公司代码：688089　　公司简称：嘉必优

Company Code: 688089　　Company Name: Cabio (Abbreviation)

嘉必优生物技术（武汉）股份有限公司

CABIO BIOTECHNOLOGY (WUHAN), INC.

2022 年年度报告摘要

THE SUMMARY OF THE ANNUAL REPORT 2022

第一节 重要提示

Part I: Important Notices

1 本年度报告摘要来自年度报告全文，为全面了解本公司的经营成果、财务状况及未来发展规划，投资者应当到 http://www.sse.com.cn 网站仔细阅读年度报告全文。

1. This summary comes from the main body of the annual report. Investors are notified to click into http://www.sse.com.cn to read the whole annual report carefully in comprehensive detail on our operating performance, fiscal performance, and future development plans.

2 重大风险提示

2. Important Risk Alerts

公司已在本报告中详细阐述公司在经营过程中可能面临的各种风险及应对措施，敬请查阅本报告第三节“管理层讨论与分析”之四“风险因素”。

In this report, we have specified in detail the many risks that we can encounter in operating activities and the pertinent solutions. You are kindly asked to refer to Sec. 4 “Risk Factors”, Part III “Discussion and Analysis by Management”.

3 本公司董事会、监事会及董事、监事、高级管理人员保证年度报告内容的真实性、准确性、完整性，不存在虚假记载、误导性陈述或重大遗漏，并承担个别和连带的法律责任。

3. Our Board of Directors, Board of Supervisors, directors, supervisors, and senior management hereby make a pledge to the truth, accuracy and completeness of the content of the report which contains no falsification, misleading statement or substantial omission. The above persons hereby take several and joint responsibilities for the reliability of the content.

4 公司全体董事出席董事会会议。

4. The entire Board of Directors attended the board meeting.

5 大信会计师事务所（特殊普通合伙）为本公司出具了标准无保留意见的审计报告。

5. WUYIGE Certified Public Accountants, LLP, or Daxin for short, provided this audit report in standard format and without reserve.

6 公司上市时未盈利且尚未实现盈利

6. Cabio hadn’t made or realized a profit when going public

□是 ✓否

☐Yes ☑ No

7 董事会决议通过的本报告期利润分配预案或公积金转增股本预案

7. A profit sharing plan or capital reserve-to-share capital plan passed by the Board of Directors in a resolution for the report period

公司 2022 年度利润分配及公积金转增股本预案为：向全体股东每 10 股派发现金红利 3.00 元（税前），预计派发现金红利合计 36,000,000 元（含税）；以资本公积向全体股东每 10 股转增 4 股，预计转增后公司总股本将增加至 168,000,000 股。如在实施权益分派股权登记日前公司总股本发生变动的，公司拟维持每股分配和转增比例不变，相应调整分配总额和转增总额。

As for our profit sharing plan and capital reserve-to-share capital plan for 2022, we plan to pay to each shareholder a cash dividend of ¥3 per 10 shares pre-tax and the total is expected to be ¥36,000,000, inclusive of tax. We plan to convert every 10 shares from capital reserve to four shares of capital, an arrangement expected to increase our total capital stock to 168,000,000 shares. If the total capital stock has changed before the registration date of equity distribution, our distribution per share and number of capital reserve conversion will remain unchanged, except that the total dividend paid and the total share converted will be adjusted.

公司 2022 年度利润分配及公积金转增股本预案已经公司第三届董事会第十三次会议审议通过，尚需提交公司股东大会审议。

The profit sharing plan and capital reserve-to-share capital plan for 2022 has been passed at the 13th session of the meeting of the third Board of Directors and is yet to be submitted to the Shareholders Meeting for a review.

8 是否存在公司治理特殊安排等重要事项

8. Important matters, e.g. special corporate governance arrangements

□适用 ✓不适用

☐ Applicable ☑ Inapplicable

第二节 公司基本情况

Part 2: Basic Company Information

1 公司简介

1. Company Profile

公司股票简况

Stock Profile

✓适用 □不适用

☑ Applicable ☐ Inapplicable

公司股票简况				
股票种类	股票上市交易所及板块	股票简称	股票代码	变更前股票简称
A 股	上海证券交易所科创板	嘉必优	688089	不适用

Stock information				
Stock type	Stock Exchange and category	Stock name	Stock symbol	Former stock name
A-stock	SSE, STAR market	Cabio	688089	Inapplicable

公司存托凭证简况

Depositary Receipt Profile

□适用 ✓不适用

☐ Applicable ☑ Inapplicable

联系人和联系方式

Contact Persons and Contact Information

联系人和联系方式	董事会秘书（信息披露境内代表）	证券事务代表
姓名	易华荣	王芳

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Contact persons and contact information	Board secretary (in charge of information disclosure in China)	Director in charge of securities affairs
Name	Yi Huarong	Wang Fang
Place of business	Rm. 504, Bldg. C2, Future Technology City, 999 Gaoxin Ave., East Lake High-tech Development Zone, Wuhan	Rm. 504, Bldg. C2, 999 Gaoxin Ave., East Lake High-tech Development Zone, Wuhan
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2 报告期公司主要业务简介

2. Main Scope of Business in the Report Period

（一）主要业务、主要产品或服务情况

(1) Main Scope of Business, Products or Services

公司的主营业务包括花生四烯酸（ARA）、二十二碳六烯酸（DHA）、β-胡萝卜素（BC）及 N-乙酰神经氨酸（SA）等多个系列产品的研发、生产与销售，产品广泛应用于婴幼儿配方食品、膳食营养补充剂、营养健康食品、特殊医学用途配方食品、宠物营养食品、经济动物饲料以及个人护理及化妆品等领域。公司核心产品情况如下：

We engage primarily in developing, producing and selling product series like arachidonic acid (ARA), docosahexaenoic acid (DHA), β-Carotene (BC), and N-Acetylneuraminic acid (SA) that are extensively applied in baby formula foods, dietary & nutritional supplements, nutritional health foods, foods for special medical purposes (FSMPs), pet nutrition foods, economic animal feeds, personal care products, and cosmetics. The following provides details on our core line of products.

1、ARA 产品：公司采用等离子诱变育种技术选育出高产菌种——高山被孢霉，通过微生物发酵技术，生产 ARA 产品，主要用于婴幼儿配方奶粉和食品领域。按照产品形态，公司 ARA 产品可分为油剂与粉剂两种类型，ARA 油剂产品除少部分直接销售外，大部分用于加工成粉剂产品；粉剂产品是由油剂经过剪切、均质、喷雾干燥等工艺制成，工艺较为复杂、生产成本相对较高。ARA 油剂产品成本相对较低，应用场景集中；ARA 粉剂产品颗粒度、流动性、溶解性等物理性状与奶粉、运动营养品等近似，主要应用于奶粉、运动营养品、宠物营养食品中。

1. ARA Products. We employ the plasma mutation breeding technology to select and culture Mortierella alpina, a high-yield strain, to prepare ARA products using the microbial fermentation technology. They are used primarily to prepare baby formulas and foods. By form, ARA products come in two types — oils and powders. The majority of oils are processed into powder products, except a small part that is sold directly. Powders are prepared from oils using such processes as cutting, homogenization, and spray-drying, which involve complex processes and high making cost. ARA oils cost less to make and used in single scenarios, while ARA powders, similar in physical properties to milk powders and sports nutrition products regarding granularity, fluidity and solubility, find applications mainly in milk powder, sports nutrition products and pet nutrition foods.

