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UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549  
FORM S-1 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933  
180 Life Sciences Corp. (Exact name of registrant as specified in its charter) Delaware 2834 90-1890354 (State or other jurisdiction of name (Primary Standard Industrial (I.R.S. Employer incorporation or organization) Classification Code Number) Identification Number) 3000 El Camino Real, Bldg. 4, Suite 200 Palo Alto, CA 94306 (650) 507-0669 (Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)  
Mr. Blair Jordan Chief Executive Officer 180 Life Sciences Corp. 3000 El Camino Real, Bldg. 4, Suite 200 Palo Alto, CA 94306 (650) 507-0669 (Name, address, including zip code, and telephone number, including area code, of agent for service)  
Copies to: David M. Loev, Esq. John S. Gillies, Esq. The Loev Law Firm, PC 6300 West Loop South, Suite 280 Bellaire, Texas 77401 Telephone: (713) 524-4110  
Approximate date of commencement of proposed sale to the public: From time to time after this registration statement becomes effective.  
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, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. ☐ Large accelerated filer ☐ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company  
If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐ 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 which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 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.  
The information contained in this prospectus is not complete and may be changed. The selling stockholder 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 is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.  
SUBJECT TO COMPLETION, DATED NOVEMBER 15, 2024  
PRELIMINARY PROSPECTUS  
1,900,138 Shares of Common Stock  
This prospectus relates solely to the offer and sale from time to time of up to an aggregate of 1,900,138 shares of our common stock, par value \$0.0001 per share, of 180 Life Sciences Corp., a Delaware corporation (the "Company," "we," "our" or "us"), by the selling stockholder identified in this prospectus (the "Selling Stockholder"). The shares of common stock being registered for resale hereunder consist of: 1,900,138 shares of common stock issuable upon the exercise of the October 2024 Warrants (as defined herein), acquired by the Selling Stockholder, pursuant to an Inducement Agreement (as defined herein) entered into between us and the Selling Stockholder (the "Warrants," and all of the shares of common stock issuable upon exercise of the Warrants, the "Shares"). Each of the Warrants are exercisable at an exercise price of \$1.50. We are not selling any common stock under this prospectus and will not receive any of the proceeds from the sale of the Shares by the Selling Stockholder. However, if all of the Warrants that are covered by this prospectus are exercised for cash, we may receive proceeds of up to approximately \$2,850,207. We intend to use those proceeds, if any, for operationalizing and developing our recently acquired Technology Gaming Platform, and general corporate and legal expenses. We will bear all other costs, expenses and fees in connection with the registration of the Shares. The Selling Stockholder will bear all commissions and discounts, if any, attributable to the sales of Shares. The Selling Stockholder may offer such Shares from time to time as it may determine through public or private transactions or through other means described in the section entitled "Plan of Distribution" beginning on page 18 of this prospectus, at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. This prospectus does not necessarily mean that the Selling Stockholder will offer or sell the Shares. We cannot predict when or in what amounts the Selling Stockholder may sell any of the Shares offered by this prospectus. Any Shares subject to resale hereunder will have been issued by us and acquired by the Selling Stockholder prior to any resale of such Shares pursuant to this prospectus. Because all of the Shares offered under this prospectus are being offered by the Selling Stockholder, we cannot currently determine the price or prices at which the Shares may be sold under this prospectus.  
Our common stock is traded on the Nasdaq Capital Market ("Nasdaq") under the symbol "ATNF". On November 14, 2024, the last reported sale price for our common stock as reported on Nasdaq was \$2.68 per share.  
INVESTING IN OUR SECURITIES INVOLVES SUBSTANTIAL RISKS. SEE THE SECTION TITLED "RISK FACTORS" BEGINNING ON PAGE 7 OF THIS PROSPECTUS TO READ ABOUT FACTORS YOU SHOULD CONSIDER BEFORE BUYING OUR SECURITIES.  
NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.  
The date of this prospectus is November 15, 2024.  
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Our logo and some of our trademarks and tradenames are used in this prospectus. This prospectus also includes trademarks,

tradenames and service marks that are the property of others. Solely for convenience, trademarks, tradenames and service marks referred to in this prospectus may appear without the ®, ™, and SM symbols. References to our trademarks, tradenames and service marks are not intended to indicate in any way that we will not assert to the fullest extent under applicable law our rights or the rights of the applicable licensors if any, nor that respective owners to other intellectual property rights will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend the use or display of other companies' trademarks and trade names to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

The market data and certain other statistical information used throughout this prospectus are based on independent industry publications, reports by market research firms or other independent sources that we believe to be reliable sources; however, we have not commissioned any of the market or survey data that is presented in this prospectus. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We are responsible for all of the disclosures contained in this prospectus, and we believe these industry publications and third-party research, surveys and studies are reliable, provided that we have not commissioned any such information. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties, and are subject to change based on various factors, including those discussed under the section entitled "Risk Factors" of this prospectus. These and other factors could cause our future performance to differ materially from our assumptions and estimates.

Some market and other data included herein, as well as the data of competitors as they relate to 180 Life Sciences Corp., is also based on our good faith estimates.

Unless the context requires otherwise, references to the "Company," "we," "us," "our," "180 Life," "180LS" and "180 Life Sciences Corp." refer specifically to 180 Life Sciences Corp. and its consolidated subsidiaries. References to "KBL" refer to the Company prior to the November 6, 2020 Business Combination.

In addition, unless the context otherwise requires and for the purposes of this prospectus only:

- "CAD" refers to Canadian dollars;
- "Exchange Act" refers to the Securities Exchange Act of 1934, as amended;
- "£" or "GBP" refers to British pounds sterling;
- "SEC" or the "Commission" refers to the United States Securities and Exchange Commission; and
- "Securities Act" refers to the Securities Act of 1933, as amended.

Effective on December 19, 2022 at 12:01 a.m. Eastern Time, we effected a 1-for-20 reverse stock split of our then outstanding common stock, with any fractional shares rounded up to the nearest whole share. Effective on February 28, 2024 at 12:01 a.m. Eastern Time, we effected a 1-for-19 reverse stock split of our then outstanding common stock with any fractional shares rounded up to the nearest whole share.

In connection with the reverse splits, all outstanding options, warrants, and other securities entitling their holders to purchase or otherwise receive shares of common stock were adjusted, as required by the terms of each security. The number of shares available to be awarded under the Company's equity incentive plans were also appropriately adjusted. Following the reverse splits, the par value of the common stock remained unchanged at \$0.0001 par value per share. The reverse splits did not change the authorized number of shares of common stock or preferred stock.

The effects of the reverse stock splits have been retroactively reflected throughout this prospectus.

**About This Prospectus**

This prospectus is part of a registration statement on Form S-1 that we filed with the SEC. Under this registration statement, the Selling Stockholder may, from time to time, sell the shares of common stock offered by it as described in this prospectus. We will not receive any proceeds from the sale by such Selling Stockholder of the Shares offered by it as described in this prospectus. We will not receive any proceeds from the sale of Shares pursuant to this prospectus, except with respect to amounts received by us upon the exercise of the Warrants for cash, if any.

Neither we nor the Selling Stockholder have authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus or any applicable prospectus supplement or any free writing prospectus prepared by or on behalf of us or to which we have referred you. Neither we nor the Selling Stockholder take responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. Neither we nor the Selling Stockholder will make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained in this prospectus is accurate as of any date other than the date of this prospectus. Our business, financial condition, results of operations and prospects may have changed since that date.

We may also provide a prospectus supplement or post-effective amendment to the registration statement to add information to, or update or change information contained in, this prospectus. You should read both this prospectus and any applicable prospectus supplement or post-effective amendment to the registration statement together with the additional information to which we refer you in the sections of this prospectus entitled "Incorporation by Incorporation" and "Where You Can Find More Information."

**Prospectus Summary**

The following summary highlights selected information contained elsewhere in this prospectus and/or incorporated by reference herein, and does not contain all of the information that you should consider in making your investment decision. Before investing in our securities, you should carefully read this entire prospectus and the information incorporated by reference herein.

**Our Company**

We were formed as a clinical stage biotechnology company, focused on the development of therapeutics for unmet medical needs in chronic pain, inflammation and fibrosis by employing innovative research, and, where appropriate, combination therapy. In September 2024, we completed the acquisition of certain source code and intellectual property relating to an online blockchain casino, and moving forward, we plan to focus the majority of our operations on the creation of the online blockchain casino, while still working to complete the development of certain prior therapeutics for unmet medical needs.

**Biotechnology Product Development**

We have three product development platforms:

- fibrosis and anti-tumor necrosis factor ("TNF");
- drugs which are derivatives of cannabidiol ("CBD") or cannabigerol ("CBG") analogues ("SCAs"); and
- alpha 7 nicotinic acetylcholine receptor ("α7nAChR").

Due to restrictions in the Company's resources, the Company has slowed down research and development activities significantly in the SCA platform and the anti-TNF platform, and the Company has not made progress in the α7nAChR platform and has suspended further research and development activity in this program in the meantime.

The Company is currently evaluating all options to monetize its existing assets, in addition to exploring other strategic alternatives to maximize value for its stockholders. Potential strategic alternatives that may be explored or evaluated by the Company as part of this process include, but are not limited to, an acquisition, merger, reverse merger, other business combination, sale of assets, licensing or other strategic transactions involving the Company.

**Planned iGaming Casino Operations**

On September 29, 2024, we entered into an Asset Purchase Agreement (the "Purchase Agreement") with Elray Resources, Inc. ("Elray"). Pursuant to the Purchase Agreement, Elray agreed to sell us certain source code and intellectual property relating to an online blockchain casino (the

“Purchased Assets” in consideration for 1,000,000 shares of newly designated Series B Convertible Preferred Stock (the “Preferred Stock”, and the shares of common stock issuable upon conversion thereof, the “Conversion Shares”) and warrants to purchase 3,000,000 shares of common stock of the Company (the “Purchase Warrants” and the shares of common stock issuable upon exercise thereof, the “Purchase Warrant Shares”). The acquisition of the Purchased Assets was completed on September 30, 2024. We are planning to strategically enter into the online gaming industry, utilizing the Purchased Assets, i.e., our newly acquired “back-end” gaming platform, which incorporates blockchain technology and full cryptocurrency operability (the “Gaming Technology Platform”). The Company plans to use this technology platform to establish a blockchain-based business aimed at the global iGaming market. Initially focusing on B2C (business-to-consumer) online casinos, the Company also plans to expand into a B2B (business-to-business) model, offering a seamless blockchain-enabled technology platform for gaming operators worldwide. In addition, management has identified certain global iGaming industry characteristics and trends that they believe make potential acquisition opportunities attractive. Management believes that the combination of the Gaming Technology Platform and the strength of a Nasdaq listing make the Company an attractive consolidation vehicle for the iGaming industry, and plan to work to identify potential acquisitions (although no targets exist at present).

1 Warrants and Related Transactions

August 2023 Offering

On August 9, 2023, the Company entered into a Securities Purchase Agreement (the “August SPA”) with the Selling Stockholder, an accredited investor (the “Purchaser”), in addition to certain purchasers, pursuant to which the Company agreed to sell an aggregate of 35,102 shares of common stock (the “August 2023 Shares”), pre-funded warrants to purchase up to an aggregate of 207,814 shares of common stock (the “August 2023 Pre-Funded Warrants”), and common stock warrants to purchase up to an aggregate of 242,915 shares of common stock (the “August 2023 Common Warrants”), at a combined purchase price of \$12.35 per share and warrant (the “August 2023 Offering”). Aggregate gross proceeds from the August 2023 Offering were \$2,999,606. Net proceeds to the Company from the offering, after deducting the placement agent fees and other offering expenses payable by the Company, were approximately \$2.7 million. The placement agent fees and offering expenses of approximately \$300,000 were accounted for as a reduction of additional paid in capital. The August 2023 Offering closed on August 14, 2023.

Amendment to August 2023 Offering

On October 11, 2023, the Company received a letter from Listing Qualifications Department of The Nasdaq Stock Market LLC (the “Nasdaq”), stating that Nasdaq had determined that the Company failed to comply with Nasdaq’s shareholder approval requirements set forth in Listing Rule 5635(d), which requires prior shareholder approval for transactions, other than public offerings, involving the issuance of 20% or more of the pre-transaction shares outstanding at less than the Minimum Price. The letter from Nasdaq referred to the August 2023 Offering and requested the Company to submit a plan of compliance no later than November 27, 2023. On November 9, 2023, the Company submitted a plan of compliance to Nasdaq, and on November 14, 2023, Nasdaq provided a letter of extension to the Company. Pursuant to the compliance plan submitted to Nasdaq, on November 28, 2023, the Company entered into an amendment to the August 2023 Offering (the “Amendment to the August 2023 Offering”), whereby (i) the Purchaser agreed to pay an additional \$830,769 in connection with the repricing of the August 2023 Shares and August 2023 Pre-Funded Warrants (the “Repricing Amount”), (ii) the Company agreed to issue to the Purchaser additional pre-funded warrants to purchase up to 257,205 shares of common stock, with an exercise price of \$0.0019 per share (the “Additional Pre-Funded Warrants”), and warrants to purchase up to 477,058 shares of common stock, with an exercise price of \$3.23 per share (the “Additional Common Warrants”, and collectively with the Additional Pre-Funded Warrants, the “Additional Warrants”), and (iii) the Company and the Purchaser agreed to enter into a warrant amendment agreement (as described below). Net proceeds to the Company from the repricing, after deducting the placement agent fees and other offering expenses payable by the Company, were approximately \$0.8 million. The placement agent fees and offering expenses of approximately \$60,000 were accounted for as a reduction of additional paid in capital. The Amendment to the August 2023 Offering closed on December 1, 2023. In accordance with the Amendment to the August 2023 Offering, the Company entered into a warrant amendment agreement to amend the following outstanding warrants held by the Purchaser: (i) warrants to purchase up to 16,138 shares of common stock issued in July 2022; (ii) warrants to purchase up to 135,339 shares of common stock issued in December 2022; (iii) warrants to purchase up to 82,668 shares of common stock issued in April 2023; and (iv) warrants to purchase up to 242,915 shares of common stock issued in August 2023 (collectively, the “Existing Common Warrants”). Pursuant to the warrant amendment agreement, the Existing Common Warrants were amended to have an exercise price of \$3.23 per share, and to expire on the fifth anniversary of the date that the stockholders of the Company approved the issuance of shares of common stock upon exercise of such Existing Common Warrants, which stockholder approval date, which was February 16, 2024.

2 Inducement Agreement

On October 16, 2024, we entered into a warrant inducement agreement (the “Inducement Agreement”) with Armistice Capital Master Fund Ltd. (the “Holder”) of 477,058 Additional Common Warrants and 473,011 of the Existing Common Warrants (collectively, the “Exercised Warrants”), pursuant to which the Holder agreed to exercise for cash the Exercised Warrants to purchase 950,069 shares of common stock at an exercise price of \$3.48 per share (\$0.25 greater than the \$3.23 per share exercise price of such Exercised Warrants). On October 16 and 17, 2024, the Exercised Warrants were exercised in full for cash by the Holder and the Company received \$3,306,240 before deducting financial advisory fees and other expenses payable by us. In consideration of the Holder’s agreement to exercise the Exercised Warrants in accordance with the Inducement Agreement, the Company agreed to issue new unregistered Warrants to Purchase Shares of Common Stock (the “October 2024 Warrants”) to purchase a number of shares of common stock equal to 200% of the number of shares of common stock issued upon exercise of the Exercised Warrants, i.e., warrants to purchase up to 1,900,138 shares of common stock (the “October 2024 Warrant Shares”). The October 2024 Warrants were immediately exercisable and have a term of exercise of five years. The Company agreed in the Inducement Agreement to file a registration statement on Form S-1 to register the resale of the New Warrant Shares upon exercise of the October 2024 Warrants (the “Resale Registration Statement”) by November 15, 2024, and to use commercially reasonable efforts to have such Resale Registration Statement declared effective by the Commission within sixty (60) calendar days following the date of filing with the Commission (or ninety (90) calendar days following the date of filing with the Commission in the event of a “full review” by the Commission) and to keep the Resale Registration Statement effective at all times until no holder of the October 2024 Warrants owns any October 2024 Warrants or October 2024 Warrant Shares. In the event that the Company fails to timely deliver to the Holder the October 2024 Warrant Shares without restrictive legends, the Company has agreed to pay certain liquidated damages to the Holder. The registration statement of which this prospectus forms a part is the required Resale Registration Statement, which was timely filed. The Company has used, and plans to continue to use, the net proceeds from these

transactions to advance the commercialization of the Purchased Assets recently acquired by the Company, and for working capital, and other general corporate purposes. The October 2024 Warrants have an exercise price of \$1.50 per share. The exercise price and the number of shares of common stock issuable upon exercise of each October 2024 Warrant are subject to appropriate adjustments in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting the common stock. In addition, in certain circumstances, upon a fundamental transaction, a holder of October 2024 Warrants will be entitled to receive, upon exercise of the October 2024 Warrants, the kind and amount of securities, cash or other property that such holder would have received had they exercised the October 2024 Warrants immediately prior to the fundamental transaction. The Company may not affect the exercise of October 2024 Warrants, and the applicable Holder will not be entitled to exercise any portion of any such October 2024 Warrant, which, upon giving effect to such exercise, would cause the aggregate number of shares of common stock beneficially owned by the holder of such October 2024 Warrant (together with its affiliates) to exceed 4.99% or 9.99%, as applicable, of the number of shares of common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of such October 2024 Warrants. The Company engaged A.G.P./Alliance Global Partners ("A.G.P.") to provide exclusive financial services in connection with the transactions summarized above and, pursuant to a Financial Advisory Agreement between the Company and A.G.P., paid A.G.P. a financial advisory fee of \$232,000, and an alternative transaction fee of \$100,000. In addition, we reimbursed A.G.P. for its accountable legal expenses in connection with the exercise of the Exercised Warrants and the issuance of the October 2024 Warrants of \$65,000 and \$10,000 of non-accountable expenses. In addition, we paid A.G.P. \$29,923, half of the financial advisory fees due in connection with advisory fees in 2023 and agreed to pay \$29,923 for advisory fees in the future. As of October 31, 2024, a total of \$436,923 related to the aforementioned transaction has been paid to A.G.P. in addition to the \$29,923 of advisory fee, and there is a balance outstanding of \$29,923 for the aforementioned advisory fees.

**3 Corporate Information** We were originally formed as KBL Merger Corp. IV, a blank check company organized under the laws of the State of Delaware on September 7, 2016, which consummated its initial public offering on June 7, 2017. On November 6, 2020, we consummated a business combination and, in connection therewith, changed our name to 180 Life Sciences Corp. Our principal executive offices are located at 3000 El Camino Real, Bldg. 4, Suite 200, Palo Alto, California 94306, and our telephone number is (650) 507-0669. We maintain a website at [www.180lifesciences.com](http://www.180lifesciences.com). We have not incorporated by reference into this prospectus the information in, or that can be accessed through, our website, and you should not consider it to be a part of this prospectus.

**The Offering** Shares offered by the Selling Stockholder: We are registering the resale by the Selling Stockholder named in this prospectus, or their permitted transferees, of an aggregate of up to an aggregate of 1,900,138 Shares by the Selling Stockholder identified in this prospectus. The Shares being registered for resale hereunder consist of the shares of common stock issuable upon exercise of the October 2024 Warrants.

**Common stock outstanding prior to this offering:** 1,976,999 shares of common stock as of November 15, 2024.

**Use of proceeds:** The Selling Stockholder will receive the proceeds from the sale of the Shares offered hereby. We will not receive any proceeds from the sale of the Shares. However, if all of the Warrants that are covered by this prospectus are exercised for cash, we may receive proceeds of up to approximately \$2,850,207.

**Risk Factors:** The purchase of our securities involves a high degree of risk. See "Risk Factors" beginning on page 7 and other information included in this prospectus for a discussion of factors you should carefully consider before deciding to invest in our securities.

**Nasdaq Symbol:** Our common stock is listed on Nasdaq under the symbol "ATNF".

The number of shares of our common stock outstanding is based on 1,900,138 shares outstanding as of November 15, 2024, and excludes, as of such date:

- 22,956 shares of common stock issuable upon the exercise of outstanding stock options;
- 6,397 additional shares of our common stock reserved for future issuance under our 2020 Omnibus Incentive Plan;
- 16,052 additional shares of our common stock reserved for future issuance under our 2022 Omnibus Incentive Plan;
- (a) 15,132 shares of common stock issuable upon the exercise of outstanding public warrants exercisable at an exercise price of \$4,370.00 per share, (b) 6,748 shares of common stock issuable upon the exercise of certain outstanding private placement warrants at an exercise price of \$1,900.00 per share, (c) 6,579 shares of common stock issuable upon the exercise of certain outstanding private placement warrants at an exercise price of \$2,850.00 per share, (d) 4,049 shares of common stock issuable upon exercise of certain outstanding warrants to purchase shares of common stock with an exercise price of \$3.23 per share, (e) 3,000,000 shares of common stock issuable upon the exercise of warrants to purchase 3,000,000 shares of common stock with an exercise price of \$1.68 per share, (f) 168 shares of common stock issuable upon exercise of warrants which expire on May 2, 2025, and (g) 1,900,138 shares of common stock issuable upon exercise of the October 2024 Warrants, with an exercise price of \$1.50 per share; and
- up to a maximum of 10,000,000 shares of common stock issuable upon conversion of 1,000,000 shares of Series B Convertible Preferred Stock.

**4 Summary Risk Factors** We face risks and uncertainties related to our business, many of which are beyond our control. In particular, risks associated with our business include:

- Our need for additional financing, both near term and long term, to support our operations, our ability to raise such financing as needed, the terms of such financing, if available, potential significant dilution associated therewith, and covenants and restrictions we may need to comply with in connection with such funding.
- Our ability to create or purchase a front end for our back end blockchain casino intellectual property assets, commercialize our planned blockchain casino, obtain required licenses and customers, and ultimately generate revenues through such operations.
- The fact that we are currently an iGaming/clinical stage biotechnology company that had no revenue for the three or nine months ended September 30, 2024, and for the years ended December 31, 2023 and 2022, and may not generate significant revenue for the near term.
- Our dependence on the success of our future product candidates, some of which may not receive regulatory approval or be successfully commercialized; problems in our manufacturing process for our new products and/or our failure to comply with manufacturing regulations, or unexpected increases in our manufacturing costs; problems with distribution of our products; and failure to adequately market our products.
- The fact that our accounts payable are significant, and we do not currently have sufficient funds to pay such accounts payable, a large portion of which are past due.
- Risks from intense competition from companies with greater resources and experience than we have.
- Our ability to receive regulatory approvals for our product candidates, and the timeline and costs associated therewith, including the uncertainties associated with the clinical development and regulatory approval of our drug candidates, including potential delays in the enrollment and completion of clinical trials, issues raised by the U.S. The Food and Drug Administration (FDA) and The Medicines and Healthcare products Regulatory Agency (MHRA).
- Risks that our future product candidates, if approved by regulatory authorities, may be unable to achieve the expected market acceptance and, consequently, limit our ability to generate revenue from new products.
- The fact that the

majority of our license agreements provide the licensors and/or counter-parties the right to use, own and/or exploit such licensed intellectual property. Â 5 Â Â—Liability from lawsuits (including product liability lawsuits, stockholder lawsuits and regulatory matters), including judgments, damages, fines and penalties and including the outcome of currently pending litigation, potential future government investigations, and other proceedings that may adversely affect our business and results of operations. Â Â—Our ability to comply with existing and future rules and regulations. Â Â—Our ability to adequately protect our proprietary technology and intellectual property, claims and liability from third parties regarding our alleged infringement of their intellectual property. Â Â—The effect of current and future regulation, the Companyâ€™s ability to comply with regulations (both current and future) and potential penalties in the event it fails to comply with such regulations and changes in the enforcement and interpretation of existing laws and regulations and the adoption of new laws and regulations that may unfavorably impact our business. Â Â—Failure of our information technology systems, including cybersecurity attacks or other data security incidents, that could significantly disrupt the operation of our business. Â Â—The liquidation preference associated with, dilution caused by the conversion of, and voting rights associated with, our Series B Convertible Preferred Stock. Â Â—The fact that we may acquire other companies which could divert our managementâ€™s attention, result in additional dilution to our stockholders and otherwise disrupt our operations and harm our operating results and if we make any acquisitions, they may disrupt or have a negative impact on our business. Â Â—The effect of changes in inflation and interest rates, and economic downturns, including potential recessions, as well as macroeconomic, geopolitical, health and industry trends, pandemics, acts of war (including the ongoing Ukraine/Russian and Hamas/Israel conflict) and other large-scale crises, as well as the potential implications of a Congressional impasse over the U.S. debt limit or possible future U.S. governmental shutdowns over budget disagreements. Â Â—Our ability to maintain our listing of our common stock and public warrants on the Nasdaq Capital Market, including our current non-compliance with Nasdaqâ€™s continued listing rules due to our failure to maintain a majority of independent directors and an audit committee of at least three independent directors. Â Â—The reliance on suppliers of third-party gaming content and the cost of such content. Â Â—The ability of the Company to obtain gaming licenses. Â Â—The Companyâ€™s reliance on its management. Â Â—The ability of the Company to compete in the iGaming market. Â Â—The ability to compete against existing and new competitors. Â Â—The ability to manage expenses associated with sales and marketing and necessary general and administrative and technology investments. Â Â—General consumer sentiment and economic conditions that may affect levels of discretionary customer purchases of the Companyâ€™s products, including potential recessions and global economic slowdowns. Â Â—other risks and uncertainties, including those described under, and incorporated by reference into, “Risk Factors”, below. Â 6 Â Â Risk Factors Â Investing in shares of our common stock involves a high degree of risk. Before making an investment decision, you should carefully consider and evaluate the risks described in the “Risk Factors” section in our most recent Annual Report on Form 10-K, as well as any updates to those risk factors in our subsequent Quarterly Reports on Form 10-Q, and below, together with all of the other information appearing in or incorporated by reference into this prospectus, before deciding whether to purchase any of the common stock being offered. The risks described in these documents are not the only ones we face, but those that we consider to be material. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of shares of our common stock could decline due to any of these risks, and you may lose all or part of your investment. Please also read carefully the section entitled “Cautionary Note Regarding Forward-Looking Statements.” Â Sales of substantial amounts of our common stock by the selling stockholder, or the perception that these sales could occur, could adversely affect the price of our common stock. Â The sale by the selling stockholder of a significant number of shares of common stock could have a material adverse effect on the market price of our common stock. In addition, the perception in the public markets that the selling stockholder may sell all or a portion of its shares as a result of the registration of such shares for resale pursuant to this prospectus could also in and of itself have a material adverse effect on the market price of our common stock. We cannot predict the effect, if any, that market sales of those shares of common stock or the availability of those shares of common stock for sale will have on the market price of our common stock. Â We currently have an illiquid and volatile market for our common stock, and the market for our common stock is and may remain illiquid and volatile in the future. Â We currently have a highly sporadic, illiquid and volatile market for our common stock, which market is anticipated to remain sporadic, illiquid and volatile in the future. During the last 52 weeks our common stock has traded as high as \$17.75 per share and as low as \$1.16 per share. The market price of our common stock may continue to be highly volatile and subject to wide fluctuations. Our financial performance, government regulatory action, tax laws, interest rates, and market conditions in general could have a significant impact on the future market price of our common stock. Â —“short squeezes”; Â —comments by securities analysts or other third parties, including blogs, articles, message boards and social and other media; Â —large stockholders exiting their position in our securities or an increase or decrease in the short interest in our securities; Â —actual or anticipated fluctuations in our financial and operating results; Â —changes in foreign currency exchange rates; Â —the commencement, enrollment or results of our planned or future clinical trials of our product candidates or those of our competitors; Â —the success of competitive drugs or therapies; Â —regulatory or legal developments in the U.S. and other countries; Â —the success of competitive products or technologies; Â —developments or disputes concerning patent applications, issued patents or other proprietary rights; Â —the recruitment or departure of key personnel; Â 7 Â Â —the level of expenses related to our iGaming operations, product candidates or clinical development programs; Â —litigation matters, including amounts which may or may not be recoverable pursuant to our officer and director insurance policies, regulatory actions affecting the Company and the outcome thereof; Â —the results of our efforts to discover, develop, acquire or in-license additional product candidates; Â —actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts; Â —our inability to obtain or delays in obtaining adequate drug supply for any approved drug or inability to do so at acceptable prices; Â —disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies; Â —the timing and outcome of our plans to commercialize our iGaming intellectual property; Â —significant lawsuits, including patent or stockholder litigation; Â —variations in our financial results or those of companies that are perceived to be similar to us; Â —changes in the structure of healthcare payment systems, including coverage and adequate reimbursement for any approved drug; Â —market conditions in the pharmaceutical and biotechnology sectors; Â —general economic, political, and market conditions and overall fluctuations in the financial markets in the U.S. and abroad; and Â —investors’ general perception of us and our business. Â Our common stock is listed on

the Nasdaq Capital Market under the symbol "ATNF". Our stock price may be impacted by factors that are unrelated or disproportionate to our operating performance. The stock markets in general have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the trading price of our common stock. Additionally, general economic, political and market conditions, such as recessions, inflation, war, interest rates or international currency fluctuations may adversely affect the market price of our common stock. Due to the limited volume of our shares which trade, we believe that our stock prices (bid, ask and closing prices) may not be related to our actual value, and not reflect the actual value of our common stock. You should exercise caution before making an investment in us.

