

**FOIA Confidential Treatment Request
Pursuant to Rule 83 by SOPHiA GENETICS SA**

July 7, 2021

Re: SOPHiA GENETICS SA
Registration Statement on Form F-1
Filed July 2, 2021
CIK No. 0001840706
File No. 333-257646

Jenn Do
Brian Cascio
Division of Corporation Finance, Office of Life Sciences
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549-3628

Dear Ms. Do and Mr. Cascio,

On behalf of SOPHiA GENETICS SA (the “Company”), we are providing the information that follows to the Staff (the “Staff”) of the Securities and Exchange Commission (the “Commission”) in response to Comment 19 contained in the Staff’s letter dated June 22, 2021 (the “Comment Letter”) relating to the Company’s Draft Registration Statement on Form F-1, confidentially submitted on May 24, 2021 (the “Registration Statement”), in connection with the proposed initial public offering of the Company’s ordinary shares (the “Offering”).

The response and information below are based on information provided to us by the Company. For convenience, the Staff’s comment is repeated below in *italics*, followed by the Company’s response to the comment. Capitalized terms used but not defined herein are used herein as defined in the Registration Statement. On June 30, 2021, the Company effected a one-to-20 share split of all issued shares (the “Share Split”). For the Staff’s convenience, all shares and per share amounts have been adjusted to reflect the Share Split.

19. We note from page F-41 that the weighted average fair value of options granted in 2020 under the 2019 ISOP was \$34.97 per share and from page F-39 that the weighted average exercise price of such options was \$84.48 per share, which appears more consistent with the range of share prices of options granted in 2020 under this ISOP of \$87.29-\$97.31 per share (page F-40). Please explain the significant difference between the aforementioned weighted average fair value and weighted average exercise price. Once you have an estimated offering price or range, please explain to us the reasons for any differences between the recent valuations of your common stock leading up to the initial public offering and the estimated offering price.

The Staff’s comment consists of two parts: (i) the relationship between the fair value of options granted in 2020, the exercise price of such options and the fair value of the ordinary shares underlying such options, and (ii) the relationship between the fair value of the ordinary shares underlying recently granted options and the estimated initial public offering price. The following response includes background information regarding the Company’s practices with respect to share-based compensation and then responds separately to the two parts of the Staff’s comment, explaining first the method used to value options and the methods used to value the ordinary shares underlying options and then presenting factors that have affected share valuations.

Background Regarding the Company's Practices Relating to Share-Based Compensation

The Company has two share-based compensation plans, both based on ordinary shares: the 2013 Incentive Share Option Plan ("2013 ISOP") and the 2019 Incentive Share Option Plan ("2019 ISOP"). Share options were granted until September 2019 under the 2013 ISOP and thereafter under the 2019 ISOP. The Company has made incentive plan awards throughout the course of its fiscal year, such as upon the hiring of new employees and/or upon annual performance reviews.

As set forth below, the Company used the Black-Scholes option pricing model to value its options. A key input to this model is the fair value of the underlying shares. For options granted in 2020 before June 25, 2020, the Company used the fair value of the underlying shares at December 31, 2019, which it derived by applying the income approach combined with the option pricing method ("OPM"). For options granted in 2020 on or after June 25, 2020, the Company used the fair value of the underlying shares at September 30, 2020, based on the Series F financing that closed in two tranches occurring in June and September 2020, which it derived by applying the backsolve method in the context of the OPM. Finally, for options granted in the first three months of 2021, the Company used the fair value of the underlying shares at December 31, 2020, which it derived by applying the income approach combined with the Hybrid Method which considered both an OPM and a near term IPO scenario. The Company believes that the application of these recognized methods and approaches both supports the cost of options used to determine share-based compensation, and, considered together with the elimination of the significant liquidation preferences enjoyed by the preferred shares as part of the share capital reorganization to be effected in connection with this Offering, the fact that key value inflection points that significantly increased the Company's value did not occur until the second quarter of 2021, and certain other factors customary to an initial public offering, explains the difference between the historical valuation of the Company's ordinary shares for the purpose of its share-based compensation and the estimated price range of the Offering.

Methods of Determining Historical Fair Value of Shares and Share Options

The Company's accounting treatment for share-based compensation is primarily contained in note 25, "Share-based compensation", of its audited consolidated financial statements (the "Financial Statements") that form part of the prospectus contained in the Registration Statement.

As there has been no public market for the Company's ordinary shares since its inception, the Company's Board of Directors has engaged independent third-party valuation specialists to assist them in determining the estimated fair value of the Company's share options and of the underlying ordinary shares using methods, approaches and assumptions consistent with the American Institute of Certified Public Accountants' (the "AICPA") Audit and Accounting Practice Aid Series: Valuation of Privately-Held-Company Equity Securities Issued as Compensation. There were various objective and subjective factors that the Company believed were relevant in determining the valuation methods to be applied and in estimating the fair value of its ordinary shares and of its share options at each grant date, including:

- the Company's financial position, including cash and cash equivalents, and its historical and forecasted performance and operating results, including cash flow forecasts;
- the prices at which the Company sold preferred shares during the relevant period;
- the rights and preferences of preferred shares relative to those of ordinary shares, including the right to liquidation payments in preference to holders of ordinary shares in the event of a liquidation, which will be distributed to shareholders in the following order (which, for the avoidance of doubt, would not be applicable in the Offering):
 - i. to the holders of Series F preferred shares in an amount equal to the higher of (i) the pro rata share of the liquidation proceeds and (ii) the subscription price paid for the Series F preferred shares; then

