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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

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**FORM S-1  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

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**Sophiris Bio Inc.**

(Exact name of registrant as specified in its charter)

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**British Columbia**  
(State or other jurisdiction of  
incorporation or organization)

**2834**  
(Primary Standard Industrial  
Classification Code Number)

**98-1008712**  
(I.R.S. Employer  
Identification Number)

**1258 Prospect Street  
La Jolla, CA 92037  
(858) 777-1760**  
(Address, including zip code, and telephone number, including  
area code, of registrant's principal executive offices)

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**Randall E. Woods  
Chief Executive Officer and President  
Sophiris Bio Inc.  
1258 Prospect Street  
La Jolla, CA 92037  
(858) 777-1760**  
(Name, address, including zip code, and telephone number, including area code, of agent for service)

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*Copies to:*

**Barbara Borden  
Karen E. Deschaine  
Cooley LLP  
4401 Eastgate Mall  
San Diego, CA 92121  
(858) 550-6000**

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**Approximate date of commencement of proposed sale to the public:** As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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

Large accelerated filer   
Non-accelerated filer

Accelerated filer   
Smaller reporting company   
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

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**CALCULATION OF REGISTRATION FEE**

<b>Title of Each Class of Securities to be Registered</b>	<b>Proposed Maximum Aggregate Offering Price (1) (2)</b>	<b>Amount of Registration Fee</b>
Common shares, no par value per share		
Warrants to purchase common shares		
Common shares issuable upon exercise of the Warrants		
<b>Total</b>	<b>\$20,000,000</b>	<b>\$2,596</b>

- (1) Estimated solely for the purpose of calculating the amount of the registration fee in accordance with Rule 457(o) under the Securities Act. Includes the offering price of shares and warrants that the underwriters have the option to purchase.
- (2) Pursuant to Rule 416, the securities being registered hereunder include such indeterminate number of additional securities as may be issuable to prevent dilution resulting from share splits, share dividends or similar transactions.

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**The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment that specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.**

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The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

**PRELIMINARY PROSPECTUS, SUBJECT TO COMPLETION, DATED NOVEMBER 12, 2019**



sophris

## Common Shares

### Warrants to Purchase Up to Common Shares

Sophris Bio Inc. is offering \$ \_\_\_\_\_ of common shares and warrants to purchase common shares. Each of common share is being sold together with \_\_\_\_\_ of a warrant to purchase one common share. Each warrant will have an exercise price per share of not less than 100% of the last reported sale price of our common shares on the trading day immediately preceding the pricing of this offering, will be immediately exercisable and will expire on the fifth anniversary of the original issuance date. The common shares and warrants are immediately separable and will be issued separately, but will be purchased together in this offering.

Our common shares are listed on The Nasdaq Capital Market under the symbol "SPHS." On November 8, 2019, the last reported sale price of our common shares on The Nasdaq Capital Market was \$0.49 per share. There is no established trading market for the warrants and we do not expect a market to develop. In addition, we do not intend to apply for the listing of the warrants on any national securities exchange or other trading market. Without an active trading market, the liquidity of the warrants will be limited.

You should read this prospectus, together with additional information described under the headings "Incorporation of Certain Information by Reference" and "Where You Can Find More Information," carefully before you invest in any of our securities.

**Investing in our securities involves a high degree of risk. See "Risk Factors" beginning on page 6 of this prospectus for a discussion of information that should be considered in connection with an investment in our securities.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

	Per Share and Related Warrant	Total
Public offering price	\$ _____	\$ _____
Underwriting discount <sup>(1)</sup>	\$ _____	\$ _____
Proceeds, before expenses, to us	\$ _____	\$ _____

(1) We have agreed to reimburse the underwriters for certain expenses. See "Underwriting."

We have granted the underwriters a 30-day option to purchase up to \_\_\_\_\_ additional common shares at a purchase price of \$ \_\_\_\_\_ per share and/or additional warrants to purchase up to \_\_\_\_\_ common shares at a purchase price of \$ \_\_\_\_\_ per warrant to purchase one common share.

The underwriters expect to deliver the common shares and the warrants to purchasers in this offering on or about \_\_\_\_\_, 2019.

The date of this prospectus is \_\_\_\_\_, 2019.

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We have not, and the underwriters have not, authorized anyone to provide you with information that is different from that contained in this prospectus or in any free writing prospectus we may authorize to be delivered or made available to you. When you make a decision about whether to invest in our securities, you should not rely upon any information other than the information in this prospectus or in any free writing prospectus that we may authorize to be delivered or made available to you. Neither the delivery of this prospectus nor the sale of our securities means that the information contained in this prospectus or any free writing prospectus is correct after the date of this prospectus or such free writing prospectus. This prospectus is not an offer to sell or the solicitation of an offer to buy our securities in any circumstances under which the offer or solicitation is unlawful.

For investors outside the United States: We have not, and the underwriters have not, taken any action that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities covered hereby and the distribution of this prospectus outside the United States.

Unless otherwise indicated, information contained in this prospectus concerning our industry and the markets in which we operate, including our general expectations and market position, market opportunity and market share, is based on information from our own management estimates and research, as well as from industry and general publications and research, surveys and studies conducted by third parties. Management estimates are derived from publicly available information, our knowledge of our industry and assumptions based on such information and knowledge, which we believe to be reasonable. Our management estimates have not been verified by any independent source, and we have not independently verified any third-party information. In addition, assumptions and estimates of our and our industry's future performance are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described in "Risk Factors." These and other factors could cause our future performance to differ materially from our assumptions and estimates. See "Special Note Regarding Forward-Looking Statements."

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to the registration statement of which this prospectus is a part were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Sophiris, the Sophiris logo and other trademarks or service marks of Sophiris appearing in this prospectus are the property of Sophiris. This prospectus contains references to our trademarks and to trademarks belonging to other entities. Solely for convenience, trademarks and tradenames referred to in this prospectus appear (after the first usage) without the ® and ™ symbols, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or that the applicable owner will not assert its rights, to these trademarks and tradenames.

## SUMMARY

*This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our common shares. You should read this entire prospectus carefully, especially the "Risk Factors" section of this prospectus before making an investment decision.*

### Overview

We are a clinical-stage biopharmaceutical company focused on developing innovative products for the treatment of urological diseases. We are headquartered in San Diego, California and our common shares currently trade on The Nasdaq Capital Market. We are currently developing topsalysin (PRX302) as a treatment for clinically significant localized prostate cancer and as a treatment for the lower urinary tract symptoms of BPH, commonly referred to as an enlarged prostate. Topsalysin, a first-in-class, pore-forming protein, is a highly ablative agent that is selective and targeted in that it is only activated by enzymatically active prostate specific antigen, or PSA, which is found in high concentrations around prostate tumor cells and in the transition zone of the prostate. In 2004, we licensed exclusive rights to topsalysin from UVIC Industry Partnerships Inc., or UVIC, and The Johns Hopkins University, or Johns Hopkins, for the treatment of prostate cancer and in 2009, we licensed exclusive rights to topsalysin from UVIC and Johns Hopkins for the treatment of the symptoms of BPH. In April 2010, we entered into an exclusive license agreement with Kissei Pharmaceuticals Co., Ltd., or Kissei, pursuant to which we granted Kissei the right to develop and commercialize topsalysin in Japan for the treatment of the symptoms of BPH, prostate cancer, prostatitis or other diseases of the prostate.

Topsalysin, a genetically modified recombinant protein, is delivered via ultrasound-guided injection directly into the prostate. This membrane-disrupting protein is selectively activated by enzymatically active PSA, which is found in high concentrations around prostate tumor cells and in the transition zone of the prostate, leading to localized cell death and tissue disruption without damage to neighboring tissue and nerves. This targeted method of administration limits the potential for systemic exposure of topsalysin, together with the specific mechanism of action, (topsalysin, is only activated by enzymatically active PSA which is found within the prostate, PSA in circulation is no longer enzymatically active) is thought to contribute the tolerability and safety profile observed to date.

We have completed a multicenter, open-label Phase 2b clinical trial to confirm the dose and optimize the delivery of topsalysin for the treatment of clinically significant localized prostate cancer. A total of 38 patients with a pre-identified clinically significant lesion, received a single administration of topsalysin at eight clinical trial sites located in the United Kingdom and United States. A review of the safety data from 38 patients, indicates that a single administration of topsalysin continues to appear safe and well-tolerated by patients. Adverse events considered related to topsalysin were typically mild and typically occurred and were resolved on the day of the administration. In addition, urine function was preserved, no sexual dysfunction, no hypersensitivity reactions or other serious systemic reactions to topsalysin were observed after a single administration.

A secondary objective of the trial was to evaluate the efficacy of a single administration of topsalysin to selectively target and focally ablate a pre-identified lesion. Six months after the administration of topsalysin, 37 out of 38 patients underwent a targeted biopsy of the treated lesion with one patient having been lost to follow-up following re-location. The six-month biopsy results demonstrated that, 27% of patients (10/37) achieved a clinical response, defined in this trial as no detectable tumor on targeted biopsy of the treated lesion or a sufficient reduction to deem the lesion clinically-insignificant (cancer lesion of Gleason Score 6 (pattern 3+3) and a maximum cancer core length, or MCCL, of less than 6 millimeters).

On June 19, 2019, we announced that we had received formal scientific advice from the European Medicines Agency, or EMA, regarding a proposed design of a Phase 3 clinical trial to evaluate the potential of topsalysin as a targeted focal therapy to treat patients with intermediate risk localized prostate cancer. The Phase 3 trial design, agreed upon by the EMA, would enroll patients with a confirmed diagnosis of intermediate risk disease. Approximately 700 men who meet the eligibility criteria will be equally randomized to receive a single administration of either topsalysin or placebo. The primary endpoint for the trial is the proportion of patients at 12 months who have failed treatment, defined as histological progression of disease, resulting in the need for alternative intervention, per an independent central adjudication panel. Based upon feedback from the EMA, we believe that data from a single Phase 3 trial, if successful, should be sufficient to support market approval in Europe.