Stock markets in general and our stock price in particular have recently experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies and our company. For example, during 2022, the closing sales prices of our common stock ranged from a post-split adjusted high of \$1,482.04 per share to a low of \$23.56 per share, during fiscal 2023, the closing sales prices of our common stock ranged from a high of \$100.70 per share to a low of \$3.21 per share and during fiscal 2024 (through the date of this prospectus), the closing sales prices of our common stock ranged from a post-split adjusted high of \$6.47 per share to a low of \$1.18 per share. During this time, we do not believe that we have experienced any material changes in our financial condition or results of operations that would explain such price volatility or trading volume; however, we have sold equity which was dilutive to existing stockholders. These broad market fluctuations may adversely affect the trading price of our securities. Additionally, these and other external factors have caused and may continue to cause the market price and demand for our common stock to fluctuate substantially, which may limit or prevent our stockholders from readily selling their shares of our common stock and may otherwise negatively affect the liquidity of our common stock.

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Additionally, as a result of the illiquidity of our common stock, investors may not be interested in owning our common stock because of the inability to acquire or sell a substantial block of our common stock at one time. Such illiquidity could have an adverse effect on the market price of our common stock. In addition, a shareholder may not be able to borrow funds using our common stock as collateral because lenders may be unwilling to accept the pledge of securities having such a limited market. An active trading market for our common stock may not develop or, if one develops, may not be sustained.

In the past, many companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

The exercise of the outstanding options and warrants, and the sale of common stock upon exercise thereof, may adversely affect the trading price of our securities.

As of the date of this prospectus, we had 22,891 shares of common stock issuable upon the exercise of outstanding stock options, with a weighted average exercise price of \$61.92 per share; (a) 15,132 shares of common stock issuable upon the exercise of outstanding public warrants exercisable at an exercise price of \$4,370.00 per share, (b) 6,748 shares of common stock issuable upon the exercise of certain outstanding private placement warrants at an exercise price of \$1,900.00 per share, (d) 6,579 shares of common stock issuable upon the exercise of certain outstanding private placement warrants at an exercise price of \$2,850.00 per share, (e) 4,049 shares of common stock issuable upon exercise of certain outstanding warrants to purchase shares of common stock with an exercise price of \$3.23 per share, (f) 3,000,000 shares of common stock issuable upon the exercise of warrants to purchase 3,000,000 shares of common stock with an exercise price of \$1.68 per share, (g) 168 shares of common stock issuable upon exercise of warrants which expire on May 2, 2025, and (h) 1,900,138 shares of common stock issuable upon exercise of the October 2024 Warrants with an exercise price of \$1.50 per share. For the life of the options and warrants, the holders have the opportunity to profit from a rise in the market price of our common stock without assuming the risk of ownership. The issuance of shares upon the exercise of outstanding securities will also dilute the ownership interests of our existing stockholders.

The availability of these shares for public resale, as well as any actual resales of these shares, could adversely affect the trading price of our common stock. We cannot predict the size of future issuances of our common stock pursuant to the exercise of outstanding options or warrants or conversion of other securities, or the effect, if any, that future issuances and sales of shares of our common stock may have on the market price of our common stock. Sales or distributions of substantial amounts of our common stock (including shares issued in connection with an acquisition), or the perception that such sales could occur, may cause the market price of our common stock to decline.

In addition, the common stock issuable upon exercise/conversion of outstanding convertible securities may represent overhang that may also adversely affect the market price of our common stock. Overhang occurs when there is a greater supply of a company's stock in the market than there is demand for that stock. When this happens the price of our stock will decrease, and any additional shares which stockholders attempt to sell in the market will only further decrease the share price. If the share volume of our common stock cannot absorb shares sold by holders of our outstanding convertible securities, then the value of our common stock will likely decrease.

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There may not be sufficient liquidity in the market for our securities in order for investors to sell their shares. The market price of our common stock may continue to be volatile.

The market price of our common stock will likely continue to be highly volatile. Some of the factors that may materially affect the market price of our common stock are beyond our control, such as conditions or trends in the industry in which we operate or sales of our common stock. This situation is attributable to a number of factors, including the fact that we are a small company which is relatively unknown to stock analysts, stock brokers, institutional investors and others in the investment community that generate or influence sales volume, and that even if we came to the attention of such persons, they tend to be risk-averse and would be reluctant to follow an unproven company such as ours or purchase or recommend the purchase of our shares until such time as we became more seasoned and viable.

As a consequence, there may be periods of several days or more when trading activity in our shares is minimal or non-existent, as compared to a mature issuer which has a large and steady volume of trading activity that will generally support continuous sales without an adverse effect on share price. It is possible that a broader or more active public trading market for our common stock will not develop or be sustained, or that trading levels will not continue. These factors may materially adversely affect the market price of our common stock, regardless of our performance. In addition, the public stock markets have experienced extreme price and trading volume volatility. This volatility has significantly affected the market prices of securities of many companies for reasons frequently unrelated to the operating performance of the specific companies. These broad market fluctuations may adversely affect the market price of our common stock.

Stockholders may be diluted significantly through our efforts to obtain financing and satisfy obligations through the issuance of additional shares of our common stock. Wherever possible, our Board will attempt to use non-cash consideration to satisfy obligations. In many instances, we believe that the non-cash consideration will consist of restricted shares of our common stock or where shares are to be issued to our



officers, directors and applicable consultants. Our Board of Directors has authority, without action or vote of the stockholders, but subject to Nasdaq rules and regulations (which generally require stockholder approval for any transactions which would result in the issuance of more than 20% of our then outstanding shares of common stock or voting rights representing over 20% of our then outstanding shares of stock, subject to certain exceptions), to issue all or part of the authorized but unissued shares of common stock. In addition, we may attempt to raise capital by selling shares of our common stock, possibly at a discount to market. These actions will result in dilution of the ownership interests of existing stockholders, which may further dilute common stock book value, and that dilution may be material. Such issuances may also serve to enhance existing management's ability to maintain control of the Company because the shares may be issued to parties or entities committed to supporting existing management.

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**Incorporation by Reference** The SEC allows us to "incorporate by reference" into this prospectus the information in other documents that we file with it. This means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and information in documents that we file later with the SEC will automatically update and supersede information contained in documents filed earlier with the SEC or contained in this prospectus. We incorporate by reference in this prospectus the documents listed below and any future filings that we may make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act prior to the termination of the offering under this prospectus; provided, however, that we are not incorporating, in each case, any documents or information deemed to have been furnished and not filed in accordance with SEC rules:

(a) The Company's Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on March 25, 2024, as amended by Amendment No. 1 thereto filed with the SEC on April 29, 2024 (File No. 001-38105) (as amended, the "Annual Report");

(b) The Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2024, filed with the SEC on May 15, 2024 (File No. 001-38105), the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2024, filed with the SEC on August 12, 2024 and the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2024, filed with the SEC on November 14, 2024 (File No. 001-38105);

(c) The Company's Definitive Proxy Statement on Schedule 14A, filed with the Commission on November 12, 2024, to the extent filed and not furnished with the Commission;

(c) The Company's Current Reports on Form 8-K (other than information furnished rather than filed) filed with the SEC on January 16, 2024, January 17, 2024, January 29, 2024, February 16, 2024, February 20, 2024, February 26, 2024, February 28, 2024, February 29, 2024, March 1, 2024, March 8, 2024, March 11, 2024, March 14, 2024, April 19, 2024, May 9, 2024, May 15, 2024, May 21, 2024, July 2, 2024, July 23, 2024, July 30, 2024, September 9, 2024, September 12, 2024, October 3, 2024, October 9, 2024, October 16, 2024, October 16, 2024, October 21, 2024, October 29, 2024, and October 29, 2024 (File No. 001-38105); and

(d) The description of the Company's common stock contained in our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the SEC on March 31, 2023, as Exhibit 4.6 (File No. 001-38105), including any amendment or report filed for the purpose of updating such description. Additionally, all documents filed by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after (i) the date of the initial registration statement of which this prospectus forms a part and prior to effectiveness of the registration statement, and (ii) the date of this prospectus and before the termination or completion of any offering hereunder, shall be deemed to be incorporated by reference into this prospectus from the respective dates of filing of such documents, except that we do not incorporate any document or portion of a document that is "furnished" to the SEC, but not deemed "filed."

We will provide, without charge, to each person to whom a copy of this prospectus is delivered, including any beneficial owner, upon the written or oral request of such person, a copy of any or all of the documents incorporated by reference herein, including exhibits. Requests should be directed to: Attention: Corporate Secretary, 3000 El Camino Real, Bldg. 4, Suite 200, Palo Alto, California 94306, telephone (650) 507-0669. The documents incorporated by reference may be accessed on the "Investors" "SEC Filings" "All SEC Filings" page of our website at [www.180lifesciences.com](http://www.180lifesciences.com). We do not incorporate the information on our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus). Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

**11 Cautionary Note Regarding Forward-Looking Statements**

This prospectus contains forward-looking statements under federal securities laws, including within the meaning of the Private Securities Litigation Reform Act of 1995. In some cases, you can identify forward-looking statements by the following words: "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "ongoing," "plan," "potential," "predict," "project," "should," or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. Forward-looking statements are not a guarantee of future performance or results, and will not necessarily be accurate indications of the times at, or by, which such performance or results will be achieved. Forward-looking statements are based on information available at the time the statements are made and involve known and unknown risks, uncertainties and other factors that may cause our results, levels of activity, performance or achievements to be materially different from the information expressed or implied by the forward-looking statements in this prospectus, including those incorporated by reference into the section entitled "Risk Factors" herein. In particular, forward-looking statements include, but are not limited to, any statements that are not statements of current or historical facts, such as statements relating to our expectations for the clinical and preclinical development, manufacturing, regulatory approval, and commercialization of our product candidates, the accuracy of our estimates regarding expenses, future revenues and capital requirements, our ability to execute our plans to develop and market new drug products and the timing and costs of these development programs, and estimates of the sufficiency of our existing capital resources combined with future anticipated cash flows to finance our operating requirements. Such statements are based on management's current expectations and include, but are not limited to:

- The need for additional funding, our ability to raise funding in the future, the terms of such funding, and dilution caused thereby;
- our ability to create or purchase a front end for our back end blockchain casino intellectual property assets, commercialize our planned blockchain casino, obtain required licenses and customers, and come to mutually agreeable contractual terms with third parties and suppliers, and ultimately generate revenues through such operations;
- expectations for the clinical and preclinical development, manufacturing, regulatory approval, and commercialization of our product candidates;
- the uncertainties associated with the clinical development and regulatory approval of the

Company's drug candidates, including potential delays in the enrollment and completion of clinical trials, issues raised by the U.S. Food and Drug Administration (FDA), the European Medicines Agency (EMA) and the U.K. Medicines and Healthcare products Regulatory Agency (MHRA);

- regulatory developments in the United States and foreign countries;
- our success in retaining or recruiting, or changes required in, our officers, key employees or directors;
- current negative operating cash flows and our potential ability to obtain additional financing to advance our business and the terms of any further financing, which may be highly dilutive and may include onerous terms;
- the continued impact of the COVID-19 pandemic on our business operations and our research and development initiatives;
- the accuracy of our estimates regarding expenses, future revenues and capital requirements;
- the Company's reliance on third parties to conduct its clinical trials, enroll patients, and manufacture its preclinical and clinical drug supplies, the ability to come to mutually agreeable terms with such third parties and partners, and the terms of such agreements;
- the terms of the Company's current licensing agreements, and the termination rights associated therewith;
- estimates of patient populations for the Company's planned products;
- unexpected adverse side effects or inadequate therapeutic efficacy of drug candidates that could limit approval and/or commercialization, or that could result in recalls or product liability claims;

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- the Company's ability to fully comply with numerous federal, state and local laws and regulatory requirements, as well as rules and regulations outside the United States, that apply to its product development activities;
- challenges and uncertainties inherent in product research and development, including the uncertainty of clinical success and of obtaining regulatory approvals; and uncertainty of commercial success;
- the ability of the Company to execute its plans to develop and market new drug products and the timing and costs of these development programs;
- changing rates of inflation and interest rates, and economic downturns, including potential recessions, as well as macroeconomic, geopolitical, health and industry trends, pandemics, acts of war (including the ongoing Ukraine/Russian conflict, and Israel/Hamas conflict) and other large-scale crises;
- estimates of the sufficiency of our existing capital resources combined with future anticipated cash flows to finance our operating requirements;
- the review and evaluation of strategic transactions and their impact on shareholder value; the process by which the Company engages in evaluation of strategic transactions; the outcome of potential future strategic transactions and the terms thereof;
- our ability to maintain our listing of our common stock and public warrants on the Nasdaq Capital Market, including our current non-compliance with Nasdaq's continued listing rules due to our failure to maintain a majority of independent directors and an audit committee of at least three independent directors;
- the reliance on suppliers of third-party gaming content and the cost of such content;
- the ability of the Company to obtain gaming licenses;
- the Company's reliance on its management;
- the potential effect of economic downturns, recessions, changes in interest rates and inflation, and market conditions, including recessions, decreases in discretionary spending and therefore demand for our products, and increases in the cost of capital, related thereto, among other affects thereof, on the Company's operations and prospects as a result of increased inflation, increasing interest rates, global conflicts and other events;
- the Company's ability to protect its proprietary information and intellectual property (IP);
- the ability of the Company to compete in the iGaming market;
- the effect of current and future regulation, the Company's ability to comply with regulations (both current and future) and potential penalties in the event it fails to comply with such regulations and changes in the enforcement and interpretation of existing laws and regulations and the adoption of new laws and regulations that may unfavorably impact our business;
- the ability to compete against existing and new competitors;
- the ability to manage expenses associated with sales and marketing and necessary general and administrative and technology investments;
- general consumer sentiment and economic conditions that may affect levels of discretionary customer purchases of the Company's products, including potential recessions and global economic slowdowns; and
- other risks and uncertainties, including those described under "Risk Factors", herein.

Any forward-looking statements in this prospectus reflect our current views with respect to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Given these uncertainties, you should not place undue reliance on these forward-looking statements. All forward-looking statements included herein speak only as of the date of this prospectus. All subsequent written and oral forward-looking statements attributable to us, or persons acting on our behalf, are expressly qualified in their entirety by the cautionary statements above. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

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Use of Proceeds

We will not receive any of the proceeds from the sale by the Selling Stockholder of the Shares in this offering. However, if all of the Warrants that are covered by this prospectus are exercised for cash, we may receive proceeds of up to approximately \$2,850,207. We cannot predict when, or if, the Warrants will be exercised. It is possible that the Warrants may expire and may never be exercised for cash. We intend to use any proceeds from the exercise of the Warrants for operationalizing and developing our recently acquired Technology Gaming Platform, and general corporate and legal expenses. Our management will have broad discretion over the use of proceeds from the exercise of the Warrants.

The Selling Stockholder will pay any underwriting discounts and commissions and expenses incurred by the Selling Stockholder for brokerage, accounting, tax or legal services or any other expenses incurred by the Selling Stockholder in disposing of the Shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the Shares covered by this prospectus, including all registration and filing fees, and fees and expenses of our counsel and our independent registered public accountants.

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Dividend Policy

We have never paid or declared any cash dividends on our common stock and do not anticipate paying cash dividends in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the operation of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our board of directors. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

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Beneficial Ownership of Securities

Security Ownership of Management and Certain Beneficial Owners and Management

The following table contains information regarding the beneficial ownership of our voting stock as of November 15, 2024 (the "Date of Determination"), held by (i) each stockholder known by us to beneficially own more than 5% of the outstanding shares of any class of voting stock; (ii) our directors; (iii) our Named Executive Officers as defined in the Summary Executive Compensation Table of our Annual Report on Form 10-K for the year ended December 31, 2023, which is incorporated by reference herein; and (iv) all current directors and executive officers as a group. Except where noted, all holders listed below have sole voting power and investment power over the shares beneficially owned by them. Unless otherwise noted, the address of each person listed below is c/o 180 Life Sciences Corp., 3000 El Camino Real, Bldg. 4, Suite 200, Palo Alto, California



94306. A Beneficial ownership has been determined in accordance with Rule 13d-3 under the Exchange Act. Under this rule, certain shares may be deemed to be beneficially owned by more than one person (if, for example, persons share the power to vote or the power to dispose of the shares). In addition, shares are deemed to be beneficially owned by a person if the person has the right to acquire shares (for example, upon exercise of an option or warrant or upon conversion of a convertible security) within 60 days of the date as of which the information is provided. In computing the percentage ownership of any person, the amount of shares is deemed to include the amount of shares beneficially owned by such person by reason of such acquisition rights. As a result, the percentage of outstanding shares of any person as shown in the following table does not necessarily reflect the person's actual voting power at any particular date. A Beneficial ownership as set forth below is based on our review of our record stockholders list and public ownership reports filed by certain of our stockholders, and may not include certain securities held in brokerage accounts or beneficially owned by the stockholders described below.

Name and Address of Beneficial Owners	Number of Common Stock Shares Beneficially Owned	Percent of Common Stock
Blair Jordan	-	-
Omar Jimenez	-	-
Ryan Smith	-	-
Jay Goodman	-	-
Lawrence Steinman	3,389(1)	*A
James N. Woody	-	-
Jonathan Rothbard	1,475	*A
Quan Anh Vu	-	-
Ozan Pamir	1,736(2)	A
All officers and directors as a group (5 persons)	3,389	A
5% Stockholders	-	-
None	-	-

\*Less than one percent. \*Percentages based upon 1,976,999 shares of our common stock issued and outstanding at November 15, 2024. A Former Named Executive Officer, no longer serving as an officer or director of the Company. Beneficial ownership is based on either (a) the last beneficial ownership disclosed to the Company from such persons; or (b) the record shareholders list of the Company as of the Date of Determination, and may not reflect the total number of shares of common stock of the Company beneficially owned by the noted individual as of such date. (1)Includes options to purchase 65 shares of common stock at an exercise price of \$1,501.00 per share and options to purchase 789 shares of common stock with an exercise price of \$12.73 per share, which have vested, and/or which vest within 60 days of the Date of Determination. (2)Includes options to purchase 473 shares of common stock at an exercise price of \$1,683.40 per share and options to purchase 789 shares of common stock with an exercise price of \$12.73 per share, which have vested, and/or which vest within 60 days of the Date of Determination, and which expire if unexercised on December 30, 2024.

**Change of Control** The Company is not aware of any arrangements which may at a subsequent date result in a change of control of the Company, except that at such time as the shareholders of the Company have approved the issuance of shares of common stock upon conversion of our 1,000,000 shares of outstanding Series B Convertible Preferred Stock, if ever, such shares of Series B Convertible Preferred Stock currently held by El Ray Resources, Inc., will be convertible into 40% of outstanding shares of common stock (subject to a maximum of 10 million shares), at the time of such stockholder approval A (66.7% of the Company's pre-issuance outstanding shares of common stock).

**16 Selling Stockholder** The Shares being offered by the Selling Stockholder consist of 1,900,138 shares of common stock issuable upon the exercise of the October 2024 Common Warrants, see the section entitled "Prospectus Summary" Warrants and Related Transactions, above. We are registering the Shares in order to permit the Selling Stockholder to offer the Shares for resale from time to time. The table below lists the Selling Stockholder and other information regarding the beneficial ownership of the shares of our common stock by the Selling Stockholder. The second column lists the number of shares of common stock beneficially owned by the Selling Stockholder, based on its ownership of the shares of common stock and Warrants, as of November 15, 2024, assuming exercise of the Warrants held by the Selling Stockholder on that date, if any, without regard to any limitations on exercises. The third column lists the shares of common stock being offered by this prospectus by the Selling Stockholder. The fourth column assumes the sale of all of the Shares offered by the Selling Stockholder pursuant to this prospectus. Under the terms of each of the Warrants, the Selling Stockholder may not exercise the warrants to the extent such exercise would cause the Selling Stockholder, together with its affiliates and attribution parties, to beneficially own a number of shares of common stock which would exceed 4.99%, of our then outstanding common stock following such exercise, excluding for purposes of such determination shares of common stock issuable upon exercise of such Warrants which have not been exercised. The number of shares of common stock in the second and fourth columns do not reflect this limitation. The Selling Stockholder may sell all, some or none of their Shares in this offering. See "Plan of Distribution."

Number of Shares of Common Stock Beneficially Owned Prior to this Offering	(1)(2) Number of Shares of Common Stock Being Offered	Beneficial Ownership of Common Stock After this Offering	(2) Name of Selling Stockholder	Number	Percentage
A	A	A	Armistice Capital, LLC	1,900,138(3)	A 4.99%(3)
A	A	A	A	1,900,138(6)	A
A	A	A	A	A	A
A	A	A	A	A	A

\*Less than 1%. (1)Beneficial ownership means that a person, directly or indirectly, has or shares voting or investment power with respect to a security or has the right to acquire such power within 60 days. (2)Assumes for purposes of the "Beneficial Ownership of Common Stock After this Offering" that (i) all of the shares of common stock to be registered by the registration statement of which this prospectus is a part are sold in this offering and (ii) the selling stockholder does not acquire additional shares of our common stock after the date of this prospectus and prior to completion of this offering. The registration of this offering of shares does not necessarily mean that the selling stockholders will sell all or any portion of the shares covered by this prospectus. (3)The securities are directly held by Armistice Capital Master Fund Ltd., a Cayman Islands exempted company (the "Master Fund"), and may be deemed to be beneficially owned by: (i) Armistice Capital, LLC ("Armistice Capital"), as the investment manager of the Master Fund; and (ii) Steven Boyd, as the Managing Member of Armistice Capital. A The warrants are subject to a beneficial ownership limitation of 4.99%, which such limitation restricts the Selling Stockholder from exercising that portion of the warrants that would result in the Selling Stockholder and its affiliates owning, after exercise, a number of shares of common stock in excess of the beneficial ownership limitation. The address of Armistice Capital Master Fund Ltd. is c/o Armistice Capital, LLC, 510 Madison Avenue, 7th Floor, New York, NY 10022. (5)Represents shares of common stock equal to 4.99% of the Company's outstanding common stock following the issuance thereof, as a result of the beneficial ownership limitation. (6)The shares of common stock being offered pursuant to this prospectus consist of 1,900,138 shares of common stock issuable upon the exercise of the October 2024 Common Warrants.