- ii. subject to the liquidation preference above, to the holders of Series E preferred shares, in an amount equal to the higher of (i) the pro rata share of the liquidation proceeds and (ii) the subscription price paid for the Series E preferred shares; then
 - iii. subject to the liquidation preferences above, to the holders of Series D preferred shares, in an amount equal to the higher of (i) the pro rata share of the liquidation proceeds and (ii) the subscription price paid for the Series D preferred shares; then
 - iv. to all shareholders in proportion to the nominal value of their shares;
- the lack of an active public market for the Company's securities;
 - the Company's stage of development and its business strategy, external market and economic conditions affecting the industry in which it operates, and trends within that industry;
 - the valuations of similarly situated companies and of competitors within the Company's industry;
 - the Company's stage of development, and the likelihood of development and commercial success of the SOPHiA platform and related offerings;
 - the likelihood of achieving a liquidity event; and
 - analysis of initial public offerings and the market performance of comparable companies in the Company's industry.

Methods of Determining Historical Fair Value of Share Options

For convenience, the first part of the Staff's comment is repeated below in italics, but with the per share values updated to reflect the Share Split:

We note from page F-41 that the weighted average fair value of options granted in 2020 under the 2019 ISOP was \$1.75 per share and from page F-39 that the weighted average exercise price of such options was \$4.22 per share, which appears more consistent with the range of share prices of options granted in 2020 under this ISOP of \$4.36-\$4.87 per share (page F-40). Please explain the significant difference between the aforementioned weighted average fair value and weighted average exercise price.

The fair value of the options granted under the 2019 ISOP are calculated using the traditional Black-Scholes option pricing model.

In consultation with the independent third-party valuation specialists referred to above, the Company applies a Black-Scholes option pricing model-based valuation method using assumptions and inputs that the Company believes are reasonable to arrive at an estimated fair value of the options for the purpose of determining share-based compensation expense. These inputs for determining the fair value of options are set forth in the note 25, "Share-based compensation", of the Financial Statements and include the following:

- The fair value of the underlying share at the grant date;
- The exercise price of the option;
- The expected life of the option;
- The expected volatility in the share price;
- The risk-free interest rate; and

- The dividend yield.

The fair value of the underlying share at the grant date: As there is no public market for the Company's securities, the fair value of the underlying share was determined using methods such as those explained in "Methods of Determining Historical Fair Value of Shares" below.

The exercise price of the option: The exercise price is set by the Company at grant date. As the purpose of share-based awards such as options is to motivate plan participants, the Company believes that it is customary for the exercise price to be approximately equal to the estimated share price at grant date (i.e., the option is granted "at the money"). This means that the option has no "intrinsic value" at grant date but only "time value" that depends on the future appreciation in value of the underlying share during the expected life of the option. Granting the option at the money aligns the Company's interests with those of the plan participants, who are incentivized to contribute to the growth of the Company's share price. It is therefore to be expected that the range of share prices in 2020 (being \$4.36-\$4.87) does not differ significantly from the weighted-average exercise price (being \$4.22). Some differences could nevertheless arise between the range of share prices and the weighted-average exercise price as exercise prices were fixed at the date of grant while the final detailed estimation of share prices in accordance with methods, approaches and assumptions consistent with AICPA guidelines was performed only in 2021.

The expected life of the option: The expected life of the option is the mean of (i) the shorter of (a) the vesting period, which is four years after grant for the 2019 ISOP and (b) the term to the Offering that was used in the most recent valuation of the ordinary shares and (ii) the legal term of the option, which is ten years after grant. The longer the expected life, the greater the opportunity for the share price to appreciate and therefore the greater the option value. This approach resulted in a range of expected life values for 2020 of between 5.67 and 6.43 years.

The expected volatility in the share price: The expected volatility input for 2020 of between 39.8% and 43.6% was developed by analyzing the standard deviation of historical share prices of publicly traded companies with operations similar to those of the Company. The guideline companies were selected where possible to match or approximate the term of the option and the nature of the Company's operations.

The risk-free interest rate: The risk-free rate for 2020 of between -0.53% and -0.80% was based on the rate of Swiss government securities with the same term as the options.

The dividend yield: The dividend yield is assumed to be zero, as the Company has never paid dividends, is not yet profitable and does not intend to pay dividends in the foreseeable future.

Using these inputs, the Black-Scholes model produced a weighted-average fair value of options granted in 2020 of \$1.75, which the Company believes is reasonable in the context of the inputs explained above. As explained above, we would expect to see similarity between the weighted-average exercise price and the fair value of the underlying shares. However, as the weighted-average fair value of options reflects the likelihood and extent of future growth in the fair value of an ordinary share within the expected life of the option in excess of the exercise price, we would not expect parity between, on the one hand, the weighted-average fair value of options and, on the other hand, the weighted-average exercise price and the fair value of the underlying shares.

Methods of Determining Historical Fair Value of Shares

For convenience, the second part of the Staff's comment is repeated below in italics:

Once you have an estimated offering price or range, please explain to us the reasons for any differences between the recent valuations of your common stock leading up to the initial public offering and the estimated offering price.