2、DHA 产品：公司采用等离子诱变育种技术，从天然海水中选育出高产藻株——裂殖壶菌和双鞭甲藻，通过微生物发酵技术，模拟海水环境，利用微藻合成 DHA 产品。DHA 产品形态主要分为油剂和粉剂，以粉剂为主。产品功能方面，DHA 作为人类全生命周期的营养元素，除应用于婴幼儿配方食品外，对成年人预防心脑血管系统疾病、阿兹海默症以及抗炎症等方面具有良好的预防作用，因此应用场景丰富，可广泛应用于膳食营养补充剂、健康食品、口服液、固体饮料、烘焙食品、糖果及巧克力等，应用领域可以覆盖不同年龄的消费群体。公司的藻油 DHA 产品是根据来源，相对于鱼油来源的 DHA 产品命名；相对于鱼油 DHA，藻油 DHA 采用微生物发酵方式，不受资源限制；具有环保安全和质量可控、可追溯等优点。

2. DHA Products. We use the plasma mutation breeding technology to select and culture two high-yield strains of alga, Schizochytrium limacinum and dinoflagellate, from natural seawater. Microbial fermentation technology is employed to simulate the seawater environment and synthesize DHA products from microalgae. DHA products come primarily in two types — oils and powders, with the latter being more prevalent. As regards product function, DHA as a nutrient

required for humans' whole life cycle works very well for adults to prevent cardiovascular disease, cerebrovascular disease, Alzheimer's disease and inflammation. Because of the many applications, DHA is widely used to make dietary & nutritional supplements, health foods, oil liquids, solid beverages, baked foods, candies and chocolates which cater to different age groups. Our algal oil-derived DHA products are named after the algal source, just as fish oil-derived DHA products come from fish oil. In contrast to fish-oil derived DHA, algal oil-derived DHA is made through a microbial fermentation process and therefore is not resource-limited. Besides, it's environmental, safe, quality-controllable and traceable.

3、SA：学名 N-乙酰神经氨酸，俗称燕窝酸、唾液酸，是燕窝的主要功效成分。燕窝酸不仅具有抗病毒的作用，而且在促进神经细胞、上皮细胞、免疫细胞发育等方面具有促进智力发育的功效。燕窝酸作为人体细胞膜蛋白的重要组成部分，普遍应用于医药、保健品、食品领域。同时燕窝酸还是一种新兴的化妆品功效成分，在滋补养颜、延缓衰老方面也有卓越功效。公司通过微生物发酵技术生产 SA，主要应用于健康食品中，包括儿童奶粉、婴童辅食、口服美容产品、固体饮料等，并且正在重点开发 SA 在化妆品领域的应用。

3. SA. Scientific name N-Acetylneuraminic acid and common name sialic acid or NANA, SA is the main functional component of the bird's nest. It not only functions as an antivirus agent, but also contributes to intellectual development when it comes to nerve cells, epithelium cells and immunocytes. An integral part of human cytomembrane protein, SA is extensively applied to such fields as pharmaceuticals, health foods and other foods. Meanwhile, SA, as an emerging functional component of cosmetics, excels in nourishment, skin care and antiaging. We employ the microbial fermentation technology to make SA applied primarily to health foods like kid's milk powder, baby-and-kid's solid food, orally-administered beautification products, and solid beverages, among others. It's worthy of note that we are concentrating great efforts on developing cosmetic applications of SA.

4、β-胡萝卜素：是一种安全的维生素 A 源，在机体内发挥补充维生素 A、抗氧化、保持细胞活力的作用，应用于膳食补充剂和健康食品领域。同时，β-胡萝卜素作为天然着色剂，可应用于果汁饮料和烘焙食品等方面。公司通过发酵工艺生产的高纯度天然 β-胡萝卜素产品是优质的健康功能性食品营养强化剂和天然着色剂。β-胡萝卜素作为良好的抗氧化剂，在化妆品领域存在巨大的开发潜力。

4. β-Carotene. As a safe source of Vitamin A, it supplements Vitamin A in the organism while playing an anti-oxidation role and keeping cells vital and active. β-Carotene serves as a dietary

supplement and a health food. Besides, as a natural colorant it is applied in fruity drinks and baked foods. Our high-purity natural β-Carotene products made through a fermentation process are quality natural colorants as well as quality nutritional fortifiers for health or functional foods. There is a tremendous potential for the development of β-Carotene as an excellent antioxidant in the cosmetics sector.

（二）主要经营模式

(2) Major Operating Models

1、采购模式

1. Procurement Model

公司以保障食品安全为首要采购原则，制定了严格的供应商准入审核制度，并对原料进行严格质量控制，采用年度合同加订单的模式进行原材料采购。公司建立了严格的采购制度对供应商的合法合规性、质量管理、生产控制、仓储管理、运输防护等环节进行管控，并定期对供应商进行现场或线上审核和年度评估。在此基础上，公司设立了最高库存及安全库存，并结合生产进度确定原料的采购进度，保障生产线的正常运转。

We set food safety as the chief procurement principle, installing an exacting supplier market entry system, and a strict material quality control system. Material procurement is based on an annual purchasing agreement plus orders. We have a strict procurement process in place to enforce legal compliance, quality control, production control, warehouse management, transportation protection, etc. while reviewing and assessing suppliers on site or online periodically or annually. Furthermore, we set up maximum and safety levels of stock while scheduling material procurement based on order fulfillment, thereby ensuring production goes normally.

2、生产模式

2. Production Model

公司的生产环节包括发酵工序、后处理工序、微胶囊包埋工序等。公司根据客户需求制定年度、月度及每周的生产计划，结合客户对于产品规格、交付时间等个性化要求，由生产部门根据计划安排开展柔性化生产。公司建立了符合国际标准的两大生产基地，能够独立生产油剂和粉剂产品。公司根据年度生产计划，组织开展连续发酵生产，后续根据客户的订单及特定需求，为客户提供小批量、定制化的产品。在自主生产的基础上，根据部分客户的特殊要求及产能安排，公司部分微胶囊产品采用委托加工方式由代工厂进行微胶囊包埋，加工

成粉剂产品后向客户销售。

The production process includes fermentation, after-processing, microencapsulation, etc. We tailor yearly, monthly and weekly production schedules to customers' requirements while arranging for the workshops to flexibly manufacture products according to such individual requirements as product specifications and time of delivery. Our two manufactories, built against international standards, can produce oils and powders independently. We schedule ongoing fermentation tasks according to annual production plans before supplying small amounts of custom products based on customer orders and individual requirements. We deal with the orders prevalently on our own, but if some customers make special requirements or if necessitated by capacity arrangements, we contract part of microencapsulation tasks to contractors who process products into powders before we sell them to customers.

3、销售模式

3. Selling Model

对于国内市场，公司采用直销为主、经销为辅的销售模式；对于国外市场，公司采取经销为主、直销为辅的销售模式。在直销模式下，公司直接将产品销售给客户。在经销模式下，公司将产品销售给经销商，由经销商将产品销往不同国家和地区，有利于公司快速扩展国际市场。公司对大多数客户采用先货后款的结算方式，并一般给予客户 1-3 个月不等的商业信用期。公司与主要客户建立长期稳定的合作关系，持续跟进客户需求，并依据客户提出的个性化需求，为其提供高品质的营养素产品以及创新解决方案。

In the home market we primarily sell by ourselves while cooperating with distributors as a complementary solution, but in the international market we do the reverse. Selling by ourselves means that we sell directly to the customers, while cooperation with distributors means we sell to the distributors who resell to the various countries and areas. The latter is a practice intended to help us expand quickly into the international market. In most cases, we receive payment from the customers for the goods on delivery and normally, we offer them a term of business credit ranging from one to three months. We maintain long and stable partnerships with the major customers, following up with their demand and providing quality nutrition products and innovative solutions as they request individually.

4、产业链合作模式

4. Industrial Chain Cooperation Model

动物营养领域，嘉必优动物营养技术平台负责动物营养业务板块的产品、产能和技术研发，嘉利多负责市场推广和产品销售平台，整合产业资源，同时通过与 C 端品牌方及代工厂的合作，推进嘉必优要素品牌战略，为大客户提供定制化解决方案开发和供应链服务，建立“解决方案技术+品牌+供应链管理”的组合拳。

In animal nutrition, we have an animal nutrition technology platform which takes responsibility for production, capacity and technological development. We carry out market promotion and selling activities to integrate industry resources. In the meantime, we cooperate with C-end brand owners and contractors in carrying on with our ingredient brand strategy to customize the development of solutions and supply chain services as a “combination blow” made up of technological solutions, brands and supply chain management.