**17 Plan of Distribution** The Selling Stockholder and any of its pledgees, assignees, transferees and successors-in-interest may, from time to time, sell any or all of the Shares covered hereby on Nasdaq or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. The Selling Stockholder may use any one or more of the following methods when selling securities: A—ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers; A—block trades in which the broker-

dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction; Â—purchases by a broker-dealer as principal and resale by the broker-dealer for its account; Â—an exchange distribution in accordance with the rules of the applicable exchange; Â—privately negotiated transactions; Â—settlement of short sales; Â—in transactions through broker-dealers that agree with the Selling Stockholder to sell a specified number of such securities at a stipulated price per security; Â—through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise; Â—a combination of any such methods of sale; or Â—any other method permitted pursuant to applicable law. Â The Selling Stockholder may also sell the Shares under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus. Â Broker-dealers engaged by the Selling Stockholder may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholder (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser)Â in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA Rule 2121. Â In connection with the sale of the Shares or interests therein, the Selling Stockholder may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the Shares in the course of hedging the positions they assume. The Selling Stockholder may also sell the Shares short and deliver the Shares to close out their short positions, or loan or pledge the securities to broker-dealers that in turn may sell the Shares. The Selling Stockholder may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of the Shares offered by this prospectus, which Shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). Â 18 Â Â The Selling Stockholder and any broker-dealers or agents that are involved in selling the Shares may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the Shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. The Selling Stockholder has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the Shares. Â We are required to pay certain fees and expenses incurred by us incident to the registration of the Shares. We have agreed to indemnify the Selling Stockholder against certain losses, claims, damages and liabilities, including liabilities under the Securities Act. Â We agreed to keep this prospectus effective until all of the Shares underlying the Warrants have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with. Â Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholder will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of the common stock by the Selling Stockholder or any other person. We will make copies of this prospectus available to the Selling Stockholder and have informed it of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act). Â 19 Â Â Description of Capital Stock Â Authorized Capital Stock Â The following summary of the material terms of our capital stock is not intended to be a complete summary of the rights and preferences of such securities. We urge you to read our Certificate of Incorporation, as amended in its entirety, for a complete description of the rights and preferences of our securities. Â As of the date of this prospectus, we have 100,000,000 authorized shares of common stock, \$0.0001 par value per share and 5,000,000 shares of preferred stock, \$0.0001 par value per share, of which 1,000,000 shares have been designated as Series A Convertible Preferred Stock (of which none are outstanding), of which one share of preferred stock has been designated as a Class C Special Voting Share, of which none are outstanding, and one share of preferred stock has been designated as a Class K Special Voting Share, of which none are outstanding, and of which 1,000,000 shares have been designated as Series B Convertible Preferred Stock, of which 1,000,000 shares are outstanding. Â As the date of this prospectus, there were 1,976,999 shares of common stock outstanding held by 122 holders of record, and 1,000,000 shares of Series B Convertible Preferred Stock issued or outstanding, held by one holder of record. Â Common Stock Â Except as otherwise required by law or as otherwise provided in any certificate of designation for any series of preferred stock, the holders of our common stock possess all voting power for the election of our directors and all other matters requiring stockholder action and will at all times vote together as one class on all matters submitted to a vote of our stockholders. Holders of common stock are entitled to one vote per share on matters to be voted on by stockholders and do not have the right to cumulate votes in the election of directors. Â Holders of common stock will be entitled to receive dividends and other distributions, if any, in amounts declared from time to time by our Board of Directors in its discretion out of funds legally available therefor and shall share equally on a per share basis in these dividends and distributions. Â In the event of our voluntary or involuntary liquidation, dissolution, distribution of assets or winding-up, the holders of the common stock will be entitled to receive an equal amount per share of all of our assets of whatever kind available for distribution to stockholders, after the rights of the holders of the preferred stock, if any, have been satisfied. Â Our stockholders have no preemptive or other subscription rights and there are no sinking fund or redemption provisions applicable to our common stock. Â Our Board of Directors is divided into two classes, with only one class of directors being elected in each year and each class generally serving a two-year term. Â 20 Â Â Preferred Stock Â Our Certificate of Incorporation provides that shares of preferred stock may be issued from time to time in one or more series. Our Board of Directors will be authorized to fix the voting rights, if any, designations, powers, preferences, the relative, participating, optional or other special rights and any qualifications, limitations and restrictions thereof, applicable to the shares of each series. Our Board of Directors will be able to, without stockholder approval, issue preferred stock with voting and other rights that could adversely affect the voting power and other rights of the holders of the common stock and could have anti-takeover effects. The ability of our Board of Directors to issue preferred stock without stockholder approval could have the effect of delaying, deferring or preventing a change of control of the Company or the removal of existing management. Â Series B Convertible Preferred Stock Â The below is a summary of the rights

and preferences of the Series B Convertible Preferred Stock: **Â Voting Rights.** Until such time, if ever, as the stockholders of the Company have approved the issuance of shares of common stock upon the conversion of the Series B Convertible Preferred Stock (â€œStockholder Approvalâ€), the Series B Convertible Preferred Stock only has rights to vote on amendments to the Series B Designation (which are subject to the approval of a simple majority of the holders of Series B Convertible Preferred Stock), and the Protective Provisions, discussed below. **Â The Series B Preferred Stock** require the consent of the holders of at least a majority of the issued and outstanding shares of Series B Convertible Preferred Stock to (a)Â increase or decrease (other than by redemption or conversion)Â the total number of authorized shares of Series B Convertible Preferred Stock of the Company; (b)Â adopt or authorize any new designation of any Preferred Stock or amend the Certificate of Incorporation of the Company in a manner which (i)Â provides any holder of common stock or preferred stock any rights upon a liquidation of the Company which are prior and superior to those of the holders of the Series B Convertible Preferred Stock; or (ii)Â adversely affect the rights, preferences and privileges of the Series B Convertible Preferred Stock; (c)Â effect an exchange, or create a right of exchange, cancel, or create a right to cancel, of all or any part of the shares of another class of shares into shares of Series B Convertible Preferred Stock; (d)Â alter or change the rights, preferences or privileges of the shares of Series B Convertible Preferred Stock so as to affect adversely the shares of such series; and (e)Â issue any shares of Series A Preferred Stock or Series B Convertible Preferred Stock, other than the 1,000,000 shares of Series B Preferred Stock currently outstanding (collectively, the â€œProtective Provisionsâ€). **Â After Stockholder Approval**, in addition to the above voting rights, each holder of outstanding shares of Series B Convertible Preferred Stock shall be entitled to cast the number of votes in connection with the Series B Convertible Preferred Stock shares held by such holder equal to the number of whole shares of common stock into which the shares of Series B Convertible Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Fractional votes shall not, however, be permitted and any fractional voting rights available on an as-converted to common stock basis (after aggregating all fractional shares into which shares of Series B Convertible Preferred Stock held by each holder could be converted)Â shall be rounded down to the nearest whole share. Except as provided by law or by the other provisions of the Certificate of Incorporation or the Series B Designation, holders of Series B Convertible Preferred Stock shall vote together with the holders of common stock as a single class and there shall be no series voting. **Â Dividend Rights.** None, except that if the Company declares a dividend or makes a distribution of cash (or any other distribution treated as a dividend under Section 301 of the Internal Revenue Code)Â on its common stock, each holder of Shares of Series B Convertible Preferred Stock is entitled to participate in such dividend or distribution in an amount equal to the largest number of whole shares of common stock into which all shares of Series B Convertible Preferred Stock held of record by such holder are convertible as of the record date for such dividend or distribution or, if there is no specified record date, as of the date of such dividend or distribution. Notwithstanding the foregoing, holders shall have no right of participation in connection with dividends or distributions made to the common stock stockholders consisting solely of shares of common stock. **Â 21 Â Â Liquidation Preference.** In the event of any liquidation, dissolution or winding up of the Company, either voluntary or involuntary (each a â€œLiquidation Eventâ€), the holders of Series B Convertible Preferred Stock are entitled to receive prior and in preference to any distribution of any of the assets of the Company to the holders of the common stock or securities junior to the Series B Convertible Preferred Stock (other than the common stock)Â by reason of their ownership of such stock, but after any required distribution to any holders of Series B Convertible Preferred Stock, an amount in cash per share of Series B Convertible Preferred Stock for each share of Series B Convertible Preferred Stock held by them equal to the greater of (x)Â one times the Stated Value; and (y)Â the total amount of consideration that would have been payable on such share upon a Liquidation Event, had such share of Series B Convertible Preferred Stock been converted into common stock, immediately prior to such Liquidation Event (as applicable, the â€œLiquidation Preferenceâ€). The â€œStated Valueâ€ is \$17.30 per share of Series B Convertible Preferred Stock, for a total aggregate Liquidation Preference of \$17,300,000. **Â Conversion Rights.** None prior to Stockholder Approval. After Stockholder Approval, at the option of the holder(s)Â thereof, each share of Series B Convertible Preferred Stock is convertible into a number of shares of common stock of the Company as equals the Conversion Rate. The â€œConversion Rateâ€ shall initially be 0.685 (or 685,000 shares in aggregate, which would represent 40% of the Companyâ€™s then outstanding shares of common stock (66.7% of the Companyâ€™s pre-issuance outstanding shares of common stock)), as equitably adjusted, as applicable for stock splits and recapitalizations; provided that if at any time after the original issuance date of the Series B Convertible Preferred Stock and prior to the Stockholder Approval Date, the Company shall actually issue any additional shares of common stock of the Company (each a â€œDilutive Issuanceâ€), the Conversion Rate shall be increased to a value equal to (x)(i)Â the total outstanding shares of common stock (â€œTotal Outstanding Sharesâ€)Â on the date immediately following such Dilutive Issuance, divided by (ii)Â 60%, minus (iii)Â the Total Outstanding Shares on the date immediately following such Dilutive Issuance, divided by (y)Â 1,000,000, rounded to the thousands place, as equitably adjusted, as applicable for stock splits and recapitalizations (each a â€œDilutive Adjustmentâ€); provided that in no event will the Conversion Rate be greater than ten. The effect of any change in the Conversion Rate shall not be retroactive and shall only apply for conversions of Series B Convertible Preferred Stock following the date of any Dilutive Adjustment. The Conversion Rate is fixed at the time of Stockholder Approval and is not subject to further adjustment thereafter. The Conversion Rate is designed to result in the holders of the Series B Convertible Preferred Stock receiving 40% of the then outstanding shares of common stock upon conversion of the Series B Convertible Preferred Stock (66.7% of the Companyâ€™s pre-issuance outstanding shares of common stock), subject to a maximum of 10 million shares of common stock, and further subject to such conversion ratio being fixed upon Stockholder Approval. The Conversion Rate is 1.318 or 1,318,000 total shares of common stock in aggregate as of the date of this prospectus. **Â Redemption Rights.** None. **Â Stock Exchange Listing** **Â Our common stock** is currently listed on Nasdaq under the symbol â€œATNFâ€. **Â Stock Exchange Listing** **Â The transfer agent and registrar** for our common stock is Continental Stock Transfer & Trust Company. **Â Certain Anti-Takeover Provisions of Delaware Law** and our Certificate of Incorporation and Bylaws **Â We are subject to the provisions of Section 203 of the Delaware General Corporation Law** (the â€œDGCLâ€) regulating corporate takeovers. This statute prevents certain Delaware corporations, under certain circumstances, from engaging in a â€œbusiness combinationâ€ with: **Â â— a stockholder who owns 15% or more of our outstanding voting stock** (otherwise known as an â€œinterested stockholderâ€); **Â â— an affiliate of an interested stockholder;** or **Â â— an associate of an interested stockholder,** for three years following the date that the stockholder became an interested stockholder. **Â A â€œbusiness combinationâ€** includes a merger or sale of more than 10% of our assets. However, the above provisions of Section 203 do not apply if: **Â â— our Board of Directors approves the transaction that made the stockholder an â€œinterested stockholder,â€** prior to the date of the

transaction; Â—after the completion of the transaction that resulted in the stockholder becoming an interested stockholder, that stockholder owned at least 85% of our voting stock outstanding at the time the transaction commenced, other than statutorily excluded shares of common stock; or Â—on or subsequent to the date of the transaction, the business combination is approved by our Board of Directors and authorized at a meeting of our stockholders, and not by written consent, by an affirmative vote of at least two-thirds of the outstanding voting stock not owned by the interested stockholder. Â 22 Â Our Certificate of Incorporation provides that our Board of Directors be classified into two classes of directors. As a result, in most circumstances, a person can gain control of our Board of Directors only by successfully engaging in a proxy contest at two or more annual meetings. Â Our authorized but unissued common stock and preferred stock are available for future issuances without stockholder approval and could be utilized for a variety of corporate purposes, including future offerings to raise additional capital, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise. Â Securities Eligible for Future Sale Â Rule 144 Â Pursuant to Rule 144, a person who has beneficially owned restricted shares of our common stock or warrants for at least six months would be entitled to sell their securities provided that (i)Â such person is not deemed to have been one of our affiliates at the time of, or at any time during the three months preceding, a sale and (ii)Â we are subject to the Exchange Act periodic reporting requirements for at least three months before the sale and have filed all required reports under Section 13 or 15(d)Â of the Exchange Act during the 12 months (or such shorter period as we were required to file reports)Â preceding the sale. Â Persons who have beneficially owned restricted shares of our common stock or warrants for at least six months but who are our affiliates at the time of, or at any time during the three months preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of: Â—1% of the total number of shares of common stock then outstanding; or Â—the average weekly reported trading volume of the common stock during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale. Â Sales by our affiliates under Rule 144 are also limited by manner of sale provisions and notice requirements and to the availability of current public information about us. Â Restrictions on the Use of Rule 144 by Shell Companies or Former Shell Companies Â Rule 144 is not available for the resale of securities initially issued by shell companies (other than business combination related shell companies)Â or issuers that have been at any time previously a shell company. However, Rule 144 also includes an important exception to this prohibition if the following conditions are met: Â—the issuer of the securities that was formerly a shell company has ceased to be a shell company; Â—the issuer of the securities is subject to the reporting requirements of Section 13 or 15(d)Â of the Exchange Act; Â—the issuer of the securities has filed all Exchange Act reports and material required to be filed, as applicable, during the preceding 12 months (or such shorter period that the issuer was required to file such reports and materials), other than Form 8-K reports; and Â—at least one year has elapsed from the time that the issuer filed current Form 10 type information with the SEC reflecting its status as an entity that is not a shell company. Â 23 Â Legal Matters Â The validity of the securities offered by this prospectus have been passed upon for us by The Loev Law Firm, PC. David M. Loev, the President and sole owner of The Loev Law Firm, PC, beneficially owns less than 1% of the outstanding shares of our common stock. Â Experts Â The consolidated financial statements of 180 Life Sciences Corp. and subsidiaries as of December 31, 2023 and 2022, and for each of the years in the two-year period ended December 31, 2023, are incorporated into this prospectus by reference from 180 Life Science Corp.â€™s Annual Report on Form 10-K for the year ended December 31, 2023, have been audited by Marcum LLP, an independent registered public accounting firm, as set forth in their report thereon, incorporated herein by reference, and have been incorporated in this prospectus and Registration Statement in reliance upon such reports given on the authority of such firm as an expert in accounting and auditing. Â No expert or counsel named in this prospectus as having prepared or certified any part of this prospectus or having given an opinion upon the validity of the securities being registered or upon other legal matters in connection with the registration or offering of the common stock was employed on a contingency basis, or had, or is to receive, any interest, directly or indirectly, in our Company or any of our parents or subsidiaries, nor was any such person connected with us or any of our parents or subsidiaries, if any, as a promoter, managing or principal underwriter, voting trustee, director, officer, or employee. Â Where You Can Find More Information Â We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SECâ€™s website at <http://www.sec.gov>. Copies of certain information filed by us with the SEC are also available, free of charge, on our website at [www.180lifesciences.com](http://www.180lifesciences.com). Our website is not a part of this prospectus and is not incorporated by reference in this prospectus. Â This prospectus is part of a registration statement that we filed with the SEC. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and our subsidiaries and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements.Â Â 24 Â PART II INFORMATION NOT REQUIRED IN PROSPECTUS Â Item 13. Other Expenses of Issuance and Distribution. Â The following table sets forth all expenses, other than the underwriting discounts and commissions, payable by the registrant in connection with the sale of the common stock being registered. All the amounts shown are estimates except the SEC registration fee. Â SEC registration feeÂ \$268 Legal fees and expensesÂ Â \* Accounting fees and expensesÂ Â \* Miscellaneous fees and expensesÂ Â \* TotalÂ \$\* Â \*Estimated fees and expenses not presently known. Â Item 14. Indemnification of Directors and Officers. Â Section 145 of the DGCL authorizes a court to award, or a corporationâ€™s board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities, including reimbursement for expenses incurred, arising under the Securities Act. Â Our Certificate of Incorporation provides for indemnification of our directors, officers, employees and other agents to the maximum extent permitted by the DGCL, and our bylaws provide for indemnification of our directors, officers, employees and other agents to the maximum extent permitted by the DGCL. Â In addition, we have entered into indemnification agreements with directors, officers and some employees containing provisions that are in some respects broader than the specific indemnification provisions contained in the DGCL. The indemnification agreements will require us, among other things, to indemnify our directors against certain liabilities that may arise by reason of their status or service as directors and to advance their expenses incurred as a result of any proceeding against them as to which they could be indemnified. Â Item 15. Recent Sales of Unregistered Securities. Â On April 5, 2023, we entered into a placement agent agreement with A.G.P. On April 5, 2023, in

connection with the placement agent agreement, we also entered into a securities purchase agreement pursuant to which we issued and sold, in a private placement, warrants to purchase up to 82,668 shares of our common stock at a purchase price per share of \$36.29 (when including shares of common stock and pre-funded warrants to purchase shares of common stock in a registered direct offering) in the concurrent private placement. The offering closed on April 10, 2023. The net proceeds to us from the offering was approximately \$2.7 million, after deducting placement agent fees and expenses and estimated offering expenses payable by us. We issued the warrants to purchase up to 82,668 shares of our common stock without registration under the Securities Act, based on the exemption from registration afforded by Section 4(a)(2) thereof and/or Rule 506(b) of Regulation D promulgated thereunder. On November 28, 2023, the Company entered into Amendment No. 1 to the August SPA with a certain institutional investor (the "Purchaser") (the "December 2023 SPA Amendment"), pursuant to which (i) the Purchaser agreed to pay an additional \$830,769.30 in connection with the repricing of the August 2023 Shares and August 2023 Pre-Funded Warrants (the "Repricing Amount"), (ii) the Company agreed to issue to the Purchaser (x) pre-funded warrants to purchase up to 257,205 shares of common stock, with an exercise price of \$0.0001 per share (the "December 2023 Pre-Funded Warrants"), and (y) warrants to purchase up to 477,058 shares of common stock, with an exercise price of \$0.17 per share (the "December 2023 Common Warrants" and, together with the December 2023 Pre-Funded Warrants, the "December 2023 Warrants"), and (iii) the Company and the Purchaser agreed to enter into the Warrant Amendment Agreement. II-1 In accordance with the December 2023 SPA Amendment, the Company entered into a warrant amendment agreement with the Purchaser, dated November 28, 2023 (the "December 2023 Warrant Amendment Agreement"), whereby the Company agreed to amend the following outstanding warrants held by the Purchaser: (i) warrants to purchase up to 135,339 shares of common stock, issued on December 22, 2022, and amended in January 2023, April 2023 and August 2023; (ii) warrants to purchase up to 16,138 shares of common stock, issued on July 20, 2022 and amended in April 2023 and August 2023; (iii) warrants to purchase up to 82,668 shares of common stock, issued on April 10, 2023 and August 2023; and (iv) warrants to purchase up to 242,915 shares of common stock underlying the August Common Warrants (collectively, the "Existing Common Warrants"). Pursuant to the Warrant Amendment Agreement, the Existing Common Warrants were amended (the "December 2023 Warrant Amendment") to not be exercisable until the Company obtained stockholder approval for the issuance of up to 477,058 shares of common stock upon exercise of the Existing Common Warrants (the "Existing Common Warrant Shares"), which stockholder approval was received on February 16, 2024. Pursuant to the December 2023 Warrant Agreement, the Existing Common Warrants were amended to have an exercise price of \$3.23 per share, and to expire on the fifth anniversary of the date that the stockholders of the Company approved the issuance of shares of common stock upon exercise of such Existing Common Warrants, which stockholder approval date, which was February 16, 2024. The warrants and the warrant shares have not been registered under the Securities Act, and were instead offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act. On February 21, 2024, February 28, 2024, March 6, 2024 and March 7, 2024, the holder of pre-funded warrants to purchase shares of common stock of the Company at an exercise price of \$0.0019 per share, exercised warrants to purchase 58,520, 64,684, 72,000 and 62,000 shares of common stock, respectively, for \$111.19, \$122.90, \$136.80 and \$117.80 of cash, respectively, and was issued 58,520, 64,684, 72,000 and 62,000 shares of common stock upon exercise thereof, respectively. The exercise of the warrants was exempt from registration pursuant to Section 4(a)(2) of the Securities Act. On March 12, 2024, a holder of Class K Special Voting Shares converted such shares into 14 shares of common stock of the Company in a transaction exempt from registration pursuant to Section 3(a)(9) of the Securities Act. As a result of such conversion, there are no longer any Class K Special Voting Shares. On September 30, 2024, we closed the transactions contemplated by that certain September 29, 2024, Asset Purchase Agreement (the "Purchase Agreement") with Elray Resources, Inc. ("Elray"), pursuant to which we acquired certain source code and intellectual property relating to an online blockchain casino in consideration for 1,000,000 shares of newly designated Series B Convertible Preferred Stock (the "Preferred Stock") and warrants to purchase 3,000,000 shares of common stock of the Company (the "Warrants"). The offer and sale of the Preferred Stock and the Warrants were intended to be exempt from registration pursuant to Section 4(a)(2) and/or Rule 506 of Regulation D of the Securities Act, since the foregoing offer, sales and issuances did not involve a public offering, the recipient confirmed that it was an "accredited investor", and the recipient acquired the securities for investment only and not with a view towards, or for resale in connection with, the public sale or distribution thereof. The securities were offered without any general solicitation by us or our representatives. The securities are subject to transfer restrictions, and the certificates evidencing the securities will contain an appropriate legend stating that such securities have not been registered under the Securities Act and may not be offered or sold absent registration or pursuant to an exemption therefrom. On October 17, 2024, the Company issued the Holder the October 2024 Warrants to purchase up to 1,900,138 shares of common stock with an exercise price of \$1.50 per share pursuant to the terms of an Inducement Agreement dated October 16, 2024. The October 2024 Warrants were immediately exercisable and have a term of exercise of five years. The Company claims an exemption from registration pursuant to Section 4(a)(2) and/or Rule 506 of the Securities Act for the issuance of the October 2024 Warrants since the foregoing issuance did not involve a public offering, the recipient took the securities for investment and not resale, we took appropriate measures to restrict transfer, and the recipient was an accredited investor. The securities are subject to transfer restrictions, and the securities contain an appropriate legend stating that such securities have not been registered under the Securities Act and may not be offered or sold absent registration or pursuant to an exemption therefrom. II-2 A Item 16. Exhibits. A No. A Description 1.1 Placement Agent Agreement, dated April 5, 2023, between 180 Life Sciences Corp. and A.G.P./Alliance Global Partners (filed as Exhibit 1.1 to the registrant's Current Report on Form 8-K filed on April 10, 2023 and incorporated by reference herein) 1.2 Placement Agency Agreement, dated August 9, 2023, by and between 180 Life Sciences Corp. and A.G.P./Alliance Global Partners. (filed as Exhibit 1.1 to the registrant's Current Report on Form 8-K filed on August 15, 2023 and incorporated by reference herein) 2.1 A Asset Purchase Agreement dated September 29, 2024, by and among Elray Resources, Inc., as seller and 180 Life Sciences Corp., as purchaser (filed as Exhibit 2.1 to the registrant's Current Report on Form 8-K filed on October 3, 2024 and incorporated by reference herein) 3.1 Second Amended and Restated Certificate of Incorporation (filed as Exhibit 3.1 to the registrant's Current Report on Form 8-K filed on November 12, 2020 and incorporated by reference herein). 3.2 A Certificate of Amendment of Second Amended and Restated Certificate of Incorporation, filed with the Secretary of State of Delaware on December 15, 2022 (filed as Exhibit 3.1 to the registrant's Current Report on Form 8-K filed on December 16, 2022 and incorporated by reference herein) 3.3 Certificate of Amendment of Second Amended and Restated Certificate of Incorporation of 180 Life Sciences Corp., filed with the Secretary of State of Delaware on

February 26, 2024 (Filed as Exhibit 3.1 To the Current Report on Form 8-K filed by the registrant on February 28, 2024, and incorporated by reference herein) 3.4 Â Certificate of Designations of 180 Life Sciences Corp. Establishing the Designations, Preferences, Limitations and Relative Rights of Its Series B Convertible Preferred Stock (filed as Exhibit 3.1 to the registrantâ€™s Current Report on Form 8-K filed on October 3, 2024 and incorporated by reference herein) 3.5 Â Second Amended and RestatedÂ Bylaws of 180 Life Sciences Corp., effective as of September 4, 2023Â (filed as 10.39# Exhibit 3.1 to the registrantâ€™s Current Report on Form 8-K filed on September 7, 2023 and incorporated by reference herein) 4.1 Â Specimen Common Stock Certificate (filed as Exhibit 4.2 to the registrantâ€™s Registration Statement Form S-1 filed on April 26, 2017 and incorporated herein by reference) 4.2 Â Description of the Registrantâ€™s Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934, as amended (filed as Exhibit 4.6 to the registrantâ€™s Annual Report on Form 10-K for the fiscal year ended December 31, 2022 filed with the Commission on March 31, 2023 and incorporated herein by reference) 4.3 Â Form of July Common Warrant (filed as Exhibit 4.2 to the registrantâ€™s Current Report on Form 8-K filed on July 19, 2022 and incorporated by reference herein). 4.4 Â Form of December Common Warrant (filed as Exhibit 4.2 to the registrantâ€™s Current Report on Form 8-K filed on December 22, 2022 and incorporated by reference herein). 4.5 Â Amendment No. 1 to the December 2022 Common Warrants, dated January 12, 2023, by and between 180 Life Sciences Corp. and the Selling Stockholder (filed as Exhibit 4.1 to the registrantâ€™s Current Report on Form 8-K filed on January 12, 2023 and incorporated by reference herein). 4.6 Â Amendment No. 1 to the Warrants, dated April 5, 2023, by and between 180 Life Sciences Corp. and the Selling Stockholder.Â (filed as Exhibit 10.11 to the registrantâ€™s Quarterly Report on Form 10-Q filed on May 15, 2023 and incorporated by reference herein) 4.7 Â Form of April Common Warrant (filed as Exhibit 4.2 to the registrantâ€™s Current Report on Form 8-K filed on April 10, 2023 and incorporated by reference herein) 4.8 Â Warrant Agent Agreement for Pre-Funded Warrants and Common Warrants, dated August 14, 2023, by and between 180 Life Sciences Corp. and Continental Stock Transfer & Trust Company. (filed as Exhibit 4.1 to the registrantâ€™s Current Report on Form 8-K filed on August 15, 2023 and incorporated by reference herein) 4.9 Â Warrant Amendment Agreement, dated August 9, 2023, by and between the Company and Armistice Capital Master Fund Ltd. (filed as Exhibit 4.4 to the registrantâ€™s Current Report on Form 8-K filed on August 15, 2023 and incorporated by reference herein) 4.10 Â Form of Warrant Agent Agreement for December 2023 Pre-Funded Warrants and Common Warrants (filed as Exhibit 4.1 to the registrantâ€™s Current Report on Form 8-K filed on November 29, 2023 and incorporated by reference herein) Â II-3 Â 4.11 Â Form of December 2023 Pre-Funded Warrant (included as Annex A to Exhibit 4.11) (filed as Exhibit 4.2 to the registrantâ€™s Current Report on Form 8-K filed on November 29, 2023 and incorporated by reference herein) 4.12 Â Form of December 2023 Common Warrant (included as Annex B to Exhibit 4.11) (filed as Exhibit 4.3 to the registrantâ€™s Current Report on Form 8-K filed on November 29, 2023 and incorporated by reference herein) 4.13 Â Warrant Amendment Agreement, dated November 28, 2023, by and between the Company and the Purchaser (filed as Exhibit 4.4 to the registrantâ€™s Current Report on Form 8-K filed on November 29, 2023 and incorporated by reference herein) 4.14 Â Common Stock Purchase Warrant to purchase 3,000,000 shares of common stock dated September 30, 2024, granted by 180 Life Sciences Corp. to Elray Resources, Inc. (filed as Exhibit 4.1 to the registrantâ€™s Current Report on Form 8-K filed on October 3, 2024 and incorporated by reference herein) 4.15 Â Form of Warrant to Purchase 1,900,138 Shares of Common Stock Dated October 17, 2024 (filed as Exhibit 4.1 to the registrantâ€™s Current Report on Form 8-K filed on October 16, 2024 and incorporated by reference herein) 5.1\* Â Opinion of The Loev Law Firm, PC. 10.1 Â Registration Rights Agreement among the registrant and certain securityholders (filed as Exhibit 10.3 to the registrantâ€™s Current Report on Form 8-K filed on June 7, 2017 and incorporated by reference herein) 10.2 Â Form of Indemnity Agreement (filed as Exhibit 10.8 to the registrantâ€™s Registration Statement Form S-1 filed on April 26, 2017 and incorporated by reference herein) 10.3 Â Form of Guarantee and Commitment Agreement (filed as Exhibit 10.1 to the registrantâ€™s Current Report on Form 8-K filed on July 26, 2019 and incorporated herein by reference) 10.4# Â 180 Life Sciences Corp. 2020 Omnibus Incentive Plan (filed as Exhibit 10.3 to the registrantâ€™s Current Report on Form 8-K filed on November 12, 2020 and incorporated by reference herein) 10.5# Â Form of Stock Option Agreement (Independent Directors August 2021 Grants)Â (filed as Exhibit 10.9 to the registrantâ€™s Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2021 filed on August 16, 2021 and incorporated herein by reference) 10.6# Â Form of Stock Option Agreement 180 Life Sciences Corp. 2020 Omnibus Incentive Plan (filed as Exhibit 4.2 to the registrantâ€™s Form S-8 filed on September 30, 2021 and incorporated by reference herein) 10.7# Â Form of Restricted Stock Grant Agreement and Stock Option Agreement 180 Life Sciences Corp. 2020 Omnibus Incentive Plan (filed as Exhibit 4.3 to the registrantâ€™s Form S-8 filed on September 30, 2021 and incorporated by reference herein) 10.8 Â Promissory Note, dated March 15, 2019 issued to KBL IV Sponsor LLC (filed as Exhibit 10.13 to the registrantâ€™s Registration Statement Form S-4 filed on November 12, 2019 and incorporated by reference herein) 10.9 Â Registration Rights Agreement, dated June 12, 2020, by and among the Company and the parties signatory thereto (filed as Exhibit 10.2 to the registrantâ€™s Current Report on Form 8-K filed on July 2, 2020 and incorporated herein by reference) 10.10 Â Registration Rights Agreement, dated September 8, 2020, by and among the Company and the parties signatory thereto (filed as Exhibit 10.2 to the registrantâ€™s Current Report on Form 8-K filed on September 14, 2020 and incorporated herein by reference) 10.11 Â Amended and Restated Promissory Note, dated September 8, 2020, issued to KBL IV Sponsor LLC (filed as Exhibit 10.24 to the registrantâ€™s Registration Statement on Form S-1 filed on October 19, 2020 and incorporated by reference herein) 10.12 Â Amendment Agreement dated NovemberÂ 25, 2020 (filed as Exhibit 10.1 to the registrantâ€™s Current Report on FormÂ 8-K filed on NovemberÂ 27, 2020 and incorporated herein by reference) 10.13 Â Registration Rights Agreement dated as of FebruaryÂ 23, 2021 by and between 180 Life Sciences Corp. and the purchasers signatory thereto (filed as Exhibit 10.4 to the registrantâ€™s Current Report on FormÂ 8-K filed on FebruaryÂ 24, 2021 and incorporated herein by reference) 10.14# Â Consultancy Agreement dated FebruaryÂ 22, 2021, by and between 180 Life Sciences Corp. and Prof. Jagdeep Nanchahal (filed as Exhibit 10.1 to the registrantâ€™s Current Report on FormÂ 8-K filed on MarchÂ 3, 2021 and incorporated herein by reference) Â II-4 Â 10.15# Â Ozan PamirÂ â€”Â Stock Option Agreement effective FebruaryÂ 26, 2021 (filed as ExhibitÂ 10.5 to the registrantâ€™s Current Report on FormÂ 8-K filed on MarchÂ 3, 2021 and incorporated herein by reference) 10.16# Â First Amendment to Consultancy Agreement dated MarchÂ 31, 2021, by and between 180 Life Sciences Corp. and Prof. Jagdeep Nanchahal (filed as Exhibit 10.2 to the registrantâ€™s Current Report on FormÂ 8-K filed on AprilÂ 2, 2021 and incorporated herein by reference). 10.17 Â Registration Rights Agreement dated as of AugustÂ 23, 2021 by and between 180 Life Sciences Corp. and the purchasers signatory thereto (filed as Exhibit 10.3 to the registrantâ€™s Current Report on FormÂ 8-K filed on AugustÂ 24, 2021 and incorporated herein by reference). 10.18# Â Consulting Agreement dated November 17, 2021, by and between 180 Life Sciences Corp. and Lawrence Steinman, M.D. (filed as



Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on November 18, 2021 and incorporated by reference herein). 10.19# Â First Amendment to Consulting Agreement dated April 27, 2022, between 180 Life Sciences Corp. and Lawrence Steinman, M.D. (filed as Exhibit 10.5 to the registrant's Current Report on Form 8-K filed on April 28, 2022 and incorporated by reference herein). 10.20# Â Second Amendment to Consulting Agreement dated April 27, 2022, between Cannbiorex Pharma Ltd. and Prof. Jagdeep Nanchahal (filed as Exhibit 10.6 to the registrant's Current Report on Form 8-K filed on April 28, 2022 and incorporated by reference herein). 10.21# Â Second Amendment to Consulting Agreement dated May 26, 2022 and effective as of June 1, 2022, between 180 Life Sciences Corp. and Lawrence Steinman, M.D. (filed as Exhibit 10.4 to the registrant's Current Report on Form 8-K filed on May 26, 2022 and incorporated by reference herein). 10.22# Â 180 Life Sciences Corp. 2022 Omnibus Incentive Plan (filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on June 14, 2022 and incorporated by reference herein). 10.23# Â Securities Purchase Agreement dated July 17, 2022, by and between 180 Life Sciences Corp. and the Purchaser (filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on July 19, 2022 and incorporated by reference herein). 10.24 Â Warrant Agent Agreement for the July 2022 Common Warrants, dated July 29, 2022, by and between 180 Life Sciences Corp. and Continental Stock Transfer & Trust Company (filed as Exhibit 10.43 to the registrant's Registration Statement on Form S-1 filed on May 5, 2023 and incorporated by reference herein). 10.25# Â Securities Purchase Agreement dated December 20, 2022, by and between 180 Life Sciences Corp. and the Purchaser (filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on December 22, 2022 and incorporated by reference herein). 10.26 Â Warrant Agent Agreement for the December 2022 Common Warrants, dated December 22, 2022, by and between 180 Life Sciences Corp. and Continental Stock Transfer & Trust Company (filed as Exhibit 10.3 to the registrant's Current Report on Form 8-K filed on December 22, 2022 and incorporated by reference herein). 10.27# Â Third Amendment to Consulting Agreement dated December 28, 2022, between 180 Life Sciences Corp., Cannbiorex Pharma Ltd. and Prof. Jagdeep Nanchahal (filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on December 29, 2022 and incorporated by reference herein). 10.28# Â Amendment to the Warrant Agent Agreement, dated January 13, 2023, by and between 180 Life Sciences Corp. and Continental Stock Transfer & Trust Company (filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on January 18, 2023 and incorporated by reference herein). 10.29# Â Securities Purchase Agreement dated April 10, 2023, by and between 180 Life Sciences Corp. and the Purchaser (filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on April 10, 2023 and incorporated by reference herein). 10.30# Â First Amended and Restated 180 Life Sciences Corp. 2022 Omnibus Incentive Plan (filed as Exhibit 10.2 to the registrant's Current Report on Form 8-K filed on July 10, 2023 and incorporated by reference herein). 10.31# Â Securities Purchase Agreement dated August 9, 2023, by and between 180 Life Sciences Corp. and the Institutional Investor. (filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on August 15, 2023 and incorporated by reference herein). Â II-5 Â 10.32# Â Form of Stock Option Agreement (First Amended and Restated 2022 Omnibus Incentive Plan) (filed as Exhibit 10.2 to the registrant's Current Report on Form 8-K filed on September 7, 2023 and incorporated by reference herein). 10.33# Â Amendment No. 1 to the Securities Purchase Agreement, dated November 28, 2023, by and between 180 Life Sciences Corp. and the Purchaser (filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on November 29, 2023 and incorporated by reference herein). 10.34# Â Third Amendment to Consulting Agreement dated January 10, 2024 and effective as of January 1, 2024, between 180 Life Sciences Corp. and Lawrence Steinman, M.D. (filed as Exhibit 10.3 to the registrant's Current Report on Form 8-K filed on January 17, 2024 and incorporated by reference herein). 10.35# Â Offer Letter between 180 Life Science Corp. and Blair Jordan (director) dated February 24, 2024 and effective February 28, 2024 (filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on February 29, 2024 and incorporated by reference herein). 10.36# Â Offer Letter between 180 Life Science Corp. and Omar Jimenez (director) dated March 4, 2024 and effective March 7, 2024 (filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on March 11, 2024 and incorporated by reference herein). 10.37# Â Offer Letter between 180 Life Science Corp. and Ryan L. Smith (director) dated March 5, 2024 and effective March 7, 2024 (filed as Exhibit 10.2 to the registrant's Current Report on Form 8-K filed on March 11, 2024 and incorporated by reference herein). 10.38# Â Second Amended and Restated 180 Life Sciences Corp. 2022 Omnibus Incentive Plan (filed as Exhibit 10.2 to the Current Report on Form 8-K filed on February 16, 2024, and incorporated herein by reference) 10.39# Â Consulting Agreement dated May 7, 2024, by and between 180 Life Sciences Corp. and Dr. Jonathan Rothbard (filed as Exhibit 10.3 to the Current Report on Form 8-K filed on May 9, 2024, and incorporated herein by reference) 10.40# Â Fourth Amendment to Consulting Agreement dated May 7, 2024, by and between 180 Life Sciences Corp. and Dr. Lawrence Steinman (filed as Exhibit 10.4 to the Current Report on Form 8-K filed on May 9, 2024, and incorporated herein by reference) 10.41# Â Executive Consulting Agreement dated May 7, 2024, by and between 180 Life Sciences Corp., Blair Jordan and Blair Jordan Strategy and Finance Consulting Inc. (filed as Exhibit 10.5 to the Current Report on Form 8-K filed on May 9, 2024, and incorporated herein by reference) 10.42 Â Separation and Release Agreement dated September 5, 2024 and First Amendment to Separation and Release Agreement dated September 5, 2024, by and between Cannbiorex Pharma Ltd., 180 Life Sciences Corp. and Sir Marc Feldmann (filed as Exhibit 10.1 to the Current Report on Form 8-K filed on September 9, 2024, and incorporated herein by reference) 10.43 Â Indemnity Agreement dated September 3, 2024 and effective September 5, 2024, between 180 Life Sciences Corp. and Sir Marc Feldmann (filed as Exhibit 10.2 to the Current Report on Form 8-K filed on September 9, 2024, and incorporated herein by reference) 10.44 Â Form of Warrant Inducement Agreement, by and between the Company and Holder dated October 16, 2024 (filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on October 16, 2024 and incorporated by reference herein) 10.45 Â Financial Advisory Agreement, dated as of October 16, 2024, between A.G.P./Alliance Global Partners and the Company (filed as Exhibit 10.2 to the registrant's Current Report on Form 8-K filed on October 16, 2024 and incorporated by reference herein) 10.46+ Â Offer Letter between 180 Life Science Corp. and Jay Goodman (director) dated October 25, 2024 and effective October 24, 2024 (filed as Exhibit 10.1 to the registrant's Current Report on Form 8-K filed with the Commission on October 29, 2024 and incorporated herein by reference). 21.1 Â List of Subsidiaries (filed as Exhibit 21.1 to the registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2022 filed with the Commission on March 31, 2023 and incorporated herein by reference). 23.1\* Â Consent of Marcum LLP, independent registered public accounting firm. 23.2\* Â Consent of The Loev Law Firm, PCÂ (included in Exhibit 5.1). 24.1\* Â Power of Attorney (included on signature page of this Registration Statement). 107\* Â Filing Fee Table. Â \*Filed herewith. Â #Management contract or compensatory plans or arrangements. Â Â Certain schedules and exhibits have been omitted pursuant to Item 601(a)(5) of Regulation S-K. Â II-6 Â Item 17. Undertakings. Â (a)Â The undersigned registrant hereby undertakes: Â (1)Â 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 Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent 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; provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of 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. (5) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement 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. (6) 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 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.

II-7 SIGNATURES Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Palo Alto, State of California, on November 15, 2024.

180 LIFE SCIENCES CORP. By: /s/ Blair Jordan Name: Blair Jordan Title: Interim Chief Executive Officer

POWER OF ATTORNEY KNOW ALL PERSONS BY THESE PRESENTS, that the persons whose signature appears below constitute and appoint Blair Jordan and Omar Jimenez, and each of them, as true and lawful attorneys-in-fact and agents, with full powers of substitution and resubstitution, for them and in their name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement (or any registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933), and to file the same, with all exhibits thereto, and other documents in connection therewith, with the SEC, and generally to do all such things in their names and behalf in their capacities as officers and directors to enable 180 Life Sciences Corp. to comply with the provisions of the Securities Act of 1933 and all requirements of the SEC, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof. Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities indicated.

Signature Title Date /s/ Blair Jordan Interim Chief Executive Officer and Director November 15, 2024 Blair Jordan (Principal Executive Officer)

/s/ Omar Jimenez Chief Financial Officer and Director November 15, 2024 Omar Jimenez (Principal Financial and Accounting Officer)

/s/ Lawrence Steinman Director November 15, 2024 Lawrence Steinman

/s/ Ryan Smith Director November 15, 2024 Ryan Smith

/s/ Jay Goodman Director November 15, 2024 Jay Goodman

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ea022078501ex5-1\_180life.htm OPINION OF THE LOEV LAW FIRM, PC Exhibit 5.1 November 15, 2024 180 Life Sciences Corp. 3000 El Camino Real, Bldg. 4, Suite 200 Palo Alto, California 94306 Re: Form S-1 Resale Registration Statement Ladies and Gentlemen: We have acted as counsel to 180 Life Sciences Corp., a Delaware corporation (the "Company"), in connection with the filing, with the Securities and Exchange Commission (the "Commission"), by the Company, of a Form S-1 Registration Statement (the "Registration Statement") under the Securities Act of 1933, as amended (the "Securities Act"), relating to the resale from time to time by the selling stockholder identified in the prospectus constituting a part of the Registration Statement of up to 1,900,138 shares of common stock, par value \$0.0001 per share of the Company (the "Common Stock"), representing shares of Common Stock that are issuable in connection with the exercise of outstanding warrants to

purchase 1,900,138 shares of Common Stock with an exercise price of \$1.50 per share (collectively, the “Warrants” and the shares of Common Stock issuable upon exercise thereof, the “Shares”), each issuable to the selling stockholder named in the Registration Statement and as described in greater detail in the Registration Statement to which this opinion has been filed as an exhibit. This opinion is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K. In reaching the opinions set forth herein, we have examined and are familiar with originals or copies, certified or otherwise identified to our satisfaction, of such documents and records of the Company and such statutes, regulations and other instruments as we deemed necessary or advisable for purposes of this opinion, including (i) the Company’s Second Amended and Restated Certificate of Incorporation, as amended to date, (ii) the Company’s Second Amended and Restated Bylaws, (iii) the Registration Statement and the exhibits thereto, (iv) certain resolutions adopted by the Board of Directors of the Company, (v) the warrant agreement evidencing the Warrants (the “Warrant Agreement”); (vi) the minutes and applicable agreements relating to the sale, issuance and grant, of the Warrants and Shares; and (vii) such other certificates, instruments, agreements, and documents as we have considered necessary for purposes of this opinion letter. We have also reviewed such matters of law as we considered necessary or appropriate as a basis for the opinion expressed below. As to various questions of fact material to the opinions expressed below, we have, without independent third party verification of their accuracy, relied in part, and to the extent we deemed reasonably necessary or appropriate, upon the representations and warranties of the Company contained in such documents, records, certificates, instruments or representations furnished or made available to us by the Company, including the Registration Statement and, to the extent that we deemed such reliance proper, upon certificates of public officials and officers or other representatives of the Company. With your permission, we have made and relied upon the following assumptions, without any independent investigation or inquiry by us, and our opinion expressed below is subject to, and limited and qualified by the effect of, such assumptions: (1) all corporate records furnished to us by the Company are accurate and complete; (2) the Registration Statement to be filed by the Company with the Commission will be identical to the form of the document that we have reviewed; (3) all statements as to factual matters that are contained in the Registration Statement (including the exhibits to the Registration Statement) are accurate and complete; and (4) in connection with each issuance of any Shares, the Company will duly execute and deliver a stock certificate evidencing the Shares or, with respect to any Shares issued on an uncertificated basis, the Company will comply with applicable laws regarding the documentation of uncertificated securities. We have also assumed (i) the legal capacity of all natural persons, (ii) the genuineness of all signatures, (iii) the authority of all persons signing all documents submitted to us on behalf of the parties to such documents, (iv) the authenticity of all documents submitted to us as originals, (v) the conformity to authentic original documents of all documents submitted to us as copies, and (vi) that all information contained in all documents reviewed by us is true, correct and complete. Based upon the foregoing, and subject to the qualifications, assumptions and limitations, and exceptions set forth stated herein, and having due regard for the legal considerations we deem relevant, we are of the opinion that upon issuance of the Shares when, when issued upon exercise of the Warrants, in accordance and pursuant to the terms and conditions of the Warrant Agreement (including, without limitation, the payment of the exercise price for the Shares to the extent not already paid), will be validly issued, fully paid and non-assessable. This opinion is expressly limited in scope to the Shares enumerated herein which are to be expressly covered by the referenced Registration Statement. Without limiting the generality of the foregoing, we neither express nor imply any opinion regarding the contents of the Registration Statement, other than as expressly stated above with respect to the Shares. We express no opinion as to the laws of any state or jurisdiction other than the State of Delaware and the federal laws of the United States of America. No opinion is expressed herein with respect to the qualification of the Shares under the securities or blue sky laws of any state or any foreign jurisdiction. We have made such examination of Delaware law as we have deemed relevant for purposes of this opinion. We express no opinion as to any county, municipal, city, town or village ordinance, rule, regulation or administrative decision. The references and limitations to the laws of the “State of Delaware” include all applicable Delaware statutory provisions of law and reported judicial decisions interpreting these laws. This opinion (i) is rendered in connection with the filing of the Registration Statement, (ii) is rendered as of the date hereof, and we undertake no, and hereby disclaim any kind of, obligation to advise you of any change or any new developments that might affect any matters or opinions set forth herein, and (iii) is limited to the matters stated herein and no opinions may be inferred or implied beyond the matters expressly stated herein. We hereby consent to the filing of this opinion with the Securities and Exchange Commission as an exhibit to the Registration Statement and further consent to statements made therein regarding our firm and use of our name under the heading “Legal Matters” in the prospectus constituting a part of such Registration Statement. In giving this consent, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder. Very truly yours, /s/ The Loev Law Firm, PC EX-23.1 3 ea022078501ex23-1\_180life.htm CONSENT OF MARCUM LLP, INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM Exhibit 23.1 INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM’S CONSENT We consent to the incorporation by reference in this Registration Statement of 180 Life Sciences Corp. (the “Company”) on Form S-1 of our report dated March 22, 2024, which includes an explanatory paragraph as to the Company’s ability to continue as going concern, with respect to our audits of the consolidated financial statements of 180 Life Sciences Corp. as of December 31, 2023 and 2022 and for each of the two years in the period ended December 31, 2023 appearing in the Annual Report on Form 10-K of 180 Life Sciences Corp. for the year ended December 31, 2023. We also consent to the reference to our firm under the heading “Experts” in the Prospectus, which is part of this Registration Statement. We were dismissed as auditors on April 17, 2024 and, accordingly, we have not performed any audit or review procedures with respect to any financial statements appearing in such Prospectus for the periods after the date of our dismissal. /s/ Marcum LLP Marcum LLP San Francisco, CA November 15, 2024 EX-FILING FEES 4 ea022078501ex-fee\_180life.htm FILING FEE TABLE Exhibit 107 Calculation of Filing Fee Table Form S-1 (Form Type) 180 Life Sciences Corp. (Exact Name of Registrant as Specified in its Charter) Table 1: Newly Registered Securities Security Type Security Class Title Fee Calculation Rule Amount Registered Proposed Maximum Offering Price Per Share Maximum Aggregate Offering Price(1) Fee Rate Amount of Registration Fee Equity Common Stock underlying the Warrants to purchase Common Stock(1) 457(c) 1,900,138 \$ 1.50 \$ 0.92 (2) \$ 1,747,556.92 \$ 0.0001531 \$ 267.55 Total Offering Amounts \$ 1,747,556.92 \$ 267.55 Total Fees Previously Paid \$ - Total Fee Offsets \$ - Net Fee Due \$ -

[illegible]