Methods Used to Value the Company's Ordinary Shares

The Company's share capital is composed of Series D, E and F preferred shares and ordinary shares. Each class of preferred shares includes economic rights and preferences over previously issued classes of preferred shares, and all classes of preferred shares include economic rights and preferences, including liquidation preference, over ordinary shares. To estimate the fair value of the Company's ordinary shares for options granted in 2020 and in the first three months of 2021, the Company selected methods (i) to value the company, (ii) to allocate the company's value to each share class and (iii) to consider the need for a discount for lack of marketability ("DLOM").

Methods Used to Value the Company

A common approach for valuing a company is the backsolve method, which is a market approach. This method derives the implied equity value for the company from a transaction involving the company's own securities. In deriving this value, specific consideration is given to the rights and preferences of each class of equity. This method was used for options granted on or after June 25, 2020 until December 31, 2020, based on the prices achieved in the Series F financing that closed in two tranches occurring in June and September 2020. A valuation of the ordinary shares based on the back solve method was performed as of September 30, 2020.

For options granted in 2020 before June 25 and in the first three months of 2021, the back solve method was considered but not used, as, at December 31, 2019, there were no recent arm's-length transactions in the Company's shares and, at December 31, 2020, management considered that the Series F financing that closed in September 2020 no longer provided an accurate indication of the Company's value, as the possibility of an initial public offering, although not at that stage probable, now needed to be considered. Instead, in both cases, the income approach was used.

The income approach focuses on the income-producing capability of a business. It estimates value based on the expectation of future cash flows that a company will generate, such as cash earnings, cost savings, tax deductions, and the proceeds from disposition. These cash flows are discounted to the present using a rate of return that incorporates the risk-free rate for the use of funds, the expected rate of inflation, and risks associated with the particular investment. The selected discount rate is generally based on rates of return available from alternative investments of similar type, quality, and risk. Valuations based on an income approach were performed as of December 31, 2019 and December 31, 2020.

The fair value of the options, their weighted-average exercise price and the fair value of the underlying shares as presented in the financial statements were all translated from CHF, which is the functional currency of the Company, at the average rate for the period. Consequently, all calculations supporting both the valuation of the Company and the allocation of that value to individual classes of shares, which were also prepared initially in CHF, have also been translated to USD at the same average rates in order to maintain a constant relationship between these amounts.

Methods Used to Allocate the Company's Value to Individual Classes of Shares

Three approaches to allocating a Company's value to classes of shares are relevant in this case: the OPM, the Probability Weighted Expected Return Method ("PWERM") and the Hybrid Method.

The OPM is used to allocate a company's equity value among the various equity capital owners (preferred and ordinary shareholders). The OPM uses the preferred shareholders' liquidation preferences, participation rights, dividend rights, and conversion rights to determine how proceeds from a liquidity event would be distributed among the various equity classes at a future date.

The PWERM involves the estimation of future potential outcomes for the company, as well as values and probabilities associated with each respective potential outcome. The resulting value per ordinary share is based upon probability-weighted values resulting from various future scenarios, which can include an IPO, merger or sale, dissolution, or continued operation as a private company.

The Hybrid Method is a hybrid between the PWERM and the OPM. It estimates the probability-weighted value across multiple scenarios but uses the OPM to estimate the allocation of value within one or more of those scenarios.

Valuation at December 31, 2019

As explained above, at December 31, 2019, the backsolve method was considered but not used, as there were no recent arm's-length transactions in the Company's shares. Instead, the income approach was used. This valuation model considers (i) the present value of forecasted cash flow over a number of years (in this case 12 years) and (ii) the present value of the residual value after that period.

A discounted cash flow analysis for the Company was developed based on (i) discussions between the third-party valuation specialists and the management, (ii) projected financial information prepared by the management, (iii) historical financial information of the Company, and (iv) guideline company/industry growth and margin indications. The forecasted cash flows represent the economics that both a minority and controlling shareholder would be able to realize and, therefore, were assumed to represent both a control and minority premise of value.

Forecasted revenues and expenses were based on consideration of historical Company indications, discussions between the third-party valuation specialists and management, management's internal financial information, and guideline company indications, and were each forecasted to trend toward levels that could be sustained on a long-term basis based on management's expectations. Revenue was forecast to [***]. The gross profit margin was at that time assumed to [***]. Overall revenue growth, expenses as a percentage of revenue, and operating profit estimates were considered reasonable based on guideline company indications and consideration of management's expectations for the Company. Income tax expense was estimated based on management's projections of earnings before interest and tax ("EBIT") by jurisdiction, including Switzerland, France, the United Kingdom, and the United States. Using management's allocation of EBIT and appropriate jurisdictional tax rates, income tax expense was estimated for each jurisdiction. Benefits associated with any net operating losses ("NOLs") were also considered in the analysis.