（三）所处行业情况

(3) Industry Profile

1. 行业的发展阶段、基本特点、主要技术门槛

1. Development Stage, Basic Characteristics, and Main Technical Thresholds

(1) 生物技术产业发展概况

1) Development of the Biotechnological Industry

2022 年 5 月，国家发展改革委印发《“十四五”生物经济发展规划》，将生物经济作为今后一段时期我国科技经济战略的重要内容，明确打造国家生物技术战略科技力量，加快突破生物经济发展瓶颈，实现科技自立自强；同时提出加快发展高通量基因测序技术，推动合成生物学技术创新，突破生物制造菌种设计、高通量筛选、高效表达、精准调控等关键技术，有序推动在新药开发、疾病治疗、农业生产、物质合成、环境保护、能源供应和新材料开发等领域应用。2022 年 2 月，湖北省发改委印发湖北省大健康产业发展“十四五”规划，明确强调要依托湖北生命健康领域科技研发基础，加快推进细胞与基因治疗、合成生物学、脑科学等 3 个未来产业发展，力争到“十四五”期末，武汉成为引领国家医学发展、国内最为重要的 3 大国家医学中心和国家生物经济先行示范区。同年，科技部投入 1.86 亿元支持国家重点研发计划“合成生物学”重点专项。在国家政策和资金支持力度地不断加持下，我国生物技术产业将迎来进一步的加速发展。

Since the National Development and Reform Commission (NDRC) released the Development of the Bioeconomy Industry for the 14th Five-Year Plan Period in May 2022, China

has targeted the development of bioeconomy as an important component of its technological and economic strategy. The policy specifies that China should forge its own biotechnological strength, quicken the breaking of the bioeconomic bottleneck, and realize technological independence. It also requests the industry to press ahead with the development of high-throughput sequencing technology, facilitate innovations in synthetic biology, make breakthroughs in key technologies, e.g. biomanufacturing-targeting strain design, high-throughput screening (HTS), high-efficiency expression and high-precision regulation, and push steadily ahead with applications in such fields as new drug development, disease treatment, agriculture, substance synthesis, environmental protection, energy supply and new material development. In February 2022, the Hubei Development and Reform Commission issued a directive for the development of the inclusion care Industry for the 14th Five-Year Plan period, making it clear to take advantage of Hubei's strength in life and health technology to give a boost to three future domains, e.g. cell & gene therapy, synthetic biology, and brain science. Wuhan aims to rise as one of three national medical centers and national bioeconomy exemplars. The same year, the Ministry of Science and Technology invested ¥186M in a significant national synthetic biology research program. Thanks to consistent favorable government policies and plenty of funding, China is expecting the further acceleration in the growth of the biotechnology sector.

公司是国内最早从事以微生物合成法生产多不饱和脂肪酸及脂溶性营养素的高新技术企业，经过多年积累，建成了合成生物学研究室，构建了不同来源底盘表达体系，可进行精准基因编辑、多基因片段组装及共表达、酵母基因组重排及菌种高通量筛选与测试，并初步搭建了生物信息学分析技术平台，公司将利用新技术革命的机会，以合成生物学为技术底盘，瞄准前沿生物科技，持续挖掘生物科技领域的无限可能，以生物科技赋能生命营养与健康。

As the first high-tech firm in China to introduce the microbial synthesis process to produce PUFAs and fat-soluble nutrition, we have contributed years of efforts to building a synthetic biology lab and developing expression chassis from different sources for such purposes as precise gene editing, multi-fragment DNA assembly & coexpression, yeast genome rearrangement, and high-throughput strain screening and testing. Besides, we have a preliminary platform of bioinformatics analysis techniques. We will continue to capitalize on the new technological revolution, and tap synthetic biology as a technical cornerstone, aiming at leading-edge biotechnology to develop its unlimited potential and enable life nutrition and health.

(2) 营养健康产业发展概况

2) Development of the Nutrition Health Industry

营养健康产业是保健食品行业的升级版，产品包括了特殊食品（如婴儿配方食品、特殊医疗食品和保健食品）、部分普通食品以及国外的营养补充剂，总称为营养保健食品或营养品。随着人均可支配收入的增加、国民健康意识的提升以及人口老龄化的加剧，催生了国内庞大的营养保健食品市场需求。

As an updated version of the health food industry, the nutrition health industry involves such products as special foods (e.g. formulated baby foods, FSMPs and health foods), part of the common foods, and nutritional supplements of overseas sources, which share a generic name "nutritional health foods or nutraceuticals". With the increase in per capita disposable income, the enhancement of people's health awareness, and the deterioration of population ageing, China is emerging as a very large nutraceuticals market.

为促进营养健康产业规范、有序、快速发展，国家陆续出台了包括《保健食品注册与备案管理办法》《"健康中国 2030"规划纲要》《关于促进食品工业健康发展的指导意见》《国民营养计划（2017—2030 年）》《健康中国行动（2019—2030 年）》等诸多文件，引导居民形成科学的膳食习惯，加快发展婴幼儿配方食品、老年食品及满足特定人群需求的功能性食品。国家政策的大力支持，将进一步推动营养健康产业的持续发展。

In order to ensure the nutrition health sector develops in a normative, controllable and quick manner, the government has issued a series of policies, including the Directive for Health Food Registration and File Management, the Guideline for the Health China Initiative 2030, the Directive for the Development of a Sounder Food Industry, the National Nutrition Program 2017-2030, and the Health China Initiative 2019-2030, in order to instill the consciousness of scientific dietary habits in the residents and boost the development of formulated baby foods, foods for the elderly, and functional foods targeting special populations. Favorable government policies will contribute consistently to the prosperous nutrition health market.

此外，根据国家统计局的数据，2022 年，我国 60 岁及以上人口 28,004 万人，占全国人口的 19.8%，其中 65 岁及以上人口 20,978 万人，占全国人口的 14.9%，老年人口规模的不断增大，将直接拉动对营养保健食品的市场需求。同时，随着生活水平的提高、生活方式的改变、健康理念的普及以及亚健康人群规模的不断增加和年轻化，营养保健食品消费人群年龄阶层不断扩大，中青年人群对于保健食品的消费需求也在快速上升，越来越多的消费者愿意将更多支出用于自身医疗保健投入，这也将推动整个营养保健食品行业的快速发展。

In addition, as shown by the 2022 figures disclosed by the National Bureau of Statistics, China had a total of 280.04 million people aged 60 or above, accounting for 19.8% of its total population, as well as a total of 209.78 million people aged 65 or above, equal to 14.9% of China's total population. The expanding aging population will provide a direct boost to market demand for nutraceuticals. At the same time, demand of middle-aged and young populations for health products is also climbing quickly as quality of life improves, lifestyles change, the health awareness is popularized, young populations with weak health continue to grow, and age groups needing nutraceuticals keep expanding. More and more consumers are willing to spend more on their own health, quickening the growth of the nutraceuticals market.

公司主要产品 ARA、DHA、SA 因其丰富的学理功能，可广泛应用于营养保健食品等领域，市场潜力巨大。

Our major product line, comprising ARA, DHA and SA, can be applied widely as neutraceuticals that show promise of great market potential due to diverse theoretical functions.