On October 21, 2019, we announced that following an End of Phase 2/ Pre-Phase 3 meeting with the United States Food and Drug Administration, or FDA, there is agreement regarding the design of a single Phase 3 clinical trial to evaluate the potential of topsalysin as a targeted focal therapy to treat patients with intermediate risk localized prostate cancer. The Phase 3 study design agreed upon with the FDA is consistent with the design previously agreed upon with the EMA. In addition, the FDA has indicated that in order to receive approval, we will need to evaluate all patients that progress to alternative treatments for an additional 12 months, for a total of 24 months of data, post the administration of the study drug.

Our goal is to conduct a single Phase 3 trial, which if successful, will provide the clinical data for approval in both the United States and Europe.

The Company has incurred net losses from operations since inception, including \$5.5 million in the nine months ended September 30, 2019 and has an accumulated deficit of \$161.8 million as of September 30, 2019. On August 29, 2019, the Company completed a registered direct financing with a private institutional investor whereby it received \$3.6 million, net of underwriters' discounts and offering costs. At September 30, 2019, the Company had cash, cash equivalents and securities available-for-sale of \$6.3 million. As of September 30, 2019, the future principal and final fee payments under the Loan and Security Agreement with Silicon Valley Bank, or SVB, total \$6.0 million. The maturity date of the loan is September 1, 2021. The Company is currently paying monthly installments of principal and interest under the Loan and Security Agreement. However, if the Company fails to make principal and interest payments when due or another event of default occurs under the loan, SVB may accelerate the loan and foreclose on the Company's pledged assets if the Company is unable to repay the loan in full. Events of default include the occurrence of a material adverse change as defined in the Loan and Security Agreement. As of the date of filing of this Form 10-Q, the Company is not in default under any of the provisions of the Loan and Security Agreement. The Company expects that its cash, cash equivalents and securities available-for-sale will be sufficient to fund its operations and debt service through March 2020 (assuming no acceleration of the loan) and, as a result, there is substantial doubt about its ability to continue as a going concern for one year from the date of the issuance of its condensed consolidated financial statements for the nine months ended September 30, 2019.

The Company announced that it has received formal scientific advice from the European Medicines Agency, or EMA, and reached an agreement with the U.S. Food and Drug Administration, or FDA, regarding a design for a single Phase 3 clinical trial to evaluate the potential of topsalsyn as a targeted focal therapy to treat patients with intermediate risk localized prostate cancer. Based upon feedback from the EMA and the FDA, the Company believes that data from a single Phase 3 trial, if successful, should be sufficient to support market approval in both the U.S. and Europe. The scope of any additional trial in localized prostate cancer, including whether it will be a Phase 3 trial or an additional Phase 2 trial, will be dependent upon securing funding to finance such clinical trial. At this point in time, the Company does not plan on pursuing new clinical trials, including an additional trial in localized prostate cancer or a second Phase 3 trial in benign prostatic hyperplasia, or BPH, unless the Company secures a development partner to fund such new clinical trials or it obtains the necessary financing. The Company is currently evaluating options to further advance the clinical development of topsalsyn. The Company will require significant additional funding to advance topsalsyn in clinical development. The Company could use dilutive funding options such as an equity financing and/or non-dilutive funding options such as a partnering arrangement or other strategic arrangements to fund future clinical development of topsalsyn. Any significant future public financing will most likely require the use of a Form S-1 registration statement. The process of getting a Form S-1 registration statement filed and declared effective can take an extended period of time which could delay the timing of any future significant financing. There can be no assurance that such funding will be secured in a timely manner or on favorable terms, if at all or that a development partner will be available on acceptable terms or if at all.

If the Company is unable to raise sufficient capital to fund its operations, the Company could be required to significantly reduce expenses, sell assets (potentially at a loss), cease operations altogether, file for bankruptcy or seek other protection from creditors, or liquidate all of its assets. The Company is also exploring partnership arrangements and other strategic alternatives which could include a merger or acquisition.

On March 7, 2019, we received a letter from the Listing Qualifications Staff of The Nasdaq Stock Market LLC, or Nasdaq, notifying us that for the last 30 consecutive business days prior to the date of the letter, the market value of our listed securities was less than \$35 million and therefore we did not meet the requirement for continued listing on The Nasdaq Capital Market as required by Nasdaq Listing Rule 5550(b)(2), or the Market Value Rule, or the alternative requirements under Nasdaq Listing Rules 5550(b)(1) and 5550(b)(3). In accordance with Nasdaq Listing Rule 5810(c)(3)(C), we had 180 calendar days, or until September 3, 2019, to regain compliance with the Market Value Rule.

On June 4, 2019, we received a letter from the Listing Qualifications Staff of Nasdaq notifying us that the closing bid price of our common shares had been below \$1.00 per share for 30 consecutive business days and that we were therefore not in compliance with the minimum bid price requirement for continued listing on The Nasdaq Capital Market, as required by Nasdaq Listing Rule 5550(a)(2). Nasdaq stated in its June 4th letter that, in accordance with Nasdaq Listing Rule 5810(c)(3)(A), we have a grace period of 180 calendar days, or until December 2, 2019, to regain compliance with the minimum closing bid price requirement for continued listing.

On September 6, 2019, we received a letter from the Nasdaq notifying us that it had not regained compliance with Market Value Rule by September 3, 2019 and as a result our securities will be delisted from the Nasdaq unless we requested an appeal of this determination. We formally requested an appeal of this determination on September 12, 2019. On October 17, 2019, we met with the Nasdaq Hearings Panel regarding our potential delisting from The Nasdaq Stock Market as a result of our failure to maintain a market value of our listed securities of at least \$35 million or in the alternative to have more than \$2.5 million in stockholders' equity. On October 21, 2019, we received the Nasdaq Hearings Panel decision which granted us until January 24, 2020 to regain compliance with the listing standards of The Nasdaq Capital Market, by either having the market value of our listed securities be at least \$35 million during the preceding 10 consecutive trading days before January 24, 2020 or having more than \$2.5 million in stockholders' equity by January 24, 2020. We will also be required to have a closing bid price of at least \$1.00 per share during the preceding 10 consecutive trading days before January 24, 2020. If we are unable to regain compliance with the listing standards of The Nasdaq Capital Market by January 24, 2020, our securities may be delisted from The Nasdaq Stock Market. As of the date of this prospectus we have not regained compliance with any of these listing rules.

## **Risks That We Face**

An investment in our common shares involves a high degree of risk. You should carefully consider the risks summarized below. The risks are discussed more fully in the “Risk Factors” section of this prospectus immediately following this prospectus summary and under similar headings in the other documents that are incorporated by reference into this prospectus. These risks include, but are not limited to, the following:

- we have incurred significant operating losses since our inception and anticipate that we will continue to incur losses for the foreseeable future;
- we have not generated any product revenue and may never become profitable;
- we are a development stage company with no approved products and no revenue from commercialization of any products;
- we will require significant funding to fund our operations, and there is substantial doubt about our ability to continue as a going concern;
- we are highly dependent on the success of our sole product candidate, topsalysin, and we may not be able to successfully obtain regulatory or marketing approval for, or successfully commercialize, this product candidate;
- topsalysin is subject to extensive regulation, and we may not obtain regulatory approvals for topsalysin;
- if we fail to satisfy applicable listing standards, our common shares may be delisted from The Nasdaq Capital Market;
- we will need to increase the size of our organization and the scope of our outside vendor relationships, and we may experience difficulties in managing growth;
- we rely on third parties to manufacture topsalysin and we intend to rely on third parties to manufacture commercial supplies of topsalysin, if and when it is approved. The development and commercialization of topsalysin could be stopped or delayed if any such third party fails to provide us with sufficient quantities of topsalysin or the diluent or fails to do so at acceptable quality levels or prices or fails to maintain or achieve satisfactory regulatory compliance;
- the terms of our Loan and Security Agreement with Silicon Valley Bank require us to meet certain operating covenants and place restrictions on our operating and financial flexibility. If we raise additional capital through debt financing, the terms of any new debt could further restrict our ability to operate our business;
- the price of our common shares is likely to be highly volatile, and you could lose all or part of your investment;
- our clinical trials may fail to adequately demonstrate safety and efficacy of topsalysin for either indication being pursued which would prevent or delay regulatory approval and commercialization;
- if you purchase our securities in this offering, you will incur immediate and substantial dilution in the book value of your shares; and
- we have broad discretion in the use of the net proceeds we receive from this offering and may not use them effectively.

## **Company Information**

We were formed in May 2003 under the predecessor to the British Columbia Business Corporations Act, or the BCBCA, by the amalgamation of Stratos Biotechnologies Inc., Nucleus BioScience Inc. and Brightwave Ventures Inc. under the name SNB Capital Corp. In July 2004, we acquired all of the shares of Protox Pharmaceuticals Inc. in a plan of arrangement under the BCBCA and changed our name to Protox Therapeutics Inc. In January 2005, we amalgamated under the BCBCA with Protox Pharmaceuticals Inc. In April 2011, we announced the relocation of our core activities from Vancouver, British Columbia to San Diego, California in conjunction with the transition of a new senior management team. In connection with this operational realignment, we changed our name to Sophiris Bio Inc., effective April 2, 2012.

Our principal executive office is located at 1258 Prospect Street, La Jolla, California 92037. Our telephone number is (858) 777-1760 and our facsimile number is (858) 412-5693. We are domiciled in Vancouver, British Columbia and our registered and records office is at 2900-550 Burrard Street, Vancouver, British Columbia, V6C 0A3. We also maintain a website at [www.sophiris.com](http://www.sophiris.com). The reference to our website is an inactive textual reference only and the information contained in, or that can be accessed through, our website is not part of this prospectus.

