (a) the integrity of the Corporation's financial statements and of the accounting and financial reporting practices and procedures of the Corporation;
- (b) the adequacy of the internal and accounting controls and procedures of the Corporation;
- (c) the External Auditor's qualifications and independence;
- (d) the performance of the Corporation's internal audit function, if any and the External Auditor; and
- (e) the Corporation's compliance with legal and regulatory requirements, to the extent that such requirements are relevant to the foregoing.

#### 2. DEFINITIONS AND INTERPRETATION

##### 2.1 Definitions

In this Charter:

- (a) "**Board**" means the Board of Directors of the Corporation;
- (b) "**Chair**" means the chair of the Committee;
- (c) "**Committee**" means the audit committee of the Board;
- (d) "**Corporation**" means Cipher Pharmaceuticals Inc.;
- (e) "**Directors**" means the directors of the Corporation;
- (f) "**External Auditor**" means the Corporation's independent auditor; and
- (g) "**GAAP**" means Canadian generally accepted accounting principles.

Any words or terms with initial capital letters which are not defined herein shall have the meanings ascribed thereto in the charter of the Directors.

##### 2.2 Interpretation

The provisions of this Charter are subject to any Applicable Laws.

## CONSTITUTION AND FUNCTIONING OF THE COMMITTEE

### 3. ESTABLISHMENT AND COMPOSITION OF THE COMMITTEE

#### 3.1 Establishment of the Audit Committee

The Committee is hereby continued with the constitution, function and responsibilities herein set forth.

#### 3.2 Appointment and Removal of Members of the Committee

- (a) *Board Appoints Members.* The members of the Committee shall be appointed by the Board.
- (b) *Annual Appointments.* The appointment of members of the Committee shall take place annually at the first meeting of the Board after a meeting of the shareholders at which Directors are elected, provided that if the appointment of members of the Committee is not so made, the Directors who are then serving as members of the Committee shall continue as members of the Committee until their successors are appointed.
- (c) *Vacancies.* The Board may appoint a member to fill a vacancy which occurs in the Committee between annual elections of Directors.
- (d) *Removal of Member.* Any member of the Committee may be removed from the Committee by a resolution of the Board.

#### 3.3 Number of Members

The Committee shall consist of three or more Directors.

#### 3.4 Independence of Members

Each member of the Committee shall be independent as defined under Applicable Laws.

#### 3.5 Financial Literacy

- (a) *Financial Literacy Requirement.* Each member of the Committee shall be financially literate or must become financially literate within a reasonable period of time after his or her appointment to the Committee.
- (b) *Definition of Financial Literacy.* “Financially literate” means the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of the issues that can reasonably be expected to be raised by the Corporation’s financial statements.

#### 3.6 Audit Committee Financial Expert

- (a) *Attributes of an Audit Committee Financial Expert.* To the extent possible, the Board shall appoint to the Committee at least one Director who has the following attributes:
  - (i) an understanding of GAAP and financial statements;
  - (ii) ability to assess the general application of such principles in connection with the accounting for estimates, accruals and reserves;
  - (iii) experience preparing, auditing, analyzing or evaluating financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of issues that can reasonably be expected to be raised by the

Corporation's financial statements, or experience actively supervising one or more persons engaged in such activities;

- (iv) an understanding of internal controls and procedures for financial reporting; and
- (v) an understanding of audit committee functions.

(b) *Experience of the Audit Committee Financial Expert.* To the extent possible, the Board shall appoint to the Committee at least one Director who acquired the attributes in (a) above through:

- (i) education and experience as a principal financial officer, principal accounting officer, controller, public accountant or auditor or experience in one or more positions that involve the performance of similar functions (or such other qualification as the Board interprets such qualification in its business judgment);
- (ii) experience actively supervising a principal financial officer, principal accounting officer, controller, public accountant, auditor or person performing similar functions;
- (iii) experience overseeing or assessing the performance of companies or public accountants with respect to the preparation, auditing or evaluation of financial statements; or
- (iv) other relevant experience.

#### **4. COMMITTEE CHAIR**

##### **4.1 Board to Appoint Chair**

The Board shall appoint the Chair from the members of the Committee (or, if it fails to do so, the members of the Committee shall appoint the Chair from among its members).