\_P!&& M) P#A= L@ P#T3= T;\; ^C#?VD \ PN V0?\ MZ)N@#Z]HKY" X:-^- \ T8;^TG X7?[(/ T3=' #1OQO\_P"C#? VD P#PN V0 M? HFZ /KVBOD+ AHWXW /1AO[2? A= L@ \_\$3=' #1OQO .C#?VD "[ M &0? HFZ /KVBOD+ AHWXW ]&& M) \ A= L@ \ T3=' #1OQO\ ^C#?VD M N V0? \*)N@#Z]HKY" P"&C?C? \_P!&& M) P#A= L@ P#T3= T;\; ^MC#?VD \ PN V0?\ Z)N@#Z]HKY" X:-^- \ T8;^TG X7?[(/ T3=' #1OQO M P"C#?VD P#PN V0? HFZ /KVBOD+ AHWXW /1AO[2? A= L@ \_\$3=' #1MOQO .C#?VD "[ &0? HFZ /KVBOD+ AHWXW ]&& M) \ A= L@ \ T3=' M #1OQO\ ^C#?VD N V0? \*)N@#Z]HKY" P"&C?C? \_P!&& M) P#A= L@ M P#T3= T;\; ^C#?VD \ PN V0?\ Z)N@#Z]HKY" X:-^- \ T8;^TG X M7? [(/ T3=' #1OQO\_P"C#?VD P#PN V0? HFZ /KVBOD+ AHWXW /1AO[2? M A= L@ \_\$3=' #1OQO .C#?VD "[ &0? HFZ /KVBOD+ AHWXW ]&& M M) \ A= L@ \ T3=' #1OQO\ ^C#?VD N V0? \*)N@#Z]HKY" P"&C?C? M\_P!&& M) P#A= L@ P#T3= T;\; ^C#?VD \ PN V0?\ Z)N@#Z]HKY" MX:-^- \ T8;^TG X7? [(/ T3=' #1OQO\_P"C#?VD P#PN V0? HFZ /KVBOD M+ AHWXW /1AO[2? A= L@ \_\$3=' #1OQO .C#?VD "[ &0? HFZ /KV MBOD+ AHWXW ]&& M) \ A= L@ \ T3=' #1OQO\ ^C#?VD N V0? \*)N M@#Z]HKY" P"&C?C? \_P!&& M) P#A= L@ P#T3= T;\; ^C#?VD \ PN V M0?\ Z)N@#Z]HKY" X:-^- \ T8;^TG X7?[(/ T3=' #1OQO\_P"C#? VD P#P MN V0? HFZ /KVBOD+ AHWXW /1AO[2? A= L@ \_\$3=' #1OQO .C#?VD M "[ &0? HFZ /KVBOD+ AHWXW ]&& M) \ A= L@ \ T3=' #1OQO\ ^C#? MVD N V0? \*)N@#Z]HKY" P"&C?C? \_P!&& M) P#A= L@ P#T3= T; M\; ^C#?VD \ PN V0?\ Z)N@#Z]HKY" X:-^- \ T8;^TG X7?[(/ T3=' # M1OQO\_P"C#?VD P#PN V0? HFZ /KVBOD+ AHWXW /1AO[2? A= L@ \_\$3= M' #1OQO .C#?VD "[ &0? HFZ /KVBOD+ AHWXW ]&& M) \ A= L@ \ MT3=' #1OQO\ ^C#?VD N V0? \*)N@#Z]HKY" P"&C?C? P!&& M) P#A M= L@ P#T3= T;\; ^C#?VD \ PN V0?\ Z)N@#Z]HKY" X:-^- \ T8;^MTG X7?[(/ T3=' #1OQO\_P"C#?VD P#PN V0? HFZ /KVBO\$ A9\4/' (^U M'5K/QC^SM\4 @K:Z?9P7-EJGQ \1?!36K/7)Y9C')8:=\+/BO\ \$34(+FVC M N)9-6L].LWB8+! M)O&?BWQ#JUEX<1%\^"/#%G+)%%=>(?'BG5-\*VZ3'++' MW?)=-216L4TJ?B M\_P'/K\ X+9?%KP!X] : US]K\_ \ 9J\_8%\^%OA?PIX\>6GPS^'?P,L\_V@?%W MA[PYX;T>^UJXL/&OQ+^)&IZ=H&N:Y%96>S4;WPIH>FZ]'>&+=+!;B&..64 \_H M8KSSQ\]7/A7\*O">H^\_ B;2/ OP^\%:3D:EXL9^\*"]^>]- GVPsZQJ] M:6\*7,ABD6&V\W\$TB&\*)Y,\*? Y6O^"/7QQ X+3 \%\\$?V>]-^\_ B+ ]N3X8^ = M%\1W6MII&G^(?V1 "7B+5I?#MGJU[I&E: ;WNF>, " ]C%? ZO!;G4X[>2PN[. MU8QH!<(K\*WRA P \$O V2 @S\=VI\VR?@E?)];I? \ 9# 8Y^+OBKX&>!O^ M&A);'Q- X(N/%&E:C]/C\]H3XL7NE:Q\*?"VG:OXM^("B2%/OO+QX:\*Q6OAS M3KB.WAE:0 M&^\$ \_QM^\$7QW\+67C?X,? \$CP;4\!VHH\FG^" !&O?:XBT. ]2 M.:2WE-MJ6FS3VTIAN(9;>95D+13Q212\*KHRCU&OG\]G3X'?LX? CP%IGA'JF M'P+\.OA\,H(^-HF@?"ZVTRS\ (OVU\_+J)FTJWT=VT R+Z>YFOFFMRR74MP] MQO=G+^T[1 B//\%K:IH'A\_QWX- UW7=#N!::WHNC>)]U35M&NV)"VVK:=8 MWL\WIUP2K 0WD.,A(("Y!H \.BBOQF X\* ?\%) 7PD \_;^\$7\ O\).A^%?& M/[6\_Q=T&?X@>+O\$7C)+K5/ 7[.7P8M;Q=, X6#XNT#2KRPU'Q1XI2ZJR:3X M#\%)J]6D1:E=9U'5=0M]+6,70!\^S-%? E[\^R;X% X\*F>"BQX\M?VLOC;!OCE M\ \$[I= U+X8>) !/P\_OOAC\1K;^T([U\_\$>@>-"<%[JOAR:,ZV":7?Z1JM[ MK628S.Q "?H[XI\9^# \_ VEMKGC;Q7X:\:(LB0MK'BG7=+\V:6LTG^KA;4-6 MNK.T\$KX.R,R[FP< T =+167I&N:+K]G#J.A:MINM:?ZM)9H)X94(>.6\*1T=2&5B"#6 ?B-V1XGG\\$ \_" =^#CXSM8%NKKPB/ M\$VBMXHMK5MNVYGT 7IU:&W>F)I+18R&4[N10!V=%4KO4].L%+WU\_96:%%+- M=W4%NH#D!, #TOCWP[\&]2\60F?P=+\ !/@2WU; M0[+QC\3=2L-VNZI]K>N6>A>%-'0I=6]]J0EM+8 \_;:=OX,\2Z/XGTNWU'3V1+^PFU'1;R]LTO+)Y\$2[MC/YUL(!)TC;B MNF75]\*:Y6S34K! [MP&2V2[MWN&4YPPA60R;3@X;;@X.#P: -&BLBZ0:#8V. MH:G?:UI- EIND\VEJFHW>HVEM8;;(PH9)KF O)IDM[2WB0%Y)KB2...58LP" MG%C3M5TS5[=;O2M0LM2M7",ES87,-W;R) (HDC>.>]WBD22-E='1F5T964E2" M0" 17YW +3/[87Q#\\_.%>R 9; 90^' (:~\*? [1=SH.E^\*O&6K>/-:O]#^\$ M7P\\*: "W\ (7 OM+GO9;LW%S<6#&2WA> M0H@! 5Q17Y5?LYZK\_P %%"[/I0GQMT7]KWXE\_"7Q?\ O VG \_^G\ "\_\$;PG\ M\*Y/@[I&K P!L>']1UOQM=ZC<:SXR\5120^&KR.RT:>Y.I6UJDsg\*>:9 O>?L M? KXB? \$ \_&/XC %O]N\_Q5^U7X,^(7Q"\7?\$[P]XB?W?A\_2 "GPN\&^)+P7 M.B^! #%[8ZQ]6D6W@[PSIZPP65T- 2ALIV,ES;6>GQ2"V0\_1FBO /\$'[5?[- MOA7XF^"/@OXA^./PPTOXL?\$G0M2\3^ \_A[<>,-&/BOQ3X+^#0?! \+6ER;.Z\3'Q7 MH[V\]VMTUDUK/K1OQIL5RMXK6C0/001P010 M%9>N:W\AK1M6\1>(-3L=%T+0=-OM9UK5 M]3N8K/3M+TK3+;2U#4;^[G9(;:SLK6&6XN;B5ECAAC>1V"J37^&W[67\_!5; MX\Z+]"\_B!^UI\* \_#5I\"/V&\_AN- />\ \_\': #34\_BY\9/B5IVKZ]FB:1XO\ MAO\ =/\$W@/3/#7P[UG4;JR31?'%\_C\_Q.VLZO8W=IK5OX1@TVYB9@#^AVBOY( M\_P!I' \_@HE\_P4/ 98\_87\+? \!3[P;> \_"?[0/P&MM^'K?\$WX# \_&3X\_Z'\\_ M (AIX1^(VHZ?INEZAX(\6^"? %>J6=OK]A]JU@U[HVMZ9>PK:RL=U+)(A^T M?B5\_P7\_M;WP \_^S[\&\_V7/A9!\:OVY/VEO!]AXW\-"S6=3GT/P'\&?A\_? VMK M,WQ9^.^OV%\$SjC^&HFN'M)%\.;>R>(\_%E \_\$UMIYLK=A>\$ \_H+HK^?W]J?Q M\_P5]\_9/\_9JN\_P!JR#]H? X%\_'+QAX8USX?1>,Y;Y @0?AUX,U32O'GC/P\_X M(EL? GCW3\_&6M^+M-U71M42V\$UE-XDLM834[.&Y- U%:W)2.OVO^#?B;Q3XO M^F@Z[XSL[33\_\$5Y;UY.TL6=K6&Y3Y)E@:14D;.2APC,B%E .T9H \J3HHHH M\*\*\*\* "BBB@ HHHH \*\*\*\* "BBB@ HHHH \*\*\*\* "BBB@ HHHH \*\*\*\* "BBB@ MHHHH \*\*\*\* "BBB@ HHHH \*\*\*\* "BBB@ HHHH \*\*\*\* "BBB@#\ \_\ \_@I? ^R%\0\_VU\_P!E^\^\$GP@^ M+%G\\$\_BWX?\ B7?\*?B[\,OB)JVCW'B'P\_H\_C+X5^\_M+ \5:??XDT&UF@FU;1K\_MZ"UN[66U1SMNI+6Y\*O\ 9PI\_#\_@NI\4 "[\*? \ P1+^\_G@K6-?T\_6/BQ\9= M+ \\_ ++?AJ^T99=+36-?^FM6? AK77TBW,QN;?9X4'BO4+>%)]]>W@\_9F9" MQ\_H?/M\_GU \ K5\_,G\_P5?\_X)U \ !4;\_ (\*&?&WX\$2P:O^R5:\_LK\_LS\_!OM M\_C/X-^%#>(\_B-I7BSXIZUH2'P[>\_\$W7;OP\_JNE6%YIMB].6MEH&GR6%JFK M:G\*\EW-+"8 #[5\_84\+>^OV ? ^"63^);J&UTG2\_@7^SYK'B.Z%UMC@!^'/@. MYU&XCE=L9%WK-C= %SM=KD?.,DU\_&X/^"VJ;.1\_P0- \_;5\_>^/VH:SJ.I?'S M6+[Q%\ (OAUX:USQ#HFGZ]\9\_VF?BD+GP?XP\6PZ)?Z?=>//\\$&GW,4NG66LR MW7AW1=\*L+)>GTJXU2:>\_B\_LI ::\_95\_;;:\_N\_X)9\_&\ 8YEA^!GP-^./Q5\+ M6WPUFUC2\_\$OBWQGV-!\WOB&P\_X2F8:L=%TO7KS7]7(PW)K&%TNTLH]2O? M+?\ T57<\_&\_ [9?\ P1<\_!: ^+O[\$? [\$G\,7/[GQ ^%?@^ \_^ \_9> \_ : ^/Q\6:= M0; Q?<^#?%?<?OP9<:!HELMCX?07.IR:3K9BURVT2^GL+.\=L/?VTD2[P# M\Z?BC\> \_&G\_! /W\]@K\_@G/ \_P3\]>>//&7AWXF\_M>W7AOPG0?&?AR#Q%JGCCP MG^S;\*\M!TM\_B\ @P:;7FM.;XF^(5W?\* VBW^FI%>:/:W^H7FG/#);I;\_8W M\_!/' \_@E\_XPC\_&YO%[/>7ASX3']D7X3Z]\- O! /PP^'GP6TR>\_PUSQ/HWAJY: M^UKXN?%C3=)N)]&M\_&?C\*06D%AH<=YJVI6&GVRZEKVJ2ZS>W<2<[^UK\_, \$0 M? ^"@7C+XF?L1\_M\_ +/[3/PU\1?&[JG'P\_0/'\_Q\_];HBPu>]T778OB#KC: M]? ZGX5TSPQ9/8V.B6)N;K2=+\\$)+I4>FZ?::2MOK/ \_P!I3]H#Q-:\OC%XV72#XMOU9O#\_ \_/]+MM"M7M=%\\*\_#?X<6,S>'O W\_M@\_1DEF:&"VCN]21@]JB)EG=B0\$4\_M\_%F)(P22!7\?7\_!(7'\:O\_5-\_P""CW[>VKQWNH>\_\$\_? [0.H?!SX4W&H/ M%=P6\_P+O@!&\_A;2I-'NH]T:Z=J&IQB?RT.))\$C=OF4\_?T.?%?#?'[=OCOX\_M\*ZKX!\_80UOX" ^#\_ '/C?1O%'ACQ/X\^\_ K^,9KCP;I>LZ4-/LM: ^'^F>%[::RO\_M?\$UL]S?2))XC?^S;1TM)TMKF170?ST?L1? \! \_' (+U\_P#!\_X;\_%\_A9^S5\_MKO\ P3@UCP3X>MKDZQ8>.;XIW7B/QIK&I:E/JVN: \_J\_BR&U2]LK[6;^XDDN\_M(K\*\_PQH(U56,>Y@#^N[5]SL] (TN^UK4'DE16MM+TV"2YO; MUXRP?R+>)>V>0+M&,9S7^EO[ \_T'P]\_X+E>\* /VE\_VH/VPO#MC\2/A%XD\7\_%G\_MX;? CX9>\*IWU/P1%\\_@)X(NKSPAI=[X6T=W73=,^)/7B\_5+34O%\_C#XAQ0KX\ MEFACTJPTZ]L]+TZ.W? [V\ (L7?MT?M\*? M.>O&VG/VW( \_A#(\?\$W@SX\_>.:V;\_ M+P; ^S'XU?ZUX5\6>?B7J].I>+O\$7BZ^ \9+8B>[M+>\*>6S\+;:(.018W-[W>K M66G-)]CAMP#V?V!\_P#@H]\>\_P!@?\_@DQ\4;#P/XQU>?Q;\5?VGO&[?O[\&>\_MK>))M0UZ+PM;Z[XBL\_\*G;Z- ;S1WT^J6WP]ME\5W^DV4\$5S&=86WMT@DBM3: MG]-OAK\_P2K^+\_P"TY\=?@Y^TQ^S9X:U;]EIO@)\#?



B7X5\, M" \$>/#5/6/V MH?C[0]\*NX+7XO?%K2VGFUN\\&^%M4N[C6%G\832>+?^\$^HW3&+2-'TJSM+:O  
MMG @H% P0)\5 \$7JD \8Y^%/[!B?X:?"X@?L9?&+1?B7X+TKXE0:Q=^#O  
M\$6G6.D+I[V6K:KIEI]&H3:TFHQIKNI7]Y87' "1W5YJPNKFQN+F.Y3](/V)? MV.OVN !?B"P^\* [9G[1A^(\_Q,T\_PK!X-  
T'P3\,+2Z\? GX?>O.AN[[3?"7 M@\*WNYEUG7-8NH(7USQYXOGU7Q!=Q6\5I1J:19%X90#^:2]^ = \ & \ X+3?  
M#7]B;XCW]SXTJ? \8U \0%PT/?&CQ-XF<: K'QW :+!>:-HMU)KGB'5O%N MKZAK-WX%T.[N;K4O#/A6\*2WTJVOH;=Y;  
\*HMX?W2%\ "P+?/7\ @K\_(0/C9 M)OMS:/^SY^S\].?V4\_ 'WBC3M0N)M \9?%+2/%N]J>?/\$6EEUF:TN[[X7>&;C  
MPWX:6):TUO6M0TBZ9;JQF0>?%M6?\\$E/VS\_B- P %='/'7[9 [. QB\*?! M#X-?&'G[X> " \_XE^\*M+WW?QCLJ?  
\-7<]CJUUUVK.:!)T'5Y\_#L%E#8^--2 M:[DT>:YN9M/TR:]CM[B']X\_V:OV:?AM^R)\-= ^&OPWT6'2])T2T:'S&DFO+  
M^]NKF9[S5=5U;5+MY; 6M=UO4IKG5=>UW4II]2UG5+FXOKZ>267Y0#U'XE>/ M-\$^%?PY\>\_ \$SQ+\*  
(/OP[(&>) \_&^N2F1(MND^%=%O= M5')X\KO\_!LQX&\0?%+PQ\=OVXOB%%=7/CG[K3XY\_%/X\;E?ZG%B\_6P\1>)+  
MS2?"=HTAR&MH=%T][VQ6-BD4.J.\$ZL3^J\ P6\_9R\_X\*)\_MA? /QM^R\_P#L M<^+ -G7X: #?XQ^!+GPC\5\_ /Q,N/'3?  
\$Y;+4KZXCUOP\_X\* @T&SF\Z:16M M:&MMI] K%^UQJT:7>H164-OF.>OSA\_96\_9\_ X."OV(?!A/X7?!: #\_@F1KOP  
M>\&:+H?AS1O &KK\6]\*U\*/2="L8;"W\$ \_C.SLY-5NKB:.)I96EMRGVAY'555A M@  
\_IC^\*7Q3\\$ !SX; \$7XK>/=9M])\& "SP5XC?^, [\NCRZ9X;\+Z/>:YJ= MT8-ZNTGV&QG-K\$=K7,VR\*++NHK^ .3JJ77\_  
W[9\_2P:\_O\_."J7[;WA>3Q MC)?V3\_@YXC\0:NO@'X'Z7\0)QX2\_9ZT+P]X6T[4]-T36?B#JS:IH  
M'CCQ[XQU\TO]8U6]OCI.GM8Z+I<=JWZ&^ - ^6?/[87[7>D\_MZ>\_ VB?&W@/X M'?&G]MC[G3PW\  
+KPC\&\$7C;Q\&O"6G\_# \$[5#X;UV^/B22'5=>UOQ%JU M[#:(-0L]+TN.P\1G3[.UN;F6ZGN/SR^(G\_  
02\_P""JWQG\_P""=WPW\_8N^M)G[3GP!D\_P""2>\_,AG-X-'\>='A3:-\, #X5'\PS6+>(/&E\_::>?\$'Q+\;VF MF6NDV6@:=-J-  
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(-8\0^\$=8T66\_T/0;M] M=T'4/"VLRW.DWK7\$%Y/;3S6T1B^4\_P!E\*Q3^SC\_,\$'\_P!M\_P#X\*)\_6\_B272 MOVC/C;\  
(M8\4)XPTN[FTC\_A%M3^+NO'PGX-T'P;8R7;6VA:9X\*T/59/^\$?TO\_M30K"JN+F](FO999F\_J%^'?\  
P3^~\*UO^P)^T1^RY\9\_BS>?%?QC>?A#2\_! M6J7,5OHGA+3-6\8>"[SPW16E>#=# @1[3P?X1TAS:QV5BLM[&?  
@%KW@\_JG?X8^\$-3U&U^ M\$GA7XIRV]Q-X<\>;-:NH;>;QGXXQTYET:R\0W^G1Z)X3T]KN?0-);4+C^T0\_M>@\_L<^  
J'^\$O\_! 7QKX!^~FMZO\8+KXT? ' A2\_A/PJVKZGJ.L>/?BA\;M% MN;?P3X\+237  
U\*XN!XC\2V,Z+"X>PTW2[\_49BMG9S.O) /\_3X^#&L? C] MFCX: #O6[2N]5O\ POX\*&>&;J\_N[E[N2]O?#7A?  
2]&U&\2>1F:6\*YO[2X>& M7<1+\$=\$=3AAC\T\_\ @FK\_,\$I\_CO\?"\_P?O?VVOB3H/Q#\8\_ \_P=I7A;X8^" M?  
C7T/PK^&\L6C6VCZ[XAT\*SOA'^<(\_B#KUE"-+U7X"O;Q75OI'G:3XOQ[\_9= :3\_M  
&M/V>OVH])! /Q= :KLVNE3W/Q#O]77\_M6\_#VN\*\*YEL-2L=\$U.]\2:&[LK>YR%]/(\ P6+\_ &9?V^/VT?V;/&O[\*G[(  
MWBC]G\_X?^ OC1X2F+?%SQM\3[SQR/\&ERZO9W=UHG@>V.VLFA06&N:::M MINLZAJLDMTMK=7-  
M:VP25I!VG\_!O]F+JH/JC\_X":-\ /C+X3^"FBZ=X(TWP MYX;'7WP?UWQ5K\$=]X=T'0X-  
+6;Q%\_PE%G9O#JLD]LLBII\1MF62:25S\*P- M'Y%\_ '\\$?PXU'P%\_P2:32/BS\3/B1X^ ^)NO>(/A=^SK\(/ '\C/5]/\,>?BO  
MXZU\_3;#"#X@^,++2IK35O'7B?1/"VC^(;\_2XO\$&HWV@V]^)+^?1KG5+U9T^! / M^"L\_ [+DGP%\_X(L?LX?!B#QKXZ\0>-  
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[K]B2Z\_9Y^ (OPQ\\$P?LS\_ 'R^ ^,WBZP^)UCKFJV&L7EOI6G6\_M?A/4M,T72D%IK>H>';F'5IH=-  
U6]TRVDDU".3[8R1S6\W@WQV\_X(Y?M'?&'Q MQ\_P3835\_CQ8>-?A)^Q1K/Q&^)?CNR^(= \_J^I\_\$3XA?  
&/QG#'"H\_B"TFM[5- ML]\\$.W\$\*3Z9I1:\*+1;.:72]+A%JH:0^0\_B+\_P \$P/@#^S/\_,\$R?C+^V9>\_M;W6\_%?QH\  
\_L>./\$OC[X@17)M\_%\_P\_1Y;/X>W7A'P)\.;Q6\I\1>#/A1X>\_MUBXT2#1O\_?@B^T\*TUFSTZRM(9-4^)'C\_Q-  
/X/LM4M[/Q+XBO- M/O'7Q3XFUR\*^ELTNSI6@)I<""2Y\_NG\_X\*K\_L(?%?)N+][@:\_&/@]XS+^  
MCXN\5?'B'Q\_K'B2;5X+>]^&G@[Q/IOB+Q9X?TS^Q[>>5M3\0+I5KI\*W0BLC\_M#+<>?-&2C#Y'^-W\_  
2#^\*OQ4\_ :3\_P""=OO\MO&'@FQ^!?'[\\$@GQ\_ "W@2=M5\_M/B?6OB5XR33=\*T\_Q%;!+?  
^QCI^B:#H]G;0R37(OEEN+P1Q%'4J\_?A!H/[(>F MW7\_!;+][C[X7Z+XK\>^?B?\  
LS\_LQZ7\5OCY\5M7\8Z[J>IZ[XY^)%TVB?#S MPF^D/?2:1X7V^'?#7F76G>&= L=-T^WTW58&N5O+A7NG\_OLTNU-  
AIMA8L[2\_M:-6=M;L[9+.T42QEF/=F\*DD]2>&O""PB\''VVF:/X7\=^M82'1]\$^'?AV  
M>Q6^UG2]&DFD[61:=:+>:C86\UY9R>S\_ /!!KQQ^WS\2/@OXG\;?MD?%S7OC  
M#IOB+X@\_ \$76OA9XO\3Z'%H&LZU\\*KGQ&]MX!UIM-CT\_39=-TWQ#86MQXBT#2\_M;VTCO=.VZKIL,WR-"% /KK\_  
(+.^,!X\$ \_X)\?%KQ-JPUA?AW8^\*O@RGQNGT M\*UNKN]M?@/=?'P1: \_&XGALU:Y\_L=?  
LNL)XADB4^3H\$FI2R%8DD8?A1\_P7 MN^/OA7XV?[\\$ \_?V&?V2OV%]>^&7PT\$/C2\_MD-  
Jl(E=/#4^JR>"3]HL8Y\$33+X@2,+&R#^POQ'H6E>)M UKP[KFC:1XBT;7\_M-\*O])U30=?LK?4=#UK3]0M9;6[TO6+"  
[AN;6]TR^AE>VO;6XMYX9K>22-XI% M8J?Y-OC\_P \$E\ @I?2?VV?@3^U!-X2\_80L?A-^RGX0\3^" \_V=OV8?A7KO  
MCOX!5?'?D'B\*26\*Y\0ZE>S>"]5:;7+JRF\*7?Z;IEA\_P'Z9;Z=%;VJF\_G@J M7Q)\_X)\_A\_M2?MG\_ ;X2\_#S]L?XA\_"?  
X0\_L\_!2.S^+6N?LY\_L\_6WBG4]9^+]] MX(TV34]"Q1\?>+?  
L[]X=T2QM2+PMX=T>\_&6Y\$=S>WAFBMWMOA/\_@V\$#\Z? M^T)\: ?VL\_P!N#Q=:V]UXD^(OQ;UWPWX/C,  
(%MX:~%OP[%KI?@KPKHL4C2&PT MK2XIH[-;2)Q%Y>CV!V[XV9O[\_ /ASH\_Q\*?:!8>\$ /COX5\*>"\_%O>#;\_ ,+^  
M\*]%^'NNZAXA,Z>NJZ==:5=0:#K.KV6GZA?00V5P! '=7=A:R23;F,"\* \* C7\_M\_P""2'Q2B\_X( M#?'G]AK]O>UU'X-  
^'H\_B9XO\\_%GP2^>OZ3K\_ ^\$WQ6^&? MB>]CETO5/#WC6/3VTA=3MGM5GOM)O+BWOHI[VXTYX5O-.GC8  
\_N#5>\$?#?C\_MC1+CPWXQT#2?\$WA^[N=+O+G1M;L8-1TV>[T35;+7-(N9;2Y22%YM,UC3K#4[  
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^D@S@9ZXY^M !1110 4444 M %%% % !1110 4444 %%% % !1110 4444 %%% % !1110 45\(?MB?"[X\\_\$7Q MC\ ]1^'UJ?  
&?P>?&:OX\UWXQ?!>R\9P?#4?BGKDGA^TM\_A/]JOB6\VVD\_@7  
MP]KO]L:AXH\M.LNHWd^@WBVFH1Z5+:GQWXI\_L]'M6W#;5X'^ VK6?PA^&? MP7\\_  
Z%X(TSPY1M7LK7X1\_&74O&EWK/Q\$>: \*KEXI?&OQ]TS2?#"Z;H\_PYT> MVF.EO?OKDFNV=I;7=H\8!^J-%?EJ?  
@C^VY>\_MA6\_Q/U7XD:M'^S]I/BG1K&S M\\$: )XX2PO[4\> ?AC!#I^MZII\$CR^'9+XJ\_ \$;40\$"^?#RZ=!JUG9V'A34  
M+75H([\*ZADQO"G[-\_P'W;X>^!GC\_ ,4\_ \-:U ?AUKBP:7H.EFWT\*;4=.BZC%IFF;/K.M6VF321JC26O\$/P  
M]\_X\*&WW@;]GCPEX7\6W.A\ "SQ#\%/%'Q3UO5\_B/INJ>+OB\_ =7/BRTU+XN^  
M&-1U^TM;=!X+\>&) =6T31K&\MQ>>,YCI\MVX-C#,0#];J\*^&-:^!GQ9\0\_M  
M=:U\3KWQ7\0M.^""A[X:>%KWPOX.T/XNZ[IVG^,OC);>];K4=8\_M7PS!=QV> ME>\$[3P]I/AS1(M-D4:7K\$^J>)[C4;>6\*  
[R?&OV5O"]/9GPLG\_MS]JH#P]XI^ )MGC?QIXV6PE33OBE9W7@WP/X<\7:]J^O^\*-6FL;K6[[3KK1?\_6F6^CZ3X6\$6G\_M?:  
XAOQ/[HUCI-L&O+@\_4RBOSR;T^#\_P>?CCIO@;PK&])FAF\.:B?&-I MXDOO'>FZ7\.[WQ]#-'HW\_"\_&3X=7\$4.L^\_  
\_AUJGAS4]8U)[OPM]JUGXCT/Q!\_M8:3'XM)T#PWX+I=8O;&>XMY;=T\QOOV?/VY[KX0>  
M\*]&T7XFZ[I'C]QJO[.WPST&Y\0\_ \$BXUB\^&O@'X?Q:4?C!\3M3U+2[BUAUWX\_M@?J][MM7GO(!O;UXM3MX3?  
HMNRH ?KA17YH?#?X+?M@6^F\_LD>'?'\_ (JU MW[\+X08\_ \$[X)\_M(Y:?\$-KVYUJZDTo5)^GPTT\$I&FJ:M\WO-  
=]BF&4KF\_MZU+1F\.:#IU\_ =WTWVB<.M\*#Z5?ZZ+M4FU2U0:K?6:C-KV M)!'?#;/@'POX3T6W^JTEA-JLW  
M@CPWJFIZGXTUZVL-7M-1'B/QKXSU>#1=;T^ [TC5M.U/0?#MA<:A=VGGR[V[\ M\_#\_ .U3VO'GB'6\_BEX?  
\5^/;'XF\_\$.>WT!-3^)>GZC-( \_A\_?KJGB;6IO% MEI8W8\$;M#X=U>;3\_ "7@&3PCI=AXDU3PZ4@URTA;36N;H