To convert projected income to projected cash flows, adjustments were made for capital expenditures, depreciation and amortization and growth in debt-free net working capital, due to expansion of the Company's operations. The discount rate applied to the Company's cash flows was based on a weighted-average cost of capital ("WACC"). The steps involved in calculating a WACC include estimating (i) the after-tax cost of equity; (ii) the after-tax cost of debt; and (iii) the appropriate capital structure. Arithmetically, the formula for calculating the after-tax WACC is:

$$\begin{aligned} &(\text{Cost of equity capital}) \times (\text{Proportion of equity to total capital}) \\ &\quad \text{plus} \\ &(\text{After-tax cost of debt capital}) \times (\text{Proportion of debt to total capital}) \end{aligned}$$

To estimate the Company's cost of equity financing, the Capital Asset Pricing Model ("CAPM") was utilized. This involved selecting appropriate values for the risk-free rate, the equity risk premium, beta, and relevant premiums, such as a small stock premium. To estimate the Company's after-tax cost of debt capital, the Company used S&P's Baa-rated corporate bond yield as of the valuation date, adjusted for the already calculated tax rate to arrive at an after-tax cost of debt. To calculate the proportions of debt and equity financing, management considered (i) the Company's current capital structure, (ii) the long-term expected capital structure of the Company, and (iii) the capital structure of the guideline companies. The result of these calculations was an overall WACC of [***] percent.

The residual value is based on the estimate of the Company's expected cash flows beyond the explicit forecast period, after a company has reached long-term sustainable growth and profitability levels. The calculation of the residual value is a key component in any appraisal, as it often accounts for a large portion of a Company's total value. The residual value for the Company was calculated utilizing the

Gordon Growth Model. This requires the estimation of a long-term growth rate and the application of that rate and of the discount rate to the net cash flow available in the final year of the projection period. A terminal growth rate of [***]% was assumed based on historical growth levels, estimated growth for the Company over the forecast period, and industry/economic trends. The present value of the residual was added to the present value of the explicit period cash flows to arrive at the value of the Company at the valuation date. From this value, the Company deducted the fair value of the Company's interest-bearing debt to derive the value of total equity. The resulting indication of the equity under the income approach described above was approximately \$[***] (CHF [***]).

In order to value the Company's shares utilizing the Company value derived by using the income approach, the Company performed the following series of steps that represent an overview of the OPM:

- Step 1. As the value of the Company increases, each equity holder benefits from certain value components. The Company determined the ranges of equity values at which the various Company stakeholders receive value. The maximum values of these ranges, or "break points", are based on the full liquidation preference amounts, the points at which option holders choose to exercise, and the points at which the preferred shareholders would be indifferent between converting their shares into ordinary shares and retaining their preferred shares. For purposes of the backsolve calculation, all preferred shares were treated as being *pari passu*.
- Step 2. The Company used the Black-Scholes option pricing model to isolate the value allocated to each "range" (discussed in Step 1 above), calculated as the difference between the option values at each break point. The determination of the various inputs to the Black-Scholes option model (strike price, share price, term, volatility, and risk-free rate) is described in detail in the sections below.
- Step 3. On the basis of the Company's capital structure and its articles of association, the Company calculated the percentage of each range attributable to each share class. For each range, the value allocable to each share class was then calculated by multiplying the value of each range by the percentage that each share class held in the range.
- Step 4. For each share class, the value derived from each range was summed in order to determine the aggregate value of that share class.
- Step 5. The total value of each share class was divided by the number of shares outstanding in that share class, in order to calculate the per share value for each class on a marketable basis.

As discussed in Step 2 above, the Company utilized several call options to isolate the value of each range in which the various share classes hold varying percentages. The call option break points are identified in the following table.

Description of Call Options

<u>Call Option</u>	<u>Description</u>
Call Option #1	Value above \$0.00
Call Option #2	Value above Series E preferred shares' liquidation preference
Call Option #3	Value above Series D preferred shares' liquidation preference
Call Option #4	Value above point at which Series D preferred shares convert to ordinary shares
Call Option #5	Value above point at which options are exercised
Call Option #6	Value above point at which Series E preferred shares convert to ordinary shares

The following section details the specific assumptions and inputs used in the Black-Scholes model as it pertains to the valuation of each of the call options described above:

Value of the underlying asset: The current value of the underlying asset was determined to be the total equity of the Company. As discussed above, this had been determined to be \$[***] on a minority, marketable basis.

Strike prices: The strike prices were represented by the break points at which various Company stakeholders would receive value associated with their ownership interests. The strike prices were calculated based on the full liquidation preference amounts, the point at which option holders would exercise, and the points at which preferred shareholders would choose to convert their preferred shares into ordinary shares.

Option Strike Prices

Call Option	Description	Strike Price
Call Option #1	Value above \$0.00	\$ 0
Call Option #2	Value above Series E preferred shares' liquidation preference	\$ 57,236,521
Call Option #3	Value above Series D preferred shares' liquidation preference	\$ 88,913,727
Call Option #4	Value above point at which Series D preferred shares convert to ordinary shares	\$172,173,262
Call Option #5	Value above point at which options are exercised	\$178,572,746
Call Option #6	Value above point at which Series E preferred shares convert to ordinary shares	\$328,657,733

Expected volatility: An equity volatility input of 40% was developed by analyzing the standard deviation of historical prices of publicly traded companies with operations similar to those of the Company. The guideline companies were selected where possible to match or approximate the term of the option and the nature of the Company's operations. The selected asset volatility was then adjusted to take into account the Company's capital.

Risk-free interest rate: The risk-free rate was based on the rate of Swiss government securities with the same term as the options, which was -0.69%.

Option life: The term of all call options was estimated to be 3.0 years based on management's expectations for the timing of a possible future liquidity event for the Company.