##### **4.2 Chair to be Appointed Annually**

The appointment of the Committee's Chair shall take place annually at the first meeting of the Board after a meeting of the members at which Directors are elected, provided that if the designation of Chair is not so made, the Director who is then serving as Chair shall continue as Chair until his or her successor is appointed.

#### **5. COMMITTEE MEETINGS**

##### **5.1 Quorum**

A quorum of the Committee shall be a majority of its members.

##### **5.2 Secretary**

The Chair shall designate from time to time a person who may, but need not, be a member of the Committee, to be Secretary of the Committee.

##### **5.3 Time and Place of Meetings**

The time and place of the meetings of the Committee, the calling of meetings and the procedure in all things at such meetings shall be determined by the Committee in accordance with the by-laws of the Corporation; provided, however, the Committee shall meet at least quarterly.

5.4 In Camera Meetings

As part of each meeting of the Committee at which the Committee recommends that the Board approve the annual audited financial statements or at which the Committee approves the quarterly financial statements, the Committee shall meet separately with each of:

- (a) management;
- (b) the External Auditor; and
- (c) the internal auditor, if any.

5.5 Right to Vote

Each member of the Committee shall have the right to vote on matters that come before the Committee.

5.6 Invitees

The Committee may invite Directors, officers and employees of the Corporation or any other person to attend meetings of the Committee to assist in the discussion and examination of the matters under consideration by the Committee. The External Auditor shall receive notice of each meeting of the Committee and shall be entitled to attend any such meeting at the Corporation's expense.

5.7 Regular Reporting

The Committee shall report to the Board at the Board's next meeting the proceedings at the meetings of the Committee and all recommendations made by the Committee at such meetings.

**6. AUTHORITY OF COMMITTEE**

6.1 Retaining and Compensating Advisors

The Committee shall have the authority to engage independent counsel and other advisors as the Committee may deem appropriate in its sole discretion and to set and pay the compensation for any advisors employed by the Committee. The Committee shall not be required to obtain the approval of the Board in order to retain or compensate such consultants or advisors.

6.2 Subcommittees

The Committee may form and delegate authority to subcommittees if deemed appropriate by the Committee.

6.3 Recommendations to the Board

The Committee shall have the authority to make recommendations to the Board, but shall have no decision-making authority other than as specifically contemplated in this Charter.

**7. REMUNERATION OF COMMITTEE MEMBERS**

7.1 Remuneration of Committee Members

Members of the Committee and the Chair shall receive such remuneration for their service on the Committee as the Board may determine from time to time.

## 7.2 Directors' Fees

No member of the Committee may earn fees from the Corporation or any of its subsidiaries other than Directors' fees (which fees may include cash and/or securities or options or other in-kind consideration ordinarily available to Directors, as well as all of the regular benefits that other Directors receive). For greater certainty, no member of the Committee shall accept, directly or indirectly, any consulting, advisory or other compensatory fee from the Corporation or any of its subsidiaries.