## The Offering

<b>Common shares offered by us</b>	shares (assuming a combined public offering price of \$ per share and related warrant, the last reported sale price of our common shares on The Nasdaq Capital Market on , 2019).
<b>Warrants offered by us</b>	Warrants to purchase up to common shares (assuming a combined public offering price of \$ per share and related warrant, the last reported sale price of our common shares on The Nasdaq Capital Market on , 2019). Each share of our common shares are being sold together with of a warrant to purchase one common share. Each warrant will have an exercise price per share of not less than 100% of the last reported sale price of our common shares on the trading day immediately preceding the pricing of this offering, will be immediately exercisable and will expire on the fifth anniversary of the original issuance date.
<b>Common shares outstanding after this offering</b>	shares (assuming a combined public offering price of \$ per share and related warrant, the last reported sale price of our common shares on The Nasdaq Capital Market on , 2019) (or shares if the warrants sold in this offering are exercised in full).
<b>Option to purchase additional shares and/or warrants</b>	We have granted the underwriters a 30-day option to purchase up to additional common shares at a purchase price of \$ per share and/or additional warrants to purchase up to common shares at a purchase price of \$ per warrant to purchase one common share (assuming a combined public offering price of \$ per share and related warrant, the last reported sale price of our common shares on The Nasdaq Capital Market on , 2019).
<b>Use of proceeds</b>	<p>Based on an assumed combined public offering price of \$ per share and related warrant (the last reported sale price of our common shares on The Nasdaq Capital Market on , 2019), we estimate that the net proceeds from our sale of common shares and warrants in this offering will be approximately \$ million, or approximately \$ million if the underwriters exercise their option to purchase additional shares and/or warrants in full, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We currently expect to use the net proceeds from this offering for general corporate purposes and to fund ongoing operations and expansion of our business.</p> <p>For additional information please refer to the section entitled “Use of Proceeds” on page 12 of this prospectus.</p>
<b>Risk Factors</b>	Investing in our securities involves a high degree of risk. You should carefully review and consider the “Risk Factors” section of this prospectus for a discussion of factors to consider before deciding to invest in our common shares.
<b>Market Symbol and trading</b>	Our common shares are listed on The Nasdaq Capital Market under the symbol “SPHS.” There is no established trading market for the warrants and we do not expect a market to develop. In addition, we do not intend to apply for the listing of the warrants on any national securities exchange or other trading market. Without an active trading market, the liquidity of the warrants will be limited.

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The number of our common shares to be outstanding immediately after this offering is based on 33,572,140 common shares outstanding as of September 30, 2019 and excludes:

- 2,963,062 common shares issuable upon the exercise of stock options outstanding as of September 30, 2019, at a weighted average exercise price of \$1.56 per common share;
- 11,131,302 common shares issuable upon the exercise of warrants outstanding as of September 30, 2019, at a weighted average exercise price of \$2.51 per common share;
- 1,978,334 common shares issuable upon the exercise of pre-funded warrants as of September 30, 2019 at an exercise price of \$0.01 per common share
- an additional 394,000 common shares that are available for future issuance under our stock option plan as of September 30, 2019; and
- any common shares issuable upon exercise of the underwriters' option to purchase additional shares.

Unless otherwise indicated, all information contained in this prospectus assumes no exercise by the underwriters of their option to purchase up to additional common shares and/or additional warrants.

## RISK FACTORS

*A purchase of our common shares is an investment in our securities and involves a high degree of risk. You should carefully consider the risks and uncertainties and all other information contained in or incorporated by reference in this prospectus, including the risks and uncertainties discussed under “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2018, our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, our Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, and our Quarterly Report on Form 10-Q for the quarter ended September 30, 2019. All of these risk factors are incorporated by reference herein in their entirety. If any of these risks actually occur, our business, financial condition and results of operations would likely suffer. In that case, the market price of our common shares could decline, and you may lose part or all of your investment in our company. Additional risks of which we are not presently aware or that we currently believe are immaterial may also harm our business and results of operations.*

### **Risks Relating to This Offering**

*If you purchase our securities in this offering, you will incur immediate and substantial dilution in the book value of your shares.*

The combined public offering price per share of our common shares and related warrant will be substantially higher than the net tangible book value per share of our common shares immediately prior to the offering. After giving effect to the assumed sale of common shares and related warrants in this offering, at an assumed combined public offering price of \$ per share and related warrant (the last reported sale price of our common shares on The Nasdaq Capital Market on , 2019), and after deducting the estimated underwriting discount and estimated offering expenses payable by us and attributing no value to the warrants sold in this offering, purchasers of our common shares in this offering will incur immediate dilution of \$ per share in the net tangible book value of the common shares they acquire. In the event that you exercise your warrants, you will experience additional dilution to the extent that the exercise price of the warrants is higher than the tangible book value per share of our common shares. For a further description of the dilution that investors in this offering will experience, see “Dilution.”

In addition, to the extent that outstanding stock options or warrants have been or may be exercised or other shares issued, you may experience further dilution.

*We have broad discretion in the use of the net proceeds we receive from this offering and may not use them effectively.*

Our management will have broad discretion in the application of the net proceeds we receive in this offering, including for any of the purposes described in the section entitled “Use of Proceeds,” and you will not have the opportunity as part of your investment decision to assess whether our management is using the net proceeds appropriately. Because of the number and variability of factors that will determine our use of our net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business and cause the price of our common shares to decline. Pending their use, we may invest our net proceeds from this offering in short-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our shareholders.

*Future sales of substantial amounts of our common shares could adversely affect the market price of our common shares.*

We may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. If additional capital is raised through the sale of equity or convertible debt securities, or perceptions that those sales could occur, the issuance of these securities could result in further dilution to investors purchasing our common shares in this offering or result in downward pressure on the price of our common shares, and our ability to raise capital in the future.

*Holders of our warrants will have no rights as a common shareholder until they acquire our common shares.*

Until you acquire common shares upon exercise of your warrants, you will have no rights with respect to common shares issuable upon exercise of your warrants. Upon exercise of your warrants, you will be entitled to exercise the rights of a common shareholder only as to matters for which the record date occurs after the exercise date.

*The warrants may not have any value.*

Each warrant will have an exercise price of not less than 100% of the last reported sale price of our common shares as of the close of the trading day immediately preceding the pricing of this offering and will expire on the fifth anniversary of the date they first become exercisable. In the event our common shares price does not exceed the exercise price of the warrants during the period when the warrants are exercisable, the warrants may not have any value.

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***There is no public market for the warrants to purchase common shares being offered in this offering.***

There is no established public trading market for the warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the warrants on any national securities exchange or other nationally recognized trading system, including The Nasdaq Capital Market. Without an active trading market, the liquidity of the warrants will be limited.

***We will require significant funding to fund our operations, and there is substantial doubt about our ability to continue as a going concern.***

Our Annual Report on Form 10-K for the year ended December 31, 2018 includes disclosures regarding management's assessment of our ability to continue as a going concern and a report from our independent registered public accounting firm that includes an explanatory paragraph regarding going concern, as there is substantial doubt about our ability to continue as a going concern due to our current liquidity position and recurring losses from operations since inception and negative cash flows from operating activities.

The condensed consolidated financial statements have been prepared assuming we will continue as a going concern, which contemplates the realization of assets and the settlement of liabilities in the normal course of business. We have incurred net losses from operations since inception, including \$5.5 million in the nine months ended September 30, 2019, and have an accumulated deficit of \$161.8 million as of September 30, 2019. On August 29, 2019, we completed a registered direct financing with a private institutional investor whereby we received \$3.6 million, net of underwriters' discounts and offering costs. At September 30, 2019, we had cash, cash equivalents and securities available-for-sale of \$6.3 million. As of September 30, 2019, the future principal and final fee payments under the Loan and Security Agreement with Silicon Valley Bank, or SVB, totaled \$6.0 million. The maturity date of the loan is September 1, 2021. We are currently paying monthly installments of principal and interest under the Loan and Security Agreement. However, if we fail to make principal and interest payments when due or another event of default occurs under the loan, SVB may accelerate the loan and foreclose on our pledged assets if we are unable to repay the loan in full. Events of default include the occurrence of a material adverse change as defined in the Loan and Security Agreement. As of the date of filing of this Form 10-Q, we are not in default under any of the provisions of the Loan and Security Agreement. We expect that our cash, cash equivalents and securities available-for-sale will be sufficient to fund our operations and debt service through March 2020 (assuming no acceleration of the loan) and, as a result, there is substantial doubt about our ability to continue as a going concern for one year from the date of the issuance of our condensed consolidated financial statements for the nine months ended September 30, 2019.

Our operations have consumed substantial amounts of cash since inception. Since inception, we have raised approximately \$149 million from the sale of equity securities in private placements and public offerings, \$28 million from the issuance of debt securities and \$11 million from the exercise of common share purchase warrants. We will need to continue to spend substantial amounts to continue clinical development of topsalysin. We announced that we had received formal scientific advice from the European Medicines Agency, or EMA, and reached an agreement with the U.S. Food and Drug Administration, or FDA, regarding a design for a single Phase 3 clinical trial to evaluate the potential of topsalysin as a targeted focal therapy to treat patients with intermediate risk localized prostate cancer. Based upon feedback from the EMA and the FDA, we believe that data from a single Phase 3 trial, if successful, should be sufficient to support market approval in both the U.S. and Europe. The scope of any additional trial in localized prostate cancer, including whether it will be a Phase 3 trial or an additional Phase 2 trial, will be dependent upon securing funding to finance such clinical trial. At this point in time, we do not plan on pursuing new clinical trials, including an additional trial in localized prostate cancer or a second Phase 3 trial in benign prostatic hyperplasia, or BPH, unless we secure a development partner to fund such new clinical trials or we obtain the necessary financing. We are currently evaluating options to further advance the clinical development of topsalysin. We will require significant additional funding to advance topsalysin in clinical development. We could use dilutive funding options such as an equity financing and/or non-dilutive funding options such as a partnering arrangement or other strategic arrangements to fund future clinical development of topsalysin. Any significant future public financing will most likely require the use of a Form S-1 registration statement. The process of getting a Form S-1 registration statement filed and declared effective can take an extended period of time which could delay the timing of any future significant financing. There can be no assurance that such funding will be secured in a timely manner or on favorable terms, if at all or that a development partner will be available on acceptable terms or if at all.

If we are unable to raise sufficient capital to fund our operations, we could be required to significantly reduce expenses, sell assets (potentially at a loss), cease operations altogether, file for bankruptcy or seek other protection from creditors, or liquidate all of our assets. We are also exploring partnership arrangements and other strategic alternatives which could include a merger or acquisition. Furthermore, if there remains substantial doubt about our ability to continue as a going concern, investors or other financing sources may be unwilling to provide additional funding on commercially reasonable terms or at all.

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Any of the above events could significantly harm our business, prospects, financial condition and results of operations and cause the price of our common shares to decline.