Using the assumptions outlined above, the Company arrived at the following values for the call options.

Call Option	Value as of Transaction Date
Call Option #1	\$[***]
Call Option #2	\$[***]
Call Option #3	\$[***]
Call Option #4	\$[***]
Call Option #5	\$[***]
Call Option #6	\$[***]

By using the call options described above, the Company was able to isolate the components of value attributable to the Company's preferred and ordinary shares as set out in the table below.

Value Description	Formula	Sharing classes
Upside to all beyond point at which Series E preferred shares convert to ordinary shares	Call#6	All
Between points at which options exercise and Series E preferred shares convert	Call #6 – Call #5	All except Series E preferred shares
Between points at which Series D preferred shares convert and the point at which options exercise	Call #5 – Call #4	Ordinary shares
Between Series D preferred shares' liquidation preference and the point at which Series D preferred shares convert	Call #4 – Call #3	Ordinary shares
Between Series E preferred shares' liquidation preference and Series D preferred shares' liquidation preference	Call #3 – Call #2	Series D preferred shares
Between \$0.00 and Series E preferred shares' liquidation preference	Call #2 – Call #1	Series E preferred shares

Using the assumptions outlined above, the Company arrived at the values of each component as follows:

Value Description	Formula	Value
Upside to all beyond point at which Series E preferred shares convert to ordinary shares	Call#6	\$ [***]
Between points at which options exercise and Series E preferred shares convert	Call #6 – Call #5	\$ [***]
Between points at which Series D preferred shares convert and the point at which options exercise	Call #5 – Call #4	\$ [***]
Between Series D preferred shares' liquidation preference and the point at which Series D preferred shares convert	Call #4 – Call #3	\$ [***]
Between Series E preferred shares' liquidation preference and Series D preferred shares' liquidation preference	Call #3 – Call #2	\$ [***]
Between \$0.00 and Series E preferred shares' liquidation preference	Call #2 – Call #1	\$ [***]

After calculating the values of each component (as illustrated in the tables above), the Company allocated these values to the appropriate classes based on their respective ownership proportions. The Company then summed the values by class in order to determine the aggregate value for each class of preferred shares, ordinary shares, and ordinary share options. In summary, the Company arrived at an allocated value for the Company's ordinary shares of \$[***], or \$[***] per share. This value represents both a minority and controlling, marketable basis before giving any consideration to any lack of marketability adjustment.

Finally, to arrive at a fair value for the ordinary shares, the Company applied a discount for lack of marketability. This discount was calculated on the basis of selected data for comparable companies extracted from three restricted stock studies published since 1991. The DLOM of [***]% resulting from this analysis of empirical evidence was then tested against protective put analysis. The key assumptions underlying the protective put analysis were the same as those used in the OPM described above. Discounts were calculated for both a European protective put model (exercisable only on maturity) and for the Finnerty model of an Asian protective put option (exercisable during some pre-set period of time). These two models suggested discounts of, respectively, [***]% and [***]%. The Company considered empirical evidence to be a stronger basis for the calculation of the discount than the more theoretical protective put analysis and concluded that [***]% was an appropriate adjustment for lack of marketability.

Adjusting the allocated value per ordinary share for a DLOM of [***]%, the Company arrived at a fair value per ordinary share at December 31, 2019 of \$4.36.

Valuation at September 30, 2020

In June and September 2020, the Company entered into two investment agreements for the sale of Series F preferred shares. These sales were considered to be an arm's-length transaction and provided a reference point for application of the back solve method.

The back solve method also uses the 5-step OPM explained above in connection with the allocation of value under the income approach. However, in this case, the Company's equity value has not already been determined but instead has to be derived by using an iterative approach to determine the value of the Company's total equity that would reconcile the allocated value of a tranche of equity to the price paid for it in a recent transaction. A sixth step has to be added to the OPM:

Step 6. An iterative approach was used to determine the value of the Company's total equity that would reconcile the allocated value of the September 2020 Series F financing to cash consideration paid by the investors in September 2020.

Thereafter, the OPM was applied as for the valuation at December 31, 2019, except that certain values, assumptions and other information had to be updated as indicated below. The call option break points were identified as follows:

Description of Call Options

Call Option	Description
Call Option #1	Value above \$0.00
Call Option #2	Value above total preferred shares' liquidation preference
Call Option #3	Value above point at which options are exercised
Call Option #4	Value above point at which Series D preferred shares convert to ordinary shares
Call Option #5	Value above point at which Series E preferred shares convert to ordinary shares
Call Option #6	Value above point at which Series F preferred shares convert to ordinary shares

Value of the underlying asset: The current value of the underlying asset was determined to be the total equity of the Company. As discussed above, an iterative approach was used to solve for a total equity value for the Company that would imply that the aggregate value of the shares purchased in the second tranche of the Series F financing was equal to the total consideration paid in September 2020.

Strike prices: The option strike prices were:

Option Strike Prices

Call Option	Description	Strike Price
Call Option #1	Value above \$0.00	\$ 0
Call Option #2	Value above preferred shares' total liquidation preference	\$196,655,665
Call Option #3	Value above point at which options are exercised	\$281,285,378
Call Option #4	Value above point at which Series D preferred shares convert to ordinary shares	\$286,628,397
Call Option #5	Value above point at which Series E preferred shares convert to ordinary shares	\$438,461,653
Call Option #6	Value above point at which Series F preferred shares convert to ordinary shares	\$582,207,421

Expected volatility: An equity volatility input of 55% was developed by analyzing the standard deviation of historical prices of publicly traded companies with operations similar to those of the Company.