### **SPECIFIC DUTIES AND RESPONSIBILITIES**

## **8. INTEGRITY OF FINANCIAL STATEMENTS**

### 8.1 Review and Approval of Financial Information

- (a) *Annual Financial Statements.* The Committee shall review and discuss with management and the External Auditor, the Corporation's audited annual financial statements and related MD&A together with the report of the External Auditor thereon and, when appropriate, shall recommend to the Board that the Board approve the audited annual financial statements and related MD&A.
- (b) *Interim Financial Statements.* The Committee shall review and discuss with management and the External Auditor and, when appropriate, shall recommend to the Board that the Board approve the Corporation's interim unaudited financial statements and related MD&A.
- (c) *Material Public Financial Disclosure.* The Committee shall discuss with management and the External Auditor:
  - (i) the types of information to be disclosed and the type of presentation to be made in connection with earnings press releases,
  - (ii) financial information and earnings guidance (if any) to be provided to analysts, investors and rating agencies, and
  - (iii) press releases containing financial information (paying particular attention to any use of "pro forma" or "adjusted" non-GAAP information),
 and, when appropriate, shall recommend to the Board that the Board approve any such material financial disclosure prior to its release to the public.
- (d) *Procedures for Review.* The Committee shall be satisfied that adequate procedures are in place for the review of the Corporation's disclosure of financial information extracted or derived from the Corporation's financial statements (other than financial statements, MD&A and earnings press releases, which are dealt with elsewhere in this Charter) and shall periodically assess the adequacy of those procedures.
- (e) *Accounting Treatment.* The Committee shall review and discuss with management and the External Auditor:
  - (i) major issues regarding accounting principles and financial statement presentations including any significant changes in the Corporation's selection or application of accounting principles and major issues as to the adequacy of the Corporation's internal controls and any special audit steps adopted in light of material control deficiencies;
  - (ii) analyses prepared by management and/or the External Auditor setting forth significant financial reporting issues and judgments made in connection with the preparation of the financial statements, including analyses of the effects of alternative GAAP methods on the financial statements;

- (iii) the effect of regulatory and accounting initiatives, as well as off-balance sheet structures on the Corporation's financial statements;
- (iv) the management certifications of the financial statements as required by applicable securities laws in Canada or otherwise; and
- (v) pension plan financial statements, if any.

## 9. **EXTERNAL AUDITOR**

### 9.1 External Auditor

- (a) *Authority with Respect to External Auditor.* The Committee shall be directly responsible for the nomination, compensation and oversight of the work of the External Auditor engaged for the purpose of preparing or issuing an audit report or performing other audit, review or attest services for the Corporation. In the discharge of this responsibility, the Committee shall:
  - (i) have sole responsibility for recommending to the Board the person to be proposed to the Corporation's shareholders for appointment as External Auditor for the above-described purposes as well as the responsibility for recommending such External Auditor's compensation and determining at any time whether the Board should recommend to the Corporation's shareholders whether the incumbent External Auditor should be removed from office;
  - (ii) review the terms of the External Auditor's engagement, discuss the audit fees with the External Auditor and be solely responsible for approving such audit fees; and
  - (iii) require the External Auditor to confirm in its engagement letter each year that the External Auditor is accountable to, and shall report directly to, the Committee as the representative of shareholders.
- (b) *Independence.* The Committee shall satisfy itself as to the independence of the External Auditor. As part of this process the Committee shall:
  - (i) assure the regular rotation of the lead audit partner as required by law and consider whether, in order to ensure continuing independence of the External Auditor, the Corporation should rotate periodically, the audit firm that serves as External Auditor;
  - (ii) require the External Auditor to submit on a periodic basis to the Committee, a formal written statement delineating all relationships between the External Auditor and the Corporation and its subsidiaries and that the Committee is responsible for actively engaging in a dialogue with the External Auditor with respect to any disclosed relationships or services that may impact the objectivity and independence of the External Auditor and for recommending that the Board take appropriate action in response to the External Auditor's report to satisfy itself of the External Auditor's independence;
  - (iii) address non-audit services provided by the External Auditor as described in clause (d) below; and
  - (iv) review and approve the policy setting out the restrictions on the Corporation and its subsidiaries hiring partners, employees and former partners and employees of the Corporation's current or former External Auditor.