***We have incurred significant operating losses since our inception and anticipate that we will continue to incur losses for the foreseeable future.***

We have a limited operating history and we have financed our operations primarily through equity and debt financings and have incurred significant operating losses since our inception. We had a net loss of \$5.5 million during the nine months ended September 30, 2019 and \$6.8 million, \$8.6 million, and \$11.2 million during the years ended December 31, 2018, 2017 and 2016, respectively. As of September 30, 2019 and December 31, 2018, we had an accumulated deficit of \$161.8 and \$156.3 million, respectively. Our prior losses, combined with expected future losses, have had and will continue to have an adverse effect on our shareholders' equity and working capital. Our losses have resulted principally from costs incurred in our research activities for topsalysin. We anticipate that our operating losses will substantially increase over the next several years as we continue development of topsalysin, including the conduct of any future clinical trials for the treatment of clinically significant localized prostate cancer and as a treatment for the lower urinary tract symptoms of BPH. In addition, if we obtain regulatory approval of topsalysin in either indication, we may incur significant sales and marketing expenses and outsourced manufacturing expenses, as well as continued development expenses. Because of the numerous risks and uncertainties associated with developing pharmaceutical products, we are unable to predict the extent of any future losses or whether or when we will become profitable.

***We have not generated any product revenue and may never become profitable.***

Our ability to become profitable depends upon our ability to develop and commercialize topsalysin. To date, other than the upfront payment we received from Kissei and the \$5.0 million milestone payment we received in April 2013 from Kissei for the achievement of a development milestone, we have not generated any revenue from topsalysin and we do not know when, or if, we will generate any future revenue. Our ability to generate future revenue depends on a number of factors, including:

- successfully completing the clinical development topsalysin in one or both indications;
- obtaining U.S. and/or foreign regulatory approvals for topsalysin in one or both indications;
- manufacturing commercial quantities of topsalysin at acceptable costs levels if regulatory approvals are received;
- achieving broad market acceptance of topsalysin in the medical community and with third-party payors and patients; and
- creating an internal commercial infrastructure or identifying and entering into one or more strategic collaborations to effectively market and sell topsalysin.

We may never be able to successfully develop or commercialize topsalysin in either indication. Even if we do obtain regulatory approval to commercialize topsalysin, which we do not expect to occur for several years, we may never generate product sales and may never achieve or sustain profitability on a quarterly or annual basis. Our failure to become and remain profitable would depress the market price of our common shares and could impair our ability to raise capital, expand our business, diversify our product offerings or continue our operations.

***Raising additional capital may cause dilution to our existing shareholders, restrict our operations or require us to relinquish intellectual property rights to our product candidates.***

We may seek additional capital through a combination of public and private equity offerings, debt financings, strategic partnerships and alliances and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our existing shareholders will be diluted, and the terms may include liquidation or other preferences that adversely affect the rights of our shareholders. Debt financings may be coupled with an equity component, such as warrants to purchase shares, which could also result in dilution of our existing shareholders' ownership. The incurrence of indebtedness would result in increased fixed payment obligations and could also result in certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. If we raise additional funds through strategic partnerships and alliances and licensing arrangements with third parties, we may have to relinquish valuable rights to our product candidates, or grant licenses on terms that are not favorable to us.

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***If we fail to satisfy applicable listing standards, our common shares may be delisted from The Nasdaq Capital Market.***

On March 7, 2019, we received a letter from the Listing Qualifications Staff of The Nasdaq Stock Market LLC, or Nasdaq, notifying us that for the last 30 consecutive business days prior to the date of the letter, the market value of our listed securities was less than \$35 million and therefore we did not meet the requirement for continued listing on The Nasdaq Capital Market as required by Nasdaq Listing Rule 5550(b)(2), or the Market Value Rule, or the alternative requirements under Nasdaq Listing Rules 5550(b)(1) and 5550(b)(3). In accordance with Nasdaq Listing Rule 5810(c)(3)(C), we had 180 calendar days, or until September 3, 2019, to regain compliance with the Market Value Rule.

On June 4, 2019, we received a letter from the Listing Qualifications Staff of Nasdaq notifying us that the closing bid price of our common shares had been below \$1.00 per share for 30 consecutive business days and that we were therefore not in compliance with the minimum bid price requirement for continued listing on The Nasdaq Capital Market, as required by Nasdaq Listing Rule 5550(a)(2). Nasdaq stated in its June 4th letter that, in accordance with Nasdaq Listing Rule 5810(c)(3)(A), we have a grace period of 180 calendar days, or until December 2, 2019, to regain compliance with the minimum closing bid price requirement for continued listing. We will regain compliance if the closing bid price of our common shares is at or above \$1.00 for at least 10 consecutive business days anytime during the 180-day grace period.

On September 6, 2019, we received a letter from Nasdaq notifying us that we had not regained compliance with the Market Value Rule by September 3, 2019 and as a result that our securities would be delisted from The Nasdaq Capital Market unless we requested an appeal of this determination. We formally requested an appeal of the determination on September 12, 2019. On October 17, 2019, we met with the Nasdaq Hearings Panel regarding our potential delisting from The Nasdaq Stock Market as a result of our failure to maintain a market value of our listed securities of at least \$35 million or in the alternative to have more than \$2.5 million in stockholders' equity. On October 21, 2019, we received the Nasdaq Hearings Panel decision which granted us until January 24, 2020 to regain compliance with the listing standards of The Nasdaq Capital Market, by either having the market value of our listed securities be at least \$35 million during the preceding 10 consecutive trading days before January 24, 2020 or having more than \$2.5 million in stockholders' equity by January 24, 2020. We will also be required to have a closing bid price of at least \$1.00 per share during the preceding 10 consecutive trading days before January 24, 2020. If we are unable to regain compliance with the listing standards of The Nasdaq Capital Market by January 24, 2020, our securities may be delisted from The Nasdaq Stock Market. As of the date of this filing we have not regained compliance with any of these listing rules.

There is no guarantee that we will be able to regain compliance with the Nasdaq listing standards requirements or the minimum bid price requirement, either of which could result in Nasdaq taking steps to delist our common shares. Delisting from The Nasdaq Capital Market could adversely affect our ability to raise additional financing through the public or private sale of equity securities, would significantly affect the ability of investors to trade our securities and would negatively affect the value and liquidity of our common shares. Delisting could also have other negative results, including the potential loss of confidence by employees, the loss of institutional investor interest and fewer business development opportunities. If our common shares are delisted by The Nasdaq Capital Market, the price of our common shares may decline, and although our common shares may be eligible to trade on the OTC Bulletin Board, another over-the-counter quotation system, or on the pink sheets, an investor may find it more difficult to dispose of their common shares or obtain accurate quotations as to the market value of our common shares. Further, if we are delisted, we would incur additional costs under state blue sky laws in connection with any sales of our securities. These requirements could severely limit the market liquidity of our common shares and the ability of our shareholders to sell our common shares in the secondary market.

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements, which reflect our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. These forward-looking statements speak only as of the date of this prospectus and are subject to a number of risks, uncertainties and assumptions described under the sections entitled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and elsewhere in our Annual Report on Form 10-K for the year ended December 31, 2018, our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, our Quarterly Report on Form 10-Q for the quarter ended June 30, 2019 and our Quarterly Report on Form 10-Q for the quarter ended September 30, 2019, which are incorporated by reference herein. In some cases, you can identify forward-looking by terms such as “anticipates,” “believes,” “could,” “estimates,” “expects,” “goal,” “intends,” “may,” “plans,” “potential,” “predicts,” “projects,” “should,” “will,” “would,” the negative of these words and words or similar expressions intended to identify forward-looking statements. These statements reflect our views as of the date on which they were made with respect to future events and are based on assumptions and subject to risks and uncertainties. The underlying information and expectations are likely to change over time. Given these uncertainties, you should not place undue reliance on these forward-looking statements as actual events or results may differ materially from those projected in the forward-looking statements due to various factors, including, but not limited to, those set forth under the heading “Risk Factors” in this prospectus and in our filings with the SEC. These forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement. Examples of our forward-looking statements include, but are not limited to:

- the success, cost and timing of our research and development activities and clinical trials, including our clinical trials of topsalysin;
- our ability to obtain funding for our operations;
- our ability to obtain and maintain regulatory approval of topsalysin, and any related restrictions, limitations and/or warnings in the label of an approved product candidate;
- our plans to seek a third-party development partner for the further clinical development of topsalysin beyond our completed Phase 2b clinical trial for the treatment of localized prostate cancer;
- our plans to research, develop and commercialize topsalysin;
- our ability to attract collaborators with development, regulatory and commercialization expertise;
- the size and growth potential of the market for topsalysin, and our ability to serve that market;
- our ability to successfully commercialize topsalysin, including our ability to develop sales and marketing capabilities, whether alone or with collaborators;
- the rate and degree of market acceptance of topsalysin;
- our ability to obtain and maintain intellectual property protection for our current and any future product candidates and our ability to operate our business without infringing the intellectual property rights of others;
- regulatory developments in the United States and foreign countries;
- the performance of our third-party clinical research organizations and manufacturers;
- the success of competing therapies that are or become available;
- the loss of key scientific or management personnel;
- our ability to regain compliance with and maintain the listing of our common shares on The Nasdaq Capital Market;
- our use of the proceeds from this offering; and
- the accuracy of our estimates regarding expenses, future revenues, capital requirements and needs for additional financing.

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You should understand that our actual future results may be materially different from what we expect. In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date the statements were made, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and you are cautioned not to unduly rely upon these statements. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements. Unless required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements. Before deciding to purchase our common shares, you should carefully consider the risk factors discussed or incorporated by reference herein, in addition to the other information set forth in this prospectus and in the documents incorporated by reference. The forward-looking statements contained in this prospectus are excluded from the safe harbor protection provided by the Private Securities Litigation Reform Act of 1995 and Section 27A of the Securities Act of 1933, as amended, or the Securities Act.

This prospectus also incorporates by reference estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, projections, assumptions and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk.