1.BO@+J]MC[G\_X MO\_M)^+V8O!7A/4K3PW\O"/Q3U7XH\_&GQ! :6W5+T>&O".L:/X")0>'HKW M3Y?\$.BZMK?B6]U?  
7+>:Y%E%/H.BM<6M[&9(E\9\ LF\_M2^#H?!WPH^ WQA\ MXN86U3X@? \$">;6O%]OK6E0F72( MH2FOQWL,  
<\$MG1O!O[>\_&%W\6[#5K;PC\_M:?\$7QQ>0MI7@Z:UA\$OAO1?A3V989\_QF=;VZU](X(K18H/M\$@!^H](2 0"0 M"  
OB;XW\4\_\$O\_A9OQ2^%O@6T\,ZG\#V/B M/<6>J+H7@GX(O'-M965I=VFC6=@EN ?J  
MU17Y&)/V'/CM\+/A#)X\$ \_9D^+OBB'QC1?'\_P\*M3>>(<\_\$?BJ\_TGSPX"" M?"[PQ,9](\%<^[45U3ROB'KVDZ+I'CV2#79-  
8U\_3M:US4KK45EBM8QZIJ? M@Q^U?9ZW\,'XG^/O%!\> /V? QI;\_!'U\*7XB1ZY?C'XI? \$C5HDCL[]; M\*ULY-4L.? "S1[:1?  
.N72\_.XHM16.Z,U]:R7,@!^CW&.V/THK\M\_A\ !\A M;A#?!C1K#Q-1#XK^\_GB2TM?AEJ7B#4?%"\_K'A'X5?  
#S2]0URX\_X6,EEJ+P M3>//BSKME-;K>ZH(;=X[^ZT^&1CI6AA)LJP\_9Y\_;\0\_LY\_L>\_#SQS\1/&%E\_M\6?!OQ"T:\A  
:;^(7A\_XO:C9:AK'PRTO4]6U'75DGT]K9/%NN^,+2VT#1DOC\_M\$FHZ%;76I3VLD^NM1NX\_"6C:IJFK>-?  
\$++&K.D.NWWB+Q/XKUF'1]5L-2TS6;?6 M-!\.6+ZA>VC3LIZC]K7X1?M%\_\$XO?"77/ ]GH\_CSX&^%?!Q\*@\1?!^]\8S  
M^!+37?C)K<%A9?#KQEX\OHMDOB/X>^\$[ZLTOA[3'EU6+5[E-2M[&^9(UC / MT\*P/045^2O@G]CK]K#0]-  
\_96^\$&M\_M\$>)]I\_AS&?A+XB@^+WQ'T\_Q'K=MXB^ M+?Q\$]5>(<=.9)!@L[#6]'UW2-&\&>';.[MO  
WB.ZU"^N=;%^JSV=Y-"Q;T?P] M\SOVL\$<\_M)?%[Q+X[U"XN+C4O%EI^S3%K+QEJ<7ARQTO1O!;A3P!J\_B76  
M5UL:.C: ?R7GB7Q)H5]H=REMKKVNIF^EN;6-5 /TCHK\7].\_9S\_X\*!Q\_LX:#\_MX%LOB!JEA<=4>^  
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K/I]O9#W[X>?";[KO1KG]E2/Q=XKU\_6=,^\$OPL^\_) M?BGXP""(]O=WWQ-^&N6=MIO@WP'J]\-M\_NL^ -  
!%WK6I:9J]MADLI[?P^; MQKB>WO&(!^D5?CU\OV<\_ \ @HWX0TWXPR:M?H? \$6IR?"5W^!;^)? \$ESK%  
MSH\_Q: ^)5Y8ZMXRMO%B2VD^F7]E\IM/U'3\_A/]\$XO-.MK3Q';VE[:I8Z\*1-T\_M6O?"#]MR3X+;KX<(\3:YX>^)FN^.  
[;4=,\_UK4OCA>>)H;PYX1T.UM='M?B9<\_M:K>M='2\_B-JMSJLWC:U^E\$]I.I:6EKI6H6'VRX6XL)@#]8\ ]1FDP.X&/Z5X  
M]\(SQA%8ZKX1\1^#=:T'3?\_G]B>&M""5^(/%">)+SXB&VT:TDUKQ%;O^))CJVK^0]\_+&JN"WPM\&\_V=?V@M\=?  
\$+Q/\^XO\ Q!^"Q^U/XBZA)X5\,1W3WNE? WP-X9^%<GR)J&F^%- \+WL=GXL  
ML=1BBMWU."^U&!-5N+Z"XM0#]2Z\*\_ )GP7\\$\_V^;'P1X^U'Q'\0;ZX\=^(O@7  
MH7PV\_L:Y^)'VZWU/XQZOXDO;CQ\_];"OX8(=-\ :1HN@:FVG\_#OP[H:P:G%;\_M:582;M\_E]'\$BP^' -FK]N'2\_P!F;X\_ ^"?  
&OQFUOXA?&NZO[+PG!\?&.B\_\$C\_M6?!MT\_@PO;6\_A[POX\_6:A;"TAL/&N]VMUJ'C+QIH\27.F:UKEK:65RUU&\$  
M=0#];/\ /%^"MVS\_3\_ZU?D;^T/^S%^V=Z;)\O!W[.GQ;6Z7X>]\\$ ^"O\$&I\_M^// \$WB/XK:W\_)A\0/B%XKO/#/AJYLH-  
1N;V233?^\$1\GQ5XY\7=[?' \ MANP\71:5IL^CSZ?-\*\$]<4^!\_P!MC7/V@\_@9XCT378O#\_P"?AAXQN/#7BWP  
MG+XOL)-9^G@]X\#-;W?Q,)\%/BK\;YO&L\_ %>YT\_XE'P\_XE\^&Z^T+P1XFEU[7]7 MO!\A\_PAX2T26PC\ Z7X?T"V\\_  
Z7%K>J00:W'I^"KF.XNX M/%;@744UO5)K;4\_AS>Z?KECJGAC0-2N+74UGN;60\_6FBO\*OA+JWBK4/#\_Y  
M: ^)?!&N^#AX\_\ ^'E\2^<(K;Q#KOBSP\_H6RQT[QC?7#OVJ/CEV/'?Q>^'.@\_M\_\$35+;Q%X.T+1?B/]\_XHM?  
#OC%9TL+7PE)\.K+PCI5MX3+?8KS7M42^&MS\_M);+(EV\_?O?\ \$?X:>\_?B\_P"#]4^' P  
3O">B^!.?&MR;+K/A;Q%:)]&AZL= M(U.SUK3DU\*PD/D7MO;ZGI]G= \_9;A9+9[=%GBEB+(W1:)H.D>;&/3M%T^UT  
MZRBY;VL\*0Q+P%\_5\$"JJJJJB(H"(BJB\*%4\_?GE:?! \ :>N?VP]7\6ZI?>(+\_M']F?  
1;P;HO@#PIHWQ+>RL(;P+X5N9EU^TFSUBUOCJ/B\_Q;JT^F:]I%\_I>\_MH:=?Z)H.C7%]>PNKH?#/  
\_P\$\_P""EFEV'QZ\1ZO\7;>U\;>?.!K77PLTH^, MSK?AWP3XD\8\_\$\_4];\0:#/'A7XJL+>P\Q3"\$>(<J\*  
MFF28@['+T8'7'/K7Y&>\_?@W^W/J'P<\>-'\_5+J7A?Q?>\_ 'E?%BUX\_C5J\_M7B37E^\$?  
A'0;Z#PWHM]K/B#7; &SFUCQWX@.F7GCC2O#FJZ?H<=G!=B\_2RW#(  
MUWXP\_L]\_ML^\*&WPW\$;CQ19:Q9ZM9WNM:+%;6ZS6ES\$ ?K-@>GM^'  
MI6+K7ASP[XEMXK3Q%H.B^+(+2"9;B"VUK2['5;>&=?NSQ0WT'Q",O\B\*"9\_MA7QO\%OAW^T3'^T3\4?  
B\A4M4URV^&6IVV\AYX\U3Q\FLR>='0FN'L3ML;#2\_M?# \$UOX7OO\!NLFZ=I6K>'Y?  
\$&D0^,M&U74M^%O#XN+\*ZUKQ/K'H\_L33KFUO;1#]J7,^MM1R?[:SV\_!7P@^' [> //BS'HM!GO9)[FTU&U2"X]\*\  
?!\_JK]?\_MC7XB\3^/ \_&F!P#I/QQ^+/Q4TK3-/\?RSZ?XQ\ (W\_ANT\ \_!KX4:7H]JQ@Z#X\_M4T)/[3\0>+HM=2-)\_%#Z;=V,5Q!#  
<2\_22BOR/\\_G]N>XT#]G[0\_%C;Q\_M\$^KVBBC6\_&?[0&J\5VC\;G8^-\_&]YJFI^#M)FT&>P<6FI\_#3PY9:/:?#J  
M\TFXN\_"=XFH:KI>MZ6L)CNX.\=?!? \ :Y\3\_"K]KNYLO\$^NZ? \ %7XF?%22\_M;]GW1-  
)^\*VH:#HGPU^'FD6VC^#/#>I6^JZ;+\$ME=7&C0:K\1]>\-R"XM=1\7\_MW(L;A9H% C9\_#]-\*\*\_ /N]^!G[1GAOQU\K#X;> \A  
7W\#?#OX+\_%34FUOX@\_\$\_M+6O\$A!=?M#^+/-LM)%6\_CG2)IKG4M1\\_^%IHKWQ"L\$4@ @L;FY2TTRW"(0/&  
M\_"WP%\_K;/@#XQA:]\3O\$6G^)\_&WP?"?"A(^),6j:]8?#4]>\_ ^+G[16C:S\_M;P0Z%X/U73=U"\_.%<>\$\_#4<-  
M^&F:8NHVUI(B1J\_?K117X\_V'P'\_X\*%:3\_M!\O%/A#6OBCJ/BSXSZI\0+#3\_#/CK0\_'L&GZ);\_#7X;6\6G^"[[QE9:LNFGZ  
M]H^+DCW7Q?M/!-JINMP:U(JYH][<0#[/-BGP:NO'%I9ZIX\*5>"]9T33?\_M=MX+XHE^(UXVB6MUXDU>P-J-<>)  
(=\*TS6YKG2^&\_ \ \$HU/68K\_M8:@(DA=<@'MF1TZ5^;[/-/@+]/P+> \VHO'\_P\_2\_AII]Q9?&OXH>)\_%&A\_Z M/BKIM\_IVA?  
#GP1X=T[PG\O!.@>;>.X;3M8:UZRT][7A;FGZ?:ZI?>R7\_MU\*=>S7) #]G+J]K?6/@1\$X;5\1\_\$CQG\6Y/C+>+\_-  
HOQ;HOQ;U73(M\$^VK\_M\=(5=2^+O"GAU;\*>\*Q';I:KH\_@PQ\_Q)T32FNY;22]25<\_5.BOS2?\_IC]\_ML2&\\_:(G^#WC[4M  
MX\_AW\&AA^SO!XH>S^ (Y9+2M?75/C7\0-0DU5+Y+#+\_MXEZ\_XU\7;V^J:7I>J7T]6SN4XKQU\* \_P!O?6/V=/\_&OPT^&-  
U#\\_M+\_B/X\7XJ:K\_,+!N\_C#JWC'Q%X.M=+@?3?A/X9T+6-.N;V33/%7C:.UT[5\_M&.OZ.!X7\,33:\_M#I=G+=WHNX  
#]8J\*\_/+QM!\ /CS\3OB7^S>:YXR\>^#/\_O\_MA[X8>(4\_.\$/@CXO:YH,NO>.UT31=^Z)I>FZ=6^&^UU6Z\4:UK7B:Q\$;U\_  
M-!H<3R-;';\*X\_4/A5^VW-8>+M;3Q+>\_,\VLK[Q1K7P^TOXC0V6JVO[+7AW0\_M+S2?!?@7P)XMN8'T[PAJ\_B77+0];!?  
RVSV][+I-UKEK87/]IS1B0\_3VBOQ\_M\>?LZ\_\%S\O)A5HG@#XZ0\6/AKIOQ!=7>MZAXOU%?!OC;Q?XG\36]EX7  
M^#OB\W-M-X@ \0^!O"7@+4=9^S>)M3MY-1;Q!INCW\0CG0.GZD?##PSJ\_@WX= M^"\_"WB#7=0\3:\_H7AK2-  
/UWQ#JMY-J%\_K.M06<0U74;B]N"9[@W5\9Y(WE)<\_M0F-#C;B@#NZ\*\*\*\_"OG/XG\_#W]H[Q+XH.I\_"\_]H[P]\+\_N=/M;  
<>]>]3^!6D\_M?\*\$Y&H1&3]5]"\_0WOCGP\_.8[L-&%LO[/V6WEDK-)O./HROGC]K7XY)^S1^S\_M\+M^TO5/M?V'7-?TZQ?\  
X1WP]-]A9+TMXAUV33M\$ \_MA%]?,]\_ \$[E9\0#S?\_X4]^VE\_T>EX\_P\_\$4\_#O\_P ]6C\_A3W[;7\_1Z7@[\_M\_13\\_.  
#U: ^OP/8\_MWVF1+<1SQ\_06B? \!O/G#Q%J'AK3'UCQ5>W7BRS\_:'O-'/PCJHM)Q^RUK\_ML/AKXS6XOV464MSH&M7-  
O8Z8M<74?B2296T"6\_19&0\_M \ "GOVTO\H]+P\_M= \_XBGX=^>K1\_P\*>\_2\_P"CTO!W\_B?AW\_YZM<[X=\_;O^&6O?  
\$\_Q-X+:]O;M)-+USP%.\]#\\$7/@\_P\_46\_Q7U\_XR^,/(^\*M[X5L-,>Z/?6GASX7ZEX>\2^  
M)VMY(W\&+J#\_Q;>:4LEK%+RG[O[2'Q3^\_GPT:\_L\_"\5R6>I7=UX@\_J\_\$SP\_P";>TNH18S3>'M\_M'TV2WC,]Z\K'\_IO  
I[ ]M+\_\*/2'?^ (I^'?\_GJT? \ "GOVTO\H]+P=\_XB\_MGX=^>K7P?XO\_P""NVL2? \\$S]4\_#;#=?!ZS3]I'1=? \B[ '\*K[ ]FSPEK-[/:  
MR?&\_X9?%35/A\_P"CYJ\$3WUAX?;7SX975-7O(6EBN=>M=\*L%N=1O],@N/UW\_MT3Q+XBV?" :Q\8\_&=O" \_AOQ-H?  
@1? \$WQ-/ARXO;CPAX?U+3=#\_J^\*AI-YJ3?\_M;[G1-(>&\\$%W=E)[BUMQ<.L9?8H!\?\*>\_2\_Z/2'?^ (I^'? \ YZM'\_ "GO  
MVTO^CTO!W\_B?AW\_.>K7\$?LJ?MB^(OB'^RA) \_VE\_VEM+\&?'F;X]:W8+\) M?7A7\_A)-0U;7-'\=: ]?6?P?  
TA;'5EEU/5O"CSPXFE>(QI&DVYMK1[\_M\_&:PNKQ\_'5/^"EG[(VB:-XIU;5\_'NJV-WX#USX@Z%\0/"S^\$O\$%QXR\#2\_"S  
MQ9I?@?QYJ/B/PQ965SJ<&BZ%XGUO2-+75+&\* \_MM6EU""M#;4T2X:\$Z;\_A3W\_M[:7\_ \$>EX\_.\13\\_.P#SU:/^%/?MI?)  
1Z7@[\_Q%/P[\_//5KK/ G[7\_/( MB7XBU'PQX\*/C#6]3TCXS^\*?@1J@A)ZC%#8>./!GAS3\_!7XCGNFG,EX\_.\13\\_. \ SU:/  
M^%/?MI?]I>#O\_\$4\_#O\_ ]6OL^B@#XP\_P""%/?MI?]I>#O\_!%/P[\_]6C\_M(4)^VE\_T>EX\_. \ \$4\_#O\_SU:^SZ\*  
/C#\_A3W[:7\_1Z7@[\_Q%/P[\_P#5H\_X\_M4]^VE\_T>EX\_.\13\\_. \ SU:^SZ\*/C#\_(4)^VE\_T>EX\_. \ \$4\_#O\_SU:/A  
MA3W[:7\_1Z7@[\_P\_13\\_. /5K[/HH^,/^%/?MI?]I>#O\_\$4\_#O\_ ]6C\_A3\_MW[:7\_1Z7@[\_Q%/P[\_P#5K[/HH^, \A  
A3W[:7\_1Z7@[\_P\_13\\_. /5H\_P"%M/?MI?]I>#O\_!%/P[\_]6OL^OR\$^/\_4&\50?%W5?AO\#3=:\\_! ?PA

M8?!\G[.GQ% :YN?ATOQ1\\*Z-^T#X^O\ 1=,T7X:Z#X4@\\4>'ITLM#U?Q%X(K+04LXY[. \_OX  
#ZL X4]^VE P'I!>#O \$4 #O\ \j6C M A3W[:7 \$>EX. \13\ . P#SU: ^ .OVG/VZO'W[.O[2UIHNJ]?%7X>:Y(O@W\ M  
/'WQH := ^'VO^ [SPA0+KPMI'AVPTGX<:[\&/\$%Y\O\>+/'7Q:O[+PWJ MV@ ^'-\*U?PIX3L]3L[/5=7L=:N;'UN^ )^7 \_!2?  
XY?L \_?'K0/A1\2O\ A/Q?X ME^\*?[,?PJ^(7A?X8^+;?3-1? M' &GXS67PE^%WP4OO\$YO;L^(-)0FZU[ M6=-U>  
[L]/4M/L A\XBCU3H#I5U!#;@'WW PI[M+ H]+P= \_XBGX= P#GJT? \ M\*> ;2\_Z/2'?^(I^'? )YzM<7^R[ ^T)\6 \_'  
U)^VA^SUX^G\^+/# \_S= M-!QI/Q%\\;)-X>MW4 \_%GX>W'C3Q;-[JT.H:G!>R^"(ET6 M-2Z+4CI\_B M>TL]9@-  
[;&:7V \$7 !1+][KG1 V(/ ^"F P 1+=USP9XD :? \_&3 \_I][I X M1 !K0-/^&=N!O\ PE\ (-&6P.EXIT-  
\_%"2WNG/X"U%K Q3XG M&P@LIF@ \_ML^WDN[ ]>UE /U8 X4]^VE T>EX. \13\ . \ SU:/^%/?MI?]'I>#O \$4 \_#O \_M  
 \_]6O'-; :LUBU^&7P8^+5S;:/#7A7X6># \_/@+XD M\*?\$F^ \ 6NK6OBR;XA MZ!H,W@CX4>!] +M-  
5+:5X^ \7: SX@TV86>DC7+G3+" \_P!+LC VHZSIH;K+ \_X\* M5\_LZZMJFG>%+2U^ (%\_AM]7A[1](\3^,; :^'?AC1\_%\_BY \_!  
MI:MXFLO \_C&TTK1->TXNOAOQAJ6H2ZJUSH\$6GMKUC>Z;;@'; \_P#"GOVTO^CT MO!W  
(BGX= ^>K1 PI[M+ H]+P= \_P"(I^'? GJUC?S)M.Z^-/[3'QJ^!7A MO]G \_ .+MKX&^")JSX5\ -  
ZQ\>=1B)\*6 \_@2X^(.N^ ^"K'Q[JW@RZTN;Q+!XNTJ \ M-:K6@6&H\*- U">+7M2?3]3@T@VPD GX7PI=OC? \5 \_\  
@I% \9O@?X#\8^'- . M 9M 9C^# \_P \*KWXL6\O@>WU7Q%KGQY^\*MWK6OZ;X'TOQHVLQ1:9I6C?# +3]- M\OZ \_"-  
\*GU.VU'7)[(C@>\*W>84 >I^\*> ;2\_Z/2'?^(I^'? )ZM' "GOVTO M^CTO!W\_B\*?AW\_P">K7.>)? \ @I!^R[X2U+X)M?  
 \5Z+XJ.JK?06=I9^#/%44'BC^PY/I]W>;#J%M%X@ \_M+QH9,/QE\_P %-?V=O 4'B:[3Z34]-L]\$ \_9EU \_JKS0+NX\  
(?:P\_\$7X&^&= M4T?2-91>"/MWB\*TE;4[>Z\OZ UOX>5Q^%=8U\*6M-?3+6>Y2.\#@O \_/A3  
MW[:7 1Z7@[\_ Q%/P[ \_P#/5H X4]^VE T>EX. \13\ . \ SU:T?@C^VE\,OCE\ M6/\$WP/T[PI\5/A]\3O#7PI^'\_P  
;G\, \_%#P?IX;GUGX8?\$FXOM/\>\*-\_%N=. MUK7;.5(-8TV^T/6=+U"XTW6M+U2VDAFTYH0MP?  
BFT\_X\*3Z1XP \_:+^/GP2U#X MN^ \_V8 \_O[+7Q U?5 %7P<^/'@O6](O \_L?LO>";70=2\ :?'PGXTU%]/LM M0T>ZTK4-9O?  
#TO@I];325TS3O^\$HMXTU"1HP#[%\_X4]^VE T>EX. P#\$4 \_#O M\_P ]6C\_A3W[:7 1Z7@[\_ ,13\ .  
#U:\_P^') \_!43]G3X3/XRM\_&^@?%\_2; \_M \_\* \_GPS^TGI>ER^"-]CU+X@?"/Q9XVTSX>Z7KG@:UN?\$UL;K51XKUK2=,F\A  
M)>(F\^\*VEU"UCL]&O)]\*^&#!?@? \&3XN\_%7X; \_&G MX! ?L\_OX#T\*W\&;GB;XF?M!Z#XOT#0 \_#>O:IXO2QU&[\  
(^#C/XA;V,B6=W MHD,21W(AM9)]1M #VW\_A3W[:7 1Z7@[\_ ,13\ . \_#U:/^%/?MI?]'I>#O\ MQ%/P[ \\  
/5KX)^.O !076/AC^VWX?UGQ))\ : "[GP.^ /P[N/VC/ >D^%? M"/B\* [TWX]?M7?\$O3 \_OP#\, /8+4[Z;2+WPQH4.K^\*=  
<@)\>+;FFCUSPS( MNF7UK!+(?VXU\*Z>QT^ \_OH[6ZOI+.SN;M+&Q027MZUM"\RVEI&S(KW5R4\$,"%  
ME#2NBE@#F@#X]\_X4]^VE P'I!>#O \$4 \_#O\ \j6C\_A3W[:7 \$>EX. \13\ . M\_P#SU: \_.[X2\_\%<=!\??#?Q)^U)?  
^,H(O!\_P06X\ \_M=?L;WVPSU33OVG/@1  
MXT\5>\*;3P7\\*M%TO2O%.H^&M4\4ZIJOBBL]\*U2X>W7P]KRW,MQX2N9Y81:U M]9?&7 \_@H;X+T@ \_%/X:> ;'QWH?  
Q<(\ \_'+X%?LO:=K>K \_L?&'A:W^,W[1& MC:=XE\{6}II.F>.-\*O/\$UIX:\-WS:IXUMHKNPO?#.U+G4+\*;34FE(!Z \_P \*  
M> ;2\_P"CTO!W\_B\*?AW\_YZM' \_I][M+ \_\*/2'?^(I^'? \_GJUXO\^-? \ @I=X M, \0V/Q. \1 \_\$/X7?  
\$;X9 \_#KPK\==; \_9X^\$WQ'U\^";C1OVB?'OAKQ'=>";^V^ M'5GIGC"YU-+O4 \_%.C^ )38V^IZ?  
9:)\I^@>=5UO5 \_\$EI;V=\MC]@ \_!#X]>&?V MD/A5\_P +/^%EEX@T^RN]1\4^["S^(/AW4?#-  
U%K\_A;5+S1+S[3;IDU/0VU M\*T:2RU[PY?ZIHFMZ<4O=%U6\MY4EH \F\_P"%/?MI?]'I>#O \_!%/P[ \j6C\_M  
(4)^VE\_T>EX. \ \$4 \_#O\_SU: \_.[XE?%! VF\_V:O%?[8/B'Q];^\$?CC^S] \M)/\$[/GP\_P# \_P 0?!7P\UW1-3T#XN?\$ \_P  
1R6'QD)\+H>@ZOXEU/XK^&O@3 MX1N=-\8^);KPO8CQ/!-+X>NK1KRPU62SZ7]FO\ X\*)?\$#]H?X@I\+ \_A]XX^  
M' \_Q"\& \_%!?B7\8OA%^T;IWA^VTQ- \_90^'%AH'A+6?B!XU\ +K\$D-KXDU+X\ MZAK'P^ \#Z-  
K+;]'J\$H&@:IXA\BZ+I=W:MIS 'W9\_P I][M+ H]+P= \_P"(I^'? M\_GJT? \ M\*> ;2\_Z/2'? \ B\*?  
AW\_YZM0\_\\$[OVAOB+^U9^QSI&C[3O#NF^& \_M%OQ!TWQ'=S0Z-!,O\$/A[PQXSTVQO]9[C3['QUX ;2\_Z/2'? M^ (I^'? \  
YZM?9)% \_'QA\_P I][M+ H]+P= \_P"(I^'? GJT? \ M\*> ;2\_Z/2'? \ MB\*?AW\_YZM?9)% \_'QA\_P I][M+ H]+P= \_XBGX= \_P#GJT?  
 \ M\*> ;2\_Z/2'?^(I^' M'? \ YZM?9)% \_'QA\_P I][M+ H]+P= \_P"(I^'? GJT? \ M\*> ;2\_Z/2'? \ B\*?A MW\_YZM=!\^V=;?&7[-WP!^ (?  
QX\R-> %T?X4^\$ \_\$OC3Q5;^.[?Q)=\_J]II.DS M2:+X<-0^'+JSE\_X2#Q)X@?3]%LGO)9+  
<37D4:6\LLJ;?"=) ;5UWX+^'M!U M' ]MS6?A/X\$5^ ( \_A'X, ^\*=S\ \_A!H\_Q# \3>+OA[I^HW%AI'C.];VU[ ]J<]Q  
MX;T3Q5K6E^%]\*U73-.@NM5U"VUDV]A<)8W/V4 ]6\_P"%/?MI?]'I>#O \_!%/MP[ \j6C\_(4)^VE\_T>EX. \\  
\$4 \_#O\_SU: ^:= \_'X\*#;9X3 \_': \_^?XL\_\$#2(O MV?OA9K&G^ \_@]X=V^ "[K4O'NL^)/A7\K+QU^U%XO>?2;B^O]? \ ^ \_;GQ-X  
M:\->=IUM]GU^#4=&MAJ&JW.GVB>(/A+IVK^\*;2YM/TH^\*;Q-X<3%^UO-I% MYKNEVFN0Z=+ ;2\_Z/2'?^(I^' M'? \  
YZM? \*OP& \_P""COAJ\_P#CA^T\_H'QT^ (JKH7PXLOBA;=/\_9LO[GX<:KH' MANX^%O[+ECX= \^-?7Q)>?  
\$>W^W:XLFM\_BGJVLZ%HZ1R6]U=6VA6T&G6UY?W M[VX^H=? \_' \_"@[\_AC5O\$?AS6[WQW9>+/'WC?X)>  
=2\GX>>\*)O%EX. \13\ . \ SU:Y-\ @IG^R \_@6R^ ( \_"P M=572+A?%S?:4W@\_Q- \_PEV@:3\B%)\\*O&>O: \_X173FU\_3]\$T?  
Q(K+X=6^<^ MPS?VI>07?CQW=C?];>A \_;JI&?PA0\_A/SM\\*K^R\3\_M '?2P0>(?#-I M?++X: ^'OPQ\  
(K8CQG\8 \_HMY(;D>^'-%N-5TK0 \_#<DPR07?B\_P 8ZOI6@VMQ M:P.G4;VR \_C\_A3W[:7 1Z7@[\_ ,13\ . \_#U:/^%/?  
MI?]'I>#O\ Q%/P[ \ M/5KY, ^, \_[6/[9GP, \4?&C4NX\_9\* \; \_S]G?P!XE\>?\$WQ?Y?Q7L?B+HMCI?  
MA&YUP;X:URTL)D\#CXH?\$;68K\*.T(Z'(!^CL+&^L)/UWXSWWA'Q/ MJ\*06]+\* \_#-S=ZA%9:Y% ;2\_Z/2'?^(I^'? )ZM3?  
LT\_M# :W\4O'W[8OPV\1&SUG4?V M8\_C[-V+ +7-"L3:Q:UX<[2?#?P7\5?#^E7-HLLL+>) "UKXQE\Z]JLZI?'3 M-  
/U"6."OKJ&P/[F7]KS]H]/HGXD?M" ^#ET?X\*^# =1^#7]D6MY)\&.@?&? MP7\9 \_-[XXB?5OA \_? \_\$B+Q%8IX7U[PU?  
^&K4-1FUSP! />;J][93Z=IMY:F M)Y@ >[? \ M\*> ;2\_Z/2'?^(I^'? \ YZM' "GOVTO^CTO!W\_B\*?AW \_>K7Q[I  
M7 !4;6OAS^RK^T"= ?VC \_@6V\7"?QS\7]#^%7AWX8>+I;72?VB? GP\U\* MW\^'OB?X/@\;21:YX= (\ (^?%KW?A2+5-  
3&H6USJ6GRR:&VJBZLK>? \ 3#PW\_M\5=/L?AKH7BOXO: SX(^ \_B6#P-H7BOXBZ.WBK3VTGP7?7^F6=WJ]F^HWES&\  
MVG:9J%T=-M]2F2)-1=(I(\$!N(XZ /\$?^%/?MI? \ 1Z7@[\_ Q%/P[ \_/5H X4 M]^VE\_P'I!>#O \$4 \_#O\  
 \j6OD^XC\_P# !4#Q.G@#? ]M?QO\ /A=X?UVW]G/Q[ \ M(?@-\%/^\$K\1RRR?'O\  
:\_\$^\$WAV.3UP\_8\_AII=0\, ^'M+N\&WA72(KB:2;5\_MIM03Q!<3VEO'I,UHO;>+/^"@GC?P5^T)\4/@Y>> O""B>R'W/[ ,?  
P7\KX;M;6(?\$B[K?J]H/3]75ZO \_#E9[ ]T>?P5\;?AID'Q(Q4ZZ1'J>GZ!JMA% M- \_US)A@#  
[B^\$G@CX[ ^%-1U>X^+GQVT/XN:==V5O#H^G:3\^M, ^&X MO9KZP\8>)7U1+B\$B!;22"U2\$CSA\*['97NM?(O)]?  
[1'B;X\_C]HG3\_%7AO1M' MU'X!?'M\*> /V?AKOABYOI \_#^C@>#-!':Y/XAT>/4VDOK.2QO/%5SX5UJRFGN  
M4@U[P]J8AG,9\$ /UU0\_5\ M\_M8?LRP?M5^! "7P]U;X@Z]X(\+Z!\4?AU\3M? MTW1='T#6+;QW)\,?%VD>./#WA+Q-  
\_#KUK=1OX4NO\$>A:9;W\_MUGX\*^%6D6UA>Q3VVH3ZIX]U\_0+ ,6,LJ7\*2R1LFTD@\_Y;XH?L.Z7\4\_%6G\_\$  
M;5/C\1]&^\*4>L^#8]9<:%'X>MYM5^&7@Z[U^5U^#%IHL^FW&DZ%X!\0>)+\_MZV\6>)X=.A&J\_-XDT?  
1[S5KZ]M=-.M+&'%^%7 \_!?'X]?#P]^R3H8\0>+ \_%\$G\_M[&^C?\$O1\_AO?ZO+I-FOB-  
/B:A34KOX@Z;HVG6&G^ )KNQ=+;4HVDAMX=2UZUB\_MUS5(KJ^!;-O-?!G[=&H>!/!"7PHT#Q=8:Q\K:KRQ \_; \ ?  
L1 \_&#XUVTTK5[G38-6LM"O\_M+R3XV\_9N\_P""DGB\_P/:\_M,?\$CXPZ'X[\5^%/\_B-X' \_4 \_;M^!\VO>]/.O=& \ (M?LT\_#?  
X@^'\_ @[\_%/AO9Z+ )#=:IX1N/C7<1/XC%^&2\*XCUC3Q]JVM6YLH+6S21\_M#[5LO\ @FA;Z+XU\,?%7P[ ^TA\4-#^+FA?  
\$+ ]J#\_Q/JCZ#PW/KRY\07/[4 M\>DP^&+6XT;4\_N=\*TZ[ %V7AWPWHW@\_7M-7A@U71 \_#NA66@7,M[I\_FQO]'>\$ M?V1-  
#^&'W[ \_PG\_97%>?/\$^>D>#A\*KO2 \_\$ MCS6,5@Y9ZA8\Q9?VUGM=:E;WVIHQ#W[G]\_9@ \_Z:UX \ BWX\>"O%OPAU  
MKX-ZS\ / ^%/\_P>\*Y];\5> \_\$VBRZS\5OAAIWQ/N\_#"ZQHWE6EGXA \;JJEV? MBZQG)%L^K:5<1R".[\*] \ L8?  
M+/%7B#0/@? \ \$[X4?\$VTAO&\3^%+JQV+=>N6>O MRW5\_KMQK&G: IHNEVEOIL40!MZA\_P2M^":IJM[X4\7>-