(3) 婴幼儿配方奶粉行业发展概况

3) Development of the Baby Formula Industry

随着消费能力增强以及科学育儿观念升级，婴幼儿配方奶粉行业主要驱动力由"量增"转为"价升"，市场规模整体保持稳健增长，根据欧睿数据预测，2022 年我国婴幼儿配方奶粉市场规模预计为 1,717 亿元，2017-2022 年的复合增长率为 2.91%，其中 1 段、2 段、3 段以及特配奶粉的市场规模分别为 450.81 亿元、458.92 亿元、727.80 亿元与 79.09 亿元，占比分别约为 26.26%、26.73%、42.40%及 4.61%。

As people's consuming capacity strengthens and their parenting knowledge upgrades, the rise in price has emerged in place of the rise in quantity as the major booster to the baby formula industry. The market has maintained a steady growth. oIBP has predicted a ¥171.7B baby formula market in China for 2017-2022 as well as a 2.91% CAGR, with the market of stage 1 formula, stage 2 formula, stage 3 formula and special formula hitting ¥45.081B, ¥45.892B, ¥72.78B and ¥7.909B, respectively, and accounting for around 26.26%, 26.73%, 42.4% and 4.61% of the whole market, respectively.

此外，新国标对婴配粉生产研发能力、配方科学性等方面提出了更严格的标准，将加速促使奶粉市场向具备技术优势和产品优势的头部企业集中，婴配奶粉企业的集中度进一步提升。根据 Euromonitor 数据，2022 年销售额前五的品牌为飞鹤、伊利、雀巢、达能、君乐宝，

分别占比 17.5%、12.3%、10.7%、10.3%、6.4%，市占率达到 57.2%。国泰君安 2022 年 12 月 19 日发布的研报指出，国内奶粉行业前三家奶粉企业合计占有的市场份额有望提升至长期的 60%至 70%。公司长期坚持大客户战略，与头部客户建立了稳定深入的合作，随着行业集中度上升及客户的成长，公司产品的市场份额将稳步提升。

Besides, new national formula standards make strict demands on baby formulas in manufacturing capacity, R&D, formula science, etc., causing industry-leading giants to quickly hold sway over the milk powder market while further concentrating the baby formula market. Euromonitor figures show that the brands topping the 2022 list of sales in China were Feihe, Yili, Nestlé, Danone, and Junlebao, which accounted for 17.5%, 12.3%, 10.7%, 10.3% and 6.4% of the market, respectively and combined to capture 57.2%. According to a Guotai Junan report released on December 19, 2022, the top three Chinese milk powder suppliers will hopefully see their combined market share rise to a 60-70% long-term high. We have long adhered to the concept of the focus on large customers by entering into stable and profound partnerships with industry-leading customers. As industry concentration grows and customers continue to develop, we will see stable increases in market share.

(4) 动物营养行业发展概况

4) Development of the Animal Nutrition Industry

近年来，国内养殖业规模化进程加速，拉动饲料工业水平进一步提升。根据中国饲料工业协会统计数据，2022 年中国工业饲料总产量突破 3 亿吨，同比增长 3%，其中猪饲料产量高达 1.36 亿吨，蛋禽饲料产量达 3,210.9 万吨，肉禽饲料产量达 8,925.4 万吨，反刍动物饲料产量达 1,616.8 万吨，水产饲料产量达 2,525.7 万吨。脂肪酸类营养剂在动物营养领域有重要应用，被广泛用于一般家畜（如猪）、反刍动物（如牛）、家禽（如鸡）以及水产生物，短链饱和脂肪酸营养剂有助于动物肠道供能、维持肠道结构完整，中链饱和脂肪酸有助于抑菌抗病毒，Omega-3 系列脂肪酸对动物生长发育、维持动物机体健康有重要作用，亦有部分防止疾病提高免疫力的功效。

The accelerating development of the Chinese livestock market in the last few years has driven the animal feed industry to a new high. According to the statistics published by the Chinese Animal Feed Industry Association, manufacturers turned out over 300 million tons of animal feed across China in 2022, up by 3% year on year. Specifically, pig feed came to 136 million tons, layer poultry feed came to 32.109 million tons, broiler poultry feed came to 89.254 million tons, ruminant feed came to 16.168 million tons, and aqua feed came to 25.257 million tons. Fatty acid

nutritional agents, with its important application in animal nutrition, are extensively used for common livestock (e.g. pigs), ruminants (cattle), poultry (e.g. chickens) and aquatic animals. Short-chain saturated fatty acids, as nutritional agents, contribute to intestinal functions and structural integrity; medium-chain saturated fatty acids contribute to bacterial and viral resistance; and Omega-3 fatty acid series are central to the physical development and health of the animals and organisms. Besides, in some cases, Omega-3 fatty acids prevent diseases and strengthen immunity.

此外，我国宠物食品行业正处于快速发展阶段，市场增长空间巨大。随着社会经济发展和国民消费需求的提升，我国居民养宠意愿有所提高，养宠人群不断扩大和年轻化，科学养宠概念在宠物主消费群体中广泛传播，同时由于我国宠物的生长环境缺少户外空间，日晒时间短，运动量少，容易抵抗力低、缺钙和生病，越来越多的宠物主对宠物的健康关注度不断提高，随之推动了宠物营养品市场的不断增长。艾瑞咨询报告指出，2021 年我国一、二线城市养宠家庭渗透率达到 39.1%，伴随着养宠家庭数量的增加，预计 2025 年我国宠物食品市场规模将达到 2,417 亿元。

Moreover, the Chinese pet food industry is also in full swing, showing promise of gigantic market potential. With the development of the society and economy and the growth of people's consuming capacity, Chinese residents are developing an increasing interest in pet keeping. An increasing number of people, especially young people, are beginning to keep pets. The concept of scientific pet keeping is accepted far and wide. On the other hand, lack of outdoor activities, inadequate exposure to sunlight and insufficient exercise cause Chinese pets to be apt to have a low resistance to diseases and lack calcium intake. As more and more pet owners attach mounting importance to pet health, the pet nutrition market has continued to flourish. An iResearch report says that the household pet penetration rate climbed to 39.1% in Tiers 1 and 2 cities in 2021, and that with the increase of pet-keeping families, the Chinese pet food market is expected to hit ¥241.7B.

公司动物营养业务作为公司在人类营养业务的自然延伸，致力于基于脂肪酸平衡理论，抓住“禁抗”机遇，以饱和脂肪酸与不饱和脂肪酸平衡、Omega-3 系脂肪酸和 Omega-6 系脂肪酸平衡、短中长链脂肪酸平衡为技术基础，开发出具有“替抗”功效的多款产品，如饲用脂肪粉、DHA 藻粉等产品，通过脂类营养产品的开发进行差异化市场竞争，为饲料和养殖企业赋能。

Our animal nutrition business is the natural extension of the human nutrition business.

Upholding the theory of fatty acid balance and taking advantage of bans on antibiotics, we explore many fundamental technical solutions, e.g. SFA/USFA balance, Omega-3/Omega-6 fatty acid series balance, and SCFA/MCFA/LCFA balance, succeeding in developing multiple series of antibiotic substitutes, such as animal feed-purpose fat powder, algae DHA powder and the like. By developing lipidic nutrition products for differential competitiveness we inject energy into feed manufacturers and livestock farms.

(5) 功效护肤行业发展概况

5) Development of the Functional Skincare Industry

随着生活水平的提升，以及消费者对于健康护肤需求的日益加深，化妆品行业规模持续扩张。根据艾媒咨询数据显示，2021 年我国化妆品行业市场规模达 4,553 亿元，同比增长 15%；预计到 2023 年行业市场规模将突破 5,000 亿元。同时，根据 2022 年消费者调研结果显示，化妆品消费者较上年更注重产品成分与功效。未来，随着我国敏感肌人群不断壮大，消费者对功效型护肤理念和功效型护肤产品认可度的逐渐增强，功效型护肤产品在化妆品赛道中的渗透率将不断提升，功能性原料市场潜力巨大。

Improving quality of life and rising demand for health & skincare products power a continually expanding cosmetics sector. According to iiMedia figures, the Chinese cosmetics market was worth ¥455.3B in 2021, up by 15% year on year, and is expected to top ¥500B in 2023. A 2022 consumer survey indicates that in comparison with 2021, cosmetics consumers cared more about the ingredients and effect. As the populations with sensitive skin grow, consumer recognition of the functional skincare concept and functional skincare products will gradually grow, contributing to continuous market penetration which in turn generates gigantic potential for the functional ingredient market.