## USE OF PROCEEDS

We estimate that the net proceeds of this offering will be approximately \$ \_\_\_\_\_ million, or approximately \$ \_\_\_\_\_ million if the underwriters exercise their option to purchase additional shares and/or warrants in full, assuming the sale of \_\_\_\_\_ common shares and warrants to purchase up to \_\_\_\_\_ common shares at an assumed combined public offering price of \$ \_\_\_\_\_ per share and related warrant (the last reported sale price of our common shares on The Nasdaq Capital Market on \_\_\_\_\_, 2019), after deducting the estimated underwriting discount and estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of the warrants. Each \$0.25 increase (decrease) in the assumed combined public offering price of \$ \_\_\_\_\_ per share would increase (decrease) the net proceeds to us from this offering by approximately \$ \_\_\_\_\_ million, or approximately \$ \_\_\_\_\_ million if the underwriters exercise their option to purchase additional shares and/or warrants in full, assuming the number of shares and warrants offered by us, as set forth on the cover page of this prospectus, remains the same, after deducting the estimated underwriting discount and estimated offering expenses payable by us. We may also increase or decrease the number of common shares and warrants we are offering. An increase (decrease) of 1,000,000 common shares in the assumed number of common shares and related warrants sold in this offering would increase (decrease) the expected net proceeds of the offering to us by approximately \$ \_\_\_\_\_ million, assuming that the assumed combined public offering price per share and the related warrant coverage remains the same. We currently intend to use the net proceeds of the offering for general corporate purposes and to fund ongoing operations and expansion of our business.

## DILUTION

If you purchase common shares in this offering, you will experience dilution to the extent of the difference between the combined public offering price per share and related warrant in this offering and our as adjusted net tangible book value (deficit) per share immediately after this offering assuming no value is attributed to the warrants, and such warrants are accounted for and classified as equity. Net tangible book value (deficit) per share is equal to the amount of our total tangible assets, less total liabilities, divided by the number of outstanding common shares. As of September 30, 2019, our net tangible book value (deficit) was approximately \$(2.8) million, or approximately \$(0.08) per common share.

After giving effect to the assumed sale by us of \_\_\_\_\_ common shares and warrants to purchase up to \_\_\_\_\_ common shares in this offering at an assumed combined public offering price of \$ \_\_\_\_\_ per share and related warrant (the last reported sale price of our common shares on The Nasdaq Capital Market on \_\_\_\_\_, 2019), after deducting the estimated underwriting discount and estimated offering expenses payable by us, our as adjusted net tangible book value (deficit) as of September 30, 2019 would have been approximately \$ \_\_\_\_\_ million, or approximately \$ \_\_\_\_\_ per share. This represents an immediate increase in net tangible book value (deficit) of \$ \_\_\_\_\_ per share to existing shareholders and an immediate dilution of \$ \_\_\_\_\_ per share to new investors purchasing common shares and related warrants in this offering, attributing none of the assumed combined public offering price to the warrants offered hereby. The following table illustrates this per share dilution:

Assumed combined public offering price per common share and related warrant		\$
Net tangible book value (deficit) per share as of September 30, 2019	\$	(0.08)
Increase in net tangible book value per share after this offering		
As adjusted net tangible book value (deficit) per share after this offering		
Dilution per common share to new investors		\$

If the underwriters exercise in full their option to purchase \_\_\_\_\_ additional common shares and warrants to purchase up to \_\_\_\_\_ common shares at the assumed combined public offering price of \$ \_\_\_\_\_ per share and related warrant, our as adjusted net tangible book value (deficit) would be approximately \$ \_\_\_\_\_ per share, an increase in adjusted net tangible book value (deficit) of approximately \$ \_\_\_\_\_ per share to existing shareholders and a decrease of approximately \$ \_\_\_\_\_ per share in the dilution to the investors in this offering, after deducting the estimated underwriting discount and estimated offering expenses payable by us.

A \$0.25 increase (decrease) in the assumed combined public offering price of \$ \_\_\_\_\_ per share and related warrant would result in an increase (decrease) in our as adjusted net tangible book value (deficit) of approximately \$ \_\_\_\_\_ million or approximately \$ \_\_\_\_\_ per share, and would result in an increase (decrease) in the dilution to new investors of approximately \$ \_\_\_\_\_ per share, assuming that the number of common shares and related warrants sold by us remains the same, after deducting the estimated underwriting discount and estimated offering expenses payable by us.

We may also increase or decrease the number of common shares and related warrants we are offering from the assumed number of common shares and related warrants set forth above. An increase of 1,000,000 common shares in the assumed number of common shares and related warrants sold by us in this offering would result in an increase in our as adjusted net tangible book value (deficit) of approximately \$ \_\_\_\_\_ million or approximately \$ \_\_\_\_\_ per share, and would result in an increase in the dilution to new investors of approximately \$ \_\_\_\_\_ per share, assuming that the assumed combined public offering price remains the same, after deducting the estimated underwriting discount and estimated offering expenses payable by us. A decrease of 1,000,000 common shares in the assumed number of common shares and related warrants sold by us in this offering would result in a decrease in our as adjusted net tangible book value (deficit) of approximately \$ \_\_\_\_\_ million or approximately \$ \_\_\_\_\_ per share, and would result in a decrease in the dilution to new investors of approximately \$ \_\_\_\_\_ per share, assuming that the assumed combined public offering price remains the same, after deducting the estimated underwriting discount and estimated offering expenses payable by us. The information discussed above is illustrative only and will adjust based on the actual public offering price, the actual number of shares and related warrants sold in this offering and other terms of this offering determined at pricing.

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The foregoing discussion and table do not take into account further dilution to new investors that could occur upon the exercise of outstanding options or warrants having a per share exercise price less than the per share offering price to the public in this offering. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our shareholders.

The number of our common shares to be outstanding immediately after this offering is based on 33,572,140 common shares outstanding as of September 30, 2019 and excludes:

- 2,963,062 common shares issuable upon the exercise of stock options outstanding as of September 30, 2019, at a weighted average exercise price of \$1.56 per common share;
- 11,131,302 common shares issuable upon the exercise of warrants outstanding as of September 30, 2019, at a weighted average exercise price of \$2.51 per common share;
- 1,978,334 common shares issuable upon the exercise of pre-funded warrants as of September 30, 2019 at an exercise price of \$0.01 per common share;
- an additional 394,000 common shares that are available for future issuance under our stock option plan; and
- any common shares issuable upon exercise of the underwriters' option to purchase additional shares.

## **DIVIDEND POLICY**

We have never declared dividends on our equity securities, and currently do not plan to declare dividends on common shares in the foreseeable future. Our Loan and Security Agreement with Silicon Valley Bank, or SVB, also contains a covenant which prohibits us from paying dividends without the prior written consent of SVB. We expect to retain our future earnings, if any, for use in the operation and expansion of our business. Subject to the foregoing, the payment of cash dividends in the future, if any, will be at the discretion of our board of directors and will depend upon such factors as earnings levels, capital requirements, our overall financial condition and any other factors deemed relevant by our board of directors.

## DESCRIPTION OF SHARE CAPITAL

Our authorized share capital consists of unlimited common shares, with no par value, and unlimited preferred shares, with no par value. The following is a summary of the rights of our common and preferred shares and some of the provisions of our notice of articles and articles. This summary is not complete. For more detailed information, please see our notice of articles and articles, which are filed as exhibits to the registration statement of which this prospectus is a part, as well as the relevant provisions of the BCBCA.

As of September 30, 2019, 33,572,140 common shares were outstanding and no preferred shares were outstanding.

### Common Shares

The holders of common shares are entitled to receive notice of any meeting of our shareholders, except those meetings at which only the holders of shares of another class or of a particular series are entitled to vote separately as a class or series, and to attend any such meeting and vote their common shares on all matters submitted to a vote of the shareholders, including the election of directors. Each common share entitles its holder to one vote. Our notice of articles and articles do not provide for cumulative voting rights. Because of this, the holders of a majority of the common shares entitled to vote in any election of directors can elect all of the directors standing for election. Shareholder resolutions are generally required to be approved by a majority of votes cast by shareholders, who vote in person or by proxy, in respect of the resolution. However, the BCBCA and our articles require that certain extraordinary corporate actions, such as amalgamations (other than with certain affiliated corporations), continuances, liquidations, dissolutions, arrangements, and sales, leases or exchanges of all, or substantially all, of the assets of the corporation other than in the ordinary course of business, are required to be approved by a “special resolution”, where a special majority of two-thirds of the votes cast by shareholders, who vote in person or by proxy, in respect of the resolution. Subject to the rights of the holders of preferred shares, the holders of common shares are entitled to receive, on a pro-rata basis, such dividends as our board of directors may declare out of funds legally available for this purpose. In the event of the dissolution, liquidation, winding-up or other distribution of our assets, such holders are entitled to receive, on a pro-rata basis, all of our assets remaining after payment of all of our liabilities, subject to the rights of holders of preferred shares. Otherwise, the common shares carry no preemptive, conversion or subscription rights. All of our outstanding common shares are, and the common shares to be issued in this offering will be, duly authorized, validly issued, fully paid and nonassessable.

### Preferred Shares

Our board of directors may authorize the issuance of preferred shares from time to time in one or more series, each series comprising the number of shares, designation, rights, privileges, restrictions and conditions determined by our board of directors. The preferred shares may have voting or conversion rights that could have the effect of restricting dividends on our common shares, diluting the voting power of our common shares, impairing the rights of our common shares in the event of our dissolution, liquidation or winding-up or otherwise adversely affect the rights of holders of our common shares. The issuance of preferred shares, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change of control and may adversely affect the market price of our common shares and may preclude shareholders from realizing a potential premium over the market value of their shares. The holders of preferred shares are entitled to receive notice of any meeting of our shareholders and to attend and vote, except as otherwise provided in the rights and restrictions attached to the shares by the board of directors. As at the date hereof, there were no preferred shares issued and outstanding.

### Warrants

As of September 30, 2019, there were 11,131,302 common share purchase warrants outstanding, which expire between May 11, 2021 and February 28, 2025. Each of these warrants entitles the holder to purchase one common share at prices ranging between \$0.95 and \$4.00, per common share. As of September 30, 2019, there were 1,978,334 common share pre-funded warrants. Each of these pre-funded warrants entitles the holder to purchase one common share at \$0.01 per common share. Each of these warrants has a net exercise provision under which its holder may, in lieu of payment of the exercise price in cash, surrender the warrant and receive a net amount of shares based on the fair market value of our common shares at the time of exercise of the warrant after deduction of the aggregate exercise price. Each of these warrants also contains provisions for the adjustment of the exercise price and the aggregate number of shares issuable upon the exercise of the warrant in the event of dividends, share splits, reorganizations and reclassifications and consolidations.