- (c) *Issues Between External Auditor and Management.* The Committee shall:
- (i) review any problems experienced by the External Auditor in conducting the audit, including any restrictions on the scope of the External Auditor's activities or in access to requested information;
  - (ii) review any disagreements with management and, to the extent possible, resolve any disagreements between management and the External Auditor regarding financial reporting; and
  - (iii) review with the External Auditor:
    - (A) any accounting adjustments that were proposed by the External Auditor, but were not made by management;
    - (B) any communications between the audit team and audit firm's national office respecting significant auditing or accounting issues presented by the engagement;
    - (C) the performance of the Corporation's internal audit function and internal auditors.
- (d) *Non-Audit Services.*
- (i) The Committee shall either:
    - (A) approve any non-audit services provided by the External Auditor or the external auditor of any subsidiary of the Corporation to the Corporation (including its subsidiaries); or
    - (B) adopt specific policies and procedures for the engagement of non-audit services, provided that such pre-approval policies and procedures are detailed as to the particular service, the Committee is informed of each non-audit service and the procedures do not include delegation of the Committee's responsibilities to management.
  - (ii) The Committee may delegate to one or more members of the Committee the authority to pre-approve non-audit services in satisfaction of the requirement in the previous section, provided that such member or members must present any non-audit services so approved to the full Committee at its first scheduled meeting following such pre-approval.
  - (iii) The Committee shall instruct management to promptly bring to its attention any services performed by the External Auditor which were not recognized by the Corporation at the time of the engagement as being non-audit services.
- (e) *Evaluation of External Auditor.* The Committee shall evaluate the External Auditor each year, and present its conclusions to the Board. In connection with this evaluation, the Committee shall:
- (i) review and evaluate the performance of the lead partner of the External Auditor;
  - (ii) obtain the opinions of management and of the persons responsible for the Corporation's internal audit function with respect to the performance of the External Auditor; and
  - (iii) obtain and review a report by the External Auditor describing:
    - (A) the External Auditor's internal quality-control procedures;
    - (B) to the extent permitted by Applicable Laws and by the Canadian Public Accountability Board, any material issues raised by the most recent internal

quality-control review, or peer review, of the External Auditor's firm or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the External Auditor's firm, and any steps taken to deal with any such issues; and

- (C) all relationships between the External Auditor and the Corporation (for the purposes of assessing the External Auditor's independence).
- (f) *Review of Management's Evaluation and Response.* The Committee shall:
- (i) review management's evaluation of the External Auditor's audit performance;
  - (ii) review the External Auditor's recommendations, and review management's response to and subsequent follow-up on any identified weaknesses;
  - (iii) review management's response to significant internal control recommendations of the internal audit staff and the External Auditor;
  - (iv) receive regular reports from management and receive comments from the External Auditor, if any, on:
    - (A) the Corporation's principal financial risks;
    - (B) the systems implemented to monitor those risks; and
    - (C) the strategies (including hedging strategies) in place to manage those risks; and
- (g) recommend to the Board whether any new material strategies presented by management should be considered appropriate and approved.

## **10. INTERNAL AUDIT FUNCTION**

### **10.1 Internal Auditor**

In connection with the Corporation's internal audit function, if any the Committee shall:

- (a) review the terms of reference of the internal auditor, if any, and meet with the internal auditor as the Committee may consider appropriate to discuss any concerns or issues;
- (b) in consultation with the External Auditor and the internal audit group, review the adequacy of the Corporation's internal control structure and procedures designed to ensure compliance with laws and regulations and any special audit steps adopted in light of material deficiencies and controls;
- (c) review the internal control report prepared by management, including management's assessment of the effectiveness of the Corporation's internal control structure and procedures for financial reporting; and
- (d) periodically review with the internal auditor, if any, any significant difficulties, disagreements with management or scope restrictions encountered in the course of the work of the internal auditor.

## **11. COMPLIANCE WITH LEGAL AND REGULATORY REQUIREMENTS**

### **11.1 Risk Assessment and Risk Management**

The Committee shall discuss the Corporation's major financial risk exposures and the steps management has taken to monitor and control such exposures and shall report to the Board with respect thereto.

11.2 Related Party Transactions

The Committee shall review and approve all related party transactions in which the Corporation is involved or which the Corporation proposes to enter into.

11.3 Whistleblowing Policy

The Committee shall put in place, subject to approval by the Board, procedures for:

- (a) the receipt, retention and treatment of complaints received by the Corporation or its subsidiaries regarding accounting, internal accounting controls or auditing matters; and
- (b) the confidential, anonymous submission by employees of the Corporation or its subsidiaries of concerns regarding questionable accounting or auditing matters.

**12. ANNUAL PERFORMANCE REVIEW**

On an annual basis, the Committee shall follow the process established by the Board and overseen by the Nominating and Governance Committee for reviewing the performance of the Committee.

**13. CHARTER REVIEW**

The Committee shall review and assess the adequacy of this Charter annually and recommend to the Board any changes it deems appropriate.

December 28, 2005 and amended August 3, 2006 and March 30, 2015 and February 23, 2016.