Risk-free interest rate: The risk-free rate was based on the rate of Swiss government securities with the same term as the options, which was -0.82%.

Option life: The term of all call options was estimated to be 1.5 years based on management's expectations for the timing of a possible future liquidity event for the Company.

Using the assumptions outlined above, the Company arrived at the following values for the call options.

<u>Call Option</u>	<u>Value as of Transaction Date</u>
Call Option #1	\$ [***]
Call Option #2	\$ [***]
Call Option #3	\$ [***]
Call Option #4	\$ [***]
Call Option #5	\$ [***]
Call Option #6	\$ [***]

From this table, one can infer a Company value based on the backsolve method of \$[***].

By using the call options described above, the Company was able to isolate the components of value attributable to the Company's preferred and ordinary shares as set out in the table below.

<u>Value Description</u>	<u>Formula</u>	<u>Sharing classes</u>
Upside to all beyond point at which Series F preferred shares convert to ordinary shares	Call#6	All
Between points at which Series E preferred shares convert and Series F preferred shares convert	Call #6 – Call #5	All except Series F preferred shares
Between points at which Series D preferred shares convert and Series E preferred shares convert	Call #5 – Call #4	Ordinary shares, options, and Series D preferred shares
Between the point at which options exercise and Series D preferred shares convert	Call #4 – Call #3	Ordinary shares and options
Between preferred shares' total liquidation preference and point at which options exercise	Call #3 – Call #2	Ordinary shares
Between \$0.00 and preferred shares' total liquidation preference	Call #2 – Call #1	All preferred shares

Using the assumptions outlined above, the Company arrived at the values of each component as follows:

<u>Value Description</u>	<u>Formula</u>	<u>Value</u>
Upside to all beyond point at which Series F preferred shares convert to ordinary shares	Call#6	\$ [***]
Between points at which Series E preferred shares convert and Series F preferred shares convert	Call #6 – Call #5	\$ [***]
Between points at which Series D preferred shares convert and Series E preferred shares convert	Call #5 – Call #4	\$ [***]
Between the point at which options exercise and Series D preferred shares convert	Call #4 – Call #3	\$ [***]
Between preferred shares' total liquidation preference and point at which options exercise	Call #3 – Call #2	\$ [***]
Between \$0.00 and preferred shares' total liquidation preference	Call #2 – Call #1	\$ [***]

After calculating the values of each component (as illustrated in the tables above), the Company allocated these values to the appropriate classes based on their respective ownership proportions. The Company then summed the values by class in order to determine the aggregate value for each class of preferred shares, ordinary shares, and ordinary options. In summary, it was determined through use of the OPM that a total equity value of \$[***] allowed for the allocated value of the securities purchased by the investors to equal the aggregate cash consideration paid in the Series F financing. The same OPM indicated an allocated value for the Company's ordinary shares of \$[***], or \$[***] per share. This value represents both a minority and controlling, marketable basis before giving any consideration to any applicable lack of marketability adjustments.

Finally, to arrive at a fair value for the ordinary shares, the Company applied a DLOM. This discount was calculated on the same basis as that used for the valuation at December 31, 2019, except that one of the databases used as a reference is updated periodically and the Company's own growth required that the parameters used to select comparable company data needed to be updated. The analysis of empirical evidence resulted in a DLOM of [***]%. The protective put analysis for both a European protective put model (exercisable only on maturity) and for the Finnerty model of an Asian protective put option (exercisable during some pre-set period of time) indicated discounts of, respectively, [***]% and [***]%. The Company considered empirical evidence to be a stronger basis for the calculation of the discount than the more theoretical protective put analysis and concluded that [***]% was an appropriate adjustment for lack of marketability.

Adjusting the allocated value per ordinary share for a DLOM of [***]%, the Company arrived at a fair value per ordinary share at December 31, 2020 of \$4.87.

Valuation at December 31, 2020

As explained above, at December 31, 2020, the back solve method was considered but not used, as management considered that the Series F financing no longer provided an accurate indication of the Company's value. Instead, the income approach was used.

The approach to valuing the Company's equity was the same as that used at December 31, 2019 and described above, except that certain values, assumptions and other information had to be updated as indicated below.

Revenue was forecast to [***]. The gross profit margin was assumed to [***]. The overall WACC was calculated, using the same basis as at December 31, 2019, at [***]%.

The Company's equity value was calculated at \$[***] (CHF [***]). This value was then allocated to classes of shares using the Hybrid Method, as it allows for the allocation of the equity in both a near-term liquidity event and a hold scenario where a liquidity event is not expected to occur for some longer period of time.

For the hold scenario in the Hybrid Method, an OPM was used to allocate the equity. The OPM call option break points were identified as follows:

Description of Call Options

<u>Call Option</u>	<u>Description</u>
Call Option #1	Value above \$0.00
Call Option #2	Value above total preferred shares' liquidation preference
Call Option #3	Value above point at which Series D preferred shares convert to ordinary shares
Call Option #4	Value above point at which options are exercised
Call Option #5	Value above point at which Series E preferred shares convert to ordinary shares
Call Option #6	Value above point at which Series F preferred shares convert to ordinary shares

Value of the underlying asset: The current value of the underlying asset was determined to be the total equity of the Company. As discussed above, this had been determined to be \$[***] on a minority, marketable basis.