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**Amendment to our Articles**

Provisions in the BCBCA and in our articles require approval of our board of directors and the holders of a special majority of our outstanding share capital to amend our articles and our notice of articles, being two-thirds of the votes cast in person or by proxy at a shareholders meeting.

**Ownership and Exchange Controls**

There is currently no law, governmental decree or regulation in Canada that restricts the export or import of capital, or which would affect the remittance of dividends, interest or other payments by us to non-resident holders of our common shares, other than withholding tax requirements.

There is currently no limitation imposed by Canadian law or our notice of articles or articles on the right of non-residents to hold or vote our common shares, other than those imposed by *the Investment Canada Act* and *the Competition Act* (Canada). These acts will generally not apply except where control of an existing Canadian business or company, which has Canadian assets or revenues over a certain threshold, is acquired and will not apply to trading generally of securities listed on a stock exchange.

**Listing on The Nasdaq Capital Market**

Our common shares are listed on The Nasdaq Capital Market under the symbol “SPHS.”

**Transfer Agent and Registrar**

The transfer agent and registrar for our common shares in the United States and Canada is Computershare Investor Services Inc., with a mailing address at 510 Burrard Street, 3<sup>rd</sup> Floor, Vancouver, British Columbia V6C 3B9.

## DESCRIPTION OF THE SECURITIES WE ARE OFFERING

We are offering (i) \_\_\_\_\_ common shares and (ii) warrants to purchase up to an aggregate of \_\_\_\_\_ common shares. Each common share is being sold together with a warrant to purchase one common share. The common shares and accompanying warrants will be issued separately. We are also registering the common shares issuable from time to time upon exercise of the warrants offered hereby.

### Common Shares

The material terms and provisions of our common shares and each other class of our securities which qualifies or limits our common shares are described under the caption “Description of Share Capital” in this prospectus.

### Warrants

*The following summary of certain terms and provisions of warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the warrants, the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of warrant for a complete description of the terms and conditions of the warrants.*

*Duration and Exercise Price.* Each warrant offered hereby will have an initial exercise price per share equal to \$ \_\_\_\_\_. The warrants will be immediately exercisable and will expire on the fifth anniversary of the original issuance date. The exercise price and number of common shares issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common shares and the exercise price. The warrants will be issued separately from the common shares, and may be transferred separately immediately thereafter. A warrant to purchase one common share will be issued for every one common share purchased in this offering.

*Exercisability.* The warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of common shares purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of the warrant to the extent that the holder would own more than 4.99% of the outstanding common shares immediately after exercise, except that upon at least 61 days’ prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder’s warrants up to 9.99% of the number of common shares outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the warrants. Purchasers in this offering may also elect prior to the issuance of the warrants to have the initial exercise limitation set at 9.99% of our outstanding common shares. No fractional common shares will be issued in connection with the exercise of a warrant. In lieu of fractional shares, we will either pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price or round up to the next whole share.

*Cashless Exercise.* If, at the time a holder exercises its warrants, a registration statement registering the issuance of the common shares underlying the warrants under the Securities Act is not then effective or available and an exemption from registration under the Securities Act is not available for the issuance of such shares, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of common shares determined according to a formula set forth in the warrants.

*Transferability.* Subject to applicable laws, a warrant may be transferred at the option of the holder upon surrender of the warrant to us together with the appropriate instruments of transfer.

*Exchange Listing.* There is no trading market available for the warrants on any securities exchange or nationally recognized trading system. We do not intend to list the warrants on any securities exchange or nationally recognized trading system.

*Right as a Shareholder.* Except as otherwise provided in the warrants or by virtue of such holder’s ownership of common shares, the holders of the warrants do not have the rights or privileges of holders of our common shares, including any voting rights, until they exercise their warrants.

### Transfer Agent and Warrant Agent

The transfer agent of our common shares being offered hereby is Computershare Investor Services Inc.

## UNDERWRITING

We have entered into an underwriting agreement with \_\_\_\_\_ (the “underwriter”) as the sole book-running manager of this offering. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriter, and the underwriter has agreed to purchase from us, common shares and accompanying warrants to purchase common shares. Our common shares trade on The Nasdaq Capital Market under the symbol “SPHS.”

Pursuant to the terms and subject to the conditions contained in the underwriting agreement, we have agreed to sell to the underwriter named below, and the underwriter has agreed to purchase from us, the respective number of common shares and warrants to purchase common shares set forth opposite its name below:

<b>Underwriter</b>	<b>Number of Common Shares</b>	<b>Number of Warrants</b>
_____		

The underwriting agreement provides that the obligation of the underwriter to purchase the common shares the warrants to purchase common shares offered by this prospectus is subject to certain conditions. The underwriter is obligated to purchase all of the common shares and the warrants to purchase common shares offered hereby if any of the securities are purchased, other than those shares covered by the option to purchase additional securities described below.

### Option to Purchase Additional Securities

We have granted the underwriter an option to purchase additional securities. This option, which is exercisable for up to 30 days after the date of this prospectus, permits the underwriter to purchase up to \_\_\_\_\_ common shares at a price of \$ \_\_\_\_\_ per share and/or warrants exercisable for up to \_\_\_\_\_ common shares at a price of \$ \_\_\_\_\_ per warrant, less the underwriting discount and commissions.

### Discounts, Commissions and Expenses

The underwriter proposes to offer the common shares and the accompanying warrants purchased pursuant to the underwriting agreement to the public at the public offering price set forth on the cover page of this prospectus and to certain dealers at that price less a concession not in excess of \$ \_\_\_\_\_ per share and accompanying warrant, based on the combined public offering price per share and accompanying warrant set forth on the cover page of this prospectus. After this offering, the public offering price and concession may be changed by the underwriter. No such change shall change the amount of proceeds to be received by us as set forth on the cover page of this prospectus.

In connection with the sale of the common shares and/or warrants to be purchased by the underwriter, the underwriter will be deemed to have received compensation in the form of underwriting commissions and discounts. The underwriter’s commissions and discounts will be \_\_\_\_\_ % of the gross proceeds of this offering, or \$ \_\_\_\_\_ per common share and \$ \_\_\_\_\_ per warrant.

The following table shows the underwriting discounts and commissions payable to the underwriter by us in connection with this offering:

	<b>Per Share</b>	<b>Per Warrant</b>	<b>Total Per Share and Accompanying Warrant</b>
Public offering price	\$ _____	\$ _____	\$ _____
Underwriting discounts and commissions payable by us			

We have also agreed to pay the underwriter a management fee equal to \_\_\_\_\_ % of the gross proceeds raised in this offering, to reimburse the underwriter for reasonable out-of-pocket expenses, including legal fees and expenses, of up to \$ \_\_\_\_\_ and to provide the underwriter with a \$ \_\_\_\_\_ non-accountable expense allowance. We estimate the total expenses payable by us for this offering will be approximately \$ \_\_\_\_\_, which amount excludes the underwriting discount and commissions.

### Indemnification

Pursuant to the underwriting agreement, we have agreed to indemnify the underwriter against certain liabilities, including liabilities under the Securities Act, or to contribute to payments that the underwriter or such other indemnified parties may be required to make in respect of those liabilities.

### **Determination of Offering Price**

The actual offering price of the securities we are offering will be negotiated between us and the underwriter based on the trading of our common shares prior to the offering, among other things, and may be at a discount to the current market price.

### **Lock-Up Agreements**

We have agreed not to (i) offer, pledge, issue, sell, contract to sell, purchase, contract to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any common shares or any securities convertible into or exercisable or exchangeable for our common shares; (ii) enter into any swap or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of common shares; or (iii) file any registration statement with the SEC relating to the offering of any common shares or any securities convertible into or exercisable or exchangeable for common shares, without the prior written consent of \_\_\_\_\_ for a period of 90 days following the date of this prospectus. This consent may be given at any time without public notice. These restrictions on future issuances are subject to exceptions, including for (i) the issuance of common shares, warrants and common shares underlying the warrants sold in this offering, (ii) the issuance of common shares upon the exercise of outstanding options or warrants or pursuant to certain other rights, (iii) the issuance of common shares or options to acquire common shares pursuant to our existing equity incentive plans and (iv) the filing of one or more registration statements on Form S-8 with respect to common shares underlying our equity incentive plans from time to time.

In addition, subject to certain limited circumstances, each of our directors and executive officers has entered into a lock-up agreement with the underwriter. Under the lock-up agreements, the directors and executive officers may not, directly or indirectly, sell, offer to sell, contract to sell, or grant any option for the sale (including any short sale), grant any security interest in, pledge, hypothecate, hedge, establish an open “put equivalent position” (within the meaning of Rule 16a-1(h) under the Securities Exchange Act of 1934, as amended, or the Exchange Act), or otherwise dispose of, or enter into any transaction which is designed to or could be expected to result in the disposition of, any common shares or securities convertible into or exchangeable for common shares, or publicly announce any intention to do any of the foregoing, without the prior written consent of \_\_\_\_\_, for a period of 90 days from the date of this prospectus. This consent may be given at any time without public notice.

### **Electronic Distribution**

This prospectus may be made available in electronic format on websites or through other online services maintained by the underwriter or by its affiliates. In those cases, prospective investors may view offering terms online and prospective investors may be allowed to place orders online. Other than this prospectus in electronic format, the information on the underwriter’s websites or our website and any information contained in any other websites maintained by the underwriter or by us is not part of this prospectus or the registration statement of which this prospectus forms a part, has not been approved and/or endorsed by us or the underwriter in its capacity as underwriter, and should not be relied upon by investors.