此外，近年来国家监管部门也陆续出台政策规范化妆品行业发展，鼓励化妆品原料创新发展，2010-2019 年间，仅有 4 个化妆品原料通过国家药监局审批；2020 年，药监局公布了 4 个可被用于化妆品生产的新原料；2021 年《化妆品监督管理条例》正式实施，进一步规范了化妆品注册备案的各项资料，对相关企业注册备案程序进行了规范和精简，促进并鼓励了功效型护肤企业的参与与发展。

Besides, Chinese regulatory authorities have made policies in series to regulate the cosmetics sector in recent years in an effort to promote ingredient innovation. While the National Medical Products Administration (NMPA) approved only four cosmetic ingredients between 2010 and

2019, it revealed four new cosmetic-grade ingredients in 2020 alone. The effective implementation of the Regulation on Cosmetics Industry Administration in 2021 worked to further standardize the preparation and management of product registration materials, standardize and streamline company registration procedures, and contribute to the involvement and development of functional skincare product makers.

公司以功能性原料为方向，积极布局功能性美妆个护原料新业务，将为公司发展打开新的成长空间。公司产品 β-胡萝卜素、ARA 和 DHA 等均被收录在国家药监局发布的《已使用化妆品原料名称目录（2021 版）》中，燕窝酸于 2021 年 6 月通过了国家药品监督管理局备案，并于 2022 年 5 月完成扩大使用目的备案，成为首个扩增使用功效的新原料，将在化妆品领域拥有更广泛的应用空间和更高的应用价值。

Oriented to the functional ingredient market, we are active in starting business in new personal care functional ingredients, foreseeing new development potentialities. Our β-Carotene, ARA and DHA products have been incorporated in the NMPA Catalogue of Cosmetic Ingredients in Use (2021). Besides, our sialic acid got registered with NMPA in June 2021 before being approved as the first new ingredient for a larger scope of use and effects in May 2022. It gives promise of a cosmetic ingredient applied more extensively and having higher application value.

(6) 行业技术门槛

6) Technical Threshold

微生物资源的开发利用是解决人类社会面临的人口剧增、资源匮乏问题的有效手段，将在实现可持续发展等方面发挥不可替代的作用。由于微生物发酵法生产营养素具备生产效率高、产品安全、绿色低碳等优势已逐渐成为主流。目前，巴斯夫、帝斯曼、杜邦等国际化工巨头纷纷进入生物技术领域，积极布局微生物发酵的高附加值产品。公司所处行业有较高的技术门槛，具体如下：

An effective solution to solving surging populations and resources shortage facing the human society, the development and exploitation of microbial resources plays an irreplaceable role in realizing sustainable development. Microbial fermentation is rising as the mainstream process to make nutrition products with such advantages as high efficiency, product safety, and compliance with green low carbon requirements. Global chemical giants, like BASF, DSM and DuPont, are entering the biotechnology field in an ambitious effort to explore high-value added microbially fermented products. We are well above the technical threshold in the sector. See the following

specifics.

① 菌种迭代升级技术

① Strain Iteration and Improvement

菌种迭代升级、持续优化技术对于发酵工业来说是生命之源，优良的菌种可极大程度提升发酵产率，提高产品品质，降低生产成本。传统菌种选育技术采用诱变筛选的方式，技术难点在于突变株筛选技术，极易出现错筛漏筛的问题。公司开发原创技术，从胞内代谢多尺度分析评价工业微生物对目标产物高产的特性，基于最优代谢途径进行计算设计，并分析目标产物的最佳合成途径；对限速途径中的酶进行定性分析，高通量筛选最优菌种，快速锁定高产菌种，并开发出针对性的发酵方案，进而克服现有工业菌株转化率及产率低等问题。

Strain Iteration and continuous improvement are the lifeline of the fermentation industry. Excellent strains increase fermentation yield significantly, improve product quality and cut cost. Traditional strain selection & breeding which adopts mutation screening faces the bottleneck of mutant screening, hence the high inclination to wrong screening and omission. With proprietary technologies available to evaluate the high yield attributes of the desired product vs. industrial microorganisms in more than one dimension, we conduct computational design based on the optimal metabolic pathway to identify the optimal synthetic pathway for the desired product. Qualitative analyses of enzymes in rate-limiting pathways are made to screen out the best strains by HTS, lock in quickly on high-yield strains, and develop pertinent fermentation solutions, therefore overcoming low conversion rate and low productivity typical of current industrial strains.

② 发酵精细调控技术

② Fermentation Process Precise Regulation

在发酵过程中，配料、补料及发酵的温度和 pH 调控都会对发酵造成较大影响，需要根据发酵过程中的代谢变化进行判断，动态化评估各项检测指标，实时调节各工艺参数。公司建立了微生物发酵在线代谢数据库，研究基于知识学习的过程优化技术和智能调控技术，揭示相关菌种适应不同生长环境的代谢基础及其高效合成相关机制，实现发酵生产工艺的精准调控。

Temperature and pH control for preparation, feeding and fermentation can impact on the fermentation process greatly, so it is very important to judge of the metabolic changes, assess the various test indicators dynamically, and make real-time process parameters adjustments during

fermentation. We have put in place an online microbial fermentation & metabolism database to explore knowledge learning-based technologies of process optimization and smart regulation. It enables us to reveal how the relevant strains adapt through basal mechanism to different growing environments and high-efficiency synthesis mechanism in an effort to regulate the fermentation process precisely.

③ 成果转化工程化技术

③ Technology Commercialization-oriented Engineering

生物技术成果从实验室走向产业化需要多学科协作，其中菌种构建、发酵精细调控、分离纯化、产品精制等关键环节的技术水平直接影响着发酵产率、提取收率、产品成本和品质等，实验室的技术和成果必须经过中试放大的工程化改造才能走向产业化，工程化技术包含大量的专有技术、专利技术和工程化经验，是设备、技术、管理高度结合的体现，短期内难以被复制。嘉必优建立了湖北省生物技术转化中试研究基地，在基地上形成“高通量小试-数字化中试”联级发酵系统及相应配套设施，并建立了高分辨率分析检测以及分离纯化精制平台，依需在不同规模下进行技术工艺优化与验证，形成了高效成果转化工程化技术能力。

A biotechnology needs multidisciplinary collaboration to change from a laboratory discovery into a product. For the process, the key steps — strain construction, fermentation process precise regulation, isolation & purification, and product refinement — are directly critical to fermentation yield, extraction rate, product cost and quality. Laboratory findings and discoveries need engineering transformation to become commercially marketable by means of engineering research in piloting testing. Engineering technology involves a large number of proprietary technologies, patent technologies and engineering experience, reflecting the deep combination of equipment, technology and management. It cannot be imitated in a relatively short period. We own a biotechnology pilot test base in Hubei, where we have a cascade fermentation system complete with auxiliary facilities to conduct high throughput small-scale testing plus digitized pilot testing. Our HD analysis & testing system as well as the isolation, purification and refinement platform can conduct technical process optimization and testing on different scales on request. These help us forge the capability of high-efficiency technology industrialization.