Strike prices: The option strike prices were:

Option Strike Prices

Call Option	Description	Strike Price
Call Option #1	Value above \$0.00	\$ 0
Call Option #2	Value above total preferred shares' liquidation preference	\$ 205,811,839
Call Option #3	Value above point at which Series D preferred shares convert to ordinary shares	\$ 299,483,088
Call Option #4	Value above point at which options are exercised	\$ 312,617,740
Call Option #5	Value above point at which Series E preferred shares convert to ordinary shares	\$ 462,692,656
Call Option #6	Value above point at which Series F preferred shares convert to ordinary shares	\$ 618,232,345

Expected volatility: An equity volatility input of 50% was developed by analyzing the standard deviation of historical prices of publicly traded companies with operations similar to those of the Company.

Risk-free interest rate: The risk-free rate was based on the rate of Swiss government securities with the same term as the options, which was -0.76%.

Option life: The term of all call options was estimated to be 3.0 years for the hold scenario on the basis of management's expectations for the timing of an alternative liquidity event if a near-term IPO is not completed.

Using the assumptions outlined above, the Company arrived at the following values for the call options.

Call Option	Value as of Transaction Date
Call Option #1	\$[***]
Call Option #2	\$[***]
Call Option #3	\$[***]
Call Option #4	\$[***]
Call Option #5	\$[***]
Call Option #6	\$[***]

By using the call options described above, the Company was able to isolate the components of value attributable to the Company's preferred and ordinary shares as set out in the table below.

Value Description	Formula	Sharing classes
Upside to all beyond point at which Series F preferred shares convert to ordinary shares	Call#6	All
Between points at which Series E preferred shares convert and Series F preferred shares convert	Call #6 – Call #5	All except Series F preferred shares
Between points at which options exercise and Series E preferred shares convert	Call #5 – Call #4	Ordinary shares, Series D preferred shares, and options
Between points at which Series D preferred shares convert and options exercise	Call #4 – Call #3	Ordinary shares and Series D preferred shares
Between preferred shares' total liquidation preference and point at which Series D preferred shares convert	Call #3 – Call #2	Ordinary shares
Between \$0.00 and preferred shares' total liquidation preference	Call #2 – Call #1	All preferred shares

Using the assumptions outlined above, the Company arrived at the values of each component as follows:

Value Description	Formula	Value
Upside to all beyond point at which Series F preferred shares convert to ordinary shares	Call#6	\$[***]
Between points at which Series E preferred shares convert and Series F preferred shares convert	Call #6 – Call #5	\$[***]
Between points at which options exercise and Series E preferred shares convert	Call #5 – Call #4	\$[***]
Between points at which Series D preferred shares convert and options exercise	Call #4 – Call #3	\$[***]
Between preferred shares' total liquidation preference and point at which Series D preferred shares convert	Call #3 – Call #2	\$[***]
Between \$0.00 and preferred shares' total liquidation preference	Call #2 – Call #1	\$[***]

After calculating the values of each component (as illustrated in the tables above), the Company allocated these values to the appropriate classes based on their respective ownership proportions. The Company then summed the values by class in order to determine the aggregate value for each class of preferred shares, ordinary shares, and ordinary options under the hold scenario.

For the near-term IPO scenario in the Hybrid Method, the allocation of the Company's total equity to its various share classes was more straightforward than under the OPM. Given that the Company's preferred shares would be automatically converted to ordinary shares in an initial public offering, all of the outstanding preferred and ordinary shares could be treated equally for equity allocation purposes in the near-term IPO scenario. As a result, the value of the shares could be determined by performing a simple allocation of the current value of the Company's total equity to each of the outstanding preferred and ordinary shares on an equal basis. Special consideration was given to the options to purchase the Company's ordinary shares so that the value of such options was reduced by their exercise price. The term of all call options was estimated to be 9 months in the case of a near-term IPO scenario.

In summary, the Company arrived at allocated values for the Company's ordinary shares under the OPM and near-term liquidity event scenarios of, respectively, \$[***], or \$[***] per share, and \$[***], or \$[***] per share. The Company applied probability weighting to these allocated values of 75% and 25% respectively, to arrive at an allocated value of \$[***] per ordinary share. This value represents both a minority and controlling, marketable basis before giving any consideration to any lack of marketability adjustment.

Finally, to arrive at a fair value for the ordinary shares, the Company applied a DLOM. This DLOM was calculated on the same basis as that used for the valuations at December 31, 2019 and September 30, 2020, except that one of the databases is updated periodically and the Company's own growth required that the parameters used to select comparable company data needed to be updated. The analysis of

empirical evidence resulted in a DLOM of [***]%. The protective put analysis for both a European protective put model (exercisable only on maturity) and for the Finnerty model of an Asian protective put option (exercisable during some pre-set period of time) indicated discounts of, respectively, [***]% and [***]%. The Company considered empirical evidence to be a stronger basis for the calculation of the discount than the more theoretical protective put analysis and concluded that 19.0% was an appropriate adjustment for lack of marketability.