### **Price Stabilization, Short Positions and Penalty Bids**

The underwriter may engage in syndicate covering transactions, stabilizing transactions and penalty bids or purchases for the purpose of pegging, fixing or maintaining the price of our common shares:

- Syndicate covering transactions involve purchases of securities in the open market after the distribution has been completed in order to cover syndicate short positions. Such a naked short position would be closed out by buying securities in the open market. A naked short position is more likely to be created if the underwriter is concerned that there could be downward pressure on the price of the securities in the open market after pricing that could adversely affect investors who purchase in the offering.
- Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specific maximum.
- Penalty bids permit the underwriter to reclaim a selling concession from a syndicate member when the securities originally sold by the syndicate member are purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

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These syndicate covering transactions, stabilizing transactions and penalty bids may have the effect of raising or maintaining the market prices of our securities or preventing or retarding a decline in the market prices of our securities. As a result, the price of our common shares may be higher than the price that might otherwise exist in the open market. Neither we nor the underwriter make any representation or prediction as to the effect that the transactions described above may have on the price of our common shares. These transactions may be effected on The Nasdaq Capital Market, in the over-the-counter market or on any other trading market and, if commenced, may be discontinued at any time.

In connection with this offering, the underwriter also may engage in passive market making transactions in our common shares in accordance with Regulation M during a period before the commencement of offers or sales of our common shares in this offering and extending through the completion of the distribution. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for that security. However, if all independent bids are lowered below the passive market maker's bid that bid must then be lowered when specific purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

Neither we nor the underwriter make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the prices of our securities. In addition, neither we nor the underwriter make any representation that the underwriter will engage in these transactions or that any transactions, once commenced, will not be discontinued without notice.

### **Other Relationships**

From time to time, certain of the underwriter and their affiliates have provided, and may provide in the future, various advisory, investment and commercial banking and other services to us in the ordinary course of business, for which they have received and may continue to receive customary fees and commissions.

## LEGAL MATTERS

We are being represented by Cooley LLP, San Diego, California. The validity of the securities offered by this prospectus supplement and the accompanying prospectus and legal matters relating to Canadian law will be passed upon for us by Fasken Martineau DuMoulin LLP, Vancouver, British Columbia. The underwriters are being represented by \_\_\_\_\_.

## EXPERTS

The financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2018 have been so incorporated in reliance on the report (which contains an explanatory paragraph relating to substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the financial statements) of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

## WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the common shares being offered by this prospectus. This prospectus does not contain all of the information in the registration statement and its exhibits. For further information with respect to us and the common shares offered by this prospectus, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

You can read our SEC filings, including the registration statement, over the Internet at the SEC's website at [www.sec.gov](http://www.sec.gov). You may also read and copy any document we file with the SEC at its public reference facilities at 100 F Street NE, Washington, D.C. 20549. You may also obtain copies of these documents at prescribed rates by writing to the Public Reference Section of the SEC at 100 F Street N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facilities. You may also request a copy of these filings, at no cost, by writing us at 1258 Prospect Street, La Jolla, California 92037 or telephoning us at (858) 777-1760.

We are subject to the information and periodic reporting requirements of the Exchange Act, and we file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information are available for inspection and copying at the public reference room and website of the SEC referred to above. We maintain a website at <http://www.sophirisbio.com>. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not incorporated by reference in, and is not part of, this prospectus.

## INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference the information and reports we file with it, which means that we can disclose important information to you by referring you to these documents. The information incorporated by reference is an important part of this prospectus. We incorporate by reference, as of their respective dates of filing, the documents listed below that we have filed with the SEC and any documents that we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and prior to the termination of the offering of securities under this prospectus (excluding any information furnished rather than filed):

- our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 13, 2019;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2019, June 30, 2019 and September 30, 2019, filed with the SEC on May 9, 2019, August 9, 2019, and November 8, 2019;
- our Current Reports on Form 8-K filed with the SEC on January 3, 2019, March 13, 2019, June 7, 2019, June 28, 2019, August 28, 2019, August 30, 2019, September 12, 2019, October 8, 2019 and October 22, 2019;
- the information specifically incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 from our definitive proxy statement on Schedule 14A filed with the SEC on April 30, 2019; and
- the description of our common shares, which is registered under Section 12 of the Exchange Act, in our registration statement on Form 8-A, filed with the SEC on August 8, 2013, including any amendments or reports filed for the purpose of updating such description.

### *Correction of an Immaterial Error*

In connection with the preparation of our Quarterly Report on Form 10-Q for the quarter ended September 30, 2019, we determined that the consolidated statement of cash flows for the year ended December 31, 2016 included an error related to the treatment of the \$1.6 million of offering costs allocated to the warrant liability. These offering costs were presented as a component of cash flows from operating activities but should have been presented as cash outflows from financing activities on the consolidated statement of cash flows for the year ended December 31, 2016. Accordingly, we determined that the as-reported net cash used in operating activities of \$10.3 million for the year ended December 31, 2016 should be decreased by \$1.6 million with a corresponding decrease of \$1.6 million to the as-reported net cash flows provided by financing activities of \$31.0 million for the year ended December 31, 2016, resulting in as-revised net cash used in operating activities of \$8.7 million and net cash provided by financing activities of \$29.4 million. We evaluated the materiality of the error and concluded that this adjustment was not material to the previously issued financial statements.

Upon request, we will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus is delivered a copy of the documents incorporated by reference into this prospectus. You may request a copy of these filings, and any exhibits we have specifically incorporated by reference as an exhibit in this prospectus, at no cost by writing or telephoning us at the following address:

Sophiris Bio Inc.  
1258 Prospect Street  
La Jolla, California 92037  
Telephone: (858) 777-1760

You also may access these filings on our Internet site at [www.sophirisbio.com](http://www.sophirisbio.com). Our web site and the information contained on that site, or connected to that site, are not incorporated into this prospectus or the Registration Statement on Form S-1.

Common Shares  
Warrants to Purchase Up to Common Shares



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PROSPECTUS

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**PART II**

**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 13. Other Expenses of Issuance and Distribution**

The following table sets forth the costs and expenses, other than underwriting discounts and commissions, paid or payable by Sophiris Bio Inc., or the Registrant, in connection with the sale and distribution of the securities being registered. All amounts are estimated except the Securities and Exchange Commission, or SEC, registration fee and the FINRA filing fee.

<b>Item</b>	<b>Amount</b>
SEC registration fee	2,596
FINRA filing fee	3,500
Legal fees and expenses	*
Accounting fees and expenses	*
Printing and engraving expenses	*
Transfer agent and registrar fees and expenses	*
Miscellaneous fees and expenses	*
<i>Total</i>	\$ *

\*To be filed by amendment.

**Item 14. Indemnification of Directors and Officers**

The Registrant's articles provide that the Registrant must indemnify a director, former director or alternative director of Sophiris and his or her heirs and legal personal representatives, as set out in the British Columbia Business Corporations Act, or the BCBCA, against all eligible penalties to which such person is or may be liable, and the Registrant must, after the final disposition of an eligible proceeding, pay the expenses actually and reasonably incurred by such person in respect of that proceeding. Each director and alternate director is deemed to have contracted with the Registrant on the terms of the indemnity contained in our articles. In addition, the Registrant may indemnify any other person in accordance with the BCBCA.

The Registrant has entered, and intends to continue to enter, into separate indemnification agreements with its directors in addition to the indemnification provided for under the BCBCA and in the Registrant's articles. These agreements, among other things, require the Registrant to indemnify our directors for certain expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director in any action or proceeding arising out of his or her services as one of our directors or any other company or enterprise to which the person provides services at the Registrant's request. The Registrant believes that these indemnification agreements are necessary to attract and retain qualified persons as directors.

The limitation of liability and the indemnification provisions in these indemnification agreements and in the Registrant's articles and under the BCBCA may discourage shareholders from bringing a lawsuit against directors for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against directors and officers, even though an action, if successful, might benefit the Registrant and its shareholders. A shareholder's investment may be harmed to the extent the Registrant pays the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

**Item 15. Recent Sales of Unregistered Securities.**

Since October 1, 2016, the Registrant made sales of the unregistered securities discussed below. The offers, sales and issuances of the securities described below were exempt from registration under the Securities Act of 1933, as amended, or the Securities Act, by virtue of Section 4(a)(2) of the Securities Act.

***Silicon Valley Bank Promissory Warrant Issuance***

On September 8, 2017, the Registrant, its wholly owned subsidiary, Sophiris Bio Corp., and its wholly-owned subsidiary, Sophiris Bio Holding Corp., and Silicon Valley Bank, or SVB, entered into a Loan and Security Agreement, or the Loan and Security Agreement, pursuant to which SVB agreed to lend the Registrant up to \$10.0 million in two term loans. Pursuant to the Loan and Security Agreement, on September 8, 2017, the Registrant issued to SVB a warrant to purchase an aggregate of up to 99,526 of the Registrant's common shares at an exercise price of \$2.11 per share.

***Private Placement of Purchase Warrants***

On August 29, 2019, pursuant to a securities purchase agreement, or the Purchase Agreement, with an institutional investor, or the Purchaser, the Registrant issued to the Purchaser warrants to purchase up to 5,333,334 of the Registrant's common shares at an exercise price of \$0.95 per share.