?EAXO\ VU]\*\_ ;=^ M(FA+ 8^N:3XS\8Z+K5AXKL/AN;75[\*:/P \ # ^-=L &]]H>A):7.I^\*K>W MU6^O9Y;>(+)+\_?'G#7?  
C \ LP?%;[FSQ3\;/&>D2 %/P[XE\^'+/BEX=T3P MKIOC! "OBF\OQJ>E:781Z= 8&F/ ,(!?  
+X8COX;!KH6,/VQV;4)Y;@^:;>, MVE/%'C3]L&] 8W^\$5U;Z)??#+X.:)>?V@OB"VEPZ[K'ASPYXTUW6- ^&7P\ M\"Z)>  
[M-G\9>-[CPUXEU>\_UG5[74M.T/P]I BM=,N]6U>UFT[YA\, MYZ5J& MN\_#B\\*?  
%;XH>/OA5\1=3 :\$^+VH>+/%(PZ)\^!=4^&GP8\_9'T)-.^+&G:E;  
M:GX1L9 %7@+Q3\3IK+P;I7C"VAL/\$4&M74]CI&KWFGV\$U\_ & ?4GB?JB>3Q8?  
M@)+J/QE\OVDG['CCPWxu^"%iH\_@GP/IV@>%7T#X=^(\_AC)H^HZ"-FM/\$%A M=>\$/&MTME)?2)  
<^['^ULKW19+62)Q)ROPL\_X)Q?#KX\* M"G]H7X;^/?%5AKG MB+PJ-"^\*>D>)-\$&^<#2=>?Q]XT^).H>/9?  
\$OB#0[GQ)X\A5Z]XF?: +XA MF\(\W^F6&JV::1:R64:Z-8/%^2WP\ :@ :;\\$1X\\$?\ B[XB %OQ?K7@3X!Z MG\=?B#X&?  
QO#\*?\$7QD\_X\*, &.#PG^QE^SM;6'B'3]0TB\_P!7^" \_PS74?\$VA: M'K-E-"+[4-!;5?\*M037Z+7G\_ 5\$\>#OA=XI^+?  
\_"GOC=6?@)\\_""?Q!7 MOVA\_""AJUU33]>UGX1>-(\\$^(-9N/#NDV.GR#0?&>N3:]?A;6O#%EJ%I=Z M-X8US5WT?  
2];35F /N3X/?LT?#OX\*>/OCS2]"K:Q<^)?VA/B7-3\_ %\NK7 MJW=KI6JW'A'PIX7NM.\,6JQ1II&D7T7A#3M4U\*%&,O-  
J.KR27=Y-+Y5JD'T-7 MA['-GQUV\_ M\*?"#PS\9\_!]QX=U3P9XS.H7?@[Q+XO\3VOB\_PGXP.6]!-::=  
MXJ\ZW;VMA)IFJB&0K::GINFZK87\$-Q:7]C#-"=WN] !1110 4444 %%% M!1110 4444 %?!A/]@/P+X4'B+1E\>^,=;\n  
ZA^TEXP\_:P\> ]:MM"N]\-M-?&3Q?K- P"+#?7.HKI>I^\* #7A[QQJE]XQ\>&?\$4]U:6.JII44LMS9:+I MMO#][T4 ?  
FE>O\ @F%(\?VHY?B%XA^/\_ C3QMX]^(\_C#P)H/PU\+>.HTT303 M)!OAWXB>&/BO;Z7X!\-=IYT.]=\?>#O#>K^<-  
+W68=6N\_%5GI%CHEW-I M=NMN>H^(? !.OX4?\$6M\$^(VO>(<\_ \$G\_"])%^/WPH\_-:7XS1VNC2:W?>-?@QH MFL^&/  
6@7>@SV-^@M% 'C MOP8^!O@7X&:-XET[P?:3RZMX[::\_ P#\$GXB^\*]3=+CQ'X)^('BB:\*76\_%B\* M]2-.9KN6\*WL]-  
T^U@CAL=(T73].TC3K>"SLXDKY^TS\_@G[!]&LOVU8=.AUZ M/4\_V[+SQW=\_%W69]0CNKG2Q\0/-AV]9M!=K-  
UEH5HUCIUOK%Q&D\$KZIK MJQWVJR7@MK..W^XZ\_ \ P""H/QN\2? C]B7XQ^(?A]J&JV'QC;VN@ !KX#  
MKH&IR:X@N\_C=8/\$.F^ /AM'HfHQ\_+;WUCK^MP:TSSE;06>E7?VUEM!,: \* MWCO\_ (Q\_! Q%^R-'\?V0?!?  
B;QK\,O"GP#1?!SQE\,%VC76F^(\$?)IXN^ M".JZ=K'A;6?%D7BJQU72?\*E>Z>K^)=.\0V=Q9:L)BOEVZP6JPZ?QU\_8%!  
M?M-Z=I&A?'[Q;j?Q1V:=?>1-=33?\$/A;P<+O0/%G@;58=47Q5\+M?LM)M=< M^\$6K^(C;6]EK]QX\*OK.6ZL8A!%-  
"K\$G\T?V8?VSO&OP]^/\Q'^##^<- CE\=O MBG?:IIOP-TO]G'XFZG+XO\4?#?QO^S5\,M.\1\_M"?GQ1XZT\*S\0VK^\$ \_B7<  
M>.\_A\_>:'M%)"OKVF3ZM?6DB6^E7EJ[%AI^?^U7^TUXM\3?&+0?C5XW^&?B;X M5W?["W[#?  
C[XZ\_\$KX377BR[U":\ :9 :E%Q\OV<\_@%XGNO">H1>&O\$(UU)9 MZSX@TZWD2:YAO/\$.A7"VUM>H88P#]B?V9\_V8?  
&B:Q\8+33/BEXM\=Z3\5\_B\_M\0?C^UGXNTOPT\0/>)/B/K#?OJJN=>TG3;'5O\$=I81I8:/HTFBSW5S9:%I> MG?:  
YLBp"0^7\_ )\_8@U7X#ZA\9-2T+X\_>+==^WQ1\2?<?J8U:SO/AW\+8\_BE\; MC#=23P:T9\_B?&OQ-8?<?VC\0>(<=)\0)?  
ZQ86UIIDEIICAN>^!G\_!0;XQ>\* MKGX;CPC\;7QCXB\_:9\ ?M\$?M=WUGV4?CG=:.3X3^!O[/?PY\7Z-X'^%FJ;?>  
MVGpj\*v'@WXXK0[]>\-Z=+8-J.GC^UKW5-1U14EN(0#VRX\_P""0GP\_0?LX^'/ MV6\_'WC+XB^-\_A=\./AO\5/AG\8+V[T?  
2M8^&EA\6(-2T\_6/%5M].E.;! PD M?C\_2M#U2[T#1?%6OPW-Q;Z9?:SYEM+>:U?W'K3 MXG?  
\$GPSX1M/%0FMYWUT2Q3ZK!H.AP);\_W[+?[:'C;J]34O 'BKPO\ LZ^, M]%\_9])^\_ @?Q+XT\+?&76-  
3@LX;>VTG6+;3?"HU/0;ZRLI;VU^)^EBU\_X@\*W' MAV]U>;3M'M+67Q);::^J6RKZ1^V\_XI\,?#;JFSXG?  
&7QOX]^(/@7PA\\$ \_"?B M+XHZN?AQXONO ^M^\*I?#\_B7T^C>\$9O\$.FQ'5HI;7M:DL-@T^PN;4:GJ-S8V MMVT]NSP.  
=)X;\_9H\<Z#JWQC\<3^)=?U#XN\_&[PIIW@CQ-\5HTTW2\_\$>A^%? M#NE:QIO@\_0?!-K96HTSPSI7A2?  
7=7U\_3[2UMY1=^)-0N]9U1[V=XEA^5?C5\_ MP2X^%G\3'A\*WT#]HCXC>/?B;K\_A[X&Z\_\'?A]XY-MX;\>(<\_ VB>\*SX;D\4^  
M\*;272M+K6?&'B&3PAX>CU6\_UD7-A/86^H6"Z;%'K%^\GS9\#O%GQ\*\_9@(\\_ ML6^'\_ BE\2OVEOVD\_VV/CY\&?  
%/BWQ+ \+O\$7Q\_UO7\ &F6=EI&G^<-\_BWQ-X M6M=(U.73;/X>W>O>\_ AKX7N)%TF6\_P!1U^\_MHKF\_->=KN[3WGX?  
\%"/BY\, M&W['\_@QI^S&GA\_Q^=U[X\%?6GA\_P?KWQ\_L9O\$O@GJH#PKH&OAXJ;0O M#^:Z)XZL+75+K3?  
B#K%K8V\$>B.K;7>E-J4\*63@'9\_&#\_ (M^"OC4TOB M?Q9V4\_&@^+ESXH\_9\_P19N?B7!HGA"X5O#'[J/C!B\X(^&<'@?  
4-)N\_"5KX MU'QLK>+/%&CQ60DUOQ#]GU"XN-MC8V\&1H\_ 3)\\*^&?%O@'Q[X<^\_WQ8B\ M8^" \_VHOB[^U;J.N>  
(K/P/XLE\>:\_ C%X&/P[U:S\36VJ^&\_LDMIX2\\*2W6D\_M#V\_M88-3(V=U);6-PT:QA=C5\_V]M8\\_"X7?  
;4\_A9IVI>+/%>N>.]\$9M MX7\;QZLFB6GPQ^\$4\_P\_2?'WC#PNDFB6R: SX4\>(<GPO\)\V\2W'@\_7+OQ3X  
MIL#!HXMHI"\_6?L\_ MSZ!\W%H7BGQ7X.T"PT'2/"AT\_2?'AS4=6U:S^\*PQ^ M(%Q/?R:E\+?B]\\_.\$7AKP[K'@\_Q?  
I6BQZ1K8N+(/C9XZ\67\_(Q\_;\$\*?MF>.,]U;P[X'-IXQ3\_T  
M,Z7X>^%/POU.5M&E>/X9\_#\_ ^PM'U'0M,"R70U\*Q@N;RYN%5XY/I'0O@U\(&&\_N);>U?471/S#O MV7/A=J\_C>Z\?  
Z@OQ7\:'%&K#QCI%A>P:]X+^#VF6@'""1? ?PHFVGQ%X@UG\_M4?\$<.H>+K.7PEI,5\AJUZGB\_@7XY:#  
,\$ZO#^H\_&\_ ]I;]M3]K#X@#XP>#>M>U7X\$ \_#7]KSQ?=>([P'U\?#R3:U=?%\_XH0?#WX?Z3HGA?7?%\$LEFNA^IH;  
M75:]WN[#PS&VOZAJEUH@!^B?Q2\_X)K>\_BQK\_B?XD:]3/%=K\O&?Q'\_9\ M\<^)?  
B=9>'!;G5=\$\_9GUO4O\$7PP^&MUXON]N#EQX(LM>U: ^U[4+:[@N=1\_MO]>^Q:G/?LVF6\$,&7X'\_ ."8\_A+P5X[\&>-C\  
<\_BQXK?PI^T\%KF32?ALMHD]T\*W"HYN%CB6/X\_M\_9";C^+7QE\?  
#/2OB[\9KN&S'I)/Q'\_X\*&\_M;\_ \$/3+^\_ \!7WA'P3X[\6^  
M)=\$^"7P1\!0W%E;7G@/3?"F@>'=8U;7]0!EU2\_ ;PB[6M]]K=Y=7'5?L7\_&/ M]K#XZ?%G\_@G7V/B?1?&NF>+?  
AK^R!XM\_:G :[MK#5!I5CXTLOC'K=WX\ MV6\_ /Q)T".T2WE\61^&H]0\<^(-  
R6M])JOAZ2:15CFD5@#ZPT#\_@EUH\_AKX6\_M\_LH?#\_2OVA\_B:NO?L9?  
\$G6\_B%\&\_ '=UX: ^'E[=R\_)3HGB;P\_P"\*M(\=^&KG MP])X\A:W&O6'B[7;JY\3ZI9#Q)!KE/[K=I?PWDTQD^S?CI'\B\5?  
A)+\-/ M\_G\OGCWX'Z]?-PZI\4O"&@^#>=:76FH9&U&PM%\4Z/J&CZ0^J,ZI])&G:? M#?65LI@T^:V+^"5?H:B@#]?)  
#7["IZ)-^SMKVH?M">:=9\;?LV:K\3KOP9K4\_M7@'X:Z!X)K\_ %WX;ZWV\!V7B[X\$Z[^SU\4=)T6T\R?\$7P\_M3XI^>6N?  
%;Q5]j%WK,UB=3\.^\*?%7BSQ5XID\1:WX!O#'\_A[P7X/T73\_YX3\Z+IGASPUX?TFW2TTS1="T:SAT\_M\_2M+L+.;!  
(+2QLK>&V@C'W8XU!).2=^BB@\_HHHH\_\*\*\*\*\_ "BBB@#YA\_:I\_9IM MOVIO!7A/X?:UX\USP=X4T/XH?#KXE>)\*T?  
1]!U>W\>I\-%V\<^)%&(X) M>M+N/\_A%=0US1+!]) ">H>%O!BSOI[P#J'B;4O"NK>'3\0Z=>=)!)!=W#<>]\*4.  
MMVGAS5\_.P\0L+2:4?(M%M%)/L\*YNK>RMY[N[FBMK6U@FN;FXF=8X8+>"I9I\_MI9&(6.\*\*-6>1V)=54L2  
#7XS\_LU\_M0\_&SXE\_";Q#^T9\0/\$OQ@3P3XW^-7Q/M\:\_ O1\_#?@\_X5Z;XDW]]=:"-1T+3+F6.>+3K\_M:!/3OA;  
\_,%&K#XW17FA\_"/X1: SXZ^(EOI\_QH\767AK3/\$^F6NBZ]\\_@]X[  
MNOAO:>\_M%\3:E8VBRVOQ4\9V^&H>&\_AGI]UIEM+JM]I>L7NH3Z?HNE7.HUY1X\_MC\_X\*Y\_#2?1?  
VL;/PQX0U>T^7([\*NGWND>\_A;XFU:R\\_%\_2/&VHZMH7A/P#\_M%\_P@^K:7=P:CX9^)/C'Q%:>'?AUXOT>  
[\0Z#K>L6Q74\$ L=/N\$G(IIO\_\\$A?A\_M;X\*^T'P+JWQ?^(VK:3X.^ /@SX&^"I6TOPA:77AV\,\_&WP\_\? Q!\32T&D  
M>7]JOC+XG?\$\PMHUS\1DU%)=)U\_38)]/^R6\=W.S>S>(<?^">WASQ!\6\_#GQOD\_M^+?C:#XC;:XZU;XI>)-8DTCPO?  
P^,?B%!\\*M9^\$PPUB^LKS3Y(-+T;X^<^/\_ M\$&NWWP\+Z2+?2[7Q!K>L:QJ7V^[U"9QY%#\_,%\$ \_%O@WQEH?PBN?  
@MXD^\*&\_M]VO[0\_@?]DBX^(MM^TC3K/2?A7;?3\_B\_M1>:5%!HNF7=W^VE^9]D>Q7S36?[\_@J8WBSX=>#\_BKI?  
@GQAV\_#4['\_9/ MVLO&NCIK'A75YY;+2O%&K?""X,>![Y[T:<:A=-\9?&Z1Z[\,M9\7VG7^IV\ M-DU["':7#13  
'T/^SQ\_P30\LT\_<OP)?2?\_7Q31WMSX<^"O@SX-<+])2^< M\$ \_&MQ>.D\%^(O%OBN'QM]J]WH#ZYX(\5>)?  
\$'C;Q]JWC5\_ "-8?XFU\*Z2\_MO+1+J" M^+3+7X!\^+M;\_X\*#^<\_VD2+][POX\_&O0"P5T'7]=J C<3?#KQ'X^&  
(M)\_B\_Q=JNG1Z=ZK\)/C[^TUJ-TFJZ7HGQO\<^%7\8?>;5K\_48[ M636/\_GA\QQ>WGPATGQ!87,JV=?TVWTZ/2I-  
/L+O4HO0X/VA-6\_:&^,O[26A> M'?EW\?V;OV,=0F\\$ \_\$XL6TUG87/CKX[6?ABV\5^)]+BU+4XFL[+X;\_!'2\_MM2TAO%T+