Adjusting the allocated value per ordinary share for a DLOM of [***]%, the Company arrived at a fair value per ordinary share at December 31, 2020 of \$6.18.

Estimated Offering Price

The underwriters in the Offering have indicated to the Company that the anticipated pre-Offering overall equity valuation for the Company will be approximately \$[***] to \$[***]. Assuming Series D, E and F preferred shares convert to ordinary shares on a one-for-one basis, this would result in an initial offering price to the public of the ordinary shares in the Offering of approximately \$[***] and \$[***] per share. This price range assumes a successful Offering, with no weighting attributed to any other outcome for the Company's business, such as remaining a privately held company or being sold in an acquisition transaction.

The actual price range to be included on the cover of the Company's preliminary prospectus (which will comply with the Staff's interpretation regarding the parameters of a bona fide price range) has not yet been finally determined and remains subject to adjustment based on factors outside of the Company's control. However, the Company believes that the foregoing indicative price range will not be subject to significant change and that the actual price range will be within the range stated above.

The Company notes that, as is typical in initial public offerings, the estimated price range for the Offering was not derived using a formal determination of fair value, but was determined by negotiation between the Company and its underwriters for the Offering. Among the factors that were considered in setting this range were the Company's prospects and the history of and prospects for its industry, the general condition of the securities markets, the recent market prices of, and the demand for, publicly traded shares of generally comparable companies and preliminary discussions with the underwriters for the Offering regarding potential valuations of the Company.

Comparison of the Fair Value per Ordinary Share Used for Share-Based Compensation Expense and the Estimated Offering Price

The fair values per ordinary share used to value the share options granted during the year ended December 31, 2020 and the three months ended March 31, 2021 were lower than the offering price as a result of several factors:

- The Company's currently outstanding preferred shares have rights and preferences superior to the Company's ordinary shares, in particular, a liquidation preference discussed elsewhere in this response. Immediately prior to the completion of the Offering, all preferred shares convert to ordinary shares on a one-to-one basis. Preferred shares will not receive any preference in such conversion and, after the conversion, there will be no equity securities with rights and preferences superior to ordinary shares, which will enhance the value of the ordinary shares.
- As of the valuation dates used to determine the fair value of the ordinary shares underlying options discussed in this response, the Company was subject to significant uncertainty regarding the impact of the COVID-19 pandemic on its business. For example, as discussed in the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of the Registration Statement, analysis volume decreased in the year ended December 31, 2020 from the year ended December 31, 2019. Despite a recovery in analysis volume in the second half of 2020, the Company still experienced lower customer acquisition and revenue growth in 2020. However, during the three months ended March 31, 2021, the Company achieved record high analysis volumes, which management views as an indicator that the effects and uncertainties created by the COVID-19 pandemic on the Company's business, financial condition and prospects are subsiding.

- Subsequent to the last valuation date used to determine the fair value of the ordinary shares underlying options discussed in this response, the global equity markets have experienced a strong and sustained recovery and growth. For example, the S&P 500 has risen by more than 15% since January 1, 2021. Management believes that, against the strength of the equity markets, the Company's valuation has increased as well.
- Subsequent to the last valuation date used to determine the fair value of the ordinary shares underlying options discussed in this response, the Company has launched several new product offerings, including a new comprehensive genomic profiling workflow and the expansion of the SOPHiA platform's analytic capabilities in genomics, and observed continued maturity of its commercial relationships and growing momentum in its biopharma business. The Company believes that these factors demonstrate the Company's ability to expand and further penetrate its addressable market opportunities and strengthen the Company's competitive position.
- In July 2021, the Company entered into a non-binding letter of intent with GE Precision Healthcare LLC to negotiate in good faith a collaboration agreement to combine GE Healthcare's medical imaging and monitoring capabilities, including the Edison platform, with the Company's SOPHiA platform. The Company believes that this letter of intent validates the Company's competitive position and, if a collaboration agreement is reached, has the potential to significantly expand its customer base.
- In connection with the preparation of the Registration Statement, the Company conducted extensive research and further refined the size of its total addressable market opportunity.
- Subsequent to the Company's confidential submission of its Registration Statement, the Company commenced testing-the-waters meetings with potential investors, in which it received favorable feedback, which contributed to the Company's decision to pursue the Offering.
- The Offering is expected to create liquidity, and the estimated price range assumes that an initial public offering has occurred and a public market for the Company's ordinary shares has been created. The estimated price range excludes any marketability or illiquidity discount for the Company's ordinary shares.
- The Company expects to accrue significant benefits as a result of becoming publicly traded through the Offering, including a substantial increase in the Company's cash position, an improved ability to raise equity and debt capital going forward and at a lower expected cost of capital and with reduced borrowing costs, and the expected increased attractiveness of the Company's equity as a currency to raise capital, compensate employees and complete strategic transactions.

The Company respectfully submits that the fair values used as the basis for determining the share-based compensation in connection with its option grants are reasonable and appropriate for the reasons described herein and in the Registration Statement.

If you have any questions regarding the foregoing or if I can provide any additional information, please do not hesitate to contact me at (212) 450- 4135 or Yasin Keshvargar at (212) 450-4839.

Very truly yours,

/s/ Deanna L. Kirkpatrick

Deanna L. Kirkpatrick

cc: Jurgi Camblong, Chief Executive Officer
Ross Muken, Chief Financial Officer
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