2. 公司所处的行业地位分析及其变化情况

2. Our Industrial Position and Relevant Changes

公司所在行业的集中度相对较高，对于技术门槛、产品品质、产业化能力以及品牌认可

度等方面的要求较高，市场上的竞争者相对较少。公司是国内最早从事以微生物合成法生产多不饱和脂肪酸及脂溶性营养素的高新技术企业之一，是国内 ARA 产业重要的开拓者和市场推动者，产品打破了国外技术垄断，填补了国内空白，是全球 ARA 产品主要的供应商之一，并成功实现了藻油 DHA、SA 等产品的产业化，产品销售区域覆盖中国、美国、欧洲、澳大利亚等 30 多个国家及地区，并与嘉吉、雀巢、飞鹤、君乐宝、伊利、达能等国内外知名企业建立了长期的合作关系。

We are in an industry having high concentration and requesting a high technical threshold, high product quality, high capacity of industrialization, and high brand recognition. There are not many market players in the market. We are one of the first high-tech firms in China to introduce the microbial synthesis process to produce PUFAs and fat-soluble nutrition. AS an important pioneer in the domestic ARA industry, we contribute to market development on the strength of our products by shattering foreign technological monopolies by introducing our own technology to fill the gap. As one of leading global suppliers of ARA products, we have accomplished commercialization of our alga oil-derived DHA and SA products which sell very well in more than 30 countries and regions, including China, the U.S., Europe, Australia, and more. In addition, we maintain long-term partnerships with many famous global formula giants around the world, e.g. Cargill, Nestlé, Feihe, Junlebao, Yili, Danone, and the like.

经过多年积累，公司逐渐形成了以工业菌种定向选育、发酵精细调控、高效分离纯化制备等生物制造技术为基础的核心技术，拥有多项自主知识产权，于 2016 年获得了国务院颁发的“国家科学技术进步二等奖”，此外，公司还获得中国科学院颁发的“科技促进发展奖”、农业部神农中华农业科技奖奖励委员会颁发的“中华农业科技一等奖”等众多荣誉奖项，主导及参与了两项国家标准的制订，承担了多项国家“863”计划项目。2022 年，由天津大学牵头负责，联合公司等单位共同承担的国家重点研发计划“绿色生物制造”重点专项“工业菌种基因组人工重排技术”项目正式启动；由公司参与制定的“QB/T 5631-2021 花生四烯酸油脂粉”和“QB/T 5632-2021 二十二碳六烯酸油脂粉”两项行业标准正式颁布实施；由公司与中国农业科学院油料作物研究所联合建设的“微生物油脂湖北省工程研究中心”通过湖北省发改委认定。

Since many years ago, we have been making achievements in core technologies built on such biomanufacturing techniques as directed breeding of industrial strains, fermentation process precise regulation, high-efficiency isolation, purification and preparation as well as many proprietary technologies. In 2016, we got a State Council-issued National Science & Technology

Advancement Second Prize. Besides, we were granted a CAS Technological Advancement and Development Prize, a MOA Shennong China Agricultural Science & Technology Award, and multiple other honors and credits. We led or joined in the preparation of two national standards while undertaking a host of 863 National Programs. In 2022, we formally kicked off an industrial strain artificial genome rearrangement program as part of a green biomanufacturing undertaking led by Tianjin University and involving us and other participants. The regulatory authorities have launched two industrial standards, i.e. Arachidonic Acid Oil Powder (QB/T 5631-2021) and Docosahexaenoic Acid Oil Powder (QB/T 5632-2021). Furthermore, the Hubei Development and Reform Commission has recognized our Hubei-based Microbial Oil Engineering Research Center, a collaboration between us and CAAS Oil Crop Research Institute.

3. 报告期内新技术、新产业、新业态、新模式的发展情况和未来发展趋势

3. New Technologies, Industries, Patterns and Models in the Report Period and Future Trends

(1) 合成生物学前沿技术进展概况

(1) A Look at the Frontiers of Synthetic Biology

合成生物学作为一个新兴的交叉学科，在信息科学、数据科学等科学工具的加持下，在多个研究方向取得了长足发展，已经成为现代科学最富前景的领域之一。底层技术上，人工 DNA 合成近年来基于高通量芯片的二代技术高速成长，基于酶促反应的无模板长片段第三代合成技术已在实验室中孵育；基础研究中，随着表观遗传学研究的逐步火热并不断有新的学术成果涌现，细胞内生命活动的调控机制进一步细化，也为合成生物学技术应用开辟了一个新的细分场景；生物技术与信息技术交叉融合下，DNA 存储、生物计算、生物知识图谱等新概念应用技术开始逐步推进大数据驱动的生命科学知识发现及转化应用；产业应用场景里，细胞工厂的设计构建在逐步挑战代谢途径更长、复杂程度更高的化合物的合成，同时鲁棒性和适配性成为构建工程中需要考虑的重要问题。

An emerging interdisciplinary field, synthetic biology has made long-term achievements on many fronts thanks to information technology, data science and other science tools which have made it one of the most promising modern sciences. As regards underlying technology, G2 technology DNA synthesis are being incubated in the laboratory thanks to fast-growing high-throughput G2 chips as well as G3 template-free SLFD PCR based on enzymatic catalysis. In basic research, a new application scenario has been developed for synthetic biology as epigenetics grows in popularity and researchers continuously come up with new academic achievements and

find more about the regulation mechanism of intracellular activities. As biotechnology and information technology join hands, DNA data storage, biocomputing, the biological knowledge graphs and other new concepts of technical applications are beginning to propel big data-powered life science discoveries and their application. In industrial landscape, people see the design and construction of cell factories challenging the synthesis of more complex compounds with longer metabolic pathways. Meanwhile, robustness and adaptability have become important concerns scientists must consider in construction engineering.

(2) 信息技术（IT）、生物技术（BT）与人工智能（AI）、大数据技术（DT）融合

(2) Consolidation of IT, BT, AI and DT

基于合成生物学技术的“细胞工厂”构建范式“DBTL”已被原料生物制造行业相关企业广泛认知并采用。而通过对代谢工程及组学大数据的搜集分析，采用生物信息及生物计算方法对细胞工厂进行针对性设计的代谢调控优化及靶向酶工程，使得工业菌株的高效构建成为可能。

Ingredient biomanufacturers have generally accepted and adopted the DBTL paradigm typical of the cell factory based on synthetic biology technologies. The collection and analysis of big data on metabolic engineering and omics have made it possible to construct industrial strains with high efficiency with the help of bioinformation and biocomputing methods used to design pertinent metabolic regulation, optimization and targeted enzyme engineering for cell factories.

在原料制造产业中，BT 已成为最有望替代传统化工合成的技术方案，而基于 BT 的发酵过程的优化与放大是发酵产业中需要关注的重点，其中涉及大量且多维度的生物数据，及其工程化数据的分析与建模。而基于 IT 的大数据技术（DT）、人工智能技术（AI）与原料制造产业结合，借助知识图谱、数字孪生模型等辅助决策工具，运用数字化、网络化、智能化等手段在计算机虚拟环境中对生产资源与过程进行设计、管理、仿真、优化与可视化，以信息数字化及数据流动为主要特征，对整个工厂进行精细、精准、敏捷、高效地管理与控制，实现生产工艺过程连续化、智能化生产，有利于提高生产效率、提升产品良品率及产品品质，降低制造过程的试错成本及生产成本。在智能制造的帮助下，企业将能更高效、更快捷完成发酵过程产业化放大，促使产品快速投入到市场，以进一步满足消费者需求。

In ingredient manufacturing, biotechnology (BT) has risen as the most hopeful substitute technical solution for conventional chemical synthesis. A matter of concern in the fermentation industry is how to optimize and scale up the BT-based fermentation process which involves great quantities

of multidimensional biological data and engineering data analysis & modeling. IT-based big data (DT), artificial intelligence (AI) and ingredient manufacturing are combined, and assistant decision-making tools (e.g. the knowledge graph and digital twin model) are employed. Digital technology, network technology and smart technology are used to design, manage, simulate, optimize and visualize manufacturing resources and processes in a virtual computing environment so that the factory is managed and controlled with refinement, precision, aptness and high efficiency. The resulting continuous smart manufacturing process contributes to higher production efficiency, higher yield, and higher quality while reducing trial-and-error cost and production cost during manufacturing. Smart manufacturing enables an enterprise to scale up and industrialize the fermentation process with faster and more efficiently so as to launch a product quickly into the market in further response to consumer demand.