+XO\7WDVA7LO]@Z+?VNJ &[XN X][^&/%O[-GA;]FFY^\*WC:#P] M'\30#GQ7^+OBN;3/#FI^\*OC[XFT;Q\_IWQ)U=?  
B/UT^V@B3J?C]^SMK'C3QGV?C%J7]K &WQ;\\$O%VH^,OV>/A1 MJ,F@>"OAQX,^)^MZ+J?A?3?  
B+XWU33X8M:UZU\&Z+JVI06DLTNH7.GV]]>SZ M3HE[K-S!-#<^\WCK]NKPXWP!M=& :]^(?CK5\_P!KK]H/X>^#?  
@GI'Q%^"/P% M\,ZUHOP'\\_VC\2?CK\9/\$6B^\$/ VBRQ0^(\\_A;X?N+3PGH.I%;[P\_#K^BZCJ  
M)AUS48['3OLK6OCIXJW]N'XJ? C4?BCKOPV^%PJ\_9>2\_#XFZ'XG.Z/H M=\_XGT/QGJ!T+PQ\3?@[XZT]JV75=#\\_  
\_]"]#66/BG6]9U+[9=^)]FR73]]>+V MTV2\_M0#W'JG'IEF' 9Z^~VM^\$=^'^(=Q<\_%OXD\_\$/Q3\;/C/7GT#3;VZ|=\_%  
MOQ\_J:ZKXOUA-#U/S[2RT2\*&&P\,>%M+\POHGA30%L4E>>WEFE\H<\_L"ZQK M]MXSO\_O[2\_Q&^&OCWXP>+  
[#Q9?OB)8^\$?A]XHU\_P",=GX?T)/#7@\_P#JT' MB31KJP\, #3PIHZRV6F>\$/"D.EP2QW5\_JMNKA]0OGN^\*/[-\_Q?\_4^./\_3\*  
M^~#WQ? \\$VMAJW[1'Q\$^~"F@ZOH5]XON;/P\_J5Q?S?8[3QK=27NFZCI=OK6K>%  
M4B\6Z9#J6F7&C7&N7EE'JELVE2725Q?"/XZ\_'GXK?\ !.R;XZ^'\_PI!X?XV MOQ>\=.:A2]&^&>D>)/A'^SK?\_\$[4/BIX-  
USQ\\_.M"~%\_AK3/"G@V3X=>.,?"E M\_P"/?#EU>R>+K'2)9-5\\_-RIK\JNZ#15O=L@!])\_ 'O\_@EE^S3^TW;\_.?XV^\$ MO!?  
CKQ1\&?%7PQUSQ!XTU'X9>="(=8^)^OAGX61ZA=.:\'M3MK'3K;2?"\_P\O= M?N--  
UC5/#7AJQM=.E@T>#24MTL;R\#\_6OB\_JEW]G7QWX>=\3>%\_GP2^%WB/0  
M\_&!TUO\$^EZUX,T6\_L/\$1T3[\*=\$M]>@>V5M6T[2'L;]K#2[J]I[&U%K"MM!\$8T M\*\_D7?\_ \!4+Q%#X[ 8M\_8NL\_BU\\_  
-1\_]6\_\$/P/X\$\_:Y1Z=X(\5R:/H[^\_MO!LWBO\:\$N?AMHLN@IH\$EA-K&F0^!;\_?QF]Y<^&\_\*UGQ5:\_V?;RR0>98\_??Q  
M[\_X?/\_LK?L^?#\_P^)]GC'XAP6>B>()M=M/'EWJ\_.@^,=.TK5I?#>E\_VMK5']!>(EK-S+Z%H' !-OPIHM]HWPBZ?  
XO^\_.M6~\*>A\_M>\_\$? \; (L\_ MB)>Z+X1%S< >/\_B9X0O\ X?ZMX?U/P\_!?'B:AX9T3P/>6\_AKPI^++\_0=TC  
M21;W3M:\$R\_\*7[-G[8\_4?2\*? \\$TH+7QIH.G>\*?VDO\ A=G[5/[0&G^? L\_ MIH'AC]E/PE)? :5X&^'D%GXIL7\0Z?  
J&I^+O%GPT^\*P>+&DMM:U">T\3WRSS0\_M%63Z:.)[:^U+J7[5/QD-G^T7;:O^R/X5^"=W:>(&\_7B?X=?  
#K3=^!\_M%3^\* MX[D:?\$\*M=TW2]+?Q!X>\\$ #RWOG9\_ \":ZCXMT\_2O\$-\_HEEI]JEG; '\_MW\!CX->!/@+X  
TSX<\_#S3[BST.QO=;UJ^O-0NY-2UWQ)XH4ZQ>^ (O%GB\_MQ-  
J\X^TZQXF4^=(2U#6MZOKN4HD4"0P1>JU\,L)ZG^TGKWA'XNZ] M\?/&U\_X^(\ZI\;O%#\_LT^(\_'%@OPWX%^(>J\_  
.UTO0[/0M9<.:X2T?PYHHG MUWQ+ #XGU7PO/\_P\_(I6IW?@NX/VW^JVR7-Z(XON:@/\_0\_P"?Y5'\_&O]GWXI M\_M'?  
%3X1CXJ7W@7PM^S\_/L\_'W1/C[I&D^'=5UC5\_\$\_Q:UKP#H4LOPKL?&D M&IZ3IFD>%]+)\(^/-2N?  
&>KV=I=Z['JU]X;)\QVTD"?;I(/O"O&?VB/\$\_PL\$\_M?\_XH>\_-/C99Z/J/PL'\^#]8\4^,]-UZ"&T04M^\*V6S:L=.GL+A)(-1EO[FT  
M@M+/39(;@:A>RV]FMO.\RQ\_>22\_L9?LMW0:\V7A(6T7CW7OB/XRU6RTSQ[ MXNLK;2?%OQ;TN\_TKXG>./!5I9^>(XX?  
7B7QKIFK;O;Z\_X@(\)HNHSQ:MJC)< MQ'4+II>/O\ @FQ^R#J.EJ2Z+<^? \$DVB77@CX' #>XTL?%7XI)I]SX\_9TU>  
M7Q#>(/"4MM'XO6\*70?&#&NSSZS-8D>3XAU\*>:[1C5I9&8\_D-X\$&^/\_AU^QO M^QKJFH:~\*O#/[3?\_!0X]P\_\$77?  
\$6M>& #^L#P1\?\*CAJFN\_%WXS:"C7HC3 M2O!O@S]GFPF^'ZZ4MYI^DVFM\_P!GZ= L%S]U'P1""]  
\86/PC\_8= \;Q:@]Q:2WGQ'^^ (M'CJ]TB\DTV[LC'-X= MQ+VUB73X+L@'[[:^'RK]\$\_#W@SXR> ;#PUJDOAKX\_M^,\_\$\_P  
0/BQ#J7C'QAJVI>\*?%WB^STK3]N]'U77OBEX]^\*OB.VN M+JUT'2M2V>='; \<^,O%7B8#6\_"NAVNNZB-#(\\_  
^);Z[V:=JE\_]J=GI>J2? M:J\_&U\_0\_;"UWP=J-E]M\.:7>?A#=?V>\_@[XF^&^B>!I-3'C\_/\_6/@;X M>?  
\$/J3XT^)M+GE>\_P##'PQOO#OBCQA\\_.=7T\*6.RTR\64D=\_K%[KT>FP? M+7B?XG:[^T=^RC\#/AG\3?  
VJ;WQM%\_P4'^-^J?&SQ[8^)-'\WFG?L]\_LJ?! MS4]6\_ : \7?#];?1[+36\*6G@\_PI-/AAK>F:U()I]:U?Q=&#->37L\_ '['(^/  
MV8O@AXT^\*4GQ\;P\_>:=\4-<'\6?P]UKQYX\*7^\*? "%\_XU^'EOF7>I7]YH<>N0:@=+.HW;:=+  
MS(\>\6\_ \\$\_Z\_V/O\$5CJVEZG\ M.[[0?#VM\_!6+ ]G.Y.\>%\_B\0?!A>'X+C73XFNOA\_I>A>&\_%D:7I&E:MKI M?  
4]>DTNVM=1UZ>1M6N[Q79:\_/CX2\_M3\_MK>,M\$X]Z?;O\$\*WFI M= ?]K; MQ)!!H?PYT>TL+'6M(U[PGJO[-  
/BOQM+9QW]KX-L\_#?PG:6VL^/-,6:TL]6U MW19M&@5-4DBTZY]I\_]JETSQG\3OV#/\V0\_B'XLM\_\$6EZ/XKO?  
VQOVE\_'FM6UC MHUODOP? V1-#M=3EU?QW81BT\_0]^(\\_QE2^!].N+!"C8/HUEXCTHBXM4FW M 'UFW[  
7[+P\1CQK=^&O%UYK(^\*WPT^\_\$.UYJ?Q;^\*%Y9W7Q)^\_#WA^Q+?#?#Q M#?6%WXN?  
3;N'P7H&G6&G:'H]S;2;\_Q6T,ITY[@>:VYV\_V.?V)"/"G@P>+-0\8>'\_#FD?%GXBQZ=X5U;5M2U'5-2M/ D\$GBV0>\$O#]]J&J  
M:G-<^%O#AL?#TK7ES"VFF-B@^:\_^"K?Q8T\_3\_P!BC4OA7X'\1Z98>./VS-8\ M  
\_LP?!S4\$DA\JWF^\_.^MZ/X5U#QK;Q2/#MTGP7X^UC5?%4][OMX;[/!99N()I M[<-^5/QM\?I\ OVD-4U'PAK\_ ('^)'NA\_ \\$\_\$?  
@+%\%O@3V);WPE#X^\\_ ^\_CE M^V%X\T;P3\ \$ #XE2ZJ>O+KGA7X\*\_ "7PE'XC\4:]>K#;:'XI>E+^:SO)KR M\0\_IP^'?  
P[\\$ \_"?P9H'P^'\AG2?IW@KPO9FPT'PYH=JEGING6[SS74PAA0  
M#\_ES=W%Q>7<\A>>ZO+BXN;B22:5W;H]7UC2/#^EZAKFO:IIVB:+I-I/?ZKK& MKWUMINEZ98VT;2W-IJ&H7LL-  
I9VEO\$K23W-S-'#%&K/(ZJ)':\_GXZ?MH\_M'? M"#6!X8N/VE/AOJUKX+^#/[37[6GC7QEX+^#:\XB4\_W1/#V@>\$V/>?  
AG(U)= M1:1K7Q3\7?&;6Y9-.UOP]#I]AKGAFR\B/3'B1]6G\C^+?[7W[0\_QL^\_QA\_9 MF^(?  
Q!T'P%]=[6@\_9=\_8NO?"\_@\_PNH\0^-\_B/^T=V? VJ?M!?'NXTZXM[Z7 M1/A)H\_A'QIXSA^':U+=\_8+(  
)N@Z\_H7BK1=+>2>+&-.TK MQ'X=URQMM4T37M"U&TU;1M8TR\B6:SU'2]4L KBRU"PNX72:UO+2>:WN(G66  
M&1T96.M7KXMI^W!6/ W\;?Q-^\* PO\&?P?^%WPK\_9]QC\_&+O@UX1'6' MQ"^^7QET7P?=>.=0T+Q3\IY1J?B/X">-  
O"7A^'\?1/'\_(-GEU/0/\$GB\$0:C M)+#IME;78!\^M1S316\4L\L<,\$\$,S332NL<444:EY)99\*I"'^&@+N[LJ(H+  
M,0H)K^=CXG?%!\_VK+^#X6^#OBCX(\4\$;UOC-^REX;OK;3-.\-V%WX:~&W[8 MWQ^~)7P]\.?  
L\?"\_PYKEYNN]=U#PMX=UWQW>?%[PUK,=S-.6/@Z'6=0.@G5K M6W;Z0^'^@?&S\_@H-\\$\_VX/@OXJ\_.;UO2?A[9?'&  
[\_9^ \\_&?X7^#](\%>.=3 MTSX?\_#[PKH'QWMX[>SU&ZTVX\.:]6+OQII&BWCM<>?X8MS#NO(+B<' [+0  
MSPW""2"6.;\_=DAD26-N>'C9E.001SR"#4M?/[\*\_.V@?LL?\_P9\%\_#WB M#Q%XKA-6;2:KXH\5ZG=ZMKGB+Q#?  
[+C7-9NKN^FN+E4O[ \_S9X+66YNGM(&C M@>ZN71Y/H>@\_HHHH \*\*\*\* "BBB@\_HHHH ^\*?  
OCC^S\)/VB[ SX:7WQ5TWQ+ MJLWP@=\;Z;3?A)NA^/?&W@ZWT/Q]HL5Q#HGBI[7PEKVBV^J:MHB7=V=(GU:\*  
M^73Y+F::U2\*5]X^@:\*\_/C@?L" \_LJ0>) ASXXTKX9'P[XY^%N]^-/9\\_- \_MB[QIX;\87U]4[BRN\_B6WC/Q)HNOV6K\_!  
@>7FFZ?>\*>;7QK=Z];:KGP^,X];#P/+I6G2Z#H\$,\$>@VLEE YTV1E)/W#10!\&1\_M\_P#!+ ]CVW-Y+8?#KQ#16H7^C?  
&GPW=:UI/05^\*FFZD\_AK]H;7E\3\_#]P[XNM M6?C&4DT/Q?KZG5)M-2X6WTRY= \_['2PC.ROOQAQ^Q+^SM^\*?\$\_  
[XF]^-\$9C MU&^\_"GA3]G2YM]>^>^O.%6BM\6?%!%M?6OA;X?QZIXD\0ZIHT&BZ3!JFI+^%Y% ME'=S/?W\_"KXD^#O  
M'FAZ3X7^)?Q"OKRWT/P5J'?[&\$ MNFV>E6I-M^'-6L]=T5-6N/'\_LZ)>ZG86.L:8:DNF7MS-IUW9V\EQ:RB-0/=\*\*/\_  
MG;XB\_LK?!3XJ]?\$+X5?%CQCX:U2;XF?!?3M>T3P!XZT3QAXO(+>)=\>.\*HM.  
MB\4>%M5U/PUK>E3>)O"\_B\_Z1I<^M>'\_\$9U/2K^[L+:\FM6N8Q)7"^^,?V\$?V; M\_'\UO=^+O#/BW5[ ^Q^<-  
'A#]H#2]4E^\*GQ.BU;1?B?X MC:>"M5T/5+?Q9#?: M/HOAFV>:2?!\^GW%OX2MUN;LG17:ZN&D^PZ\*\_ /AK2O\  
@G#^Q]HNK+KVF?"Z MM];1\_C\$4U;\_ (6!\19;]+?X^:U;^)?BKIZW4WBF21=,2^<(K2UUQ-/!^RZ/  
MJ=M;W>B1Z=)#\_M^A?#\_P+^?@O2OB!8>%M.U'1]3^\*9FF?>.,TUS5;\_X@>)M M1;08\_#-EK&J^<-  
M5NK[Q#>ZMHFAPVVG:!\>W5[.^CV]I:QV2Q)%M/L% '%RC=\_ ML7\_  
J]\_9Z^"^[+DVBZP/@Q\,]1^'VHZ;X8CUV[C;Q+ PKCQ\9>\*M,L?^X%\ MWQ5IVO>(&+5/&5IJ\_\*>)]J6YDU\_LUS+GT[XZ?  
KX;\_M'? "OQ?\ !CXL:-/K MGP^=\V5AIGBO1[+4;S1IM8TFPU>QUH:1J6F2VU^FFWESI-OJ5K#<1)?Z?) M=6%QNMKJ>-  
8\*\*/\_G+Q3^R9^S]XS>=O\1\_\$/PZTR[3WG@?0/AKKAAO=5L=# M\5^O">MOXD\^\*^O&7ABROK?  
P[XMT+PUKDL^HZ'8>(-,U"3I;BXC@58)Y8G MV?AY^SE'^\_A=4?BS9?].EZ[#1/C?\_ ,  
(LGQ)UW5\_&7BWQ&FM6\_@FUO['P MC96>E: K.HZ1H&G^';#4KVRTNP/V.F6EM:7\$D\*PE=M>Z44 %%% %!1110 4  
M444 %%% %!1110 4444\_BZ MWJ\_AO4Y]\*U2W>TO[>TUS0+W3M9TUKFUDE@>XT^~^MK@12.BRJ&)KPC4?V-?V? M-

6^#/PA\_9\_U'P=J-Q\\*?@1K7P^0?'"WP] PFGC6\*Y\~Zi\+^#^Y7UZ'7XM? MUB'0 %CBM~;U/4;2ZBCBCO8;E8TQJ]1T4 ?%?  
@3\_@G0\LI?#Q#V\/%'PZ^' MFJ>="8^%\_@\_6?AYX5F\~\$ /XBZ;M\VM<6ZEX[N? OB\*Q@4\R'6^\$[/Q;J  
M^IZWHNA^X-6L="N[Z\Y\_LB\*SBD;V\_ \$[\_L\_,'C\*73+KQ+X&UC5M2TC7/ NN M66MW'Q \?  
C7]WPQU^;Q5V\M\$N)=C\1JNH>\$O"/B:=M?T7PAJ%W=>&[;5H[: M] LUIK2V:+[])HH^(1\_P3O\ V6A]E8>\$ \_&?  
VBTU3X[ZI#>GXO\_%C^T^#K\W[2\ M,MM\~M?EOO\A,?M4VN>,K2>>R;5I97OJ%LII;7P\_/I4#E#E#\_@FM^R0+~]-  
M3P5XQCTR300?X77;38OC!68]./AGJF\_4+35O@KX<^Q)XR6W&B>!]5LK74K+  
M31'JEOKZ(76KQZA,69NE\_~Y^(WQ9^\$7[.&K\_!\*\^#^,^I^Q7X5^(^P>?4K#1O M"Z^,=9UOP3KGQ5\(>%\_'.CZ/H?  
DW\$DVJW/AG7-1FTZ>")YK6\MH9@J"JN#G? M##XI?MK\_!7A\_~J/7^KZK\~7^"OQL^);>\$ \_\$5SX\*T:ZLYO\_~%.A^+/A3\  
M~\*~Q8\_8/%VNP:QXCCN?'WBBR>:\*Q;3%T"UD>XNS(OW.3\!9AG'#L^)Z>;:95E7MW@H4:F(J8:%;.  
<#7G4H4ZSCA9U\*O+~)T:U M.ES5,5&G5]BZ=:4^3G3A"\&N2<[<[:BI6IS5I->DNJO^@?P= \_9G^\$'P\$U;Q  
MWJOPJT'5O"T?Q%7>(O'OB/0%8^+J4\(^1^,/&&H?VOXMUWP\_P"#J8UN\_P## M?A6\3:L7U37/^\$;TW3(M0U"6:  
[GC::1V\(^?[#O@W1?!G]2\_P<^(4-GXS M^#WQS\_~3\5\_M#VVDP:CK6F:I<7/CW7=!\>=/(" \_BXVDMJM\_I6G^~  
M(EAM+9+ MRZL];\~;Z?K-N4^T6C\_!7^S=^TE^V[;?'\_P/O!.MV\_B;P?IOQ;\_8:~"W MQ0TKQ'K7P[L=~/@7XH7?  
BBZT7XQ^./\$<~W\~K%?'W1/AOV+JDN;~\*~/4; MA8[!;B'+TKJ];JMK0\_BKX,+7VF>/'A;2?  
V\_/CK^SMXLO8OAU8:7)XW^' M]K\~\$7B7X)+HUJ'T\=M8:7I= \_H=G'VH/BAJ,OAGQ/A)\_!GB[PAX<V8=-T\_Q7Y&  
MFOXCTSP9I=WK<>FZ5\_~N36"ZHCV=HMK?1.H#>^A\_Q#\_8F\#\_!&TKQ/X2\~W M\$>B> /CKIVEVG[1GC^7Q%XD7?  
&CXQ^!~+VG2O7#0~?U#4M3TSP!K>EW5] M8:S<OZO))#H= \_?Z7H6G6S:Y?:G#D?MK>/T\~? [X2\_LJ:M\0;XV^~BC\6  
M~8B^/\$/A\*SL(J1U+P#^SQ!K'QG^,7@#2='TZW\$<~YJ;~#=-^%6B\1N~3O\ M5DB/^~^~"A'[3W@\_P=\\$OBOX6?P3K?  
@OXH\_"KP8GQ3\_XIQX/A'^S M5\2/C~X^+Z'+[6\9P1?;8X?\_7A>Y\5Q^.=,UM98H[K1M/U'6!H5M>PV\E  
M93X09QGF3Y1C,NS'+8YCFV9\0X6CA& MSJI@\*6\*PN&HXBCE^HX9XC, M!] /AF&R@TV'P\_>Z9X3U?  
2+;4='ATZVBL(=O(YH(K0~!\$L<^U[P]\4OAGX,T\*P7\~WQ\_^)/@G2?'"P[T\*[A@L(-^"WA+ MQUI/AC3\_~A>WL26VJS?  
(HNG^()WGMM5FOC/-)Z:I4/VUO"GQ6\_9?~(W M/Q"\~\$WPI>\_~?M+'7?  
AUX)A;1M)JM\$+~%KGP6UCQYXLF@ELK:'PN9\_\$, MWB/7\_\*M=.TGQZ^&?Q"\_:F\_0V^~CXZ^+JQX;\  
M0\_!;X~:W!X\*6\U'Q1)\V4=!73/&7B313:03;!H\*>\_?VDO'S:G\*UT^)-8BUR/P=S+~.I58X?.I?"/1=  
M;F\_O+E[/1O!&M>)+;Q7KEEIFCE\_[.M~0US6;'3I~7U:~.#^T+VTTRPL];@VELD M57?C7&/  
7[0/PO\9?!WXF:=ZGX\$?:1\_PC\_BK3M.U\*\T6U+OY+JVNKO2O M[5TV2#4+:SU\_6RVM\_~W\$+7~E+  
<6KOY4S@\_C)^TO^T\_~WM\K;XTZ5X8O)\_&M.N^#?V2/V?7C3HWBCEP\,[4/!<7BF?Q=<~!^T~\_97^CW4WB+4?&~  
OITC~\_M\_&P2RWVG"~\_~SK963~)J6\_M\_M\_>~OV=OA)2\_'VK: 87OCK6O&WP=T[0/ MFNZ4)K+JF[X=?%Q;9^~  
!^(WQ9\_L6U349M+T1:WXR\4~RQV]C>V\VQSQ\_M6MK~OYE;PFXCICKAY87'V9I5XGQ4,)E~  
#+LUA7JSJU,/A\6IXN,J5)X##QP MN(G6=;&PPZ\_V:K0C"6,JX/!XRUCZ~JKE&K#V\*&?  
%6E6W@C38M2N[JX=\_,.C7D\_VB6.>ZEB8(/,I\_P#@FM^R M\_)+7Q7I^AI^TU^T+~)'%JUA;BWT])=53XD+JUWI5A  
MA[JTT2[OI](BU":XU'[\$;VXFG?YT^(W[3WQC'\^,O&OPPTSXO:=XD\VM^SGX M[\_~#~%'Q6T#P!~:W\_  
(G^(VNSZA;~" \_AU&\_!FFP+/X;9;W>;,75/\$&L7&B MVLES>~#J\_A'23%;6]QJ&LQ\_&G\_MM\_M@>\*M3\*6J\_~%OP~  
X#2W\_QR\_9R\_9YU MKP\_<^J]U?PY'XP\)"N+XH?MR>+Y;NZO(+NR)\>\$~.OX\_#NBF"]N(+^QCI%  
M\_#~:WMW;3+~"T97X\0YKA?KM/~N&L~A7A)BXU,9F5>C~X3'X+XW!XAX:~! MJXJ\*\$D,KS&A7A\*A[;  
XK"O#XRC3JUUV"]JF84;Y7"K\*5Y1M&\*?O0E&\$HIN4\_M8MWG%JSM\*+YHMI2M^~O@/P3HOPY(!:X\~.R:U~  
HOARQ73]/F1^~(M=V6Z[+ M"KO(9=5\2^~)K\_5~?UJ\DDD=YK[5=1N[N5F\_>3, H'75\5?~! /OXI\_~%#XW?L MP>#\_ (N?  
%76;~7[\_.(B/XC>(!&J1!~;~>^Z^\$DWCWQ#;?"B?Q!~I%E))9 MVWB.[\#6FC7VL"W\~M/M~  
R5~\*.19%K[5K]SW\*\*^09UFV18JMA<1BLGS#Y;B  
M:V"K.OA\*F(PDU2KNA6<(.I"%7VE%RY=\*M"O"O\9]J3I5%5IPJQ4HQJ1C~\*2 MM)\*2NKK6SM9^C7?  
0IDD<?!&X\2M:177CWX:7%O9>,+3389?,O~TV\_N%)T]=  
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\*1\^7LR(UD( \_BN1C#&OS3^~\_P]^-\_MB+Q?2\_A=;>#\_ /C#X:VG[-GA3P%^SG=V\_C&YTS0;KXK:N\_B;2O"C\_XJ]>+M  
M/U2PUS3/\$@\_3[?P7<:3=7ZR->6\_UZ7PY'=^(~7N(X/\$O"PI\_~)]+? J7Q5\_M<7/Q\*5?%SQ;~\=O ?PR)?  
Z]=M96/Q3&\_L=^"=3T'P+XGU\_X;V~TX:Y\6^~/\_M#G@JU?SQXU#Q%)J\_C/6]4LAV@:8 M?#WP5>6%WKI&^!M~  
356:UNW6TT.Y^('BWQ+XAOM+N);76;'PK\~M1L\$\*7^O\_MZ=" \_#]0/"7P;TOPSXS\??\$&[\2^\*/\$ \_B[QTPL8~2UR^@DM\_  
\_A.V3&F^#/\_> MF6UM!8;!H5I<%]4NBL\$^H:QK\$KW^K7MWY5I#;~1\(\_V8O!OPU;ZU\6=5\5>  
M,OBW\7M>\#Z+~\+J0^)\_Q(U33]6U^/X?>&M8U76].\C;;:3INDZ]I.G2:SJJ MYJVN?8=-AN~  
=U@I?:E+\*T%M%;\_(MA1O^"B5]XHO[6V'Z?X9\\$.1:XS\3V'\_MB6P\XQ>\*+ \_6\_#^A2YL;WPU~  
;+P\*7TTC7\_"VM^,M(DOM'U?Q#K^N:W8CK#;KJ\_MWA#6[C2I8M(;(TF'XP:3\_P\_#?^BCX(\^!>I/BB\_[1/BV7Q~H\_BE~0T'5VO~  
(^ M)/QTU)?\$7C37~"N?MZ2:QX;^\$=AXSN]\*AU30+F"UN[SP~MEI"\_.9HF<\_6][  
M:VEV"6&\*3R^8\_C1S%GO'O4[~#P/NX^Z..!2?8[7Y\_HT'[X\$3?N8OWP;[PE^~M3]X&+/!P) )%?B+~\ =  
\_P""@'P)\\_7OA32\_AUJW]F;+~\5%2#3]2U"Ti;2\_M\$'X0:[X?N+~)]6FU?Q%XHU:X\%?\$NQU\*V\~6TOP^T'5+C2M/O[?7\_!1J  
O[#\_M59+\*U3P9\0O^"CVLV>A7OBWPMJ\_A.XTQOA9HWC;0XO\_@C5[F5O&?CCXA'X MB^O)^~I0RQ6.O'X9>  
[/X>V]E#I?V6TUK6]7O[V[TQ+6QN8)\_#]8EM]/F#;8 M+~.8<1,5B@D'[H\1MA2/W6,!#]PXXJ]<6'F><(8A+A5\WRHQ)M4?  
(N\_9NVID M[1G"Y(I:\_J)CPG.OVDO!GPL\_9TTWQ%X>~?O8?%GXU\_%3XO\[\_;0):C8W7Q\$  
MT6;QG%XG\5>\$ \_!EV6AW[\$^~I/\$TGA;P/XFC)'F)K'PGI2?9\_LEG=ZC~5J]; M]K[PA>\_~2'X\* \_#^~^\$@9\_~%7A#2\_/\_@K4?  
#3?%?Q%K][\2O!MKXI^~&J>)[\_M\_P\_4ZOI'AK3?A];?)+=WGPLY7O89\$T58KFWL[O6[6Y(!~K36=HV\_=:V[>:X MDDW01~  
YDBC\_D&\_!'A&3 MPC\&~!N~>V6EK=Z\_>?\$GQMKZ?\$5K[4+V\_T?2M\*,16%U96M31PPPC\$4:1)DMMC18UW~  
U8JJCD]6]Y/?I7Y!R>~& MVWI\_!/[5\_P;=(T'6U^/WB?PM\A=)\+\*[@\,^KVT\#Z)9Z9X@^\*\_B+PQX  
M9;49=\$37=+~4^~\_B=#X&B/1TU\_5\_~\\*^#;[~6+B]N\$C23I/B'X'^+2>\*+~#4?V M7\_WQ;]"Z]H?  
PI^(.OWB\_X@7=W>6OQ4\9>%)\$M+~#X3^&=+=T@7F@I~K,OLY=#<@'ZM~)&@!~=U0\$JH+,%!9CA5!) +\$\  
M!>I:GU^0OB/PA^U9\6?V@/#\_@OXDZ=XZ\_X5. C/X0:SKFHVFFV^C>="!TOP M/#KGQ? \_%NCPZIX>EL)-<\_M+QW:?  
#/X M\$+C6DT'6;X8:?'HY0R6<4>JZ5H&HZ/%:W\$Nk)JH\_/UBR/7K2(Z2\_M&ZNH)4\_ME&#\_IPRDJ2,J001U!X/~?D#?^~?  
V]O!'B\_Q~JV@^"/B5\2=/U/XU[M2U?5/ M#\_A&PL8?@=X(M9=,TZS\~"QN>~;^PU)KJ;0XM.O3:~)/#\_ (D>:[\_L  
MS4=.230\_AQ\40"5I^~Q%X'\3^\_/BWKOAWPE:?\$7J;X\ZAX8&M7LVH\_~;Q;9W M<\_A?X1ZC/9ZM:"T?3?  
%Q)\9ZO<'5;F/P]91\_#KPA>\*D5ZB1\_'Z^45^3.O M>,?^"G7BG3?&>K>"/!^F>![B?QUXLL\_!7A[Q/I\_@&[N++P2?V?  
M7UWPEK.H7\_M\$TS>;\*OQRBTKPS=Z5\*\M\_P#9YI3~?RZ4?ML?KGCWQ1^T&L?[/+PA\3ZM>Z1X\_MA\_~1\=:M'6?  
%&@6UC9~)\_"A+X7:EX\_P]?^>A:WHMLL#Z]XDU71O^~\$0T[ MQ;(Z3H;[5KW3&+V^FHH!^A72BOR!U+X7?  
&S0\_&WQ;~)?PA^&6M^~]?UOX\_~MPY^\$ \_P\_[SQA/XL\0Z;~O@SX<\&7W\_"4?\_"\$?P+?~B&2V\2:EKWCGQ1KF MGS:9)#  
(M]HVF:%j%\_~1V8G@Z+5OBA\ M\_Z3XN^)<6E>&/%OCCPW\X\A\$S?" M1+3X<^"/!2ZQXV:SUCP\08/%UUKUJ,GA[0?  
[;T&U;~>E@EUF^BT\_Q79V> MO3~96AA4\_5S\LT5^~WB7XA\_MR>(OAKXG&~.O#]QHWQ~;Z+~#?P.'AV MTM?  
#>HV\_QADO\_~FJ\_~KQ9XCL+6\*YGM?#?PNN=;U;QEKOB'P2ZIXI\UWPHUIM;ATRS\0&?3~0\_9<~#^9]3W]<>F.V,=\*  
%HHHH \*\*\*\* "BBB@ HHHH \*\*\*\* " MBBB@ HHHH \*\*\*\* "BBB@ HHHH \*\*\*\* "BBB@ HHHH \*\*\*\* "BBB@ H #/^>M M%?  
'B\_Q0^".B\_~%6^TB^U3QG\4O"SZ~:W5K#;\_# [Q]K'@ZSNQ=3Q3M~J=MIA" M7]U"~T\*K;3S9>~"Y43 >O+~\ ACOPA@C\_



(6Y^TG@DDX^.'BSDM@,S#?@DX&X MD\$D\* 2<8KZXHKTL/G&.X6C##X?'UZ5&G=0IQ6'Y8WDYNW/@ZDOB;EK4F[;,::  
M\*7"#=W%-OJ[\_ .9\C \ #'GA\$RI P B ' Y(^0!^QEX'603+\4\_VBA,I)25?C1XF\$JL MQR[K+\_K S,2SD-  
EVR222:7\_AC/P0(G@\_X6I^T5Y#EF>W'QH\3>1(6.27AXB=\_MF/)+H23U)ZU]?457^L.>Z? \"KB]'=?  
[OI;56\_V+2SU5DK/:VK:]E3\_D7X / M[74^15\_8Y\J-J\_%O]I)5"[%5?C=XJ"JI !" , H(X(&!@8QCBH5\_8P\"H ( M\_BC^T0@ 8  
)\9O\$J@!\B0 8 <'YQTD\_C!P\*^P\*\*%Q%GJO;-;4K[V^K\*]N]L M^K\_.[WUU=SV5-[P3]7+IM]L^1Q^QUX/  
P/BW^TCC@8\_X7=XKQ@= 1OP0/X00 M0IP0!43\_ +&O@J7S?-^\*W[1LOG\*\$F\WXU^\*)/.C'W8YMY/FHN3M23C2:~LZ?  
\\\_ ' Y+\SY""[&O@H&\$\_P#" MUOVC,VW\_![G\_A=7B@-;@@ ^0P^:'( &(B@P!TP\*B/[ %W@0\ \_P#"T/VA\\_.1 M\_P 7E\1@@O\  
ZP@[<[I>1( \_WG!(8D'%?85%<-19ZMLUQ:Z:/#K3MI@E\_P[;W M;;/94\_Y5^^\D=HXGDYC@2\*%?  
E10.LHHKR)SG4J5\*M2;G4JSE4J3E;FE.;@HHH \*3 ]!W[>O7^ ^]%% "T444 & >HS1110 8'H\*\*\*\* "BBB@ J.2&\*79 MYL4\*-  
GC#!6:-&8\$HI\$M%% !1110 4444 %%% M!1110 4444 %%% !1110 4444 %%% !1110 4444 %%% !1110 4444 %  
F%% !1110 4444 %%% !1110 4444 %%% !1110 4444 ?\_JD! end