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**Item 16. Exhibits and Financial Statement Schedules.**

*(a) Exhibits*

The following exhibits are being filed with this Registration Statement:

<b>Exhibit No.</b>	<b>Description of Exhibit</b>	<b>Incorporated by Reference or Attached Hereto</b>
1.1†	Form of Underwriting Agreement.	
3.1	<a href="#">Certificate of Amalgamation of the Registrant, dated January 1, 2005.</a>	Incorporated by reference to Exhibit 3.1 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
3.2	<a href="#">Notice of Articles of the Registrant.</a>	Incorporated by reference to Exhibit 3.2 to the Quarterly Report on Form 10-Q filed on August 10, 2017.
3.3	<a href="#">Articles of the Registrant.</a>	Incorporated by reference to Exhibit 3.3 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
4.1	<a href="#">Form of Common Share Certificate.</a>	Incorporated by reference to Exhibit 4.1 to the Amendment No. 4 to the Registrant's Form S-1/A (SEC File No. 333-186724) filed on July 15, 2013.
4.2	<a href="#">Common Share Purchase Warrant Issued to Oxford Finance LLC dated June 30, 2014.</a>	Incorporated by reference to Exhibit 4.10 to the Quarterly Report on Form 10-Q filed on August 7, 2014 (SEC File No. 001-36054).
4.3	<a href="#">Common Share Purchase Warrant Issued to Oxford Finance LLC dated June 30, 2014.</a>	Incorporated by reference to Exhibit 4.11 to the Quarterly Report on Form 10-Q filed on August 7, 2014 (SEC File No. 001-36054).
4.4	<a href="#">Form of Common Share Purchase Warrant Issued in connection with the Company's May 2016 Financing.</a>	Incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K filed on May 11, 2016.
4.5	<a href="#">Form of Common Share Purchase Warrant Issued in connection with the Company's August 2016 Financing.</a>	Incorporated by reference to Exhibit 4.1 the Current Report on Form 8-K filed on August 23, 2016.
4.6	<a href="#">Common Share Purchase Warrant Issued to Silicon Valley Bank, dated September 8, 2017.</a>	Incorporated by reference to Exhibit 4.10 to the Quarterly Report on Form 10-Q filed on November 9, 2017.
4.7	<a href="#">Form of Pre-Funded Common Share Purchase Warrant</a>	Incorporated by reference to Exhibit 4.1 the Current Report on Form 8-K filed on August 28, 2019.
4.8	<a href="#">Form of Series A Common Share Purchase Warrant</a>	Incorporated by reference to Exhibit 4.2 the Current Report on Form 8-K filed on August 28, 2019.
5.1†	Opinion of Fasken Martineau DuMoulin LLP.	
5.2†	Opinion of Cooley LLP.	

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<b>Exhibit No.</b>	<b>Description of Exhibit</b>	<b>Incorporated by Reference or Attached Hereto</b>
10.1+	<a href="#">Amended and Restated 2011 Stock Option Plan.</a>	Incorporated by reference to Exhibit 10.1 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.2+	<a href="#">Form of Option Certificate.</a>	Incorporated by reference to Exhibit 10.2 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.3+	<a href="#">Form of Indemnification Agreement by and between the Company and each of its directors.</a>	Incorporated by reference to Exhibit 10.4 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.4+	<a href="#">Employment Agreement by and between Sophiris Bio Corp. and Allison Hulme, Ph.D., dated March 31, 2011.</a>	Incorporated by reference to Exhibit 10.7 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.5+	<a href="#">Employment Agreement between Sophiris Bio Corp. and Randall E. Woods, dated August 16, 2012.</a>	Incorporated by reference to Exhibit 10.8 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.6+	<a href="#">Employment Agreement between Sophiris Bio Corp. and Peter Slover, dated March 19, 2012.</a>	Incorporated by reference to Exhibit 10.9 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.7*	<a href="#">Exclusive License Agreement effective September 30, 2004 by and among UVIC Industry Partnerships Inc., The Johns Hopkins University and the Registrant.</a>	Incorporated by reference to Exhibit 10.10 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.8	<a href="#">Amendment to Exclusive License Agreement by and among UVIC Industry Partnerships Inc., The Johns Hopkins University and the Registrant, dated January 10, 2005.</a>	Incorporated by reference to Exhibit 10.11 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.9*	<a href="#">Exclusive License Agreement effective October 16, 2009 by and among UVIC Industry Partnerships Inc., The Johns Hopkins University and the Registrant.</a>	Incorporated by reference to Exhibit 10.12 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.10*	<a href="#">Exclusive License Agreement by and between the Registrant and Kissei Pharmaceuticals Co., Ltd., dated April 28, 2010.</a>	Incorporated by reference to Exhibit 10.13 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.11	<a href="#">Exclusive License Amending Agreement by and among UVIC Industry Partnerships Inc., The Johns Hopkins University and the Registrant, dated July 1, 2010, with respect to the Exclusive License Agreement effective September 30, 2004 by and among UVIC Industry Partnerships Inc., The Johns Hopkins University and the Registrant.</a>	Incorporated by reference to Exhibit 10.14 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.12	<a href="#">Exclusive License Amending Agreement by and among UVIC Industry Partnerships Inc., The Johns Hopkins University and the Registrant, dated July 1, 2010, with respect to the Exclusive License Agreement effective October 16, 2009 by and among UVIC Industry Partnerships Inc., The Johns Hopkins University and the Registrant.</a>	Incorporated by reference to Exhibit 10.15 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.

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<b>Exhibit No.</b>	<b>Description of Exhibit</b>	<b>Incorporated by Reference or Attached Hereto</b>
10.13	<a href="#">Standard Lease by and between Allison-Zongker, L.P. and the Registrant, dated April 15, 2011.</a>	Incorporated by reference to Exhibit 10.17 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.14	<a href="#">First Amendment to that Certain Lease Agreement dated April 15, 2011 by and between Allison-Zongker, L.P. and the Registrant, effective April 2, 2012.</a>	Incorporated by reference to Exhibit 10.18 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.15	<a href="#">Indemnification Letter Agreement by and between the Registrant, Warburg Pincus Private Equity X, L.P. and Warburg Pincus X Partners, L.P., dated November 19, 2010.</a>	Incorporated by reference to Exhibit 10.22 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.16*	<a href="#">Technology Transfer and Supply Agreement by and between Boehringer Ingelheim RCV GmbH &amp; Co KG and the Registrant, dated June 29, 2012.</a>	Incorporated by reference to Exhibit 10.23 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
10.17+	<a href="#">Non-employee Director Compensation Program.</a>	Incorporated by reference to the Current Report on Form 8-K filed on March 17, 2017.
10.18	<a href="#">Agreement Respecting Intellectual Property by and between the Registrant and Dr. J. Thomas Buckley, dated February 12, 2003, as amended by the Amendment Agreement dated May 5, 2004.</a>	Incorporated by reference to Exhibit 10.26 to the Amendment No. 4 to the Registrant's Form S-1/A (SEC File No. 333-186724) filed on July 15, 2013.
10.19+	<a href="#">Officer Change in Control Severance Benefit Agreement by and between Randall E. Woods and the Registrant.</a>	Incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed on November 12, 2014.
10.20+	<a href="#">Officer Change in Control Severance Benefit Agreement by and between Allison Hulme and the Registrant.</a>	Incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q filed on November 12, 2014.
10.21+	<a href="#">Officer Change in Control Severance Benefit Agreement by and between Peter T. Slover and the Company.</a>	Incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q filed on November 12, 2014.
10.22	<a href="#">Loan and Security Agreement, dated September 8, 2017 by and among the Registrant, Sophiris Bio Corp., Sophiris Bio Holding Corp. and Silicon Valley Bank.</a>	Incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed on November 9, 2017.
10.23	<a href="#">Controlled Equity Offering<sup>SM</sup> Sales Agreement dated December 7, 2018 by and among the Registrant and Cantor Fitzgerald &amp; Co.</a>	Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on December 7, 2018.
10.24*	<a href="#">Development Agreement by and between Sophiris Bio Corp. and Vetter Pharma International GmbH, dated March 19, 2019.</a>	Incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed on May 9, 2019.
21.1	<a href="#">Subsidiaries of the Registrant</a>	Incorporated by reference to Exhibit 21.1 to the Registrant's Form S-1 (SEC File No. 333-186724) filed on February 15, 2013.
23.1	<a href="#">Consent of Independent Registered Public Accounting Firm.</a>	Attached hereto
23.2†	Consent of Fasken Martineau DuMoulin LLP (included in Exhibit 5.1).	
23.3†	Consent of Cooley LLP (included in Exhibit 5.2).	

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<b>Exhibit No.</b>	<b>Description of Exhibit</b>	<b>Incorporated by Reference or Attached Hereto</b>
24.1	<a href="#">Power of Attorney (included on signature page).</a>	Attached hereto

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- † To be filed by amendment.
  - + Indicates management contract or compensatory plan.
  - \* Confidential treatment has been granted with respect to certain portions of this exhibit. Omitted portions have been filed separately with the SEC.

*(b) Financial Statement Schedules*

No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or the notes thereto.

**Item 17. Undertakings**

The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
  - (i) To include any prospectus required by section 10(a)(3) of the Securities Act;
  - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;
  - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement
- (2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act to any purchaser: each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however,* that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

## SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in La Jolla, California, on the 12<sup>th</sup> day of November 2019.

SOPHIRIS BIO INC.

By: /s/ Randall E. Woods  
Randall E. Woods  
Chief Executive Officer and President

## POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Randall E. Woods and Peter T. Slover, and each and either of them, his or her true and lawful agent, proxy and attorney-in-fact, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to (i) act on, sign and file with the Securities and Exchange Commission any and all amendments (including post-effective amendments) to this registration statement together with all schedules and exhibits thereto and any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act, together with all schedules and exhibits thereto, (ii) act on, sign and file such certificates, instruments, agreements and other documents as may be necessary or appropriate in connection therewith, (iii) act on and file any supplement to any prospectus included in this registration statement or any such amendment or any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act and (iv) take any and all actions which may be necessary or appropriate to be done, as fully for all intents and purposes as he or she might or could do in person, hereby approving, ratifying and confirming all that such agent, proxy and attorney-in-fact or any of his substitutes may lawfully do or cause to be done by virtue thereof

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Randall E. Woods</u> Randall E. Woods	Chief Executive Officer, President and Director (Principal Executive Officer)	November 12, 2019
<u>/s/ Peter T. Slover</u> Peter T. Slover	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	November 12, 2019
<u>Lars Ekman, M.D., Ph.D.</u>	Chairman and Director	November 12, 2019
<u>/s/ Allison Hulme, Ph.D.</u> Allison Hulme, Ph.D.	Chief Operating Officer and Director	November 12, 2019
<u>/s/ John Geltosky, Ph.D.</u> John Geltosky, Ph.D.	Director	November 12, 2019
<u>/s/ Jim Heppell</u> Jim Heppell	Director	November 12, 2019
<u>/s/ Gerald Proehl</u> Gerald Proehl	Director	November 12, 2019

**Exhibit 23.1**

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-1 of Sophiris Bio Inc. of our report dated March 13, 2019 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in Sophiris Bio Inc.'s Annual Report on Form 10-K for the year ended December 31, 2018. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ PricewaterhouseCoopers LLP  
San Diego, California  
November 12, 2019