(3) 低碳循环经济与双碳目标

(3) Low Carbon Circular Economy and

在 2022 年中，发改委正式发布了《“十四五”生物经济发展规划》，多处提及合成生物学、新型发酵产品、生物制造等：着眼加快建设美丽中国目标，重点围绕包括新型发酵产品等方向，构建生物质循环利用技术体系等。推动合成生物学技术创新，突破生物制造菌种计算设计、高通量筛选、高效表达、精准调控等关键技术，有序推动在农业生产、物质合成等领域应用。

In 2022, the National Development and Reform Commission (NDRC) officially released the Fourteenth Five-Year Plan for the Development of the Bioeconomy Industry making mention of synthetic biology, novel fermented products and biomanufacturing for many times. The initiative deals with the Making China Beautiful Quickly goal, the focus on novel fermented products, the biomass recycling technological system, etc. Also mentioned are breakthroughs to be made in key technologies, like strain computing & design, HTS, high-efficiency expression, precise regulation, etc. which facilitate applications in such domains as agriculture and substance synthesis.

实现碳达峰、碳中和，需要对现行社会经济体系进行一场广泛而深刻的系统性变革，并将成为我国未来数十年内社会经济发展的主基调之一。合成生物学通过对底盘细胞、生物合成策略与技术的持续革新，驱动碳基物质高效转化利用，有助于加快形成绿色制造方式，最终助力国家碳中和目标的实现。公司希望遵循科技和市场的自身规律，大力整合学术界和工业界人才资源，通过孵化科技成果引导合成生物学技术的升级，推动产业实现自动化、智能化，促进产业实现资源、能源的高效利用，进而用产业需求吸引科技资源的倾斜，加速合成

生物学应用的规模化和产业化实现。

Achieving the goal of peak carbon and carbon neutrality necessitates a deep, comprehensive and systematic revolution in China's established socioeconomic system which will last as a keynote of socioeconomic development for decades to come. Synthetic biology drives highly efficient commercialization of carbon-based materials by introducing consistent innovations in chassis cells, biosynthesis strategy and biotechnology to form a green manufacturing model and realize China's carbon neutrality goal. We hope to follow the internal laws of technology and the market, consolidate HRs of academic and industrial origin, commercialize science findings for the purpose of upgrading synthetic biology, and put a premium on industry automation and smart goals. These efforts will play a role in making use of energy and industrial resources efficiently in an effort to divert technological resources to industrial needs and speed up economies of scale and industrialization of synthetic biology applications.

3 公司主要会计数据和财务指标

3. Main Accounting Data and Fiscal Indicators

3.1 近 3 年的主要会计数据和财务指标

3.1 Main Accounting Data and Fiscal Indicators for the Last Three Years

单位：元 币种：人民币

Currency: Renminbi

Unit: Yuan

	2022 年	2021 年	本年比上年增减(%)	2020 年
总资产	1,610,828,359.79	1,448,490,893.74	11.21	1,382,820,690.79
归属于上市公司股东的净资产	1,418,953,291.11	1,381,023,990.59	2.75	1,317,930,643.24
营业收入	433,424,477.65	351,109,348.43	23.44	323,460,668.81
归属于上市公司股东的净利润	64,372,884.91	128,578,881.86	-49.94	130,585,376.79
归属于上市公司股东的扣除非经常性	30,738,811.95	83,428,800.87	-63.16	82,513,785.41

损益的净利润				
经营活动产生的现金流量净额	176,402,734.49	103,291,182.60	70.78	145,882,192.43
加权平均净资产收益率(%)	4.61	9.53	减少 4.92 个百分点	10.18
基本每股收益（元/股）	0.54	1.07	-49.53	1.09
稀释每股收益（元/股）	0.54	1.07	-49.53	1.09
研发投入占营业收入的比例(%)	7.45	8.81	减少 1.36 个百分点	6.30

	2022	2021	Up or down from the last year (%)	2020
Total assets	1,610,828,359.79	1,448,490,893.74	11.21	1,382,820,690.79
Net assets attributable to shareholders of the public company	1,418,953,291.11	1,381,023,990.59	2.75	1,317,930,643.24
Operating income	433,424,477.65	351,109,348.43	23.44	323,460,668.81
Net profit attributable to shareholders of the public company	64,372,884.91	128,578,881.86	-49.94	130,585,376.79
Net profit attributable to shareholders of the public company, net of nonrecurring profit and loss	30,738,811.95	83,428,800.87	-63.16	82,513,785.41

Net cash flow generated from operating activities	176,402,734.49	103,291,182.60	70.78	145,882,192.43
Weighted average net return on assets (%)	4.61	9.53	Down by 4.92 percentage points	10.18
Basic earnings per share (yuan/share)	0.54	1.07	-49.53	1.09
Diluted earnings per share (yuan/share)	0.54	1.07	-49.53	1.09
Percentage of R&D investment to operating income (%)	7.45	8.81	Down by 1.36 percentage points	6.30

3.2 报告期分季度的主要会计数据

3.2 Main Quarterly Accounting Data for the Report Period

单位：元 币种：人民币

Currency: Renminbi

Unit: Yuan

	第一季度（1-3 月份）	第二季度（4-6 月份）	第三季度（7-9 月份）	第四季度（10-12 月份）
营业收入	75,542,426.37	95,605,694.61	102,096,355.32	160,180,001.35
归属于上市公司股东的净利润	23,224,988.14	26,799,008.76	27,841,760.00	-13,492,871.99
归属于上市公司股东的扣除非经常性损益后的净利润	14,031,578.96	21,860,737.13	19,031,811.36	-24,185,315.50
经营活动产生的现金流	64,335,059.13	26,120,859.02	-6,953,308.30	92,900,124.64

量净额				

	Q1 (Jan. to Mar.)	Q2 (Apr. to Jun.)	Q3 (Jul. to Sept.)	Q4 (Oct. to Dec.)
Operating income	75,542,426.37	95,605,694.61	102,096,355.32	160,180,001.35
Net profit attributable to shareholders of the public company	23,224,988.14	26,799,008.76	27,841,760.00	-13,492,871.99
Net profit attributable to shareholders of the public company, net of nonrecurring profit and loss	14,031,578.96	21,860,737.13	19,031,811.36	-24,185,315.50
Net cash flow generated from operating activities	64,335,059.13	26,120,859.02	-6,953,308.30	92,900,124.64

季度数据与已披露定期报告数据差异说明

Explication of discrepancies between quarterly data and disclosed periodic report data

□适用 ✓不适用

☐ Applicable ☑Inapplicable

4 股东情况

4. Shareholder Information

4.1 普通股股东总数、表决权恢复的优先股股东总数和持有特别表决权股份的股东总数及前10 名股东情况

4.1 Total Common Shareholders, Total Preferred Shareholders (Voting Power Restored), Total Shareholders with Special Voting Shares, and Top 10 Shareholders by Holdings

单位：股

Unit: Share

截至报告期末普通股股东总数（户）	4,969
年度报告披露日前上一月末的普通股股东总数（户）	5,420
截至报告期末表决权恢复的优先股股东总数（户）	0
年度报告披露日前上一月末表决权恢复的优先股股东总数（户）	0
截至报告期末持有特别表决权股份的股东总数（户）	0
年度报告披露日前上一月末持有特别表决权股份的股东总数（户）	0

前十名股东持股情况

股东名称（全称）	报告期内增减	期末持股数量	比例(%)	持有有限售条件股份数量	包含转融通借出股份的限售股份数量	质押、标记或冻结情况		股东性质
						股份状态	数量	
武汉烯王生物工程有限公司	0	53,100,000	44.25	53,100,000	53,100,000	无	0	境内非国有法人
贝优有限公司	-9,722,680	3,691,000	3.08	0	0	无	0	境外法人
中国工商银行股份有限公司—前海开源新经济灵活配置混合型证券投资基金	1,929,791	1,929,791	1.61	0	0	无	0	其他
易德伟	0	1,665,269	1.39	1,665,269	1,665,269	无	0	境内自然人
北京丰汇投资管理有限公司—丰汇精选二	1,180,000	1,180,000	0.98	0	0	无	0	其他

丰汇精选二期私募证券投资基金								
刘国永	470,034	1,110,034	0.93	0	0	无	0	境内自然人
鹏华基金管理有限公司—社保基金17031组合	0	1,079,144	0.90	0	0	无	0	其他
UBS AG	932,560	1,067,828	0.89	0	0	无	0	其他
王华标	-2,085	1,024,732	0.85	0	0	无	0	境内自然人
中国工商银行股份有限公司—中欧时代先锋股票型发起式证券投资基金	1,000,000	1,000,000	0.83	0	0	无	0	其他

上述股东关联关系或一致行动的说明	武汉烯王生物工程有限公司为公司控股东，自然人易德伟先为公司实际控制人；杜斌先生公司副董事长，王华标先生为公司董事兼财务总监；杜斌先生与易德伟先生系连襟关系。除此之外，公司未接到上述股东有存在关联关系或一致行动协议的声明。
表决权恢复的优先股股东及持股数量的说明	不适用

Total individual or institutional common shareholders by the end of the report period	4,969
Total individual or institutional common shareholders by the end of the month preceding the date of annual report disclosure	5,420

Total individual or institutional preferred shareholders (voting power restored) by the end of the report period	0
Total individual or institutional preferred shareholders (voting power restored) by the end of the month preceding the date of annual report disclosure	0
Total individual or institutional shareholders with special voting shares by the end of the report period	0
Total individual or institutional shareholders with special voting shares by the end of the month preceding the date of annual report disclosure	0

About top 10 shareholders by holdings

Full name	Changes in Holdings in the report period	Shares by the end of the report period	Percentage (%)	Restrict shares	Restricted shares, including shares lent to other securities lenders	Pledge, symbol or freeze		Nature of the shareholder
						Share status	Share numbers	
Wuhan Xiwang Bioengineering Co., Ltd.	0	53,100,000	44.25	53,100,000	53,100,000	N/A	0	Resident non-state legal person
Babio Limited	-9,722,680	3,691,000	3.08	0	0	N/A	0	Non-resident legal person
ICBC-FSF New Economy Flexible Hybrid Securities Investment Fund	1,929,791	1,929,791	1.61	0	0	N/A	0	Other
Yi Dewei	0	1,665,269	1.39	1,665,269	1,665,269	N/A	0	Resident natural person
Beijing Fenghui Investment Management: Fenghui Prime (Phase 2) PE Securities Investment Fund (Phase 2)	1,180,000	1,180,000	0.98	0	0	N/A	0	Other
Liu Guoyong	470,034	1,110,034	0.93	0	0	N/A	0	Resident natural person

Penghua Fund Management Co., Ltd.: Social Securities Portfolio 17031	0	1,079,144	0.90	0	0	N/A	0	Other
UBS AG	932,560	1,067,828	0.89	0	0	N/A	0	Other
Wang Huabiao	-2,085	1,024,732	0.85	0	0	N/A	0	Resident natural person
ICBC-CETP Stock Securities Investment Fund	1,000,000	1,000,000	0.83	0	0	N/A	0	Other

Shareholders relations or concerted action	Wuhan Xiwang Bioengineering Co., Ltd. is Cabio's controlling shareholder; natural person Mr. Yi Dewei is the actual controller; Mr. Du Bin is the Vice Board Chairman; and Mr. Wang Huabiao is the director and Chief Financial Officer. Mr. Yi Dewei and Mr. Yi Dewei are brothers-in-law. Cabio has not received any announcement of any other relations or concerted action agreements among the above shareholders.
Preferred shareholders with voting power restored and holdings	Inapplicable

存托凭证持有人情况

Profile of depositary receipt holders

□适用 ✓不适用

Applicable ☑ Inapplicable

截至报告期末表决权数量前十名股东情况表

Top 10 shareholders by voting shares by the end of the report period

□适用 ✓不适用

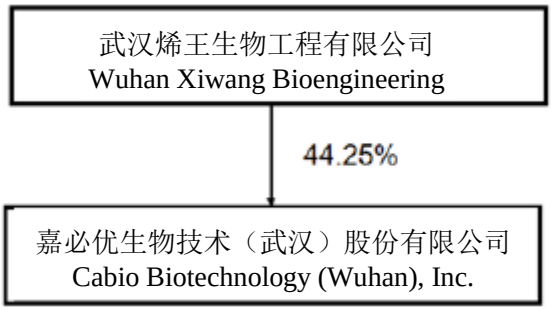
Applicable ☑ Inapplicable

4.2 公司与控股股东之间的产权及控制关系的方框图

4.2 Block Diagram Showing Cabio’s Relations with the Controlling Shareholder

✓适用 □不适用

☑ Applicable Inapplicable

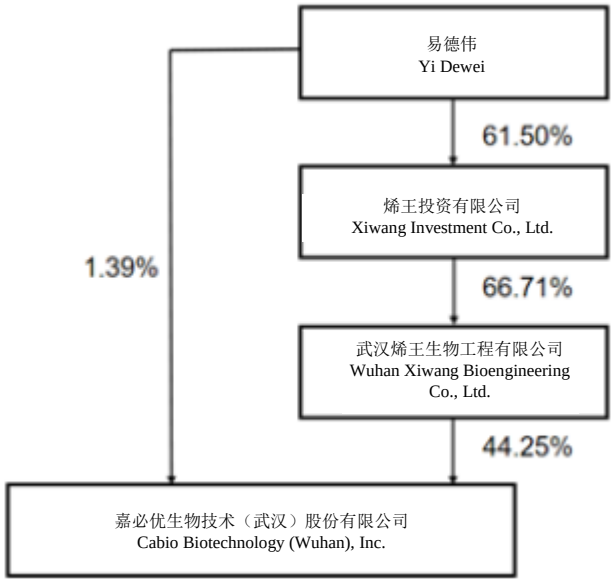


4.3 公司与实际控制人之间的产权及控制关系的方框图

4.3 Block Diagram Showing Cabio’s Relations with the Actual Controller

✓适用 □不适用

☑ Applicable Inapplicable



4.4 报告期末公司优先股股东总数及前 10 名股东情况

4.4. Preferred Shareholders and Top 10 Shareholders by the End of the Report Period

□适用 ✓不适用

☐ Applicable ☑ Inapplicable

5 公司债券情况

5. Corporate Bonds

□适用 ✓不适用

☐ Applicable ☑ Inapplicable

第三节 重要事项

Part 3: Important Events

1 公司应当根据重要性原则，披露报告期内公司经营情况的重大变化，以及报告期内发生的对公司经营情况有重大影响和预计未来会有重大影响的事项。

1. Cabio must disclose any significant changes that occurred in its operation activities as well as any events that had any significant impacts on its operating activities in the report period and in the future.

报告期内，公司实现营业收入 433,424,477.65 元，同比增加 23.44%；归属于上市公司股东的净利润 64,372,884.91 元，同比减少 49.94%；归属于上市公司股东的扣除非经常性损益的净利润 30,738,811.95 元，同比减少 63.16%。具体详见公司 2022 年年度报告第三节之五、报告期内主要经营情况。

In the report period, Cabio realized ¥433,424,477.65 in operating income, up by 23.44% from the last year. The net profit attributable to the shareholders of the public company totaled ¥64,372,884.91, down by 49.94% from the last year. The net profit attributable to the shareholders of the public company, net of nonrecurring profit and loss, totaled ¥30,738,811.95, down by 63.16% from the last year. Cabio's annual report 2022 provides more details about the major operating performance in the report period in Part 3.5.

2 公司年度报告披露后存在退市风险警示或终止上市情形的，应当披露导致退市风险警示或终止上市情形的原因。

2. In case that Cabio is warned of a delisting risk or terminates a public listing after it discloses the annual report, it must disclose the cause.

□适用 ✓不适用

☐ Applicable ☑ Inapplicable